



Data Sheet

Redevelopment of Gilmour Hill for a winter opening and the creation of a multi-purpose interpretation trail

Historical Background

The National Battlefields Commission (NBC) was created in 1908 under the Act respecting the National Battlefields at Québec. The Commission manages Battlefields Park, the first national historic park in Canada, which especially includes the Plains of Abraham (ninety-eight hectares) and Des Braves Park (five hectares).

The Plains of Abraham, site of a confrontation between the French and British empires, was the scene of the famous battle of 1759. The troops of General James Wolfe succeeded in climbing the Québec promontory through what later became Gilmour Hill during the battle of 1759, after they landed at l'Anse-au-Foulon. A few months later, in 1760, the fight continued between the two powers during the battle of Sainte-Foy, particularly on the site where Des Braves Park is now located.

In addition to these two parks (which include Gilmour Hill), three major thoroughfares fall within the Commission's jurisdiction: Des Braves, De Laune and De Bernières avenues.

Nowadays, the National Battlefields Commission sees to the preservation and development of this magnificent city park ranked among the most prestigious in the world. The true lungs of the city located in its centre, this rallying site par excellence welcomes four million visitors from here and abroad annually. The mandate of the Commission is to preserve and promote the rich heritage of the site and develop it so that the public can fully enjoy it while learning about the main historical events associated with the site.

The Hill

Gilmour Hill is a 1.1 km road going through Battlefields Park (Plains of Abraham area). The speed limit is 30 km/h like everywhere else in the park, in order to maintain safe traffic and limit the impacts on the park users. A section of the road has a 12% incline combined with a pronounced geometry and an inverted elevation. Gilmour Hill constitutes a major road connection between Champlain Boulevard and Québec City's Upper Town (Haute-Ville). There are few links from the St. Lawrence River's edge to the Upper Town

(Haute-Ville), and they are far apart. Because it provides direct access to the centre of town, Gilmour Hill is a popular route among drivers. According to a 2011 study, the Gilmour Hill traffic data reveals the following numbers: an average of 4300 vehicles per day during weekends, and 9000 vehicles per day on weekdays.

This road, built in 1931, was not designed for winter use. It was never opened from November to April for reasons of safety and for the protection of the site.

The studies

In December 2010, the Québec City authorities asked that the Commission to examine the possibility of allowing Gilmour Hill to remain open year-round to facilitate traffic in the employment centres of the city. Following this request, the Commission, in collaboration with PWGSC, initiated a series of studies on the feasibility, environmental impacts and costs associated with rebuilding the road to allow winter driving.

These studies describe the infrastructure works needed to make the road safe and usable by cars in winter by minimizing the environmental impacts and improving the visitor's experience for all park users, including pedestrians and cyclists.

The conclusion of the final report is that, following major works, the rehabilitation of the hill would be feasible by improving user safety, minimizing environmental impacts and preserving the landscape and commemorative integrity of the site.

The Commission developed the project with a view to improving the visitor's experience for all park users (drivers, pedestrians and cyclists), an optimization whose purpose is to ensure the cohabitation of various users while maximizing their safety. This explains why the project includes two components: road and trail.

The road component

This component involves the rehabilitation of the Gilmour Hill–George VI Avenue axis between Champlain Boulevard and Montcalm Avenue in order to improve the fluidity of urban road traffic in the area and allow this roadway to remain open during wintertime to help protect and preserve the values of the Commission.

The major infrastructure works required are:

- Standardization of road geometry and rebuilding of the De Laune-George VI and Montcalm-George VI intersections;
- Completion of the rebuilding of the road structure;
- Replacement of the existing wall by a Berlin-type structural retaining wall;
- Building of a storm water sewer system to minimize environmental impacts.

To standardize road geometry, the width of the pavement will be maintained at 7.6 m on its entire length. A few parking spaces will be set back from the road; the road will then have a curb lane and measure 9.8 m overall.

To maximize road safety, the De Laune-George VI and Montcalm-George VI intersections will be rebuilt in a “T” and the vehicular traffic of Gilmour Hill will now go through Montcalm Avenue to reach Grande Allée, summer and winter, instead of passing in front of the Musée national des beaux-arts du Québec.

With the new road configuration, the existing masonry wall cannot be used for support: A Berlin-type retaining wall is required. Moreover, since the current wall is considered a landscape resource, a masonry facing will be added on the exposed front of the new wall.

To minimize the environmental impacts, the building of a storm sewer system is required. For the entire section, the selected drainage system is a network of manholes/catch basins/catch basins set up off the pavement on either side of the road by locally diverting the curbs.

Sustainable development orientations will be integrated into the project, such as the recovery of the pavement, re-use of the curbs and street lamps and the reduction of tree cutting.

Trail component

This component consists in the integration of a multi-purpose nature trail into the cliff, allowing for pedestrians and cyclists to travel safely between Champlain Boulevard and the Plains of Abraham and so they do not have to share the road with automobiles. The trail will be illuminated and include, among other things, a biking and pedestrian trail, rest areas, secured crosswalks as well as a section which can be used as a shortcut by pedestrians. The multi-purpose interpretation trail will facilitate recreational traffic and help develop active transportation. It will replace the stairs initially planned for the project.

Keeping in mind the Commission’s mandate to preserve and develop the site, this multi-purpose trail will also become an interpretation trail allowing park users to access and discover the rich historical aspect of the neighbouring areas via interpretation panels set up all along the trail. Historical interpretation represents an added value for the park and its users, and it will help preserve the heritage and historical character of Gilmour Hill. The purpose of building a trail in the cliff is to avoid altering the hill’s appearance and keeping it as close as possible to what it used to be, its heritage character.

The trail will have the following characteristics:

Use	Mixed pedestrian and bicycle traffic
Attendance	Under 1500 users/day/average/summer
Design speed	10 km
Length	1480 m
Vertical distance	83 m
Width	3 m
Side clearance	1 m on either side

Average slope	5.6% (10% on two 50 m sections)
Lighting	65% independent of the road system (35%)
Overlay	Asphalt
Posting	Required signs, interpretation panels
Winter maintenance	Decision to come later
Works	Cutting of certain trees (priority given to trees that are sick or have major structural problems) offset by reforestation; all quality trees will be retained
Others	A culvert, four rest areas (with benches and panoramic view points), three secured pedestrian crossings ensuring the connection with the existing recreational traffic network, a section of the trail to be used by pedestrians as a shortcut (stairs)

Implementation schedule

Considering the different stages of advancement of the two components –road and trail–, and because of the specialized expert assessments, two separate construction sites will be at work to achieve the overall project. The scope of this project was divided into two components so that the goals pursued for each component can be effectively met. This approach will thus facilitate the objectives of the Commission and of its main partner, Québec City, regarding the schedule for the opening to traffic.

Considering the current rebuilding of the côte de Sillery, Québec City could adjust its work schedule according to the rehabilitation of Gilmour Hill.

Road component	
Finalization of drawings and specifications	Fall 2013
Invitation to tender	Winter 2013-14
Awarding of contract	Spring 2014
Commencement of work	Spring 2014
Closure of the hill during the work	Spring-Fall 2014
Public opening	Fall 2014

Trail component	
Definition of statement of requirements	Summer 2013
Ground survey	Fall 2013
Production of drawings and specifications	Fall 2014
Invitation to tender	Fall 2014
Awarding of contract	Winter 2014-15
Commencement of work	Winter 2014-15
Public opening	Fall 2015

Subject to the awarding of the sums within the specified period and subject to the timetable for the adoption of a Québec government decree authorizing Québec City to conclude a long-term agreement with the Commission for the maintenance and snow removal. The schedule could vary, considering the archaeological potential of the site, weather conditions and the geological or structural issues that may not have been revealed by the drilling.

Project costs

To date, the cost of the studies, drawings and specifications comes to \$363 411, including \$260 000 paid by Québec City to complete the feasibility studies and part of the drawings and specifications.

The costs of the project (road and trail) will be spread out over several years and will include unforeseen circumstances, contingent costs and detailed design and risks.

The maintenance related to the winter component, as well as the snow removal, will be assumed by Québec City. These costs are therefore not included in this table.

Category	Project cost
Road component	\$5 810 000
Trail component	\$2 390 000
Total (before taxes)	\$8 200 000

To look up the final synthesis report: www.lesplainedabraham.ca (French version)

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