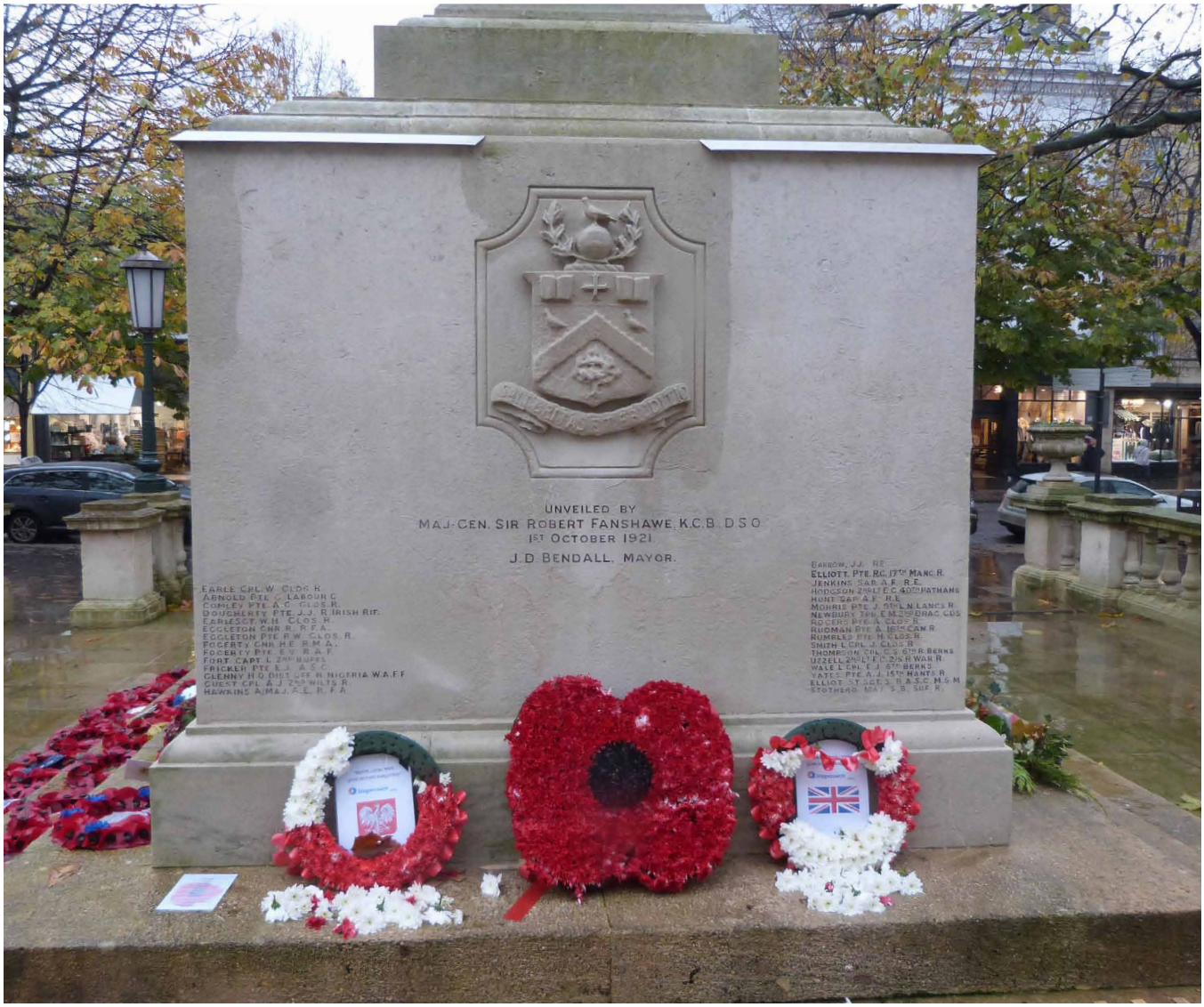
Historic England

Conserving War Memorials

Case Study: Cleaning

First World War Memorial, Cheltenham, Gloucestershire



Summary

The Cheltenham War Memorial is the main location for commemoration in the Borough. It is remarkable for the number and layout of its inscriptions, and the extraordinary quality and precision of the lettering. Factors such as civic pride and the need for commemoration by the general public meant that Cheltenham Borough Council (CBC) ensured that the memorial – particularly the inscriptions – were cleaned regularly. As with many memorials, this regular cleaning caused damage to the surface of the stone, resulting in the stone getting dirty more quickly and encouraging microbiological growth. This case study describes the most recent conservation project which involved the cleaning and delicate repair of the inscriptions. The project also considered how to break the cycle of repeated cleaning, to ensure that the inscriptions are retained for future generations.

This guidance is intended for those designing, specifying and undertaking conservation and repair work to free standing war memorials, such as architects, building surveyors, structural engineers, project managers, contractors, craftspeople, and conservators. It will also be of interest to those responsible for making decisions, such as local authority conservation officers, custodians or volunteer groups. It also indicates where to get further help and advice.

This guidance forms part of a series of resources produced by Historic England, to coincide with the centenary of the First World War. This series covers the overall approach to caring for these memorials, as well as some of the more poorly understood technical aspects. It includes:

- guidance on how to record, repair, conserve, maintain, and protect these unique monuments for future generations: The Conservation, Repair and Management of War Memorials and Conservation and Management of War Memorial Landscapes
- short technical advice notes covering inscriptions, structural problems and repairs, and maintenance
- case studies on conservation options for specific war memorial issues
- films on technical aspects of war memorial conservation

This guidance has been written by David Odgers and Berenice Humphreys, and edited by Clara Willett (Historic England).

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HistoricEngland.org.uk/advice/technical-advice/war-memorials/

Front cover:
The Cheltenham war memorial after cleaning.

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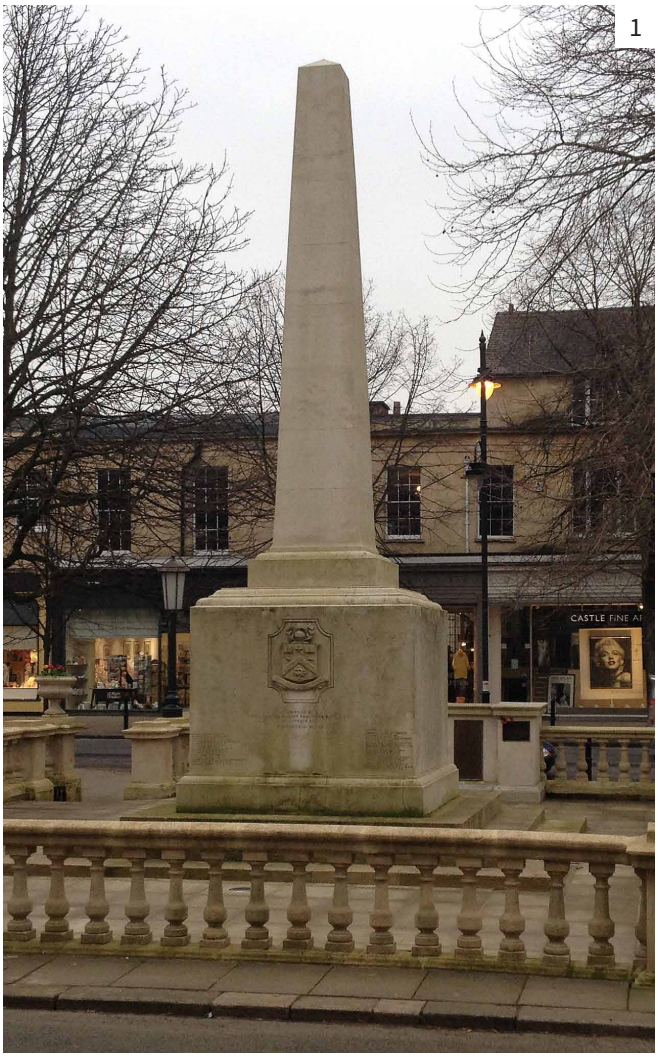
1 Description and Condition

Cheltenham War Memorial is located within a well-manicured garden in front of the Regency style offices of the Cheltenham Borough Council (CBC). It is set within a paved area with stone balustrade surround and large overhanging plane trees.

The balustrade was repaired and cleaned in 2012 but in 2015 CBC (who are responsible for the care of the memorial) wished to undertake a programme of conservation as part of the First World War Commemoration Project that involved a number of events in the Borough. The conservation work described was 75% funded by the War Memorials Trust.

Description

The memorial was constructed in 1921 and consists of a Portland stone obelisk on top of a large base set on a stepped plinth. The most notable element of the memorial is the extent and nature of the inscriptions: 1284 names are inscribed on three sides of the base. The letters were cut so as to receive lead fills but whether from cost or unavailability of craftsmen, the incisions were actually filled with coloured cement mortar with an oiled finish to simulate lead.



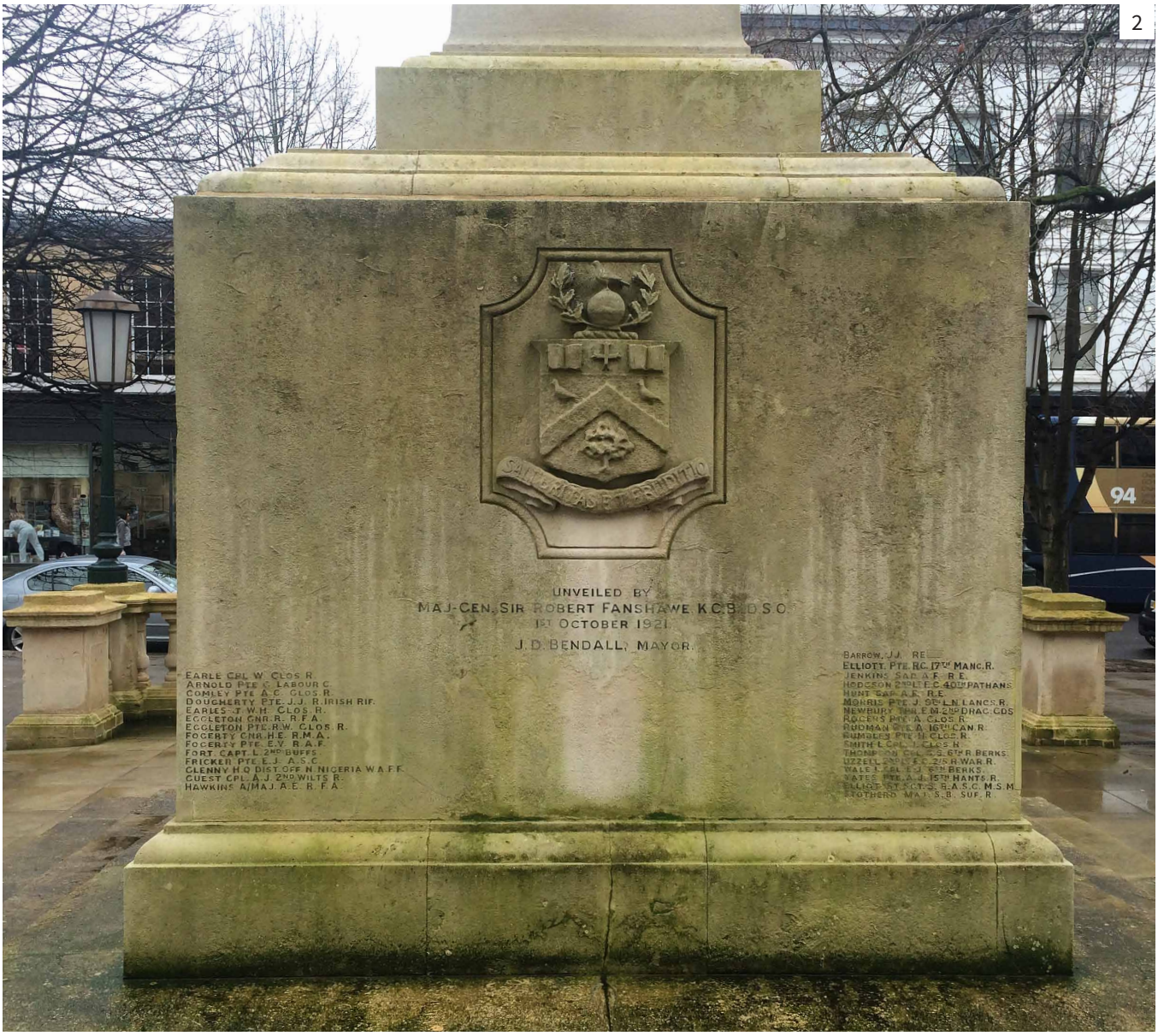
1 The Cheltenham War Memorial.

Condition

The condition of the Portland stone was generally good. Over the 100 years or so since its construction there had been some erosion, and in 2012 a few stone indents had been inserted in the inscription panel on the south elevation.

The local environment – with overhanging trees – and the porous nature of the stone meant that there existed ideal conditions for the growth of algae and most areas of the memorial were affected.

In addition, the original design allowed water to track down the obelisk and because there was no overhanging moulding this resulted in saturation of the top of the inscription panel and significant algal and lichen growth. As a result of this, inscriptions – particularly those in the upper parts of the panels – became obscured. In order for legibility to be restored, the memorial was therefore regularly cleaned, usually with pressurised water. Unfortunately this cleaning process caused the edges of the inscriptions to become worn, with a consequent loss of some of the mortar infill.



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2 View of Cheltenham war memorial showing algal and lichen growth on west side.

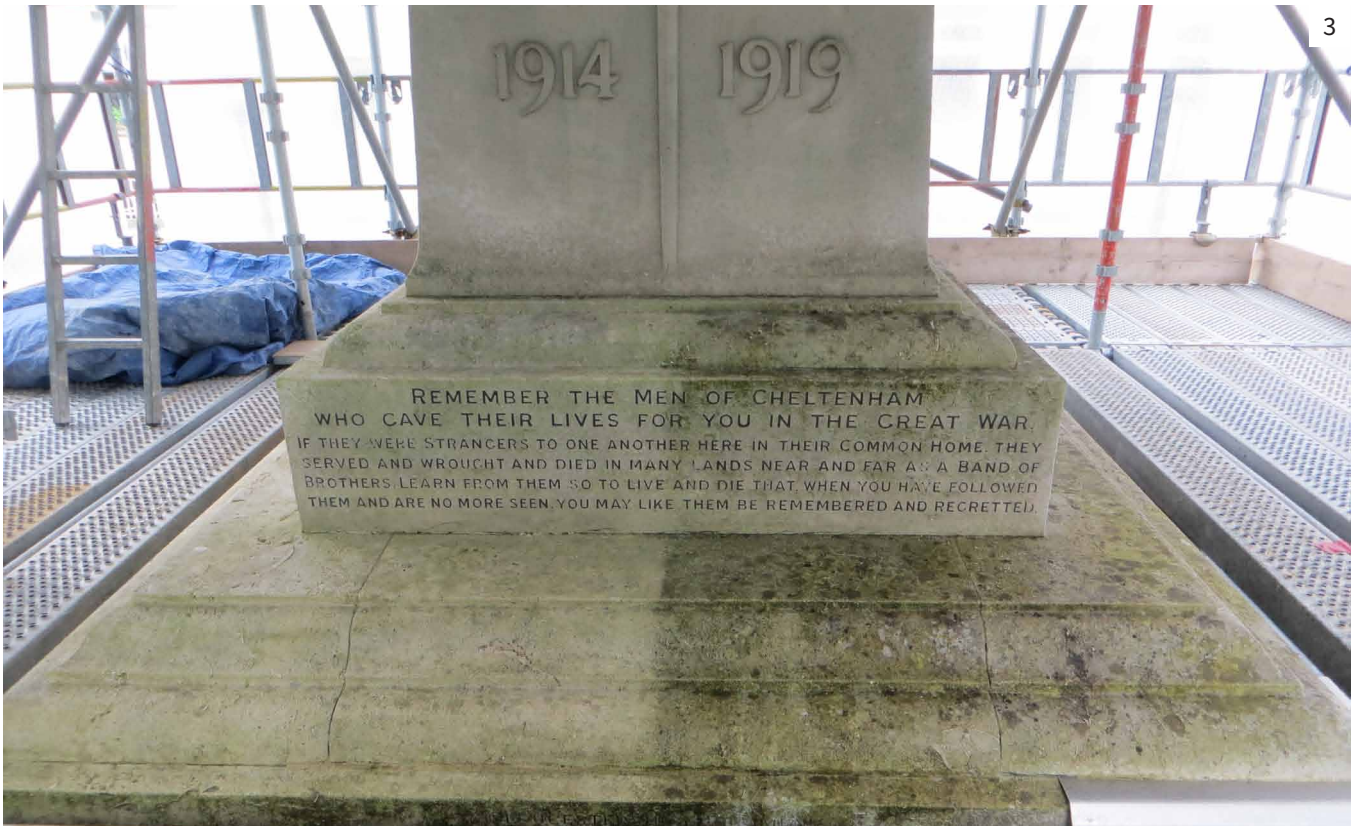
2 Remedial Treatment

Initially the work involved the removal of microbiological growth from all areas of the memorial, and in particular from the inscriptions. For the obelisk and other plain areas, a superheated water system was used operating at 150°C. This has proven ability at removing algae but there is no evidence that the heat generated on the stone is sufficient to allow sterilisation and eradication of the root systems.

Cleaning trials

For the more delicate cleaning required on the inscription panel, three options were trialled in a small area on the east elevation:

- Using water and stiff brushes
- Cleaning with superheated water at 150°C (DOFF/Thermatech)
- Cleaning with dry steam (160°C) (Osprey Frank Model SF3)



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3 The left hand side of the memorial has been cleaned using super-heated water.

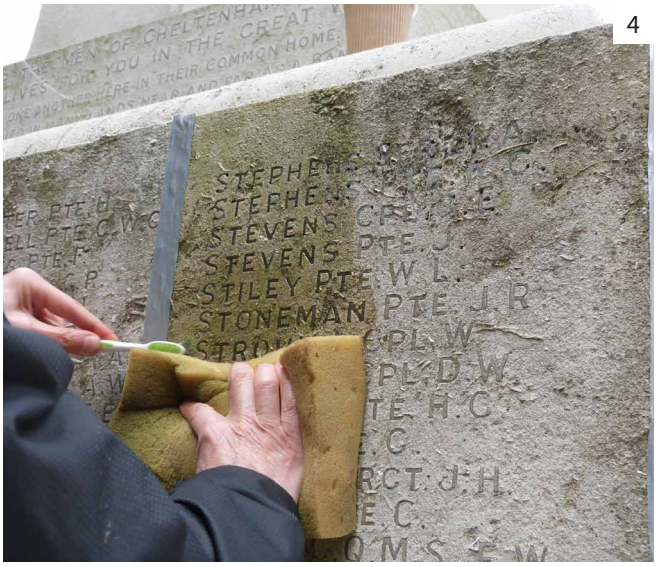
Results

The first of these options was found to just smear the algae evenly over the surface without removing it. The second was effective but lacked the required finesse. There were two main disadvantages: the amount of water that runs down the face, and the clouds of steam that made seeing the surface, and therefore controlling the extent of cleaning, difficult.

The third option used a stiff bristle brush on the end of a lance through which dry steam was passed. This proved most effective and has the advantage of very little pressure, the introduction of much less water and more heat that might sterilise the hyphae. Best results were achieved by carrying out one pass of the surface followed soon after by a second pass.

Although this method provided a clean surface, the design of the monument, the overhanging trees, and the open texture of the stone would inevitably lead to re-colonisation. Options to reduce this occurrence were also considered.

The original proposal also included the use of biocide to kill any remaining microbiological growth. However concern was expressed by the War Memorials Trust (WMT) as to possible adverse effect of the use of biocides, so only the inscription panel on the east side was treated; this will be monitored over the next two years.



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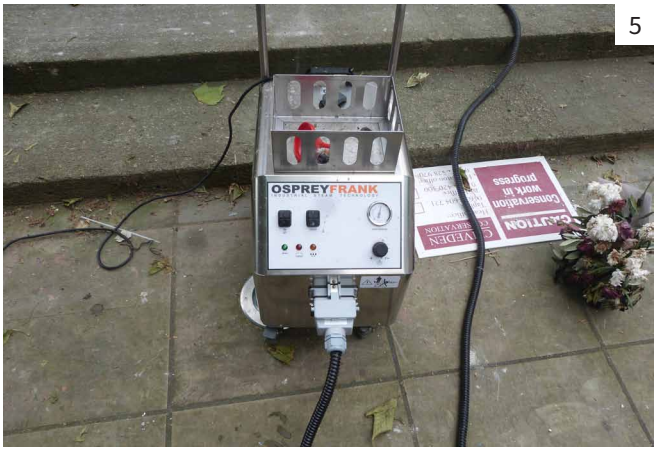

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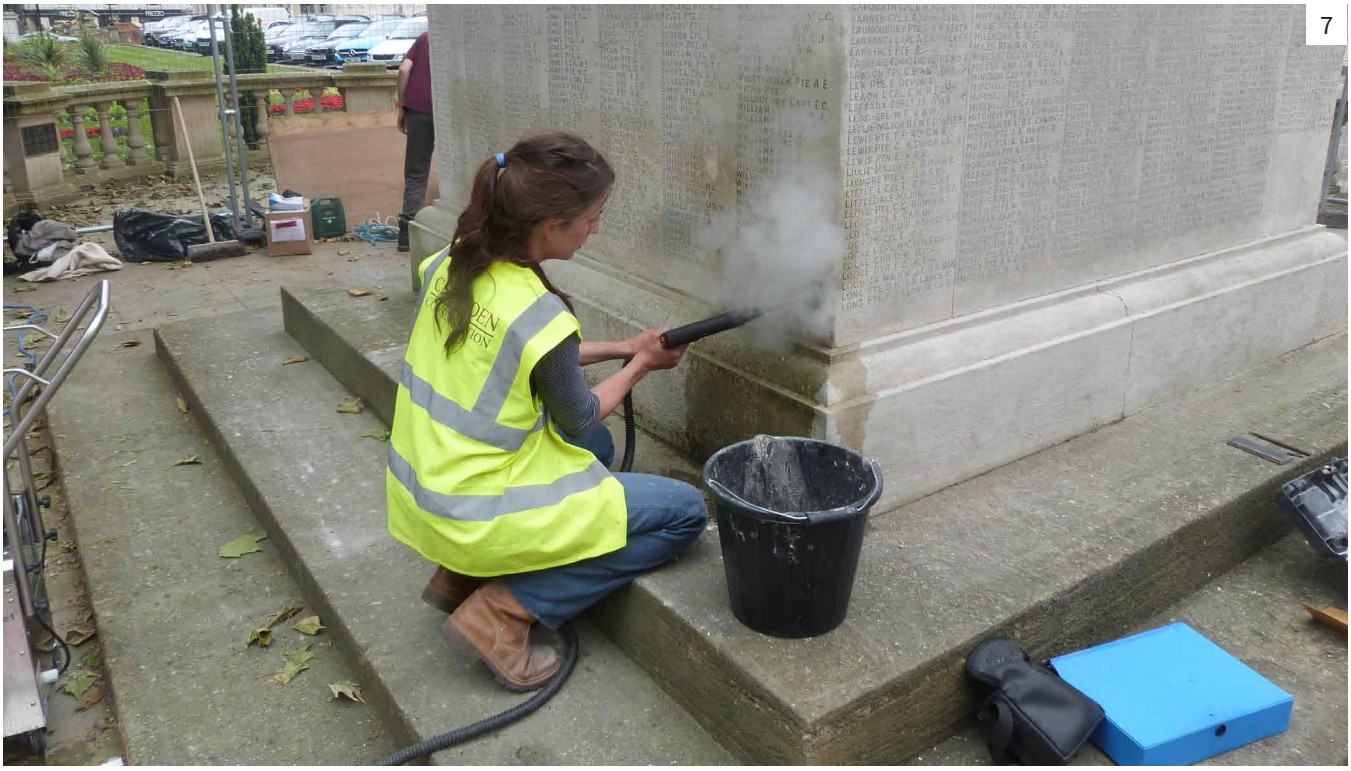
4 The wet brushing caused the green from the algae to be smeared evenly across the surface without removing it from the pores.

5 The type of dry steam machine capable of delivering steam at 160° C.

6 The brush head generates small amounts of steam with little water run-off.



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7 The dry steam process allows more careful control of the cleaning.

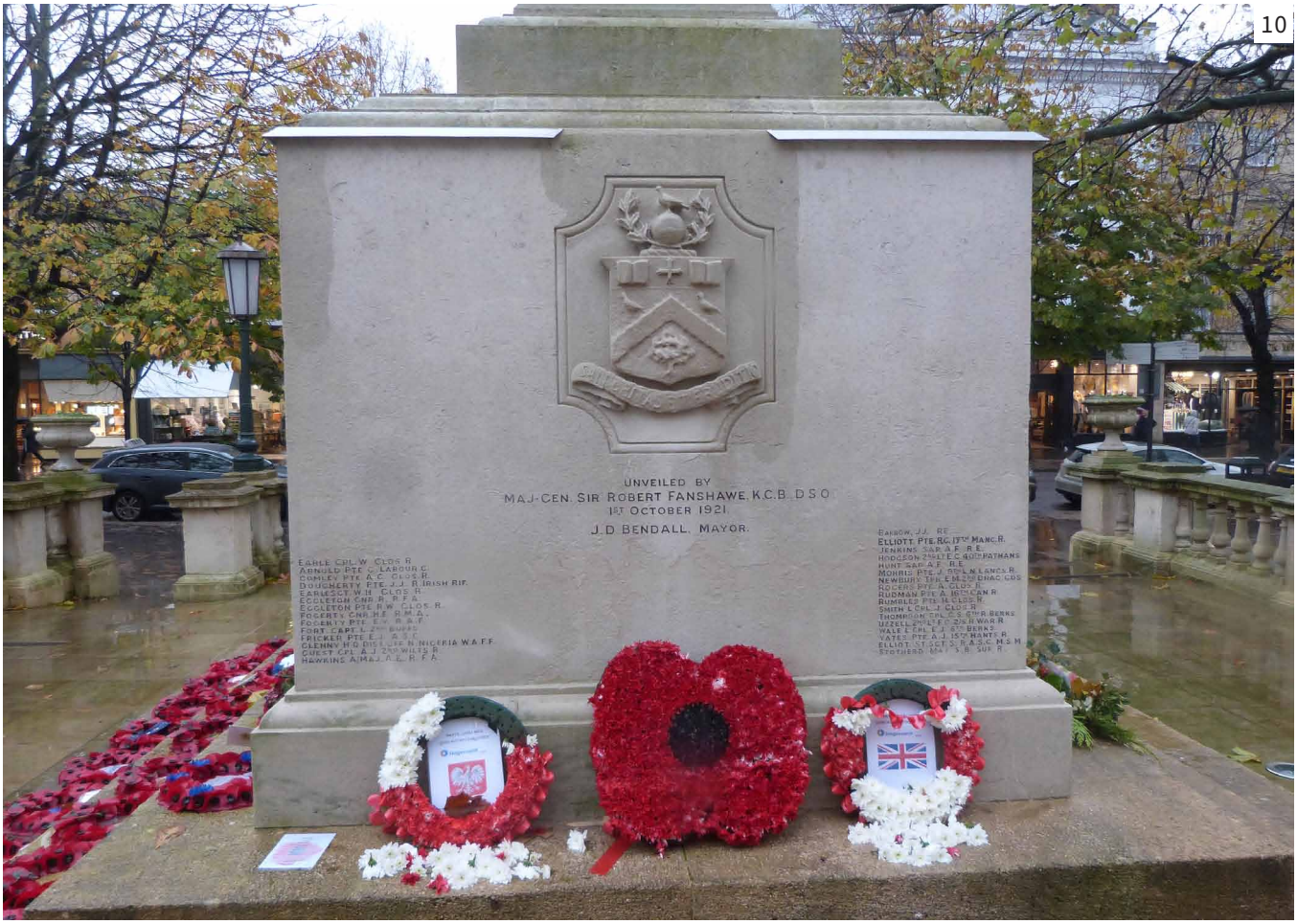
8 South side with one half having had first pass of cleaning with dry steam.

9 After completion of cleaning using two passes of dry steam.

3 Lessons Learnt

Post-project reflections are useful for learning what could be done differently in the future. The nature of conservation often means that unforeseen dilemmas and situations arise and even the best planned projects require flexibility and adaptation to resolve them to produce appropriate outcomes.

The project demonstrated the importance of considering why there is a need to clean, and to fully explore the various options. The challenge for the future is preventing the cycle of algal growth and re-establishing regular cleaning. One option that has been adopted is the installation of a flashing let into the joint above the inscription panels. This will prevent water running over the panels and should reduce algal growth; the effect is being monitored for two years.



10 West side after completion, with flashing in place. The upper areas of the memorial are developing surface algae after only a few months.

4 Acknowledgements

Project Team

Client: Cheltenham Borough Council

Project manager: Jane Stovell

Conservation Consultant: Odgers Conservation Consultants

Principal Contractor: Cliveden Conservation

Project manager: Berenice Humphreys

Costs: £3500 (ex VAT)

Images

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