

A Paintings Conservation Project in the Senate Chamber, Parliament Buildings, Ottawa – Project Management at Work

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Journal of the Canadian Association for Conservation (J. CAC), Volume 25.
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J.CAC is a peer reviewed journal published annually by the Canadian Association for Conservation of Cultural Property (CAC), PO Box 87028, 332 Bank Street, Ottawa, Ontario K2P 1X0, Canada; Tel.: (613) 231-3977; Fax: (613) 231-4406; E-mail: coordinator@cac-accr.com; Web site: <http://www.cac-accr.ca>.

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Journal de l'Association canadienne pour la conservation et la restauration (J. ACCR), Volume 22.
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Le *J.ACCR* est un journal révisé par des pairs qui est publié annuellement par l'Association canadienne pour la conservation et la restauration des biens culturels (ACCR), BP 87028, 332, rue Bank, Ottawa (Ontario) K2P 1X0, Canada; Téléphone : (613) 231-3977; Télécopieur : (613) 231-4406; Adresse électronique : coordinator@cac-accr.com; Site Web : <http://www.cac-accr.ca>.

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Government institutions are increasingly out-sourcing large, on-site, conservation projects to the private sector. Conservators interested in competing for such projects are expected to prepare a bid according to the specifications found in a document called a Request for Proposal (RFP). Since an RFP is most often written by a manager or a group of managers, it is no longer enough to simply prepare the technical and cost components of a proposal. The conservator must also demonstrate an ability to plan in advance all aspects of an on-site project. An understanding of basic concepts of project management is necessary for the preparation of the technical proposal and for eventual project implementation. The conservation project of the eight World War I Memorial paintings hanging in the Senate Chamber of the Canadian Parliament Buildings was one such project where an RFP was used in the tender process. The following article will describe the RFP as well as the author's subsequent response. The article will also describe the site, how it affected the design of the on-site conservation studio, issues of scheduling, and work activity planning and constraints. The author hopes that it will be useful to conservators—whether private or institutional—who must plan for on-site projects.

Les établissements gouvernementaux confient de plus en plus les grands projets de conservation devant être effectués sur place au secteur privé. Les restaurateurs intéressés à offrir leurs services pour de tels projets doivent préparer une soumission selon les spécifications énoncées dans un document appelé «demande de proposition». Puisque la demande de proposition est en général rédigée par un gestionnaire ou un groupe de gestionnaires, il n'est plus suffisant de préparer une proposition ayant trait simplement aux aspects techniques et financiers du projet. Le restaurateur privé doit aussi démontrer son habileté à planifier à l'avance toutes les facettes d'un projet effectué sur place. La compréhension de concepts de gestion de projet de base est nécessaire afin de préparer la proposition et de mettre en œuvre le projet. Le projet de conservation de huit tableaux commémoratifs de la Première Guerre mondiale dans la salle du Sénat du parlement du Canada constitue l'un de ces projets où une demande de proposition a été utilisée lors du processus de soumission. Cet article décrit la demande de proposition et la réponse subséquente de l'auteur. L'article décrit également le lieu où le travail devait être effectué en relation avec la conception d'un atelier de conservation in situ et traite des contraintes imposées ainsi que des questions reliées à l'établissement d'un calendrier et à la planification du travail. Cet article pourra être utile aux restaurateurs qui doivent planifier des projets devant être effectués sur place, qu'ils travaillent pour un établissement ou à leur compte.

Manuscript received April 2000; revised manuscript received November 2000

Introduction

In 1998, the Canadian War Museum (CWM), in partnership with the Senate and Public Works and Government Services Canada (PWGSC), paved the way for the conservation of eight WWI Memorial paintings. They hang in the Senate Chamber, located in the Centre Block of the Parliament Buildings. Political will set the process in motion when the Speaker of the Senate expressed his concern about the deteriorating paintings to the CWM. This welcome concern from the Senate was the catalyst in the chain of events which led to the conservation project. Since the Canadian War Museum did not have sufficient staff to conserve the paintings, the private sector was called upon when the funds to conserve the paintings were found. As major renovations of the Parliament Buildings were underway, PWGSC agreed to finance the conservation of the paintings.

Having secured the funds, the three government managers (CWM's paintings conservator, a manager from the Senate, and the chief project manager from PWGSC) drew up the tender documents known as a Request for Proposal (RFP). The RFP specified not only the general contract terms, but also stipulated

the working conditions, scope of work, and project constraints and priorities. The RFP also placed the requisite emphasis on quality conservation treatments as is befitting of such important symbols of our history and cultural heritage.

The response to the RFP needed to demonstrate an understanding of the project and its requirements. A successful bid was expected to clearly address the two significant project constraints, that of on-site work in a popular tourist destination and a non-negotiable completion date. Formulating a well-planned technical response to the RFP helped to win the bid, and this phase was essential to being prepared for the project.

History of the Paintings

The eight paintings which hang in the Senate Chamber are: *The Watch on the Rhine (The Last Phase)* (1919) by Sir William Rothenstein; *A Mobile Veterinary Unit in France* (1919) by Algernon Talmage; *Arras, the Dead City* (c 1919) by James Kerr-Lawson; *On Leave* (1918) by Clare Atwood; *Canadian Railway Construction* (1917) by Leonard Richmond; *Returning to the Reconquered Land* (1919) by Sir George Clausen; *Landing of the*

First Canadian Division at Saint Nazaire, 1915 (1916) by Edgar Bundy; and *The Cloth Hall, Ypres* (c 1919) by James Kerr-Lawson.

These paintings are only a small part of the production that resulted from the large Canadian War Memorial Fund (CWMF) instituted in November 1916, whose goal was to provide “suitable Memorials in the form of Tablets, and Oil-Paintings ... to the Canadian Heroes and Heroines in the war.”¹ The initial intention of the Canadian War Records Office (from which the CWMF grew) was to document the war effort through photographs, maps, and diaries. The idea to record the war in the form of paintings originated with Lord Rothermere, former British Air Minister and Lord Beaverbrook, head of the Canadian War Records Office and former Minister of Information in the British Government.² Lord Beaverbrook felt that only paintings could provide “the permanent and vital form in which the great deeds and sacrifices of the Canadian Nation in the war could be enshrined for posterity.”³ By the end of the war, more than one thousand works of documentary war art had been commissioned in the form of photographs, drawings, and paintings.

In 1919, the collection of paintings was exhibited in the *Canadian War Memorial Exhibition* at the Royal Academy of Art in London. The exhibition later toured Toronto and Montreal, where 107,865 Canadians—many of them returning soldiers and their families—viewed it in just two weeks. After the successful series of exhibitions, the paintings were to be displayed in a proposed War Memorial Art Gallery to be built in Ottawa. However, it was never built as interest in the paintings diminished after the Armistice. In 1921, only nine of the 33 oversize paintings commissioned by the CWMF were exhibited in the newly constructed Parliament Buildings. Eight of these were chosen to hang in the Senate Chamber as a war memorial and remain there to the present time. The remaining paintings, drawings, photographs, and other documents have become part of the collection of war artifacts stored and exhibited in the Canadian War Museum in Ottawa.

The Senate Chamber

The Senate Chamber is a large rectangular-shaped room with the entrance at the south end. The throne is positioned at the centre of the north wall, with an exit located on either side. Immediately in front of the throne is a large and open central space, flanked by terraced rows of senators' desks and chairs that run the entire length of the side walls. Along these walls, eleven feet above the floor, hang the eight war memorial paintings, four to a wall. The paintings are set in niches above the wood paneling, which is decorated at the top with a frieze of ornamental wood. Stained glass windows run the entire length of the side walls just below the ceiling. During the summer recess, early July until mid-September, the Senate Chamber is open for public tours.

Request for Proposal (RFP)⁴

An RFP is becoming the standard tender document for outsourcing large government conservation contracts. Architects and

other trade contractors are familiar with them. The RFP that combines a technical proposal and cost estimate along with very detailed site planning and project management is new to the field of paintings conservation. It was the author's first experience with an RFP in spite of having worked privately for ten years. Many contracting authorities do not use them and paintings conservators are still requested to provide only technical proposals and cost estimates. It is far more usual to address issues of site planning and project management with the successful firm after the tender is awarded.

The RFP lays down very stringent guidelines in terms of standards, procedures, and qualifications in order to ensure an acceptable end-product. This ensures that not only will the contracting authorities' expectations be understood and met, but that each competing firm will prepare a proposal that responds to the specified requirements. This “standardization” of proposals is designed to make the evaluation of the bids fairer.

RFPs have standard instructions and conditions which describe the contractual rules of the tender process. They include such things as mandatory site visits and bidder's conferences, bid submission times, strict rules for enquiries and for proposing changes to the requirements, mandatory registration with the workers' compensation board, and a mandatory minimum amount of general liability insurance.⁵ RFPs typically include appendices, which describe the Statement of Work and the project requirements. In the case of this RFP, rated evaluation criteria were also included.

The issues of working on site and achieving quality control were introduced in the Statement of Work appendix. This conservation project was to be carried out on site, because of the extremely large size of the paintings.⁶ Working on site required that the conservator respect certain working conditions established by the contracting authorities. The appendix listed a detailed scope of work, describing the treatment steps to be performed on each painting. Finally, the role the CWM paintings conservator would fulfil as the technical authority for the project was described.

1. Working Conditions

The project's working conditions included the following: on-going public tours of the Senate Chamber during the project, removal of half of the Senate Chamber's furniture to accommodate the art de-installation/installation sessions, disruptions due to media attention, scheduling of after-treatment photography by a professional photographer, and the possibility of a major disruption if the Senate was called to an extraordinary sitting during the summer recess (strike action was being threatened by Air Canada pilots at the time).

2. Scope of Work

This included supplying and setting up of an on-site studio in the open central area of the Senate Chamber, providing barricades to prevent tourists from entering the conservation work area,

supplying all scaffolding necessary for the removal and final re-installation of the paintings, and carrying out the conservation treatments.

The steps involved in the conservation treatments were: removing the paintings from the wall, carrying out treatment photography, writing technical reports (before and after treatment), performing local consolidation, cleaning the surface, removing the paintings from their stretchers, relaxing the surface distortions, replacing the stretchers as required, reinforcing the original tacking margins with strip-linings, re-stretching, installing stretcher-bar linings, in-filling of losses, retouching of fills and abrasions, attaching backing boards, co-ordinating with a professional photographer for after treatment photography, and re-installing the paintings on the walls.

3. Quality Control

The emphasis on quality control was largely due to the active participation of the CWM paintings conservator⁷ in the preparation of the RFP. The CWM conservator was the technical authority for the duration of the project. In this capacity, her authorization was required for all condition reports, treatment proposals, and choice and use of materials prior to treatment implementation. She regularly inspected the conservation treatments, and her final acceptance inspections were required before invoices would be accepted.

The evaluation criteria formed the second appendix to the RFP. These criteria were used by the contracting authorities to evaluate and rate the responses. The criteria were instrumental in preparing a well-structured response to the RFP. The evaluation criteria included mandatory and rated requirements.

1. Mandatory Requirements

These requirements had to be met by each competing firm. They defined the knowledge and abilities of the chief conservator which were: professional accreditation and/or a Master's degree and extensive experience in paintings conservation (minimum 10 years), including the treatment of extremely large paintings. The chief conservator had to agree to be on site at all times or assign a site supervisor with similar experience.

2. Rated Requirements

These requirements were separated into categories, including: Understanding of the Project (100 points), Proposed Approach and Methodology (300 points), Proposed Project Schedule (300 points), Qualifications and Experience of the Firm (150 points), and Proposed Project Team (150 points). Each bidder had to achieve a minimum 70% score on each rated item.

One unusual feature of the RFP⁸ stipulated that the cost proposal be submitted separately from the technical proposal. This was done to avoid having the cost unfairly bias the evaluation of the technical proposals. Cost estimates were opened only after consensus was reached regarding the scores obtained

for each of the competing firms' technical proposals. The contract was finally awarded on a cost per point basis with the final point grade average being the ratio of overall points to cost. The successful bid was the one with the lowest cost per point.

Responding to a Request for Proposal (RFP)

The best way to structure a response to any RFP is to use the requirements as reference points. Contracting authorities will clearly define in the RFP what is important to them. It is essential to address the project priorities as described in the requirements, and introduce others only if one believes that they will improve the project.

Understanding the Project

This requirement was important in spite of its relatively low rating. The contracting authorities expected that the conservators would clearly demonstrate their understanding of the project priorities and constraints in this section of their technical proposals.

The author's technical proposal used this section as a means of introducing the conservation project. The introduction described the importance of the paintings in historical and cultural terms, and described briefly the management approach which would be used to achieve the project objectives of timely completion and quality control.

Proposed Approach and Methodology

Working on-site required that the conservator have a planned approach and methodology prior to project implementation. In order to plan an appropriate response to this section, the site visit gave the conservators the opportunity not only to examine the paintings but also to assess the site. The following aspects of the site were considered in preparing the technical proposal:

- how the physical characteristics of the site affect the installation of a temporary conservation studio;
- the impact of natural and artificial lighting on the work;
- how the work affects the immovables on site as well as the choice of studio furniture;
- how issues of artwork accessibility, its condition, and proposed treatment might affect studio design and sequencing of work activities;
- how client access might affect scheduling during the project;
- how visitors' access to the site would affect studio design and possibly scheduling;
- the impact of other contractors' access to the site on scheduling.

Observations made during the site visit informed the response to this requirement. However, the contracting authorities had also established the working conditions which had to be respected. The final proposal for this section took into account both criteria: those of the site as assessed by the author, and the working conditions imposed by the contracting authorities.

The site visit was also used to examine the paintings, albeit in a cursory fashion. Given that the CWM paintings conservator had already prepared a detailed list of treatment steps to be performed on each painting, the main goals were to verify her recommendations and to test the paintings for solvent sensitivities. These tests were crucial for the preparation of the list of conservation materials and techniques which had to be described in the technical proposal.

Proposed Project Schedule

The requirement of timely completion meant that a detailed schedule be planned in advance and appear in the technical proposal. The following considerations were used to structure and prepare the project schedule:

- absolute time frame for project implementation;
- number of paintings to be conserved in the given time frame;
- time and resources required to carry out the project;
- extent and type of conservation treatments to be performed;
- determination of the appropriate number of project cycles;
- planning of main activities to be performed within a project cycle;
- use of project management concepts such as resource allocation,⁹ downtime,¹⁰ and critical milestones¹¹ as an aid to schedule preparation;
- contingency planning for possible disruptions or delays;
- sequencing of work activities to keep downtime to a minimum;
- impact of co-ordination with others on the schedule.

The time restriction for this project was eight weeks, and there were eight paintings to conserve. Given that the paintings were roughly the same size, it was reasonable to set the goal of conserving one large painting per week. A maximum of three paintings could be worked on at any one time given their size and the available space in the Senate Chamber. With these goals and restrictions in mind (not forgetting the necessity of keeping the time-consuming art handling sessions to a minimum), three project cycles were planned. Three paintings were to be conserved in the first cycle, followed by the next three in the second cycle, and then the final two in the last cycle.

Once the ideal number of project cycles was determined, the main work activities to be performed in each project cycle were listed. The main work activities common to each cycle included the removal of the paintings from the wall, their conservation treatments, co-ordinating with the photographer for professional photography, and final re-installation of the conserved paintings. Having accounted for all the main work activities per cycle, it was then possible to determine the time necessary to carry out each stage in the conservation treatment and the resources required to get the work done within the project cycle's time line. After all the above factors were determined, the schedule was easily drawn up.

Qualifications and Experience of the Firm

This rated requirement carried an intermediate weight in the evaluation process. For a firm with many years of experience, it was an easy requirement to prepare. As suggested in the RFP, projects similar in type to the one being tendered were described. Technical challenges of past projects and how they were met were outlined as well as the firm's past performance in meeting time, cost, and quality commitments.

The contracting authorities also expressed a concern about how other concurrent projects would be handled given the heavy demands of this one. Although the author had the appropriate experience to manage the technical requirements of the project, no previous project rivalled this one for its tight and inflexible deadline. Clearly, total commitment to the project would be necessary to achieve its objectives, and the author accepted no other work obligations or responsibilities during this project.

Proposed Project Team

This rated requirement also carried an intermediate weight. The contracting authorities required that each team member have at least two years experience in paintings conservation.¹² Each firm provided names and curriculum vitae of each team conservator, and specified in percentages the amount of time that team members would be working on the project. Back-up conservators were also secured as a contingency in the event that more resources were necessary to achieve the goal of timely completion.

The core team members included four paintings conservators. They were the chief paintings conservator, senior paintings conservator, and two junior paintings conservators. Two back-up conservators were secured, and were on call in the event that the project fell behind schedule. A conservation technician assisted with studio set-up, art handling and studio dismantling. There were also four free-lance art handlers on call for the four art handling sessions required in this project.

As chief paintings conservator, the author's duties and responsibilities included: performing conservation treatments, supervising the conservation team members, co-ordinating on-call team members when main work activities required their participation, preparing weekly progress reports, maintaining regular communications with the chief project manager from PWGSC to keep him informed of our progress and to advise him in advance when the Senate Chamber furniture had to be moved to allow for art handling sessions, meeting with the CWM paintings conservator to discuss the conservation work, monitoring the progress of the conservation work, and keeping the project on schedule. The senior paintings conservator assumed responsibility during the chief paintings conservator's absence, and ensured quality control. She also performed conservation treatments, monitored progress, and communicated her assessment of progress to the chief conservator.

The Project

The On-site Conservation Studio

All furniture, equipment, and materials were brought to the site. As mentioned earlier in this article, the site and the contracting authorities imposed a number of limitations. Factors such as the working conditions, space constraints, work site efficiency, and safety were all considered in the preparation of the studio design.

The conservation studio was to be set up in the central area of the Senate Chamber and the public tours continued throughout the project, from 8:00 a.m. to 8:30 p.m. Monday to Friday with weekend hours being slightly reduced from 9:00 a.m. to 5:30 p.m. The tours were to pass through the Senate Chamber along the top terrace immediately next to the side walls. To facilitate clear passage, all the Senators' desks and chairs were completely removed from one side. A wide enough path was thus cleared which allowed the visitors to walk through the Senate Chamber, listen to the guided tour, and enjoy the rare opportunity of viewing conservation treatments in progress. The visitors' path was to be eventually moved to the opposite wall after the conservation treatment was completed on the first four paintings.¹³

In order to ensure visitors' safety in the Senate Chamber during the project, a barrier was necessary to direct and control visitor traffic. A series of low, interconnecting office partitions was chosen as the most appropriate barrier due to their relative attractiveness and ease of installation and removal. The latter was an important consideration since the partitions were separated, removed, and replaced numerous times during art handling and treatment photography sessions.

Although the Senate Chamber is a spacious room, a maximum of only three paintings could be accommodated on the floor within a project cycle. Since the removal of the paintings from the walls was essential to perform the required structural work, three custom-made easels on castors were built to support the paintings. The easels also provided support for the paintings during surface cleaning, in-filling, retouching, and photography. Only one large table, with an easily removable addition for the larger paintings, was built for structural work. The Senate Chamber was not large enough to accommodate more than one large table.

All other furniture had to be light (for ease of handling), and kept to a strict minimum to keep the work site obstacle free. Rolling trolleys with drawers were used for storage, but also served as work surfaces to hold solutions and tools during work activities. Other furniture included two smaller side tables, adjustable chairs on castors, ladders, scaffolding, lighting, numerous extension cords, and a cellular phone.

Work efficiency was a primary factor in designing the site studio. Each major work activity—structural treatment, surface work, and treatment photography—was carried out in a specific part of the Senate Chamber. Equipment and materials required to

perform the major activities were kept close to the designated work stations, and equipment, tools, and materials were always stored in the same locations for easy retrieval.

Workplace safety was another factor which guided certain choices of equipment used in the project. The office partitions were chosen specifically because of their ease of installation and de-installation. They were handled numerous times during the project, and it was essential that they be relatively light and easily separated.¹⁴ The easels also effectively reduced the number of times the paintings had to be lifted by the core team members. Evacuation of solvent vapours was not an issue in equipment planning, since very little organic solvents were required to carry out the treatments.¹⁵

The Schedule

The time constraint made it imperative to schedule carefully all conservation tasks in advance. The three-week schedule, described in the technical proposal, covered all the conservation tasks and related activities necessary for timely completion of the first three paintings. The schedule was designed to keep downtime to a minimum. In order to achieve this goal, a particular sequencing and/or layering of work activities had been determined. The challenge was to turn these plans into reality.

In practical terms, this meant that certain days were crucial to remaining on schedule. For example, meeting the schedules for project cycle start-up days was important. The first day in a project cycle always included: de-installing the paintings, examining the paintings, preparing condition reports and treatment proposals, completing treatment photography, and obtaining authorization from the technical authority. To complete the scheduled work in the first day, it was necessary for at least two of the conservators to work into the evening (treatment photography could only be done after dusk). However, technical authorization to proceed was often obtained only late in the morning of the following day, so the schedule was revised to reflect a later start-up on the second day. By achieving all the tasks set out in the first day, the conservation treatments could always be started by the second day. A later start-up on the second day gave the conservators much-needed rest after the first hectic day, and also meant that a full day of work was still performed.

The space limitations on the studio design also affected the schedule. Since only one table was available for structural work, the timing of surface cleaning had to ensure that one painting be completely cleaned and ready for structural work before the other two. This would allow sufficient time to carry out the structural treatment on the first painting before the second painting's surface treatment was completed. Having three paintings undergoing treatment simultaneously effectively reduced downtime (the conservators always had a task to perform), and also avoided overcrowding at any one painting. It was rare that more than two conservators would be working on one painting at any given time.

Planning a schedule for the conservation tasks was, in retrospect, relatively easy. Scheduling in the other project activities such as art handling sessions, furniture moves, and professional photography was not. The difficulty in co-ordinating with other contractors and government employees was that their schedules were not as flexible as was required, and advance notice was necessary for all co-ordinated activities. For example, the scheduling of the first art handling session was pre-determined. However, the exact day of the completion of the first three paintings' treatment was not.¹⁶ Furthermore, all free-lance art handlers had to be advised in advance of the exact day of the next art handling session as did the PWGSC project manager since security passes had to be arranged. This meant that the treatment completion day had to be chosen in advance, and this deadline had to be met. Similarly, the professional photographer required advance notice as he was not part of the on-site team.¹⁷

The Art Handling Sessions

Since the paintings were heavy, had no edge stripping nor decorative frames, and hung eleven feet off the ground, detailed plans for their removal from the walls and for their re-installation had been prepared in advance. Scaffolding was used to lower the paintings to the floor. The scaffolding was roughly 5 m high, spanned 4.3 m, was mobile, and had levelling jacks to accommodate the different heights of the terraced floors. The paintings were detached from the walls¹⁸ with roughly 0.46 m separating the scaffolding from the wall. Once a painting was detached, it was lowered to the floor in the 0.46 m gap between the wall and the scaffolding. Eight people were required to help in the de-installation of the paintings (four main handlers for load-bearing positions, and four additional handlers to help guide the painting down and provide extra support to the paintings, as needed). The first de-installation of the paintings went smoothly, however, it was decided that further de-installation and eventual re-installation would proceed more safely with straps and pulleys.¹⁹ The latter was essential for the de-installation of the two widest paintings which had first to be raised so that wood sculptures immediately in front could be removed before lowering the paintings.

Conclusions

The RFP was prepared with a great deal of forethought, and it clearly described the project priorities and constraints. It helped the author to prepare a well-structured technical proposal and to formulate in advance an effective management plan. Good project management was an essential component towards meeting the project priorities. The project priorities of timely completion and quality control were not only achieved through a combination of thorough planning and preparation, but were also supported by a committed team of professional conservators and art handlers.

Modifications to the proposals and schedule were expected, and became necessary once the project was underway. They were made with a view to improving methodology (as with the art handling sessions) or with the hope that some changes imposed on the schedule would benefit the team members (as in the case

of the unscheduled days off for team members during professional photography).

In spite of the proposals and schedules not unfolding exactly the way in which they were first conceived, detailed planning, monitoring, and controlling were essential to the successful achievement of this project's objectives. Even though many conservators and clients do not spend time developing such an organized approach to a project, the author believes that applying sound project management principles can greatly contribute to the successful completion of large-scale projects in conservation.

Acknowledgements

The author would like to thank the following individuals: the three team conservators—Barbara Klempan, Alise Bowler, and Bonnie McLean—whose commitment to the project helped realize the goals of timely completion and quality control; Josh Bates, owner and chief art handler of *Art Zone Fine Art Services (Ottawa)* as well as all his free-lance art handlers who helped make the art handling sessions run so smoothly; Danielle Allard, technical authority, Canadian War Museum, for providing quick technical approval of reports and for her assistance in providing additional materials and equipment which inevitably went missing or broke down during the project; Laura Brandon, curator at the Canadian War Museum for her art historical knowledge essential to the paintings' conservation treatments; Senator Gildas Molgath for expressing his concern regarding the condition of the paintings and for setting the wheels in motion to find funding for the project; and lastly Public Works and Government Services Canada for funding the project. Special thanks go to my partner, David Strong, whose writing skills and knowledge of project management helped me to produce a winning proposal.

Notes and References

1. Records Office, London Guildhall, Application for Registration in the Matter of the War Charities Act, 1916, 7 November 1916. Records Office, London Guildhall; as quoted in Maria Tippett, *Art at the Service of War, Canada, Art, and the Great War* (Toronto: University of Toronto Press, 1984), p. 26.
2. Tippett, Maria, *Art at the Service of War, Canada, Art, and the Great War*, pp. 17-27.
3. DND, RG 24, vol. 1749, "Canadian War Records Official Report," 31 August 1919, app. 1, "Canadian War Memorials Report of Executive Committee," p. 1; as quoted in Tippett, *Art at the Service of War, Canada, Art, and the Great War*, p. 23.
4. RFPs for federal government contracts can be found on MERX, an on-line company listing and selling documents related to federal government tenders. Their website address is: <http://www.merx.cebra.com>. Once posted on MERX, this bidding process is open to one and all.

5. General liability insurance is included in a commercial insurance package for the normal place of business of the conservation firm. The amount of general liability required in this project was \$1,000,000.00. In order to obtain the general liability insurance for the site, the conservator has simply to contact his or her broker, who will provide free of charge a certificate in the name of the contractor for the duration of the project.
6. The largest painting measured approximately 3 m x 4.5 m, and weighed roughly 90 kg. There was no entrance to the Senate Chamber which allowed for removal of these paintings on their stretchers.
7. The CWM paintings conservator carried out the preliminary examinations of the paintings prior to the call for tenders. In many large projects, it is common that a conservator survey the artwork's condition before private firms are called in to bid on a project. What was unusual in this project was the extent to which the CWM paintings conservator was involved in all technical aspects of the project.
8. Some readers may feel that separation of cost and technical proposals is common. This has not been the case in three of the four RFPs the author has responded to so far. As such, the author believes it to be an unusual component. In addition, the author believes that this procedure highlights technical merit, and reduces price considerations during the evaluation process.
9. The concept of resource allocation deals with determining the personnel necessary to carry out the work and what functions they will perform during the project. Allocating more resources is one way to keep a project on schedule.
10. Downtime is time during which work cannot be done. For example, structural work in painting conservation often requires local moistening of a support, after which the area is weighted. If no other work has been planned for during the time required for the humidification to take effect, the project experiences downtime. Clearly, planning must include as little downtime as possible by efficiently sequencing work activities.
11. A critical milestone occurs upon completion of a project cycle. For example, the first critical milestone in this project occurred upon the completion of three paintings' conservation treatments. Critical milestones are used to evaluate performance.
12. Quality control was not only achieved by the constant presence of a senior conservator, but also by ensuring that all conservators had the necessary education and experience relative to the project.
13. Changing the visitors' path from one side of the Senate Chamber to the other involved co-ordination with PWGSC staff. Once the first four paintings were re-installed after completion of their conservation treatments, the PWGSC staff returned the Senators' chairs and desks. The furniture along the opposite wall was then removed to allow for the visitors' passage through the Senate Chamber. The barriers were also moved to the opposite wall after complete removal of the furniture.
14. The four core team members were generally responsible for moving the office partitions. The art handlers were only called in for the art moves. It was important that no team member injure herself.
15. The paintings did not require varnish removal nor re-varnishing. Preference was given to aqueous cleaning solutions and emulsion adhesives.
16. Treatment could finish earlier or later than scheduled.
17. The impact that the professional photographer would have on the project schedule had been overlooked. Since the photography could only be done after dusk, the professional photography had to necessarily occur one day after the conservators carried out their after-treatment photography. This incurred a complete day of downtime for four conservators.
18. The paintings were fastened to the walls with long metal plates which had been screwed into the reverse of the top and bottom horizontal stretcher members and into the walls.
19. Pulleys and their anchors can be rented from scaffold companies. The anchors for the pulleys fit into the posts found at the top of all scaffold end sections. Straps used in this project were nylon straps normally used for rock climbing. All stretchers had vertical cross braces, and the straps were slipped in behind two of the vertical braces before lowering the paintings to the floor. When re-installing the paintings, two small loops were made from the nylon strap material, and then screwed into the stretcher. Similar loops were prepared and screwed into both sides of the painting to reduce the necessity of physically touching the sides of the paintings during handling.