MATTHEW HIGBY & COMPANY LTD

BELL FOUNDERS - BELL HANGERS – SERVICE ENGINEERS

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Company no 04540126. VAT Registration number 779 4220 01

The Church of The Holy Cross, Middlezoy, Somerset. 6th October 2024.
A report on the bell installation with proposals and recommendations for restoration.

The Tower

The church and tower from the south/west.

The Tower

This impressive western tower appears to date from the 14th century. Access to the tower is via the church. The ground floor area measures 3.68m north/south by 3.78m east west and 2.82 meters in height. This area is partially occupied by a toilet. A stone spiral stairway gives access to all upper levels of the tower. There is a west door which appears to be large enough for the bells to pass through.

The first-floor ringing chamber has similar plan dimensions to the ground floor chamber, but measures 5.25 m in height, which is a little taller than ideal for comfortable ringing. This chamber is well lit by natural light from a large west window. On the east side, the edge of the balcony ringing floor is protected by a glass balustrade.

The second-floor clock chamber measures 3.72m north to south by 3.86m east to west and 3.62 meters in height. There is a mechanical clock housed in a timber cupboard on the north side of the tower, but this has fallen into disuse. There is natural light from windows to the north and south. On the east side, a small doorway gives access to the church roof space/loft. The bell ropes pass through this chamber, with one being slightly drawn away from vertical with a draw pulley.

The third-floor belfry measures 4.05m north to south by 4.21m east to west and 3.8 meters in height. There are double sound exit windows on the east, south and west sides, and a single sound exit to the north. These appear to be protected with a mix of wire mesh and galebreaker type material. This chamber houses a ringing peal of six bells, hung in a composite bellframe.

There is a serviceable trap door for the hoisting of bells and materials in the first floor. There is no permanent trap door in the second floor, and I was informed that two steel beams incorporated into the structure of the second floor, restrict the available space, although it is believed there is sufficient room for the largest bell to pass between the beams, if turned onto its side. The 3rd floor includes boards which can be removed to allow the bells and associated equipment to pass through.
There are no permanent lifting beams above the bells, but there is ample headroom and scope for the use of temporary/removeable lifting beams.
There is limited lighting and power outlets above the ground floor chamber.

The Bells

The outline details of the bells are as follows:

Bell	**Weight**	**Note**	**Dia** *(Inches)*	**Dated**	**Founder**	**Canons**	**Turning**
1	¢5 cwt	D	30.00″	1869	Llewellins & James	Removed	1/8 Turned
2	¢6 cwt	C	31.75″	1869	Llewellins & James	Removed	1/8 Turned
3	¢7 cwt	B♭	34.50″	1869	Llewellins & James	Removed	1/8 Turned
4	¢8½ cwt	A	36.00″	1767	Thomas Bayley	Removed	1/8 Turned
5	10 cwt 1qtr 27lb	G	39.00″	1907	John Taylor & Co	Flat Top	Not turned
6	¢14 cwt	F	43.75″	1608†	George Purdue	Removed	1/8 Turned

The weights of bells 1-4 and 6 are estimated.

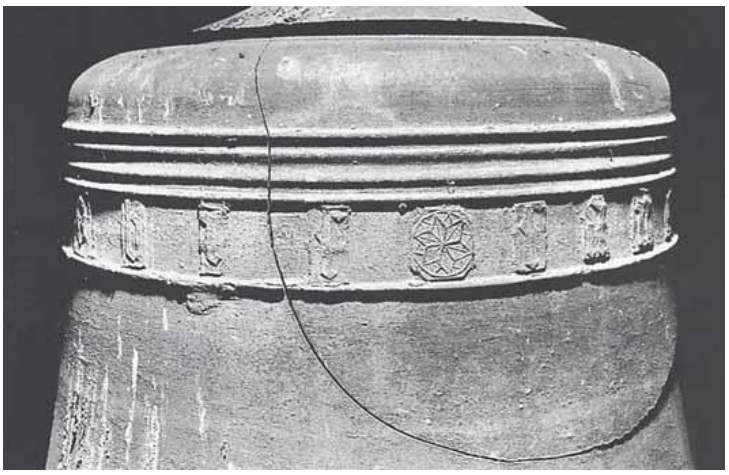
The bells are products of 4 different founders over 299 years. Bells 1-3 are some of the first known bells to be cast by Llewellins & James of Bristol. Whilst there are earlier bells which bear the Llewellins & James name, these were mostly cast by other foundries on their behalf. It is believed that the Middlezoy bells are among the first that they actually cast themselves.

Bell 6 bears the Royal Coat of Arms upon its waist. This bell is listed for preservation by The Church of England, Church Buildings Council as a result.

Bell no 5 was cast with a flat top. The remaining bells were cast with canons and cast-in crown staples. The canons have subsequently been removed (probably in 1907) and the cast-in crown staples have been cut-off flush with this inside surface of the bells. Bells 1-5 have had central holes drilled though the centre of their crowns to enable independent crown staples to be fitted, secured with a vertical central bolt on top of the headstock. Bell 6 has an independent crown staple secured by two bolts passing through holes in the crown, either side of the headstock. All 6 bells are supported by 4 bolts passing through holes in their crowns and around their headstocks.

All except bell 5 which was new in 1907, have all been turned to present an unworn face of the soundbow to the strike. The strike points in the current positions are already well advanced, indicating that the bells have been well used over the past 117 years.

As far as can be seen and heard as they hang in the tower, the bells appear to be in sound and resonant condition. My only concern as far as the bells themselves are concerned is that the roots of the cast-in crown staples remain embedded in the five older bells. As the name describes, a “cast-in” crown staple is a loop made of wrought iron, from which the clapper is hung. This would have been cast into place as part of the bell manufacture and being made of a ferrous material, the staple corrodes, delaminates could potentially expand to up to 7 times its original size, building up huge pressure on the surrounding bell metal. Corroded cast in crown staples are the most common cause of cracks in bells, and any remains of these should be carefully extracted as part of any planned restoration.



A typical crack caused by corroded cast-in crown staple. *(Sparkford, Somerset – © Christopher J N Dalton).*

Tone and Tuning

An analysis of the 5 main partial tones of the bells has produced the following frequencies (which are measured in Hertz).

Bell	Detail	Hum	Prime	Tierce	Quint	Nominal
1	Should be	296	591	709	887	1182
	Is	322	481	688	925	1180
	Error	26	-110	-21	38	-2
2	Should be	263	527	632	790	1053
	Is	295	437	629	830	1087
	Error	32	-90	-3	40	34
3	Should be	235	469	563	704	938
	Is	248	415	553	700	941
	Error	13	-54	-10	-4	3
4	Should be	221	443	531	664	886
	Is	242	412	540	701	911
	Error	21	-31	9	37	25
5	Should be	197	395	473	592	789
	Is	199	397	677	590	795
	Error	2	2	204	-2	6
6	Should be	176	352	422	527	703
	Is	185	343	420	536	703
	Error	9	-9	-2	9	0

The errors (shown in red) are compared to harmonically tuned bells, which has been the modern standard since the late 1920's.

The sound of a bell is made up numerous different overtones, but the 5 main partial tones have the following names:

Nominal - The partial tone to which the other bells most of often musically relate.
Prime - (sometimes referred to as the "Fundamental tone") - Ideally an octave below the nominal.
Hum - Ideally an octave below the prime (i.e. 2 octaves below the nominal).
Tierce – A minor third (3 semitones) above the prime.
Quint – An approximate fifth (7 semitones) above the prime.

The design of the profile, shape and thickness of a bell, directly effects the arrangement of these 5 main partial tones. If they are drastically mis-aligned, the bell will sound unpleasant. If they are correctly aligned, the bell will sound sweet and harmonious (also referred to as being harmonically or "Simpson" tuned). This method of tuning was discovered by the Hemony Brothers of Amsterdam in the mid-17th Century, and was adopted as standard practice in the UK, during the early 20th Century, following much research by Canon A B Simpson.

Bell no 5 is accurately tuned with true-harmonics and is clearly the best sounding bell in the peal. Bell 6 is quite close to ideal, but its hum partial is slightly sharp of and octave and the prime partial is a little flat of an octave.

The remaining bells are rather tonally wild, and predominantly old-style in nature. This means that their hum partials are well sharp of ideal and their prime partials are flat of ideal, to varying degrees.

Musically, bells 1, 3, 5 and 6 are quite well aligned with each other, but bells 2 and 4 are well sharp of ideal, making this peal sound somewhat out of tune. Bells 2 and 3 have been heavily skirted (metal removed from the outermost lip of the bell) in an attempt to raise their pitch.

There is significant scope for improving the individual tone of these bells with some careful retuning, and the musicality of the peal as a whole. As bell 6 is listed for preservation, it would be difficult to obtain permission to tune this bell, however it is the flattest bell in the peal, so there would be no problem using this bell as the datum, and tuning the other 5 to better align with it.

Bell Fittings

The majority of the bell fittings date from 1907, and are were supplied of Thomas Doble of Taunton. I fully expect however, that he purchased them from John Taylor & Co at Loughborough. The bells were rehung on ball bearings in 1964 (bell 6 only) and 1974 (the remaining 5 bells). The latter work was undertaken by John Taylor and Co, with the site work being undertaken by Robert Parker of Hambridge.

Headstocks

The headstocks are made of hardwood and date from 1907. They are fitted with cast iron plate type gudgeons. The bells are supported by iron straps and dogs, which pass through the canons, around the headstocks and are secured with nuts on top of each headstock. The headstocks of the three larger bells (4, 5 and 6) are becoming decayed due to exposure to the elements, and also attack by wood boring insect. The ironwork is beginning to sink into the timberwork and it is certain that the gudgeon plates are no longer accurately aligned as a result.

Main Bearings

The bells hang on double-row self-aligning ball bearings which are housed in cast-iron housings which are in-turn, let into and secured to the heads of the bell frame. These appear to be in good working order, with minimal grease leakage.

Wheels

These are made to traditional designs, using hardwood with outer shrouds secured with iron nails or screws.

The nails which secure the outer shroudings, are becoming corroded and cracking the surrounding timber, but the main frames (spokes) appear to be in good condition.
The wheels are braced by round iron wheel stays from the timber headstocks, or by angle type wheel straightening irons.

Clapper Assemblies
The clapper in bell 6 is made of spheroidal graphite (ductile) cast-iron and was supplied by my firm some years ago, but fitted by local ringers.
The remaining clappers are made of traditional wrought iron and have ring type top ends and hang from cast-iron independent crown staples.
As mentioned previously, bells 1-5 have had central holes drilled though the centre of their crowns to enable independent crown staples to be fitted, secured with a vertical central bolt on top of the headstock. Bell 6 has an independent crown staple secured by two bolts passing through holes in the crown, either side of the headstock.
The older clappers are showing signs of wear at both the point of swing and where they strike the bells.

Roller Boxes
The roller boxes are formed of timber sheaves mounted on ball bearings. There does not appear to be any simple way of lubricating the bearings. Being made of timber, the cross grain is softer than the end grain, and the pulleys have worn unevenly. In general, the pulley sheaves are visibly worn, particularly that of bell 5.

Stays, Sliders & Runner Gear
The stays are of straight type and these engage with curved ash sliders. Generally, these are serviceable but showing signs of age and wear.

Bell Ropes and Rope Ways etc
The ropes are in fair condition. Several of them have been fitted with pre-stretched polyester top ends. The rope of bell 4 is drawn away from vertical in the clock room, possibly to avoid a joist in the floor. There is a draw pulley.
The rope bosses on the ringing chamber ceiling appear to be made of machined cast-iron or nylatron.

Clock/Chiming Hammers
There are drop-type clock hammers on bell 6. This are driven by and array of levers, cranks and wires, from the clock chamber below. It is currently out of action.
There are no chiming hammers.

Bell Frame

The bellframe was constructed of Thomas Doble of Taunton in 1907 and consists of oak heads and bottom sills, with cast-iron braces between, bolted together with vertical iron bolts. In my opinion, the whole frame, including its foundation is of somewhat slender construction for the size and weight of bells which it contains. The rigidity of this type of bell frame relies on the bolts which connect the timber and iron components being kept tight. The nuts which secure the bolts are in some places virtually inaccessible. In most cases the nuts have rusted solid. The bolts are made of wrought iron which corrodes significantly when in contact with acidic sap of the oak beams, so I suspect that the removal and replacement of these bolts with stainless steel counterparts may be exceptionally difficult.

The bell frame is supported by two timber beams running east to west across the tower, embedded in pockets within the tower walls. In my view, these beams are significantly undersized for the weight of the bells. Short sections of steel channel have been added alongside these beams, bolted to the foundation beams, in an attempt to provide additional support and anchorage to the tower walls. I believe that the combination of corroding beams expanding and the differential movement between the frame and the tower walls has led to localized cracking in the brickwork surrounding the beam ends.

The outer edges of the frame also rest on a ledge (or offset) in the east, south, and north tower walls. The gap between the bottom sills and the tower walls has become filled with dirt and nesting materials. The small amount I removed during my inspection was damp, which suggests that moisture is likely accumulating more widely, potentially damaging the timberwork.

Conclusions and Recommendations

All that I have reported above, results in a rather unsatisfactory peal of bells.

The majority of the fittings are all over 117 years of age, and are nearing the end of their useful lives. It has to be remembered that they are relied upon to swing huge weights around above the heads of the bell ringers and any failure of these fittings could have catastrophic consequences. The headstocks of bells 4, 5 and 6 are in really poor condition, and the others are not massively better.

As it currently stands, the bell frame is unfit for purpose, and flexes significantly when the bells are rung. Whilst it may be possible to further strengthen the frame by adding additional bracing and bolstering the foundation by inserting larger steel beams beneath, I feel that the design of the frame is flawed, and further money spent would be wasted. The amount of site work involved with fitting additional strengthening, would certainly outweigh the cost of a completely new frame. I also fear that the results of such strengthening would be shortlived.

I therefore recommend that the following works are considered:

- I suggest that the whole installation is dismantled and removed from the tower.
- The bells should be conserved by having all remains of their cast-in crown staples removed, and checked for cracks.
- I strongly recommend that the five smaller bells are carefully retuned to accurately align with the (Listed) bell no 6, and to enhance their individual tone and musicality.
- I suggest that the bells are rehung with mostly new fittings (see the note below*) in a completely new bellframe of fabricated and hot-dip galvanized steel, properly designed and firmly secured to the tower walls.

*I suggest that the existing bell wheels are re-rimmed and their centres converted to suit the new headstocks.

With these thoughts in mind, I have produced the attached estimates.

Report written and complied by Matthew Higby.
Date 6th October 2024.

Information included in this report has been taken from:
Our own site inspection.
Dove's Guide (CCCBR).
Church Bells of Somerset (George W Massey, published 2011).

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The Church of The Holy Cross, Middlezoy, Somerset. 6th October 2024.

Estimate 1 – To conserve and retune the existing peal of six bells, and rehang them with all new bellframe and fittings.

Pre-commencement Meeting

Send a representative of our company to the church, to meet with the architect and parish representatives, to discuss the project in fine detail and to establish timescales and a sequence of working (particularly if other contractors are involved). Liaise with the church architect over the design of the new bellframe, and where it will connect with the tower walls.

Dismantling

Send three men to the church with all necessary tools, equipment and certificated lifting tackle.
Liaise with a local joiner with regard to the creation of a trap-door in the second floor.
Assemble temporary lifting beams above the bells.
Provide plywood sheeting to protect the church floor as required.
Dismantle the bells, fittings and framework and lower everything to the ground.
Dispose of all unwanted fittings and framework parts, leaving the church and churchyard in a clean and tidy manner.
Transport the bells and wheels to our works for reuse.

Preliminary Building Work

Liaise with the nominated architect and/or structural engineer regarding the design of the new bellframe foundation and where it will connect with the tower walls.

Carry out the following building works:

- The cutting of pockets (or extension of existing pockets as required) and the casting of concrete padstones true and level within those pockets, on which the new bellframe foundation will rest.
- The making good of the tower walls where existing pockets are no longer required.

The Bells

Carefully remove all remains of the cast in crown staple from each bell.
Inspect each bell for cracks with a dye-penetrant flaw finder test, and liaise with the customer if any repairs are found to be required.
Cast a hard resin pad on the crown of each bell and machine it flat and level, to give a good surface for mounting the new headstock.
Carefully adjust the main and partial tones of bells 1-5 under our tuning machine.
Take accurate external and internal measurements of each bell, to enable the new bell fittings to be designed and constructed.

The Ringing Fittings

Provide each bell the following ringing fittings:

- A fabricated steel, hollow box section headstock, with turned steel gudgeons, steel wheel cleats and clapper adjustment screws for the setting and subsequent maintenance of even striking.
- A pair of double-row self-aligning ball bearings, housed in sealed, cast iron, plummer block type housings.
- Independent clapper staple of steel, fitted with a high tensile steel hinge pin.

- Clapper of spheroidal graphite iron, properly proportioned and profiled/machined throughout its length, and fitted with a machined Tufnol bush at the point of swing, and grease applicator. *(Please note that the clapper assemblies are essentially maintenance free, but they work better with occasional lubrication).*
- Galvanized steel wheel straightening irons.
- Roller(s) of cast nylon, running on twin sealed for life ball races, housed in a hardwood box.
- Stay and slider of finest air-dried ash with hardwood runner board and adjustable stop blocks.
- Slider pivot bracket of steel.

Re-rim the existing bell wheels using finest quality hardwood, and stainless-steel fixings throughout. Convert the centres to suit the new headstocks.

Balance the bells on their headstocks and drill their heads for the bell support bolts. Supply all required support bolts, with washers, tapered washers, isolation washers, nuts and locking nuts.

The Bellframe

Design and build a completely new steel bellframe to house the bells upon one level. The frame to consist of fabricated steel 'low-side' type framesides, firmly bolted down to a foundation of rolled steel girders, arranged to span the tower in both the north to south and east to west directions. The frame to be horizontally and vertically cross-braced.
All girders to be fully bolted at each intersection with drag cleats at the ends in readiness for building into the tower walls.
The whole installation to be fully erected in our workshop and the bells and ringing fittings to be assembled and tested therein, prior to dismantling and dispatch.
Fit a "Hard deck" floor (constructed from 9" x 2" tanalised softwood boards) in the bottom flanges of the bellframe support girders.

Painting and Metal Treatment

Following completion of the bellframe in our works, all iron and steelwork to be thoroughly cleaned and descaled. Steelwork to be hot dip galvanised (**BS** EN ISO 1461:2009) or hot zinc sprayed (**BS** EN 22063) as appropriate.
All woodscrews to be of stainless steel.
Iron castings and some smaller steel fabrications to be painted with a rust inhibiting primer and three coats of exterior grade machinery enamel.
Timber to be treated with a high-quality wood preservative.

Installation

On completion of painting and metal treatments, send three bellhangers to the church.
Deliver the bellframe to the church, move all of the parts into the church and hoist into the belfry.
Assemble the bellframe foundation in position and fit the horizontal cross braces to ensure that everything is perfectly square.
Following final positioning checks, shutter the beam ends and fill the wall pockets with grade 35 concrete.
Make good any areas which still require attention.
Following the completion of this building work, transport the bells and their fittings to the church, hoist them into the belfry and assemble them in position.
Drill down through the tower floors for the bell ropes and fit the roller boxes and rope bosses.
Fit any required draw pulleys, anti-flap boards and rope bosses.
Fit the new bell ropes and adjust for both height and length.
Adjust each bell for even clappering using our laser activated timing meter and for the correct depth of set at both handstroke and backstroke.

Remove the temporary lifting beams and plywood sheeting from the church floor. Thoroughly clean the belfry, ringing chamber and church, leaving everything in a clean and tidy manner.

Commissioning

Arrange for a test ringing of the bells with the local bellringers and following any final adjustments, leave the new ring all ready for use.

After Care

Return to the church after 12 months to check over and service the installation. We then offer an annual service contract to all our customers, at a discounted rate.

We undertake to carry out the whole of the work specified above, including the provision of equipment, labour, draughtsmanship, expenses, carriage and third-party insurance in connection therewith, for the sum of: £57,957.00 + VAT

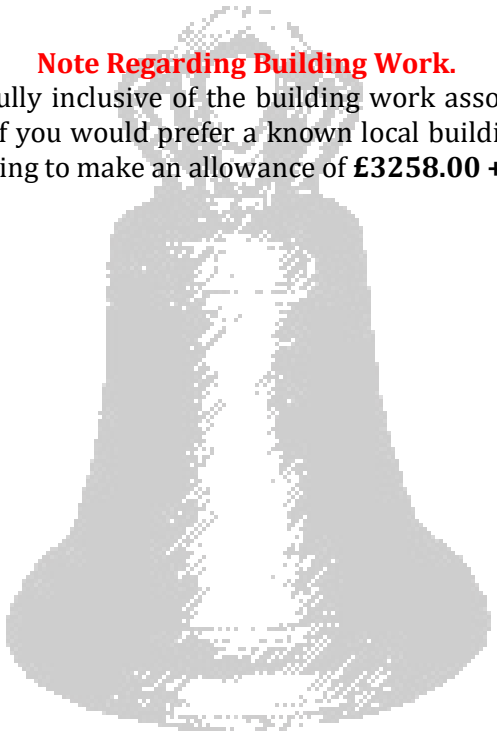
Specific exclusions from all of the above estimates.

These items are specifically excluded from the above estimate. Advice is always offered freely with reference to any of the following points. Please ask if you need clarification.

- The creation of a trap-door in the second floor, large enough for the bells, frame components and fittings to pass through.
- Any required electrical work, such as the provision of suitable lighting, emergency lighting and power sockets as required.
- The provision of new bell ropes (a new set with pre-stretched polyester top ends would cost an additional £1050 + VAT).

Note Regarding Building Work.

Please note that this estimate is fully inclusive of the building work associated with the connection of the bellframe to the tower structure. If you would prefer a known local building firm to undertake this work to our specification, we would be willing to make an allowance of **£3258.00 + VAT**.



Matthew Higby & Company Ltd – General Estimate Notes and Terms of Business.

General Business Etiquette
We strive to give honest and factual advice from the outset and aim to be as flexible and transparent at every stage of our business transactions. At no point will we ever attempt to sell you something that you don't need and try to make ourselves readily available to discuss answer any questions which you may have.

Acceptance of Quotations
Due to the current volatile nature of the metal markets, these quotations are based upon current costs but can be held firm if accepted in writing within three months of the estimate date. Revised estimates can be supplied on request.

Standard Terms of Payment
We try to be as flexible as possible when it comes to payments and payment regimes. We offer a range of options which would be agreed by both parties in advance. A 100% refundable deposit with order would hold prices for up to 1 year whilst fundraising continues, or faculties are sought. We offer a discount for full payment in advance. Our most regular payment regimes work out as follows:

For orders where the total value is less than £20,000 (ex VAT):
50% when work begins.
The balance, less any deductions due, on completion.

For orders where the value exceeds £20,000 (ex VAT).
These quotations are based upon the following terms of payment:
One-third payable when work starts.
One-third at an agreed midway point.
The balance, less any deductions, within 14 days of our final invoice.

Lead times
For larger projects we currently have approximately a 6-9 lead time from the point of order, to being in a position to start work. This does alter on a regular basis, so please do check the current status. Our site working slots are then allocated on a first come, first served basis, after both faculty permission and funding are in place. Small projects can often be slotted in alongside other larger projects, with significantly shorter lead-times.

Grant Aid
If the project is lucky enough to secure grant aid, please note that the customer is 100% liable for the full amount to be paid within the terms of our invoice (our invoice terms are generally payment within 14 days unless agreed in advance). We have past experience of grant making bodies and trusts taking over 12 months to pay. If Trusts and Grant Making Bodies prefer to pay the contractor direct, the customer is still liable for the full amount to be paid within the terms as detailed on the invoice and we will fully reimburse the customer when the funds have been received.

Post-Conservation Reports
Grant-Making Bodies often require a post-conservation report before paying their promised grant. Such a report outlines the work that has been undertaken in fine detail, including specifications and details of materials used and techniques. Colour photographs of the work being undertaken are also required. It has become increasingly apparent that the contractor is expected to provide this report. If you need such a report, please inform us before we start work, to enable us to take the required photographs etc. We charge £65 + VAT per hour to produce post-conservation reports. These usually take between 3 and 5 hours to produce.

Faculty Permission etc
Most of the work to be undertaken to bell installations in churches requires a faculty to be granted by either the Archdeacon (for smaller works) or by the Chancellor of the Diocese. We are not able to commence any work until we either receive a copy of such documentation or written notification that it has been received.

Insurance
We carry full insurance cover for all of our products and our site work. Please ask if you require details.

Volunteer 'DIY' labourers
We are aware that some of our competitors offer sizeable savings for local volunteers assisting with site work. Having consulted 4 separate insurance firms about this matter, we have been assured that insurance cover for those assisting with sitework is a very grey area. As things currently stand, our insurers refuse to provide insurance cover for what they consider to be 'untrained operatives' assisting with physically demanding works, which often involve working at height, and lifting heavy objects. If you can provide insurance cover for volunteer labourers, through the church's own insurance firm (at no cost to our firm) then we would be happy to look at this proposal again.

Working with Clock Makers/Contactors.
Our projects often include interactions with clock makers. Where clock hammers need to be fitted to new bell frames, we invite the clock makers concerned to undertake the fitting works whilst the installation is assembled in our works. We make no additional charge for this.

Drawings and Photographs
All drawings, plans and photographs are the property of Matthew Higby & Company Limited and are subject to copyright. If drawings and detailed specifications are required for faculty applications, these can only be supplied following the receipt of an official order (obviously subject to faculty). If this is not possible, we would require a deposit payment equal to the cost of the time spent producing the drawings, which would be refunded from our final invoice on completion of the work.

VAT
If the building in which the bells are to be installed, is a listed place of worship. the VAT paid should be reclaimable via the Listed Places of Worship Grant Scheme. See https://listed-places-of-worship-grant.dcms.gov.uk/ for more information. **PLEASE NOTE – we have received confirmation from the Listed Places of Worship Grant Scheme, that PCC's DO NOT require receipted invoices to enable claims to be processed. An unreceipted invoice showing the VAT number is perfectly adequate.**

Guarantees
All bell frames and most new bell fittings are guaranteed for the ten years. Stays and sliders, which are designed to break when subjected to excessive force, are not guaranteed. Frictional parts such as clapper bushes are only guaranteed through faulty materials or workmanship, and do not include normal wear and tear. Bell ropes are guaranteed for 12 months from the point of sale, not the point of fitting.

Delivery Dates
We endeavour to give realistic and firm delivery dates for all of our projects. However, with the best will in the world, these sometimes have to be amended depending on obtaining parts from suppliers. We endeavour to give constant updates if problems occur. Do not arrange dedication ceremonies etc, until we have a confirmed date of installation.

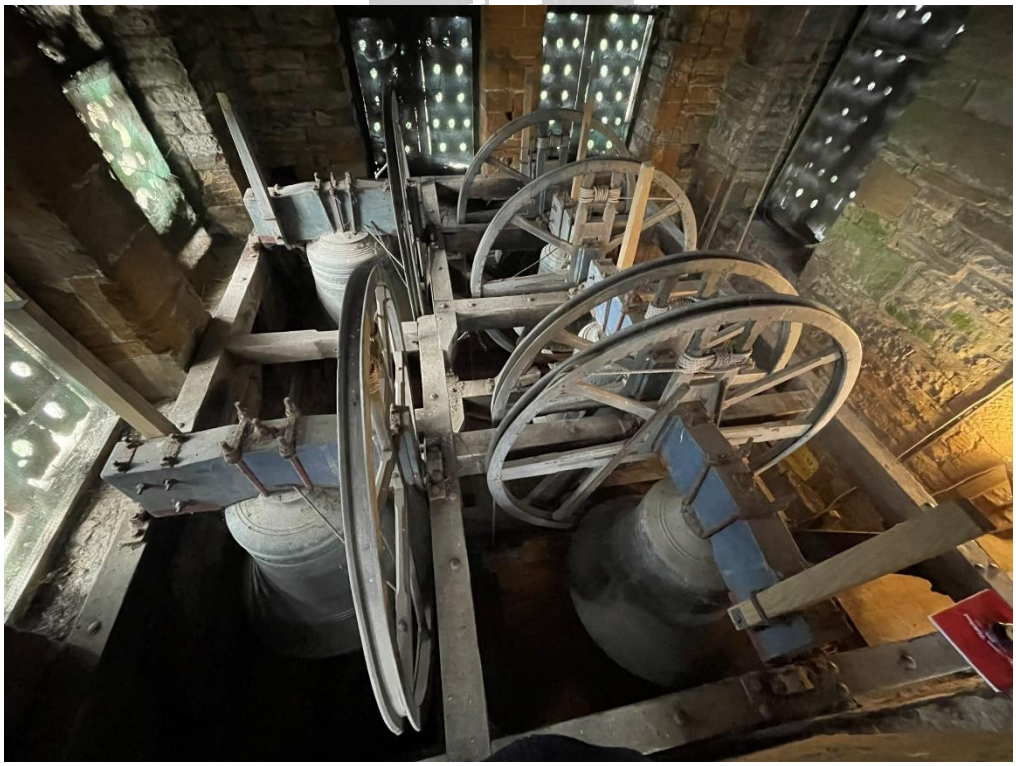
Method Statements, Risk Assessments, Health and Safety
We have a full company health and safety policy, copies of which can be made available on request. This policy carries general method statements and risk assessments which cover the majority of or work. Bespoke method statements and risk assessments are available at additional cost.

Visiting our Works
We invite our customers to visit our works whilst we are working on their projects. We often entertain large parties and are pleased to provide descriptive talks and guided tours of our workshops, Tours often includes an illustrated talk, with demonstrations of various aspects of our work. Bellringers are welcome to use our small demonstrator peal or in-house dumbbell to demonstrate their own skills. Some customers choose to use their visit as a fund-raising event or to publicise their project. Refreshments can be provided by the customer, or by us by prior arrangement.

Parking/Congestion/ULEZ Charges
Our estimates include travel expenses but exclude Parking and Congestion/ULEZ Charges. These will be added (at cost) to our final invoice.

Photographs:

Looking up at the second floor – showing lack of trap door for the hoisting of bells and associated materials.



A general view of the bell installation from the east side.

The poor state of the headstock of bell 6.

Bell 2 – one of the earliest bells cast by Llewellins & James of Bristol.

The accumulated dirt and nesting material, between the bellframe and the tower walls.

The crown staple of bell 6, showing the roots of the original cast-in crown staple.

The inscription of bell 6, showing The Royal Coat of Arms and casting date.

Showing wear to the pulley sheaves.

The fittings of bell 4.

An example of a steel bellframe and modern fittings – Littleton Drew, Wiltshire, 2021.