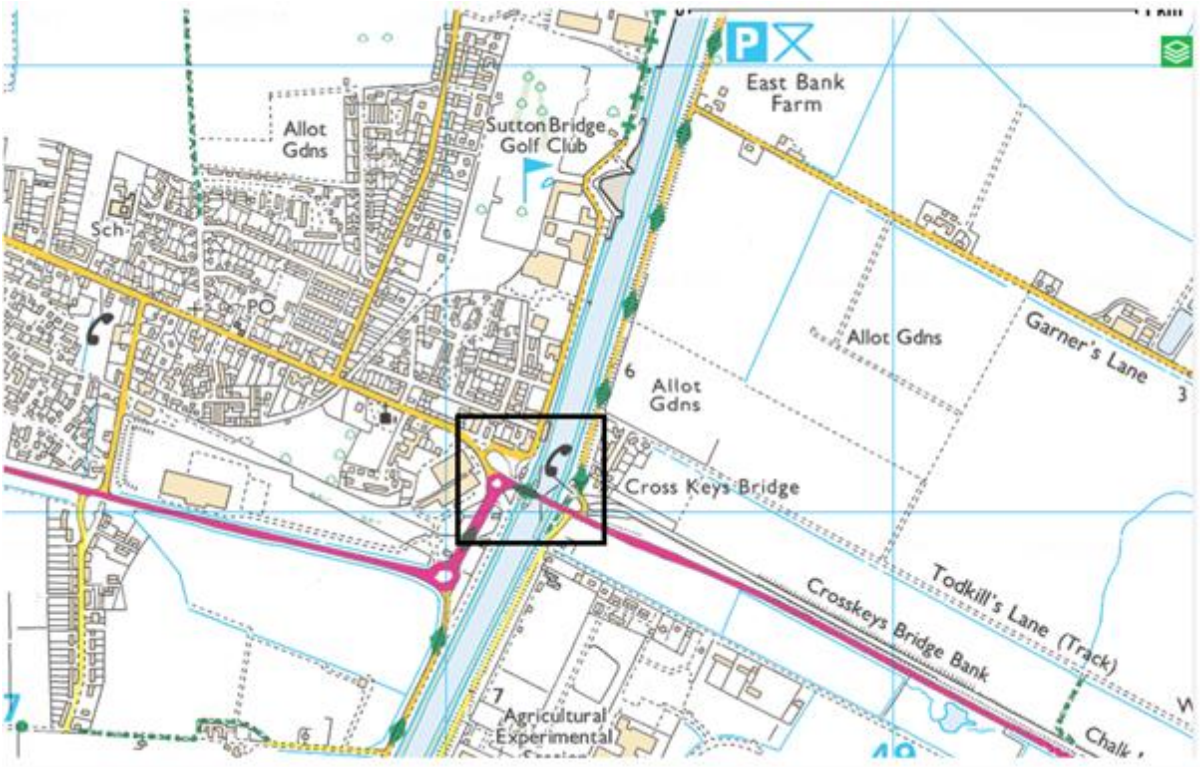
Appendices: A & B

Appendix A – Location plans



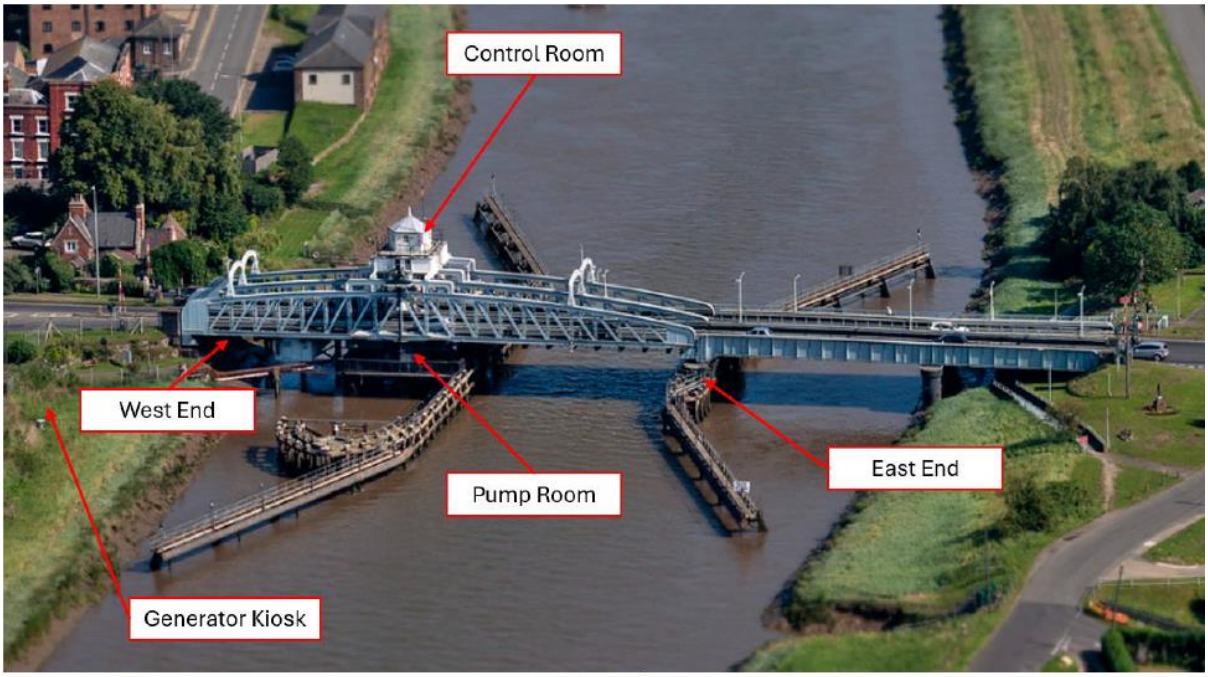


Figure 5-1: Cross Keys Swing Bridge Equipment Locations

Appendix B – Photos of investigation works:



1 – Roller path (Snow guards) shielding the rollers. The lower drive gear is visible below these. The steel fabricated frame is proposed to be fixed on the underside of the box section



2 – Double Bevel gears (Crown Wheels) connected to both horizontal and vertical drive shafts. These are Victorian Engineered components that will become redundant but shall remain in place. They will still rotate under operation of the bridge but will be free-wheeling and not under any operational loads



3 – Double Bevelled Gears (Crown Wheels), these shall remain in situ but will not be subjected to operational loads



4 – Centre turntable. The proposed electric drives are to be fitted to a fabricated frame fixed by bolting to the underside of the upper box section



5- Bottom of vertical drive shaft (Quill Shaft) to be retained and connected to the lower drive gear but will not be subjected to operational loads



6 – Slip blocks that act as support bearings at each end of the bridge when closed. The hydraulic ram pictured that moves/ operates the slip blocks shall remain but will be refurbished and new seal kits fitted that are compatible with the eco friendly hydraulic oil.



7 – Lifting Jacks shall remain as is and will still operate as current. However they will be refurbished and fitted with new seal kits internally that compatible with the eco friendly oil.



8- Inside the pump room containing the current hydraulic equipment. Most of this is to be removed and replaced with more moder versions that offer more reliability. This area is attached to the underside of the swing span and is not in the public eye. There is a door that seals this area off. The orange cabinets shown house the electrical and PLC equipment. The hydraulic power unit shown has parts that have become obsolete or irreplaceable. To create space for the swap over, the back up diesel generator is to be replaced by a more modern silent running power unit with sufficient power to operate the bridge should the main supply fail. The new generator is to be located on the West back adjacent to the site office and will be fenced off and shall include security measures to prevent fuel theft.