

## NATIONAL HISTORIC SITES OF CANADA: A VALUES-BASED APPROACH TO POSTERITY HERITAGE RECORDING

J-F. Leboeuf, C. Ouimet, C. Lumsdon, J. Zvonar, G. Utas  
Heritage Conservation Directorate, Public Works and Government Services Canada.  
25 Eddy Street, Gatineau (QC), J8X 4B5, Canada.  
jean.leboeuf@pwgsc.gc.ca

**KEY WORDS:** Photogrammetry, Cultural Heritage, Economy, Surveying, Acquisition, Cooperation, Recording, Standards

### ABSTRACT

There are approximately 900 National Historic Sites [NHSC] in Canada, 200 or so which fall under the jurisdiction of Parks Canada. The majority of these do not yet have any level of heritage record. In light of changing priorities on the part of Parks Canada, a creative solution is necessary to increase the efficiency and effectiveness of the annual program committed to this recording.

This presentation will illustrate the approach that the Heritage Recording Network of Public Works and Government Services Canada has developed to re-tool its 'traditional' process and procedures towards a "*simple, sustainable, values-based benchmark recording*" program for Parks Canada. Recent case studies will be used to tell the story.

### 1. INTRODUCTION

As early as the 1970s, Parks Canada - through its policies, principles and practices - recognized the need for heritage recording as a critical part of the appropriate stewardship of its cultural resources. While these methods have generally followed accepted international charters and conventions, they have also been reviewed on a regular basis. The recent introduction of the *Standards and Guidelines for the Conservation of Historic Places in Canada* by Parks Canada reaffirms the value of heritage recording.



Figure 1. Carillon Barracks, NHSC, Carillon (Quebec), one of the sites recorded under this new approach.

That said, changing priorities within Parks Canada have made it necessary to review the practices of the Heritage Recording Network [HRN] of Public Works and Government Services Canada [PWGSC]. Recently, the Directors responsible for the HRN and for Parks Canada have expressed the need to formulate a renewed model to deliver heritage recording services for Parks across Canada in order to ensure a sustainable and affordable service offer.

At a national meeting of the PWGSC Heritage Recording Network (February 2006), Parks Canada challenged it to envision and develop a national approach to "*simple, sustainable, values-based benchmark recording*" for each existing and new NHSC. While there are over 900 NHSCs –

and approximately ten more are added each year - only 270 have been recorded to some degree.

A values-based approach is critical to the mandate of Parks Canada. Heritage values are identified for buildings, cultural landscapes or engineering works through a comprehensive assessment by a multi-disciplinary team formed accordingly. Ultimately, the recording process must ensure that it fully captures these heritage values.

With the challenge at hand, the Heritage Recording Network, with its responsibility for heritage recording at a national level, needed to demonstrate strong leadership with respect to its clients needs, namely productivity (efficiency), effectiveness, access to the information, and integration of changing technology.

### 2. PREPARATION

In order to meet the goal of "*simple, sustainable, values-based benchmark recording*" for each existing and new NHSC, the Heritage Recording Network and Parks Canada worked together to establish the following objectives:

- Define baseline posterity recording;
- Establish a priority list of National Historic Sites for baseline posterity recording;
- Identify the field methodology to be adopted and the new deliverables;
- Optimize the use of human resources, and tailor these activities to group training;
- Archive posterity documentation;
- Review the publishing methodology for all documentation produced including 'full' web-based accessibility; and
- Monitor the results of these new approaches to improve the process and better address the needs of clients and users of the information.

### 3. IMPLEMENTATION

In order to realize the objective of having one values-based benchmark heritage record for each National Historic Site, the following criteria were identified for the initial 'pilot'. The heritage asset:

- must be a National Historic Sites administered by Parks Canada;
- must be simple by its nature;
- must have a document listing its heritage values; and
- must have had no previous existing extensive recording conducted.

With this in mind, five (5) buildings were identified for the first stage. These buildings have provided the opportunity to implement the new process for a program of values-based benchmark posterity recording. Depending on the site, the techniques and tools were tailored to meet the objectives of the exercise.



Figure 2. Wilfrid Laurier house, NHSC, St-Lin Laurentides (Quebec), one of the sites recorded under this new approach.

A further benefit was the opportunity to train other Heritage Recording professionals from across Canada. This training is key to the success of a consistent national approach, as well as a form of succession planning to keep the network viable for years to come.

#### 4. BASELINE POSTERITY REPORT CONTENT

A set of recording standards have been established for producing baseline record reports. These standards were used for similar sites, all of which were buildings.

The following information forms the basic content for National Historic Sites of Canada records:

##### A : Scope of Work:

- A.1 Introduction
- A.2 Purpose and objectives
- A.3 Site description
- A.4 Work description
- A.5 Persons responsible for records
- A.6 Terms of reference for baseline records

This content is intended to provide an accurate description of the content of the reports as defined by the work program.

##### B : Written Report:

B.1 Existing documents, Commemorative Integrity Statement, Statement of Significance, and Statement of Commemorative Intent.

These documents are the primary interpretation tools used to guide baseline records. They form an integral part of the report produced. The statements are normally produced in electronic

format, making them easy to incorporate into reports. Moreover, the photographic component of the report will add value to these statements, and vice versa.

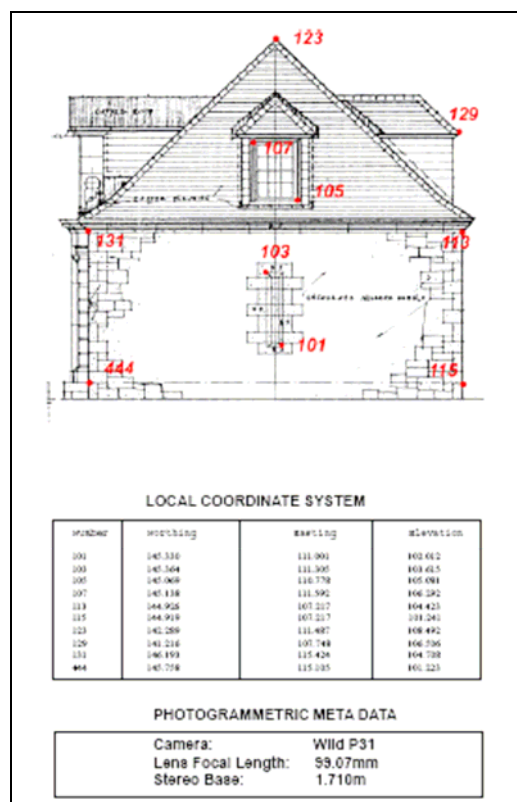


Figure 3. Elevation drawing with superimposed point numbering and correspondent coordinates. Fortress of Louisbourg, Louisbourg, Nova Scotia.

##### C : Photographic report:

This section contains the following information:

- C.1 Site location
- C.2 Aerial photos
- C.3 Key plans
- C.4 Digital photographic survey
- C.5 Mono or stereophotogrammetry survey
- C.6 Digital photographic rectification survey
- C.7 Black and white contact sheet

The geographical location of a site is to be represented using colour topographical maps with a scale of 1:50,000. These maps were generally acquired from specialized distribution centres. These maps are a tool used for site location and do not contain any posterity-related components. Similar scale maps are available at no charge on the Internet and define the geographical location of the site appropriately. Downloading these maps eliminates purchase costs. Moreover, these maps are in electronic format and immediately conducive to report delivery.

The aerial photos inserted into the previous reports were printed on photo paper. The photos came from federal or provincial sources. The scale of the photos varied from one site to another, depending on availability. Obviously, a scale of 1:50,000 is better adapted to posterity analysis needs than a scale of 1:20,000.

Computerized aerial photo databases make research much easier. Moreover, the products are now more widely available. TIFF and JPEG digitized formats are easily available. Ortho-images are also available for a large area of land. The aerial photo section of the report includes a list of the aerial photos available. This list could include colour photos. It is useful to document the report with one or more digital aerial photographs. Although there is a cost for each of these images, the costs are easily justified by economies of scale and avoiding the purchase of duplicate images for users of baseline reports on National Historic Sites in Canada.

Key plans are produced using inside and outside field measurements. These measurements are taken using two main methods: hand measurements and surveyors' measurements. Both methods applicable to inside and outside measurements. In general, sketches are drawn manually to support the measurements taken. These measurement sketches are then converted to computerized drawing files, which are used as the basis for key photographic plans.

In order to achieve the desired 1:1 ratio of time in the field to office time, presentation must be sacrificed for key plans. However, this sacrifice does not in any way compromise the quality of the information. The key plans are presented in handwritten format on existing plans that are digitized or in a basic computerized format. Various factors influence the presentation format: budget, area of site and statement of heritage character.

Digital photos are better suited to presentation than to conservation, given that the digital format longevity is still unknown. These photos are, nonetheless, useful for their intended purpose, a general colour presentation of a site and its surroundings.



Figure 4. Cercle de la Garrison, NHSC, Quebec (Quebec). One of the sites recorded under this new approach.

Colour film has a known conservation advantage over digital formats. However, the cost of production using film remains higher than the use of digital, given the cost of film and additional handling. Film is also less exportable than digital format, as it requires reprinting or scanning to be incorporated into subsequent reports.

The use of digital photos needs to be considered. High-resolution colour digital photos would reflect the intended presentation aspects very well. Moreover, handling of these colour photos would be simplified when used for other purposes, dispensing with scanning and additional

development. Production costs decrease slightly by eliminating field and office handling and the cost of colour film.

The longevity of black and white negatives is known to be more than 150 years. In order to properly encompass the posterity component of the records, it is advisable to continue using this medium for general photography. However, digital colour photos offer a much better visual product than film does. Moreover, digital colour photos can be published almost instantly, without additional processing, making them the medium of choice in baseline record reports. It would be redundant and unnecessarily costly to have these negatives printed on photo paper. Nonetheless, it is necessary to view these photos to gain a proper understanding of the content of the baseline record reports. The contact sheet remains a beneficial solution. After digitization, the sheet can be easily incorporated into the electronic report.

#### D : Graphical report:

The graphical report contains the following information:

- D.1 Site plan
- D.2 Floor plan
- D.3 Details

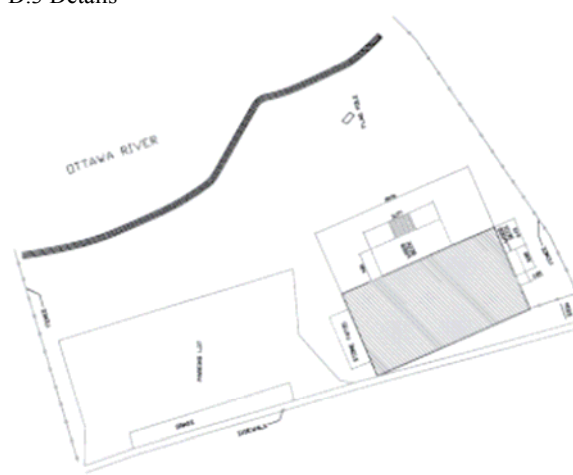


Figure 5. Site plan produced with a CAD software. Carillon Barracks, St-Andre d'Argenteuil, Quebec

The site plan provides information supplementary to the aerial photos and satellite images. The site plan shows the location of buildings in their surroundings and their location relative to other structures. This information is gathered through survey recording and hand measurements. The following components are essential in a baseline report and must be indicated on the site plan, where they exist: dimensions of structures, number of floors, material used for exterior finishing, latitude and longitude of buildings, and street address. These details are compiled using a CAD software application.

In general, the floor plan serves a dual purpose in the record report: the basis for the key photographic plan, and the dimensions and location of spaces. Obviously, use of the same plan for different purposes would minimize work. Measurement techniques for floor plans can include various methods, such as direct hand measurements, measurements by intersection, measurements by angle and distance. Various tools—ranging from measuring tape to complete survey stations—are used to take these measurements. The records specialist will select the

tools and techniques based on the nature of the resource and the time and budget components of the project.

For detailed recording, floor plan measurements are commonly reproduced in CAD or rescaled manually. These steps require office work that can be demanding at times. The main benefit of this plan preparation is presentation. In order to minimize the amount of time spent on post data-processing, the baseline report will present the floor plan measurements in the form of field notes. Content and presentation will vary from one project to another, depending on the existing documents found, the area of the building, number of floors, and the time and budget components of the project. In each project, efforts are made to obtain baseline measurements for each floor of a building, to be used for an approximate reproduction of these floors.

In general, detailed records and the office work related to the presentation of these details consume a large part of the time spent preparing a posterity report. The main purpose of baseline record reports is to provide preliminary information about each National Historic Site of Canada. This preliminary information is less concerned with presenting architectural details. However, a simple presentation of the details is included in the baseline report. Some measurements specific to the most important details could be inserted in the report. This work is directly related to the time and budget components of the project.

#### Appendix:

Field notes are an integral part of the report. They are essential to understanding the measurement data. The original notes are stored at the HCD's technical documentation centre. Moreover, in order to compile as much information as possible in the electronic version of the report, the field notes will be digitized and incorporated into the report.

This standard may not be fully applicable to sites of a different nature, for example, landscapes designated National Historic Sites of Canada. It would be appropriate to define these new types of standards in response to the diversity of National Historic Sites in Canada.

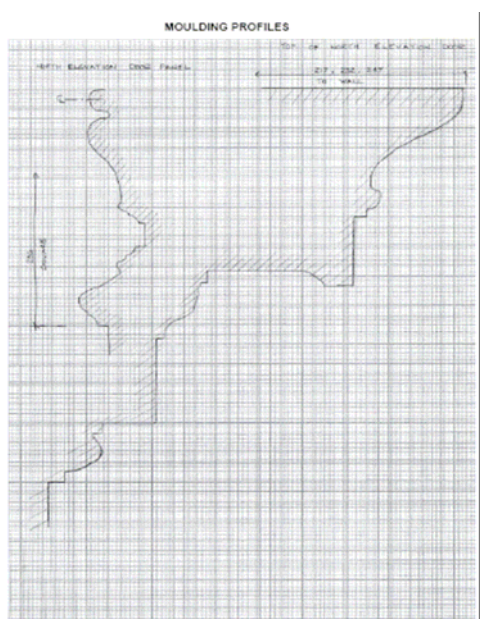


Figure 6. Hand recording of moulding profiles. Graphic record. Fortress of Louisburg, Louisbourg, Nova Scotia.

## 5. 2006-07 ACHIEVEMENTS

Six buildings located on five separate sites were recorded during this exercise. These buildings and their surroundings enabled a review of baseline record standards in a real situation. Baseline records and an electronic report have been completed for the following sites:

- Wilfrid Laurier House, Laurentians, Quebec
- Garrison Club Complex, Quebec, Quebec
- Carillon Barracks, St-Andre d'Argenteuil, Quebec
- Fortress of Louisburg Museum, Louisbourg, Nova Scotia
- Superintendent's House, Fortress of Louisburg, Louisbourg, Nova Scotia
- Fort Lingan, Sydney, Nova Scotia

## 6. STATISTICS

Baseline records will be created to gather basic information about each National Historic Site in Canada. This range of information is gathered using a number of techniques applied by professionals who record heritage resources. The value of this information relies on their understanding and availability. Consequently, the content of a baseline report needs to be presented in its entirety. Field notes and stereo photograph pairs contain information that is essential to correctly understanding the resource recorded. These records:

- required a budget of \$90,000, including nearly \$20,000 in disbursements ;
- required 36 person / days site work;
- required 8 person / days travel time to these sites;
- required 40 person / days office work;
- generated more than 850 digital photos and 300 black and white negatives;
- enabled a view of these six sites from more than 1,000 known angles;
- produced more than 20 stereo photograph pairs;
- measure more than 1,000 survey control points;
- produced nearly 25 elevation photos for rectification;
- measured more than 500 distances relating to the configuration of the buildings; and
- located six National Historic Sites through geographic coordinates.

These statistics provide an overview of the information available in baseline record reports. Use of this information, namely, the stereo photograph pairs, is likely to generate a volume of information that is inversely proportional to the time required to capture this information on film.

## 7. TRAINING AND WORK METHODOLOGY

The creation of these records and the production of electronic reports generated an exceptional training opportunity. This training, aimed at enabling each person to use the various recording techniques, is all the more important given the work approach whereby the records of National Historic Sites in Canada are shared. The sites for potential recording are located across Canada.

Therefore, the Canada-wide geographic distribution of individuals who have the academic and technical knowledge needed to complete these records is appropriate. This includes knowledge of architecture, photography,

stereophotogrammetry, surveying techniques, manual measurements, drawings, and other components proper to records.

In order to minimize travel time and costs for each project, the Heritage Conservation Directorate uses the resources available through its regional offices. This approach will be used to establish a work schedule for the coming financial year. As a result, HCD hopes to maximize the time spent completing projects and minimize travel expenses.

### **8. OBJECTIVES MET**

The following objectives were met through team participation and communication between the providers of the information and the users.

- The concept of baseline records for posterity has been defined.
- Standards for field records were established and used for five buildings.
- Standards for producing electronic reports were established and used for five reports.
- Significant reduction of 1:5 work person / days ratio between field work and office work to a ratio slightly above 1:1.
- Reports were produced in electronic format.
- Budget was reduced to \$90,000, just under the initial budget of \$100,000.

### **9. NEXT OBJECTIVES**

The reports produced during this pilot project proved to be responding to the needs of the users. However in order to improve the overall efficiency of this approach and to constantly progress towards a better product, future objectives have been defined.

- Improve the results of these pilot projects further to comments made by users of the data in these reports.
- Introduce digital format stereophotogrammetry for baseline records.
- Produce fully bilingual reports for each of the sites recorded.
- Establish baseline record standards for sites other than architectural sites, namely, landscapes, parks, passes and others.
- Analyze previous records for posterity for usefulness based on standards established for baseline records.
- Post each of the reports produced on the Web site, linked to the National Historic Sites of Canada.

### **10. CONCLUSION**

The work produced through these six projects was daring in terms of budget and technology, and it challenged resistance to change. It should be noted that posterity records have been produced by the same organization for more than 30 years. Moreover, these records, generally used by a limited group of conservation professionals, have retained a similar aspect throughout the years. Habits have been formed.

A small number of sites that has been recorded, compared to the number of existing sites and new sites designated each year, steps up direct pressure to increase the number of records

produced annually. This need, fulfilled in this first year of the project, will eventually close the gap between the number of historic sites that have a baseline record and the number that do not.

To do so, presentation will be sacrificed. The presentation of baseline record reports is sacrificed without lowering the quality of content, which would have a considerably larger impact. However, only the users of the information are in a position to properly comment on the presentation of the reports and their content. These comments are to be used to fine-tune the baseline records and reports. This work is an integral part of next year's objectives.