HOLDEN CONSERVATION LTD

Hogarth's Tomb
St. Nicholas' Church
Chiswick

Conservation Treatment Report
2009

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Outline summary of the condition of the tomb before Conservation

Hogarth's tomb was covered with superficial dirt and organic growth. There were a number of plants growing within the tomb. Throughout the tomb much of the pointing had failed or was missing.

Two of the stones forming the up-stand of the Portland stone plinth were dislodged in the South East corner of the tomb. The York stone plinth capping was delaminating in parts and had been dislodged in a number of sections.

The socle of the marble urn was severely cracked.

The painted wrought iron railings were rusting in parts and the four corners had corrosion jacking at their joints. Two of the finials were missing.

See also the 2008 estimate for works included as an appendix to this report.



1.

Hogarth's tomb, before conservation.

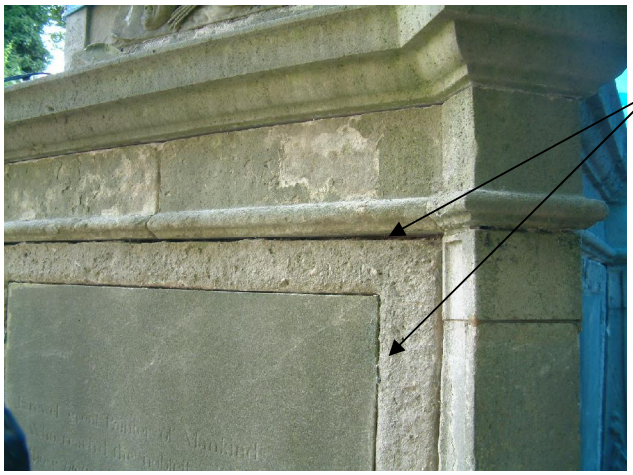
Conservation Treatment

Tomb

The plants were treated with a systemic biocide before being removed from the stone work.

The tomb was steam cleaned at low pressure to remove the dirt and organic growths: The deteriorated state of the stone work, especially the marble, meant it was not possible to completely remove the organic growths and stains.

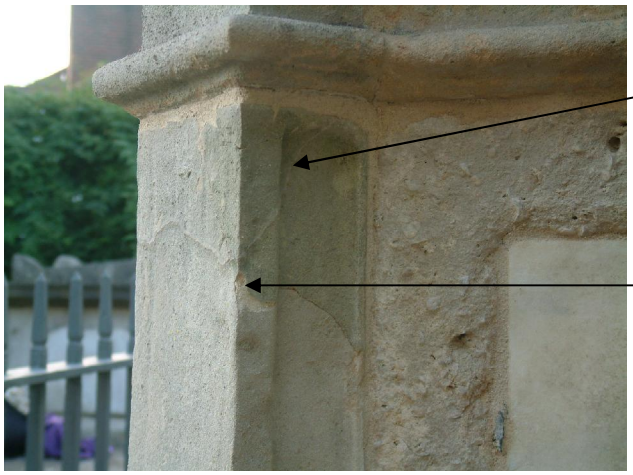
The tomb was given an application of biocide to inhibit re-growth in the short term.



2. Tomb during conservation.

All the cement pointing was manually raked out and replaced with a hydraulic lime mortar to match the Portland stone.

The mortar mix used was;
2 parts – silver sand
1 part - Portland stone dust
1part – St Astier hydraulic lime (3.5)



3. NE scroll after conservation.

The loose section of NE scroll was re-adhered in position with a 6mm threaded stainless steel dowel and polyester resin.

The joint was filled with hydraulic lime mortar to match the Portland stone.

Plinth

The soil was dug out from around the up-stands on all sides to investigate the foundations.



4. NW plinth during conservation.

It was found that there were stable brick and tile foundations under the North and West sides of the stone up-stands.

Since these foundations were of archaeological interest and remained stable they were left in position and the bricks and tiles consolidated with a hydraulic lime mortar.



5. N plinth during conservation.

The brick and tile foundation on the North side up-stand was consolidated with a hydraulic lime mortar.

The back of the Portland stone up-stands were also consolidated with a hydraulic lime mortar.



6. W plinth during conservation.

The brick and tile foundation on the West side up-stand was consolidated with a hydraulic lime mortar.

The mortar mix used was;
3 parts – fine sharp sand
1 part – St Astier hydraulic lime (3.5)



7. S plinth during conservation.

The brickwork was consolidated with a hydraulic lime mortar.

The mortar mix used was;
3 parts – fine sharp sand
1 part – St Astier hydraulic lime (3.5)

It was found that there was a low, uneven ballast foundation under the South side of the stone up-stands.

In order to not disturb the original foundation an additional foundation, needed to bed the stone up-stand securely, was built up to the correct height on top of the original foundation.



8. S plinth during conservation.

An additional ballast and brick foundation was built-up on top of the original foundation so as not to disturb it.
The stone up-stands were then bedded securely on top of the additional foundation.
As the additional foundation is vulnerable to frost at ground level a hydraulic lime and white cement mortar was used;
6 parts – ballast sand
1 part - St Astier hydraulic lime (3.5)
½ part – white cement



9. S plinth during conservation.

The Portland stone up-stands on the South side were bedded in position using a hydraulic lime mortar.

The mortar mix used was;
3 parts – fine sharp sand
1 part – St Astier hydraulic lime (3.5)



10. E plinth during conservation.

It was found that there was no foundation under the stone up-stands on the East side.

It was also found that much of the pointing in the brickwork had failed.

A cement and ballast foundation was laid to a depth of 150mm. The foundation was kept below the soil level so none of it would be visible.



11. E plinth during conservation.

The brickwork was consolidated with a hydraulic lime mortar.

The mortar mix used was;
3 parts – fine sharp sand
1 part – St Astier hydraulic lime (3.5)

A single layer of yellow stock bricks were bedded on top of the foundation. Yellow stock bricks were used to differentiate them from the red stock bricks used originally. The bricks being at ground level will be vulnerable to frost so a hydraulic lime and white cement mortar was used;
6 parts – ballast sand
1 part - St Astier hydraulic lime (3.5)
½ part – white cement
The bricks will not be seen unless there is some soil movement over time.



12. E plinth during conservation.

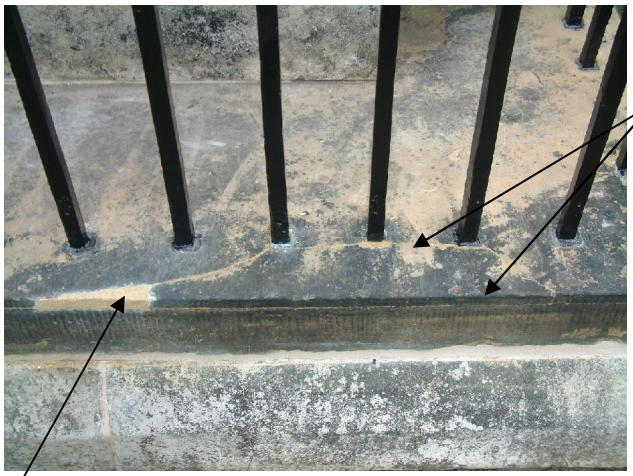
The Portland stone up-stands on the East side were bedded in position on top of the bricks using a hydraulic lime mortar.

The mortar mix used was;
3 parts – fine sharp sand
1 part – St Astier hydraulic lime (3.5)



13. E plinth before conservation.

The dislodged sections of the York stone plinth capping were re-adhered in position using polyester resin.



14. E plinth during conservation.

The fine cracks in the York stone were filled with an acrylic mortar (Primal B60A) to match the stone.

The sand mix used with the Primal B60A acrylic was;
5 parts – sieved sharp sand, Brent Aggregates, Cliffe, Kent
1 part - Bath stone dust

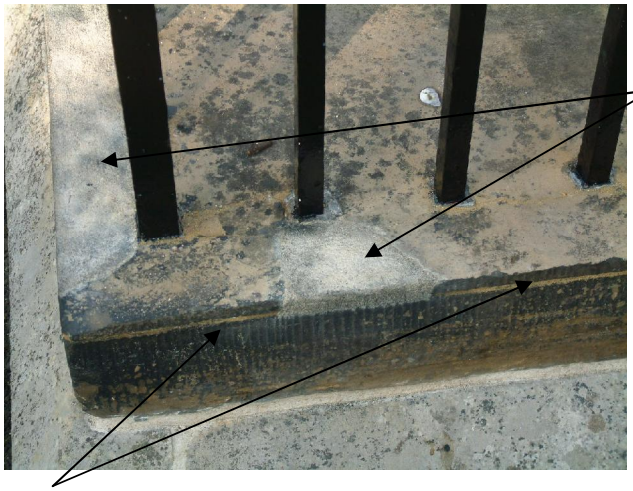
The missing section of stone was re-built in hydraulic lime mortar.



15. S plinth during conservation.

Hydraulic lime grout was injected into the delaminating York stone to consolidate it.

The missing section of stone was then re-built in a hydraulic lime mortar.



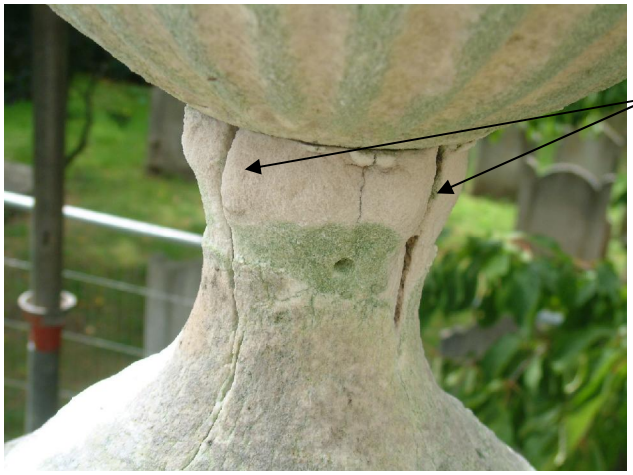
16. SE plinth after conservation.

The missing sections of the York stone capping were re-built using a hydraulic lime mortar to match the stone and toned with black pigment.

The mortar mix used was;
5 parts – sieved sharp sand, Brent Aggregates, Cliffe, Kent
1 part - Bath stone dust
2 parts – St Astier hydraulic lime (3.5)

Fine cracks filled with acrylic mortar.

Urn



17. Socle before conservation.

In order for the stress cracks in the marble socle of the urn to be investigated the whole urn had to be lifted off the tomb.

The urn was separated from the tomb at the joint between the marble socle and the larger Portland stone socle.
The urn was found to be attached to the tomb with a wrought iron dowel encased in lead.

18. Urn during conservation.



The lead dowel in cement mortar between the Bath stone flame and the lid was manually removed.

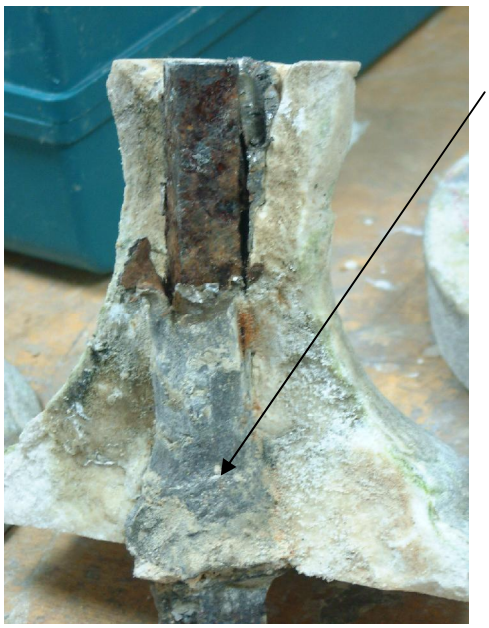
The flint dowel in cement mortar was drilled out from between the lid and urn.

The wrought iron dowel in lead between the urn and socle was cut.
The section in the bottom of the urn was drilled out.



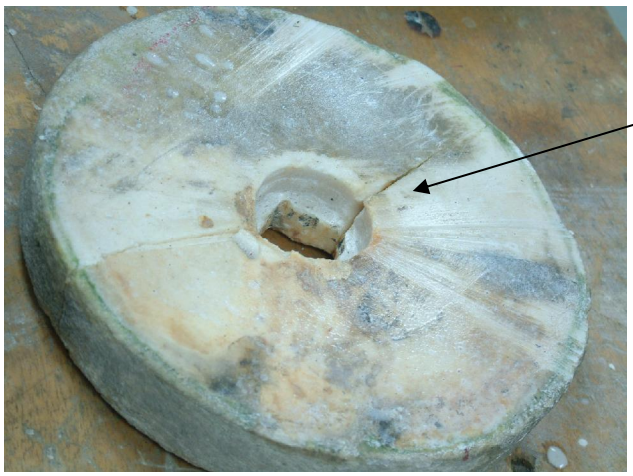
19. Socle during conservation.

It could be seen that the expansion of the wrought iron corrosion within the lead had put stress on the marble and caused it to fracture.



20. Socle during conservation.

The large fishtail nature of the dowel meant that the dowel could not be removed without splitting the socle. This was done by manually splitting the marble along the fracture lines already apparent. It can be clearly seen that the cracks had penetrated the full depth of the marble and the socle was only held together by the binding effect of the lead and metal dowel.



21. Socle during conservation.

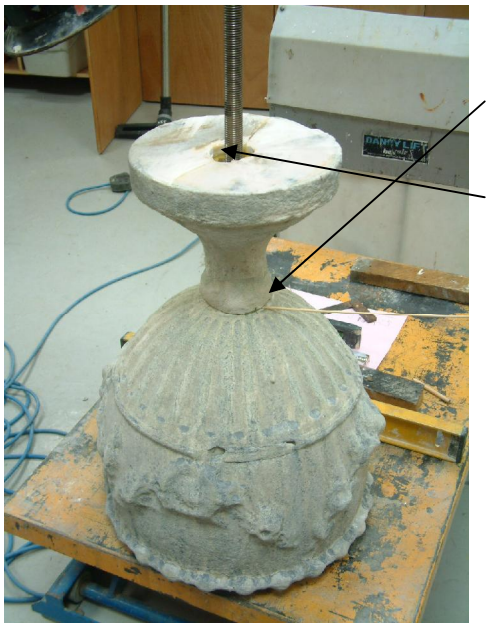
The sections of the socle base were re-adhered together using polyester resin.



22. Socle during conservation.

The base of the socle and the sections of the socle were re-adhered together using polyester resin.

The cracks and joints were then filled with an acrylic mortar of Primal B60A and marble dust.



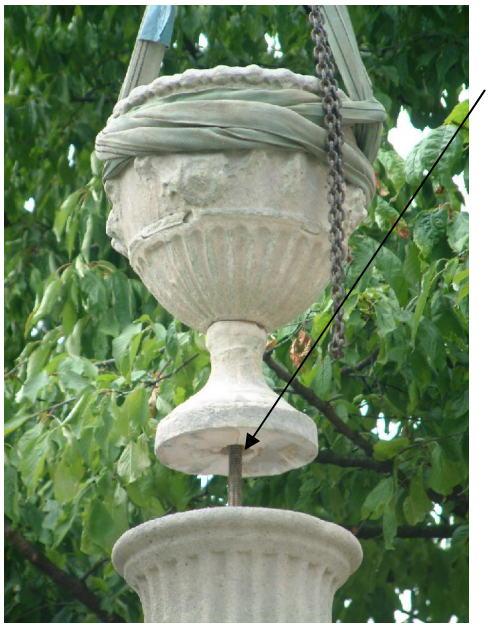
23. Urn during conservation.

The marble socle was re-adhered to the urn using polyester resin.

A 20mm threaded stainless steel dowel was inserted through the socle and into the urn to a depth of 200mm. This dowel will carry much of the weight of the marble urn directly onto the stone socle below thus relieving the deteriorated marble socle of the load.

The dowel was secured in place with polyester resin.

The joint between the bottom of the marble socle and the top of the Portland stone socle was formed by lime mortar which would hold the marble urn securely but allow for it to be removed in future if required.



24. Urn during conservation.

The urn was lifted into location on its dowel and bedded in its original position on a hydraulic lime mortar, which was also used to point the joint.

The mortar mix used was;
2 parts – silver sand
1 part - Portland stone dust
1part – St Astier hydraulic lime (3.5)



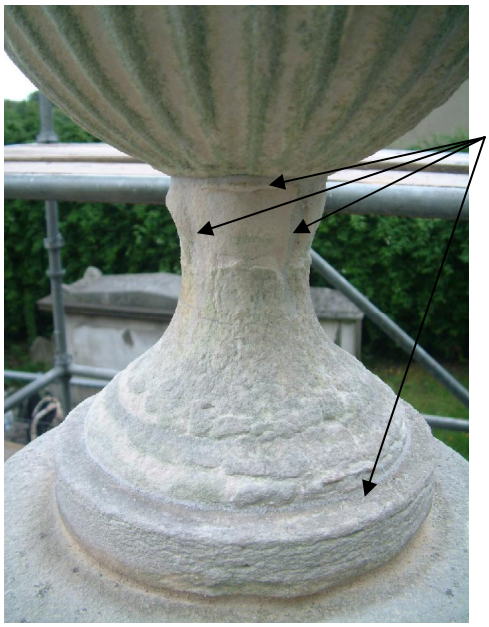
25. Urn after conservation.

The lid and flame were re-adhered in their original positions with a 10mm threaded stainless steel dowel and a hydraulic lime mortar, which was also used to point the joint.

The mortar mix used was;
2 parts – silver sand
1 part - Portland stone dust
1part – St Astier hydraulic lime (3.5)

Joint pointed with acrylic mortar to match the marble.

Joint pointed with hydraulic lime mortar to match the Portland stone.



26. Urn after conservation.

The marble socle with all the cracks and joints filled with acrylic mortar of Primal B60A and marble dust to match the marble.



27. Urn after conservation.

The missing sections around the marble indent were capped with the acrylic mortar.

Railings

Having taken into consideration the Health and Safety implications it was felt that the paint could not be blasted from the railings safely on site because of the presence of lead in the paint on the railings.

Therefore the paint was chemically removed from the railings with Peelaway 7, which is an alcohol based stripper.

The wrought iron railings were then manually brushed back to bright metal with wire brushes and wire wool. A coat of red oxide primer was applied to the prepared iron on the same day.



28. NE corner railing before conservation.

The NE corner of the railings where corrosion jacking could be seen.

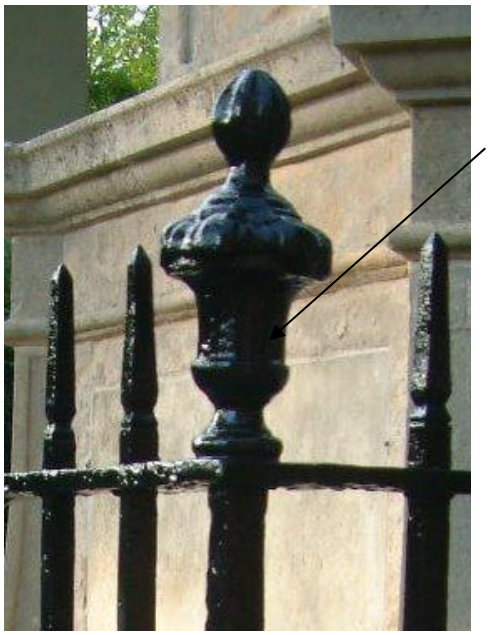


29. NE corner railing during conservation.

The NE corner of the railings after the paint and corrosion have been removed.

The corner joint was re-positioned to level position and the joint sealed with lead.

The red oxide primer has been applied to protect the iron work.



30. NE corner railing after conservation.

One of the missing finials was found and was able to be re-attached with a new dowel and fixing screw.

The finial and railings have been painted with one coat of primer, two coats of undercoat and two coats of black top coat.



31. SE corner railing during conservation.

The SE corner of the railings after the paint and corrosion have been removed.

The corner joint was sealed with lead to fill any water traps.

The red oxide primer has been applied to protect the iron work.

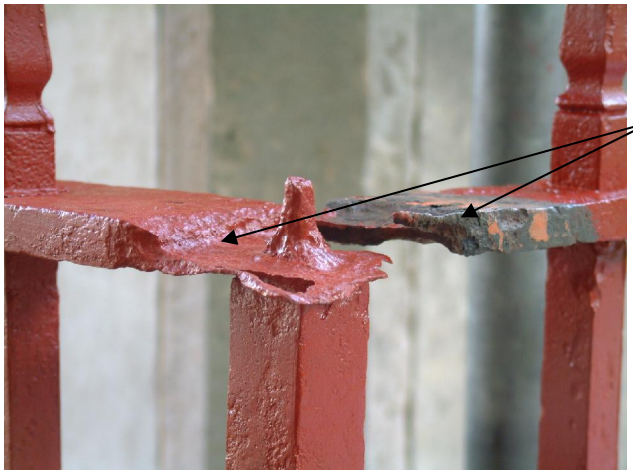


32. SW corner railing during conservation.

The SW corner of the railings after the paint and corrosion have been removed.

The corner joint was re-positioned to level position and the joint sealed with lead.

The red oxide primer has been applied to protect the iron work.



33. NW corner railing during conservation.

The corroded metal ends of the corner were removed. New sections of iron railing were attached to the old with lap joints and rivets.

The new finial could then be attached with a dowel through the new railing section and into the newel post.



34. NW corner railing after conservation.

The new cast iron finial was attached to the newel post with a stainless steel dowel and a fixing screw.

The new section of iron railing attached with lap joints and rivets.

The finial and railings have been painted with one coat of primer, two coats of undercoat and two coats of black top coat.



35. Railings during conservation.

Some of the bases of the railings fixed in the stone had corroded, moving the lead in which they were fixed. Once all the corrosion had been removed and the iron posts painted more lead was poured into the fixing to eliminate any water traps.



36. Railings after conservation.

The fixing in the stone has been filled with more molten lead and then beaten back to eliminate any water traps.



37.

All of the railings were painted with one coat of primer, two coats of undercoat and two coats of black top coat.

The railings partially painted with the black top coat. The remainder still shows the grey undercoat.

Following the conservation works the soil that had been removed to expose the foundations was put back and the surrounding area graded.



38.

Hogarth's tomb after conservation.

Appendix 1

A number of makers' stamps were found on the wrought iron railing during the work.



39.



40.



41.



42.

Appendix 2.

This is a copy of the Holden Conservation 2008 proposal and estimate; This was not prepared as a condition survey but intended to supplement and estimate of costs.

Jane Nissen
Planning Committee
Old Chiswick Protection Society
Swan House
Chiswick Mall
London
W4 2P2

2nd September 2008.

Dear Jane Nissen

CONSERVATION OF THE HOGARTH TOMB, St. NICHOLAS CHURCH, CHISWICK.





Further to your recent letter we have visited site to inspect the tomb and outline below our suggested scope of work for the conservation required.

The memorial consists of a Portland stone plinth with York stone capping into which the iron railings are set. The memorial block consists of Portland stone with marble inset panels and a marble urn above. The vault walls are visible where the plinth stones have dislodged and are constructed from brick. The memorial appears to be well founded and level with only minor disturbance. The railings are probably wrought iron and are painted; they have some rust and corrosion jacking at joints and two of the finial are missing.

1.0 STONEWORK.

1.1.0 Cleaning.

1.1.1 The tomb would benefit from the removal of plants and an overall light clean to remove superficial dirt and organic growths.

1.1.2 Plant growth would first be treated with a systemic biocide to kill roots before removing the visible part of the plant.

1.1.3 Cleaning would be undertaken by a combination of dry brushing, picking with wooden tools, water and bristle brushes and steam cleaning.

1.1.4 It would not be the aim to remove all deep stains from the stone and particularly the marble as this would not be possible using the above methods and much more aggressive treatments would be required. This would be neither appropriate nor necessary.

1.1.5 The stone would be given an application of biocide to kill off any remaining organic growths and to inhibit re-growth in the short term.

1.2.0 Repairs

1.2.1 The socle of the urn finial appears to be cracked and this requires further on site investigation.

1.2.2 We would allow removing the urn from the tomb and undertaking any necessary repairs to stabilise it. This might include inserting new stainless steel dowel into the neck of the socle and to provide fixings into the top of the tomb.

1.2.3 Scaffold for access and lifting would be required to undertake this and is included in our costs.

1.2.4 We would make good using conservation mortar repair techniques and make no allowance for replacement stone.

1.2.5 The stones forming the up-stand of the plinth have been dislodged from the south west corner. There is little foundation for these stones and it is likely that such displacement will continue. Generally the tomb has brick or tile used to provide a token foundation for these stones.

There are two options;

Option 1: to reposition the two dislodged stones and fix back into place using mortar and brick to provide a foundation

Option 2: to remove all the stones and provide a concrete foundation beneath the extant brick, provide additional brick where required and to re-bed all the stones onto a lime mortar.

We will allow for option 1 in our costs; please let us know if you would prefer to have a cost against option 2.

1.2.6 The York stone plinth capping is delaminating in parts. It is very difficult to prevent this but we would propose to consolidate the edges of the areas currently lifting by use of lime mortars with the intention of preventing water from gathering and thereby reduce the problems from frost damage.

1.2.7 Dentistry repairs would be carried out to all areas of cracking, flaking and where water traps exist. This would be by use of lime mortars to simulate the adjacent stone.

1.2.8 Pointing would be checked following cleaning and where necessary all loose or defective pointing would be raked out and replaced with a lime mortar to match the existing.

1.2.9 Lettering would be inspected following cleaning to ascertain if the legibility is sufficiently improved. In general it is not usual to re-cut lettering of this type for ethical reasons. In this instance there may also be technical problems associated with the level of deterioration in the stone and marble substrates. We make no allowance in our costs to works on the lettering.

2.0 RAILINGS

2.1 Option1

- Re-decorate insitu by wire brushing, de-scaling, spot priming and application of two undercoats and one finishing coat.

2.2 Option 2 A

- In-situ blast cleaning back to bright metal.
- Filling of holes and pits where required by use of resin fillers.
- Application of primer, two undercoats and one finish coat.

Option 2 B

- Extra over to option 2 to carry out insitu repairs to two number corner joints and to make two resin cast replica urn finials painted to match the originals.