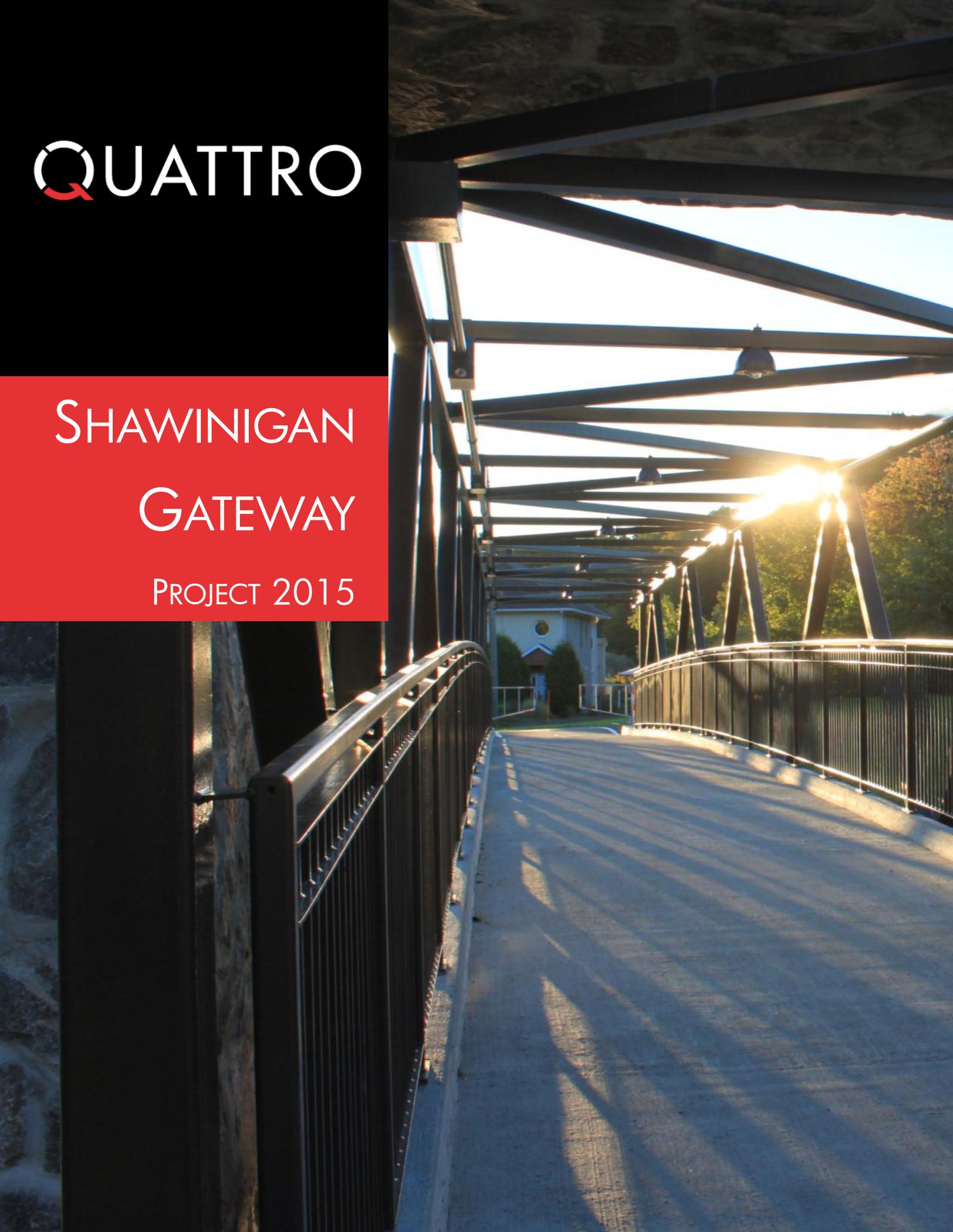


The logo for QUATTRO, featuring the word in a white, sans-serif font with a red stylized 'Q' element on the left side.

QUATTRO

# SHAWINIGAN GATEWAY

PROJECT 2015



# IMPROVING THE LOOKS OF STATION AVENUE: FROM IDEAS TO REALITY

## CONTEXT

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Date: July 2015

City: Shawinigan, Quebec

While collaborating with the Ministère des Transports du Québec, the city of Shawinigan is currently conducting infrastructure and aesthetics work on Station Avenue and part of 5<sup>th</sup> Street.

This project, which started in 2014, consists in:

- replacing the sewer system (1938) and the aqueduct (1915);
- restoring the roads themselves;
- establishing a new road layout;
- installing new traffic lights;
- replacing the existing viaduct by a footbridge.



« We will take this opportunity to initiate part of the repair of 5<sup>th</sup> Street as well. We also want to improve the entry way to the city center by replacing the Cascade viaduct by a footbridge for pedestrians and cyclists » says Mayor Michel Angers.

The Station Avenue viaduct was built in 1937. Back then, it allowed the passage of trains on one side and cars and pedestrians on the other. A first version of the viaduct was erected in 1921.

This embellishment project is part of a development project for the Pointe-à-Bernard, which borders downtown Shawinigan. For the members of the municipal council, downtown Shawinigan must become the population's main gathering point. This is why the development project includes connecting all poles of activities through a bicycle and pedestrian path.

The Cascade footbridge therefore becomes a predominant and delicate element of this project.

## MANDATE

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The landscape architects firm Grenon Hogue Associates solicits team Quattro in order to develop a custom lighting system for this project. In this case, lighting aims to ensure the safety of pedestrians and cyclists on the footbridge, while highlighting the structure, the berms, the walls and landscaping surrounding this entry way to downtown.

The lighting system must use LEDs and form a threadlike street furniture. It has to be sleek and has to match the architecture of the footbridge. The lighting elements must be discreet, vandal-resistant and minimalist.

## CHALLENGE

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The project is challenging. Working with Mr Gaston Hogue, landscaping architect, from Grenon Hogue Associated, team Quattro has to develop a customized lighting system in order to highlight the different structures and elements of the surroundings. Illuminating several distinct elements is a challenge in itself, because of the presence of various shapes, finishes and colors: stairs, pathways, footbridge, landscaping, pilasters and walls. There are different lighting functions to this project and



some characteristics of the project are distinctive. This is why we have to develop customized products, integrating different sources and controlling light in a very precise manner. We also have to keep in mind that the light provided must not have an intrusive or blinding effect.

The structure of the footbridge is slender and spacefull, the stone walls have a historic cachet and the surroundings of the site are wooden areas. This is why we must be careful as to the shapes and sizes of the products we offer.

## SOLUTION

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In order to ensure safety for pedestrians and cyclists using the footbridge, a controlled, functional and efficient lighting solution is necessary. We want to obtain illumination levels of 30 lux, direct the light where needed and use contrast effects to highlight specific elements without blinding users.



In order to do so, an overhead light from the MISSION series is developed. This overhead light has a molded one-piece aluminum round case with aluminum door. This case is attached to the structure of the footbridge with 4 tamper proof screws. The light source used presents a type V cut-off optical system and is composed of 35 watt LEDs. The electronic power supply provides 3150 lumens with a color temperature of 4100 kelvin and a color rendering index (CRI) of 80.



The main girders of the footbridge are illuminated over their entire length in a continuous manner. This is made possible thanks to a specially developed aluminum 2.375" extrusion presenting a groove in which a LED cord is

inserted. The linear source is a highly efficient flexible band that provides intense light. It is conceived as to offer very little space between each LED, which provides a similar continuous light effect as a fluorescent tube. It generates 900 lumens/meter, with a color temperature of 4100 kelvin. Junction boxes, which are specially made, are mechanically fixed to the girders. These boxes are made of welded laser cut aluminum. They hold the LED regulators as well as narrow beam floodlights that illuminate the bracings of the footbridge.

Floodlights and light columns were developed in order to ensure users safety on all paths and stairs while highlighting the walls and stone structures. Each column is made of a (8"x 5") aluminum pole welded to an anchor plate. Floodlights and columns were modeled in 3D, and lighting was validated through *in situ* tests. The optical system is non cut-off and composed of



50 watt LEDs. The LED engine provides 4000 lumens, with a color temperature of 4100 kelvin.

Each column is equipped with a decorative base cover made of two aluminum sections that are fixed with stainless steel tamper proof screws and clamping screws.

The wall narrow beam floodlights generate 3 watt. The electronic power supply generates 215 lumens with a color temperature of 4100 kelvin.

The surface coating of all the elements is a textured paint with a thickness of 127 microns (5 mils). This paint is a thermosetting powder, color RAL8019 Brown/Bronze, applied electrostatically.

## RESULTS

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This project represents a solid success overall, from product development to concrete use, including budgets, timelines and installation. This project clearly shows that Quattro displays innovation, flexibility and expertise when working in partnership with its clients and their stakeholders.



## QUATTRO REALISES REMARKABLE PROJECTS

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Quattro is a Quebec based company located in Longueuil. It specialises in manufacturing decorative and functional light structures for municipal lighting. Whether you are an architect, an urbanist, an engineer or a building contractor, Quattro will know how to help you throughout your project. You will benefit from the aesthetics, the assembling simplicity and the performance of our high quality energy efficient lighting solutions, as well as from the courteous service and the efficient partnership of a professional team.

*For Quattro, developing and managing lighting projects implies and involves knowledge of the environment and of the people, technology, materials, manufacturing and architecture. All in order to ensure a safe, comfortable and attractive urban atmosphere. We will turn your idea into a remarkable project.*

 QUATTRO

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