



### **Previous chemical cleaning (acid)**

The monument has been cleaned with chemicals / acid in the past, which has stained the stonework.







## **Stone cleaning samples**

ThermaTec Stone Cleaning System has been used to cause no damage to the monument. This has involved water, no chemicals, low pressure and high heat.







## Pointing removal with hand tools

Damage caused to the stone by the use of angle grinders. Incorrect pointing carried out previously in red sand cement mortar.









## Hot lime pointing

The existing pointing was raked back to expose the original lime mortar. The lime mortar was then analysed and approved (1 Grade hot lime x 3 Barras fine washed sand) and pointing work is now on-going.







# **Stone sample analysis**

The existing stone was from Gwespyr Quarry, which is now closed.

The closest match is Woodkirk York Stone. The new masonry units are now being manufactured.







## Defective stones to be replaced

The main areas of defective stone are the cornice, string course and dental course.









## **Stone resin repairs**

To repair the stone, the existing stonework was delaminated. Resin was then injected into the stone to make it more stable.







### **Stone mortar repairs**

To repair the stone mortar, the existing stone was crushed to find density and a colour match and the sample was approved.







## Wrought iron cross and copper ball finial

The existing wrought iron cross will be removed to be restored at the workshop.

The existing ball finial is made of copper and the original gold leaf gilding can still be seen. This will be regilded with 24 carat gold leaf.







## **Lead light windows**

The existing windows were made from lead light, with Perspex in the bottom windows.

Some of the lead lights at the top are damaged or missing. These will be removed and restored off-site.

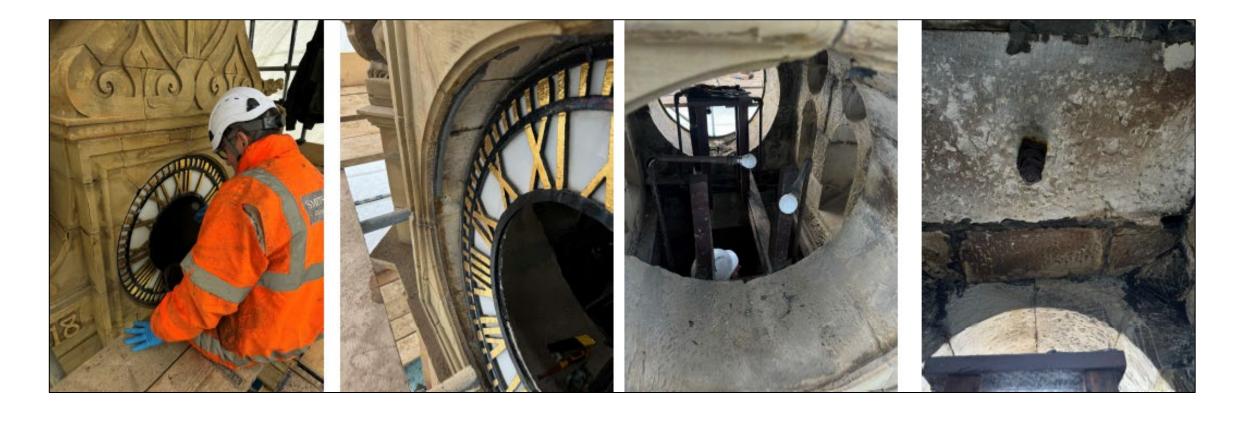






#### Careful removal of clock faces

The rebated clock faces were carefully removed and will be restored by Smiths of Derby.







#### **Internal works**

Rainwater has got in through the masonry joints. This has caused the joinery and flooring to rot.



