

Preparation of Historic Structures Reports

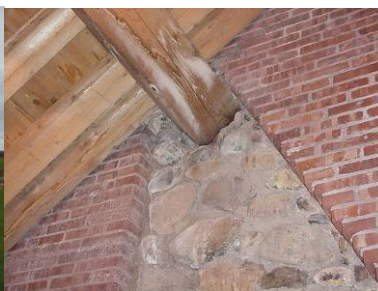
Mr Hockey has been involved in the preparation of many studies including full restoration feasibility studies, assessment of the integrity of damaged historic sites and the preparation of Maintenance Plans for historic structures. Two recent studies he prepared are *Fortress of Louisbourg NHSC, Water Ingress on Kings Bastion Chimneys, Investigation of Boron Preservatives for Wood Protection*; and *Impact Assessment - Air Conditioning Proposal Monument LeFebvre National Historic Site of Canada*. Most recently, he was lead architectural conservator for the Historic Structures Report for the Colonial Building in St. John's, Newfoundland prepared by the PHB Group, (See 2007 Projects.)

The Kings Bastion Barracks preservative report was a study to determine if the masonry embedded timbers of the roof that were getting wet through the movement of moisture through the masonry could be protected from rot or insect attack through the installation of boron rods and/or liquid boron. The study concluded that while it was possible to install the material, the level of deterioration was not serious enough and the moisture content of the wood was below 20%. This limits the effectiveness of the boron and the recommendation was not to do the installation in this particular case. The supplier of the product requested a copy of the report for their records.

The Monument Lefebvre report was initiated when Mr. Hockey raised concerns regarding potential damage to the building if they installed an air conditioning system in the late 1800's National Historic Site. At the request of Parks Canada Mr. Hockey collaborated with a mechanical engineer during the preparation of the study which assessed the potential impact on the historic building envelope of introducing cooled air into the building. There was negative air pressure in the building caused by five exhaust fans with no source of make-up air. The exterior walls had no air barrier or insulation and low levels of attic insulation led to a risk of condensation in the attic space and, possibly the wall cavity if the interior temperature was reduced by mechanical means. Also, existing attic ventilation was inadequate leading to a further risk of condensation under the current conditions. The report recommended to increase attic ventilation, to provide a source of supply air at a slightly greater rate than the sum of the exhaust, not to insulate the wall cavity because of the impact on the resource but to insulate the attic to R48, and to install monitors in the building assembly to ensure that the building was not at risk. These recommendations are being implemented.



King's Bastion Barracks/Embedded Purlin



Monument Lefebvre

