INSPECTION OF BELL INSTALLATION AT HOLY TRINITY, KIRK IRETON

April 8th 1993

Request for inspection from Mr. A. Short, Church Architect (also a member of the Church).

TOWER

The tower comprises a ground floor ringing room which is used as a kitchen/utility room, an intermediate clock room and the bell chamber housing the bells. There is considerable cracking in the west wall of the tower, believed to be due to lightning damage in 1841. This wall is strengthened by a grid of iron rods which go right through the wall. Also there are two high level tie rods running E - W right across the tower above the level of the bells. There is another tie rod running E - W in the intermediate clock room.

There are louvres 3' wide on all four sides of the tower, wire netted as they should be to prevent birds getting in. This wire netting has holes in it and needs renewing. The tower walls at louvre level are 2' 6" to 3' thick. There are no openings on the N, S and W walls. There is an open, glassed in archway, into the church at the east end. The ground floor ringing room is 10' 7" high. It is well cared for, the walls having recently been repointed.

Access to the intermediate room is via a wooden stairway in th SE corner and then through a lockable trap door.

The intermediate clock room is filthy dirty. There is an accumulation of debris and rubbish. The floor boards in places are missing and there is only the ceiling to prevent one falling through to the ground level. This, therefore, is unsafe. Until the floor can be authoritatively classed as safe the trap door should be kept locked and no unauthorised person allowed to climb the tower. The intermediate clock room is 9' 2" high.

The ceiling of the intermediate clock room is really the floor of the bell chamber in as much as several beams running E - W support the bellframe and also carry the bellchamber floorboards. These supporting beams are in a dubious condition. The beam running parallel and close to the south wall is particularly so. It is repaired by splicing in a new piece at the SE corner and it is propped up by a short beam placed diagonally across the SE corner. It is also propped up by two vertical "pit props" from the floor of the intermediate room.

One of the other support beams is heavily and ornately carved and is probably worthy of conservation in its own right. One might be justified in removing this for preservation in a better environment. Just how useful or useless the support beams would be in any proposed restoration project could not be determined because of the accumulation of dirt and debris in the bell chamber. It is probable that the beam ends are either rotten or have disappeared. In what follows in this report is is assumed that there is no strength which could be relied upon on the beam ends.

Entrance to the bell chamber is via a rather unusual staircase which is badly in need of repair or replacement and then via a trap door hole - the trap door itself is missing.

The bell chamber is filthy dirty. The floor level is littered with bits of broken bell wheels, bits of timber, fallen stonework and a thick layer of dirt. The floor consists of bits of board resting on the beams which support the bellframe. Most of these boards are badly decayed, some are loose and large areas are missing. This too is an unsafe situation, all the more so because one cannot determine the strength of the floor when it is covered several inches deep in dirt.

One literally has to take ones life in ones hands. Access to this area should be restricted to those with authority and only after they are first warned of the potential dangers.

BELLS

There are three bells, plus a sanctus bell. The three large bells all swing E - W. This is the direction in which the tower is strongest. Details of the bells are:

bell	diameter	approx weight	date	founder
1.	28 13/16"	5 cwt	c 18th C	unknown
2.	31 1/2"	6 1/2 cwt	c 18th C	unknown
3.	33 3/8"	8 cwt	1699	Wm. Noone
Sanctus	12 1/2"	?	c 18th C	unknown

Inscriptions are as follows:

1. THO: WARD WIL HARRISON C.W

2. Blank

3. GOD SAVE HIS CHVRCH 1699

The weights are estimated weights. The true weights will probably be less than the values quoted.
All bells are uncracked. All have canons (canons are the loops on the top of the bell which are used to support the bell.) None of the bells have been quarter turned. None are on the list for preservation as being of special historical interest. All bells have cast-in crown staples which carry the clappers. Cast in crown staples can be a cause of bells becoming cracked. In any restoration in which these bells might feature one would expect to drill out the cast-in crown staples and fit independent clappers.

BELL FRAME

The bell frame is a low-sided wooden one, featuring double king posts with curved side beams. It dates from at least 1699 and probably before that. It is badly decayed and attacked by woodworm in some areas. It was not possible to ring any of the bells to determine frame movement due to a bell turning full circle. There is however ample evidence of valiant attempts made in the past to stiffen the frame to reduce frame movement: viz. corner wedges at NE and SE corners, metal stiffening rods at the lower level between the bell frame and east and west walls, stiffening straps elsewhere, diagonal tie rods along the south side of the frame, pit props to the intermediate floor level to support the beam along the south wall. Quite definitely the bell frame in its present form is quite unaccceptable for full circle ringing. It may also be unacceptable for swing chiming.

BELL FITTINGS

MAIN WHEELS

Missing on No. 2; large parts missing on No. 1; present, but unserviceable on No. 3.

GROUND PULLEYS

These are the roller type; they are worn out.

MAIN BEARINGS

These are plain bearings choked with dirt and probably worn out.

HEADSTOCKS
All are of timber. They are badly decayed and are no longer serviceable. The metal straps holding the bells to the headstocks are badly corroded.

STAYS AND SLIDERS
With the exception of the slider on bell No. 3, all are missing.

GENERAL COMMENTS AND RECOMMENDATIONS
The bell installation is in a derelict condition. Moreover the dubious condition of the floors makes it dangerous to even go up above the ground floor ringing room.

The following options are available for consideration:

OPTION 1.
Dispose of the present wooden frame and supporting beams; dispose of the intermediate room floor. Install a new metal bell frame, for 6 or 8 bells, on a new steel grillage built into all four walls of the tower. This grillage will provide strength to the tower,in the unlikely event that the tower is still considered to need further strengthening then sit the steel grillage on a new concrete ring beam built into the walls. The steel grillage and bell frame should be positioned much lower in the tower than at present so that the bellmouths, when mouth uppermost, are at a level below the bottom of the louvres. Lowering the bells reduces the stresses on the tower and is also beneficial for the external acoustics. The level of a new bell chamber floor and probably the new ringing room ceiling would be lower but the exact position would be decided by detailed design lay-out. The bells would be rung from the ground floor as at present. The existing bells would be recast as part of a brand new peal of 6 or 8 bells, the weight of which is to be determined, all hung at one level. All bells would be hung with modern fittings for full circle ringing.
This option is the one which is preferred and strongly recommended as it recognises that there is little worth saving from the present installation; i.e. everything would be thrown away to make a clean start to give a result which will, with reasonable care, last for centuries. It gives best value for money.

OPTION 2.
Same as option 1., but retaining all or some of the present three bells, but retuned, and quarter turned, as part of a new peal. Cast in crown staples would be drilled out and new independent clappers fitted. This would only be slightly cheaper but would not be the first class job of option 1.

OPTION 3
This option would attempt to restore the present three bells in the present wooden frame. The bells would be retuned and rehung in modern fittings as in the other options. The best way of strengthening the present frame would have to be discussed and agreed with a bell founder having experience in this type of problem. A new steel grillage under the present frame and probably a concrete ring beam would be needed (more probably than in options 1 and 2). This course of action cannot be guaranteed beforehand to be successful (it may result in the bells only being able to be chimed) and it could still be expensive. It is possibly what the conservationists would like, but it is not recommended. It is poor value for money. It provides a

peal of 3 bells which is of little interest to the committed bellringer on whom the responsibility for regular care and maintenance eventually falls.

OPTION 4
Clear out all dirt and debris from the intermediate clock room and bell chamber.Remove the remaining vestiges of wheels from all the bells as they are unsafe handholds for persons walking on the bellframe. Make the floors safe. Accept that the bells should not be rung and not chimed. This option must be carried out if there is any prolonged delay in choosing to adopt one of the previous options. It is in fact a course of action designed to slow down the progressive decay which is presently taking place. If not done, ultimately someone will get hurt or something will fall down into the ground floor ringing room. Repair the wire netting to keep out birds. Repair the stairs to the bell chamber.

Option 4 is not really an option: it should be done anyway.

SANCTUS BELL
This could be restored for swing chiming either as part of the major project or as a separate project. It requires new fittings and possibly some repairs to its frame. It is not a big problem poser.

G.A.Halls
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Advice given in good faith. No liability accepted.