

Direction of the Capitale-Nationale

Shannon Bridge (P-06204)

Heritage valuation

april 2010

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Heritage Assessment Report

Shannon Bridge (P-06204)

Foreword

At the request of the Direction de la Capitale-Nationale of the Ministère des Transports du Québec, Patri-Arch, heritage and architecture consultants, carried out an evaluation of the P-06204 structure known as the Shannon bridge connecting the two banks of the Jacques-Cartier river in the municipality of Shannon. This evaluation, carried out according to the *Québec bridges heritage assessment manual* prepared by the Direction des structures of the Ministry of Transport, has as main objective to determine the fair value heritage of this metal structure before deciding on its future.

Based on summary information provided by the Ministère des Transports, in particular as regards which concerns the type of structure and its physical characteristics (length of the spans, dimensions, etc.), the data collection was supplemented by a site visit and a survey photographic as well as documentary research. Degree criteria authenticity, historical significance, quality of the landscape, potential for enhancement and in the interest of the community could thus be documented and further developed in the report.

Credits and acknowledgments

Martin Dubois Project manager, photographic survey, research and writing

The Patri-Arch team would like to thank Bruno Beauregard and Marie-Christine Dandois for Quebec Ministry of Transport. Thanks are also addressed to Jean Lefrançois, author and specialist in Quebec bridges, at Marc-D. Carette, specialist in railway heritage, and to Pauline McCarthy, of the Shannon Historical Society, for their valuable help in collecting information.

Quebec City, April 12, 2010

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Presentation of the Shannon Bridge

Location

Shannon Bridge, also called Gosford Bridge or Saint-Gabriel Bridge throughout its history, spans the Jacques-Cartier River in a north-south axis of Gosford Road in the municipality of Shannon.

1. Location of the Shannon bridge. Source: Google Maps.

Current situation

Shannon Bridge is an old railway bridge that has been modified for traffic vehicular. It has only one wide lane, which requires one-way traffic to the times alternately. A passage for pedestrians and cyclists has been added overhanging the structure. The bridge spans a municipal park where the remains of an old building are highlighted hydroelectric power plant.

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Shannon Bridge (P-06204)

Heritage valuation

This heritage assessment uses the methodology described in the *Assessment Manual heritage of Quebec bridges* . The assessment meets the eleven criteria described below:

1. Type and subtype of structure

Shannon Bridge is a steel structure with triangular beams with upper deck (figures 2 to 5). It is of the articulated Pratt type and is assembled é with steel dowels.

2. The Shannon Bridge.

3. The Shannon Bridge.

4. View of the structure of the Shannon bridge.

5. One of the pillars of the Shannon Bridge.

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2. Designer

The Shannon Bridge was designed by the Clarke, Reeves & Co. (Phoenix Bridge) of Phoenixville near Philadelphia in Pennsylvania (Figure 6), which is considered as a renowned designer International.

SOE
ed

3. builder


The builder of the Shannon bridge is the one who designed the structure, the company Clarke, Reeves & Co. (Phoenix Bridge) of Phoenixville, Pennsylvania, considered a builder of International fame. The pillars and masonry piers have been built by Barnabas Gibson, a entrepreneur from Whitby, Ontario.

who East

4. Length of spans

Each of the two main spans of the bridge of Shannon are 39 meters in length, who is considered like long travenues for this type of s adds six small Warren-t e x ends of the bridge (2

6. Clarke, Reeves & Company advertisement in the



Original text

avées pour ce type de structure (Pratt).

[Contribute a better translation](#)

7. The Shannon bridge made up of two Pratt beams in the center and six Warren beams at the ends. Drawing of the inspection of engineer J. Benoit Painchaud in 1919. Source: MTQ.

5. Main Features

According to the *Pon Heritage Assessment Manual* Quebec, in Table 2-8 “Rarity of bridges at p Pratt type bridges with steel dowel assembly from the North and there is only one specimen in Quebec being the only specimen, the Shannon bridge is a possessing the p long span in Quebec for this structural subtype. He owns also a steel peg assembly, this which is a characteristic interesting eristics which gives a maximum of points to the structure.

ts du Québec from the Ministère des Transports du triangular metal bottles in Quebec ", the ier and apron are rare in America c, or the Shannon bridge erected in 1879. In automatically the longest bridge and the bridge

Aside from these uniqueness characteristics, one the most important things to report in this case is the use of *Phoenix* columns , these tubular wrought iron frames consisting of of four quadrants whose wings are connected

between them using rivets (Figure 8). We have to type of hollow members to William H. Reeves who, from 1862, obtained a patent for its columns known in the industry as bridges under the names of " *Phoenix Column* " or " *Keystone Column* ". This technological innovation, resulting in progress in building iron bridges which now supplant the bridges of wood, quickly gaining favor with major bridge builders, including the *Clarke Reeves & Cie* from Phoenixville, Pennsylvania founded in 1868 by the family of William H. Reeves and owner of the steel factory *Phoenix Iron Compagny*, it's this company who designs and manufactures the Shannon bridge, the upper strings, the uprights and the end diagonals are composed of *Phoenix* columns (figure 9), signature of the company. It would be the last *Phoenix* that we would still find in Quebec and probably in Canada . In addition, we find eye steel bars like diagonal members and cross rods in as bracing (Figures 9 to 15). The valves, pillars and piles are all built of stone and their size.

8. Detail of the Phoenix column patented by Reeves. Drawing by Jean Lefrançois from the article "Le pont de Shannon, the story retraced from a photograph".

9. Illustration by Jean Lefrançois explaining the different members of the structure. A. upper string, B. spacer, C. diagonal. The members A, B and C are Phoenix columns. D. double eye steel bars as diagonal members, E. braces e tension rods to tensioner. From the article "Le pont de Shannon: the story retraced from a photograph".

1. There are a few examples of bridges built with Phoenix columns that remain in the United States and are registered on the *National Register of Historic Places* which gives them recognition heritage.

10. Detail of assembly of the structure composed of Phoenix columns and metal tie rods. Source: MTQ.

11. Detail of assembly to the junction between the pillar of masonry and the metallic structure. Source: MTQ.

12. Metallic structure seen below the deck superior. Source: MTQ.

13. Warren beam spans.

14. The structure at the south end of the bridge.

15. The two types of structure: Pratt type on the left and Warren type right.

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6. Degree of authenticity

The Shannon bridge has an excellent degree of authenticity for a structure of its age. AT share the modifications to its deck when the railway bridge was converted to road bridge, the structure seems to have undergone few transformations which have modified important aspect since its construction. Built in 1879, we own little information on the bridge before 1920, when the *Canadian National Railway* ceded the bridge to the municipality of Sainte-Catherine-de-Portneuf. Before this date, it is assumed that the bridge was maintained periodically by the railway company and has not undergone any

major changes. A single mention in the archives of the Ministry of Transport makes state of reinforcement work on the steel structure by the Québec Lake St. John Railway in 1901, without further details ². It can be work due to the size of the locomotives which tends to grow over the years. This work may also be related to modifications carried out following the construction of a new bridge over the river and its reallocation (see criterion 8, historical significance).

Although the *Canadian National Railway* company definitively abandons the use of the bridge of Shannon at the end of the 1910s, it was not until 1931 before the start major work to remove the plank floor as well as the rails and build a new concrete slab to build a 15-foot wide carriageway. These jobs which continued during the year 1932 required a strengthening of the steel structure to support the weight of this new deck. These are the Gauthier & Julien de Portneuf company Station (steel structure) and contractor Arsène Gauthier from Saint-Alban (repairs various and concrete slab) who obtain the contracts for this work ³.

According to our information, maintenance interventions have been carried out periodically such that sandblasting and painting, particularly in 1922, 1933, 1949, 1963 and 1974 ⁴, as well as the recurrent repair of railings. To this end, around 1950, the files of the department report several complaints and correspondence to the effect that the Donnacona Pulp & Paper company was throwing di wood to the river from the bridge, this which damaged the railings. The ministry summoned al the papeti company era of stopping this illegal practice. A few work was also carried out to repair the stone foundations (1954-1956 and 1999-2000), reconstruct collapsed embankments (1956-1957) and add reinforcement diagonals (1990). Finally, in 1997, a cantilevered sidewalk (Figures 16 and 17) was added on the west side to make the bridge safer for pedestrians, which is the most significant impairment performed to date. A gazebo and a staircase, also cantilevered, have been fitted out from north side of the bridge (Figure 18). In 2004, an aqueduct pipe from the municipality of Shannon was installed under the sidewalk attached to the bridge (Figure 19) ⁵.

2. Québec Ministry of Transport, General file for structure P-06204.

3. *Ibid.*

4. *Ibid.*

5. *Ibid.*

16. Cantilevered sidewalk added on the west side of the structure.

17. Cantilevered sidewalk added on the west side of the structure.

18. Belvedere and cantilever staircase installed at the north end of the bridge. Source: MTQ.

19. Water pipe hung under the sidewalk. Source: MTQ.

7. Seniority

The Shannon Bridge was built in 1879-1880 as a railway bridge and transformed into a bridge road in 1931-1932. Today it would constitute the pontoon road including the oldest steel trusses in Quebec and probably the oldest metal bridge in the country ⁶. While being built largely before 1900, it thus obtains the maximum of points for its seniority.

6. John Lefrançois, "The Shannon Bridge: The Story Traced from a Photograph", *L'Équipe, Journal du ministère des Transports*, vol. 31, n° 3, April 2001.

8. Historical significance

The Shannon Bridge has greatly contributed to the history of the community. It is important historically in several respects. Essential component of the first railway section connecting Quebec at Lac-Saint-Jean which was of capital importance for the development of this region, it has witnessed the saga of rail which marked the end of the 19th century. It thus constitutes a major historical element in the industrial and railway heritage of Quebec. At the beginning of 20th century, the structure then became a road bridge which played a major role in the local development and is now an essential witness to the region's civil engineering de Shannon and the MRC La Jacques-Cartier.

Quebec- & Gosford Railway Company ⁷

The history of the site goes back a few years before the construction of the current bridge when a first wooden track is erected between Quebec City and the township of Gosford located at north of Lake Saint-Joseph. The advent of the forest industry in the region stimulates construction of the first transport networks, in particular that of rail. Quebec & Gosford (Wooden) Railway Company, incorporated on April 5, 1869 is directly associated with this industry. The proposed section must first serve to supply Quebec City with firewood and construction it needs from sawmills built in the top of the line. This project is most audacious: it consists of the creation of a link 42.5 km in the middle of the forest with steep slopes and the Jacques-Cartier river to cross, and it must be made using only pieces of wood.

The origin of the project to establish a line of wooden beams in La Jacques-Cartier dates back to 1854; the Grand Trunk railway then links Montreal and Lévis by the south shore of the River. This modern equipment, synonymous with industrial and economic development, is a dream for several Quebec businessmen who are thinking of connecting Quebec to the rest of the continent but also to neighboring regions such as Saguenay – Lac-Saint-Jean. However, in front of the enormous costs represented by a company like that, then little supported by the government, no entrepreneur squeezes in such an adventure.

The coming of the American Jerome-B. Hulbert in 1869, revives hopes of finally seeing a new rail link in the region since it ensures being able to run a train at a lower cost. Native of New York State, this entrepreneur built a path in 1867 to transport iron ore. Hulbert developed a construction method which offers, it is said at the time, a lot of resistance and solidity. The main advantage of this assembly is obviously its low cost, because the iron rails are the most expensive component of conventional systems. The price of "Hulbert" technique thus makes it perfectly suited to the context of colonization of more remote regions. More economical and using the raw material available on site, this wooden assembly is made up of maple rails, which replace the iron rails, placed on sleepers or sleepers in hemlock or red spruce. No nails or screws are used

7. The information concerning the Québec & Gosford wood beam path comes from research performed by Marc-D. Carette. "Old Line Railway & Quebec Gosford" *TRAQ*, special edition n° 11 2006, 36 pages. *Research on the history of the wooden hedge path from Quebec to Gosford for an exhibition presented in the tail wagon of the municipality of Shannon*. June 15, 2007, 7 pages (unpublished document).

, this

during assembly. The beams are simply fixed to the crosspieces by a system of notches and shims. Bridges, viaducts and rolling stock are also made of wood, except locomotives and car wheels.

In Quebec, the experience of smooth tracks of wood had already been attempted a few repossessions, especially in the Saint-Jean-sur-Richelieu, Joliette and Saint-Hyacinthe. These tracks were however assemblies hybridized made of wooden beams covered with a thin iron stringer. Eventually they have subsequently replaced by véritable iron rails when companies have reached some profitability. Despite these more or less conclusive experiences, the Gosford Project Gets Enthusiastic Support several politicians and businessmen, and began quickly in the summer of 1869. A steam sawmill is built near the Jacques-Cartier river to prepare the rails, sleepers and other pieces of wood necessary for the business. The work is progressing rapidly and, in November 1870, the path to Gosford is inaugurated.

they have
véritables

20. Right, first McCallum-type wooden bridge, at two spans, on the Quebec wood beam line & Gosford. Engraving published in *L'Opinion publique* du 28 December 1871.

The Quebec & Gosford wooden hedge line begins in the Saint-Savior of Quebec from the current street Marie-de-L'Incarnation, heads west (along the current Charest highway), climbs and continues north through Petite-Rivière (Les Saules) and follows the current route of Henri-IV highway to Shannon. A bridge two-span McCallum type built entirely in wood and preceded by a viaduct, crosses the Jacques-Cartier river (Figures 20 and 21). The line then continues north to Lac-à-l'Île. Hulbert does build a sawmill at the end of the line, Hulbert Mills, as well as a hotel for travelers.

21. Long wooden viaduct north of the Jacques-Cartier approaching McCallum bridge (hardly visible behind the vegetation) on the line with hedge of wood Quebec & Gosford. Photo: Ellison & Co, 1871. Marc-D collection. Carette.

The Quebec & Gosford wooden hedge path is in operation for two summers, but from the end of the year 1872, the beams are so damaged that it is already necessary to carry out replacements. Author Damase Potvin writes in his book on Fossambault: "After each

heavy showers, beams worked and the corners gradually tore off s ". On resumption operations in spring 1873, the line is in such bad condition that we have to wait until the month of July, after several repairs, so that the trains can run again. In 1874, at the s disastrous last year due to high maintenance and season costs operating hours, Quebec & Gosford (Wooden) Railway Company abandons operating its line for a few years in order to find the necessary funding to replace wooden beams with rails they iron it. Finally, the territory covered does not not making it profitable to buy metal rails metal, the company is rather embarking on a project of colonization of the territory until the c Saint John. This choice was probably influenced by more generous government grants to railroad companies sooner than the transportation of goods. The 23 of iron favoring the colonization of the larger territory no law sanctioning the new designation of February 1875, the Provincial Legislature adopted a Railway Company the company that becomes Quebec & Lake St John was it your last to complete the work of a iron from Quebec and Lac-Saint-Jean) and allows c re 1885. The economic crisis of 1875 slows down Québec-Lac-Saint-Jean line before December 31 ELQuees still. In 1878, thanks to however, the enthusiasm of the promoters for da ns the company, the project resumes. Threatened new investors who inject money Saint Laurent, of the Lower Laurentians and of pressed by the Railway Company of establish a line by Mauricie, Saguenay, a competing Trois-Rivières group wishing first section to Saint-Raymond. the company applies to hastily complete the

The Quebec & Lac-Saint-Jean line

The Quebec & Lake St John Railway Company (c Railway company of Quebec and Lac Saint-Jean), change ie the route of the old Gosford road. In fact, only one small section is kept. We first abandon the entire section located south of the current Val-Bélair district to reach the city of Quebec from the Louise Basin via the south of Charlesbourg, Loretteville, Val-Rose and Saint-Gabriel-de-Valcartier. North of the river Jacques-Cartier, the entire section heading towards Gosford to the north is also set aside for profit of a new road going to Saint-Raymond e t Rivière-à-Pierre in Portneuf, passing at Duchesnay station, south of Lake Saint-Joseph. On the part preserved near the river Jacques-Cartier, the wooden beams are dismantled and replaced by iron rails like over the entire new route. The McCallu wooden bridge m built in 1870 is dismantled and replaced by a "Phoenix" type metal structure In 1879, now called the Pont de Shannon (Figures 22 and 23).

As the company hires Barnabas Gibbs one, an Ontario entrepreneur from Whitby, for erect the masonry foundations of the new bridge, it's the Clarke, Reeves & Company that is chosen to raise the metal structure of the ie n railway over the Jacques River-Cartier in addition to two other line bridges, s oit a bridge over the Portneuf river and a bridge at the outlet of Lac Saint-Joseph. This famous Phoenixville Pennsylvania business at the time " undeniable leadership in the design of large rail bridges metal throughout North America. " William H. Reeves, one of the owners of the company

8. Damase Potvin, *Fossambault: Lac St-Joseph, Valcartier, Ste-Catherine, Duchesnay, Lac Sergent, Lac Des Sept-He is*. Published on the occasion of the 10th anniversary of the city of Lac St-Joseph , Québec, 1946.

9. Jean Lefrançois, *Op. Cit.*

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family, obtains in 1862 the patent for a type of columns known in the bridge industry under the name of "Phoenix Column". Most beam members also carry this inscription. Made of wrought iron, these columns are composed of hollow members which combine lightness and rigidity. This innovation will quickly win the favor of the big bridge builders.

22. The Quebec & Lake St John Railway Company railway bridge. Photo: Jules Ernest Livernois, 1882. Source: Collection of the Société historique du Saguenay.

23. Drawing of the Gosford Bridge, from the photo by Livernois, published in the *Canadian Illustrated News*, October 7, 1882 . Unknown artist.

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Inaugurated in 1880, the Gosford bridge or Saint-Gabriel bridge as it was called at the time served on the Quebec – Lac line Saint-Jean which was completed in 1888 (Figure 24). It thus serves until 1901, when a new bridge was built metallic (Figure 25) about a kilometer downstream so d " avoid a long curve of the route, inherited from the old whos to Gosford's heddles, and to spin in a straight line (figure 2 7). In addition, the new locomotives (Figure 26) became b Too heavy to take the Phoenix Bridge Bridge without major work being done on it 10 .

Even after the bridge for the Quebec-Lac line was abandoned Saint-Jean for the benefit of a new straight line, the old Gosford Bridge continues to use a fork in the railway that continues to Clark. This section is used especially for logging and will also be used by the Valcartier military base set up as a camp training at the start of the First World War.

24. Route of the connecting railway Quebec and Lac Saint-Jean from 1888. Source: TRAQ.

25. The new bridge from 1918 built downstream of Shannon bridge in the straight line layout. Photo : Jean Lefrançois, 2001. From the article "Le pont de Shannon: the story retraced from a photograph".

26. Quebec & Lake St John Locomotive No. 12 Railway Company at Parent Square in Quebec, around 1900. Source: Library and Archives Canada (Ottawa), E008224023.

In 1914, the *Canadian Northern Railway* (Railway Company of Canadian iron North) purchases the *Quebec & Lake St John Railway Company* . At the time of the merger of the *Canadian Northern Railway Company* with 16 other companies in 1919, the railway Québec – Lac-Saint-Jean becomes the property of the *Canadian National Railway Company* (Canadian National Railway Company), now Canadian National and

commonly known as CN. It is from this date, in 1919, that the trains seem permanently stop traveling on the Gosford Bridge. From 1919 to 1929, a man called Edmond Conway leases the bridge from the remaining owner of the railway to cross the bridge its wood using a horse-drawn carriage on rail 11 .

10. Jean Lefrançois, *Op. Cit* .

11. *Ibid*.

27. Map of the Quebec-Gosford line. We note in purple the section abandoned in 1881 by the Compagnie de chemin de fer from Quebec and Lac-Saint-Jean; in red, the layout of the railway from 1880 to 1901 and, in blue, the straightening of the line by the addition of a new bridge in 1901. Color additions of Jean Lefrançois on a 1920 map. From the article "Le pont de Shannon: the story retraced from a photograph ".

A second life at the bridge

In 1920, given the abandonment of the bridge by the trains, of citizens obtain a subsidy from government to have the bridge built to allow crossing by vehicle motorisé. The rails are kept for honor Mr. Conway's lease but of the ro otters in wooden planks and statidn bodies are added for the passage of

cars and trucks (Figure 28). It was, according to Jean Lefrançois, the only hybrid rail-road across Quebec to share a single and same deck track [12](#).

28. The Shannon Bridge in the 1920s. Source: MRC La Jacques-Cartier.

In 1929, the municipality of Sainte-Catherine-de-Fossambault acquired the bridge hybrid. However, CN retains the right to take over the bridge if ever rail needs arise were felt [13](#). Transformation of the bridge for the construction of a carriage deck

12. Jean Lefrançois, *Op. Cit.*

13. Ministries era of Transports du Québec, General file of structure P-06204.

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concreted was carried out in 1931-1932 and is still used today for traffic automobile (Figure 29).

In 1946, the municipality of Shannon was created from a detachment from the Municipality of Sainte-Catherine-de-Fossambault (today Sainte-Catherine-de-la-Jacques-Cartier). The bridge is located on this territory and will carry from from that time the name of Shannon Bridge. he becomes the main link between the northern parts of the municipalities of Shannon and Saint-Gabriel-de-Valcartier via Gosford Road. However, the expansion of the military base in Valcartier will subsequently restrict the connections between the two municipalities. In addition, share two bridges on the military base which are restricted use, the Shannon Bridge is the single road bridge that connects the two banks of the Jacques-Cartier river between the Clark bridge at Saint-Gabriel-de-Valcartier and the road bridge Fossambault in Sainte-Catherine-de-la-Jacques-Cartier, located several kilometers one of other.

The

29. The Shannon Bridge and the Jacques-Cartier River towards the 1950s. Source: MRC La Jacques-Cartier, Shannon Historical Society Collection.

The Saint-Gabriel power station ¹⁴

Built by Jacques-Cartier Water and Power Company, the third plant h Quebec region hydroelectric plant was born in Sainte-Catherine-de-Fossambault in 1899 where the river Jacques-Cartier is crossed by the Gosford railway bridge (Figures 30 to 32). Commissioned the following year, the central the is accompanied by a block dam granite laid out on the Jacques-Cartier river in bridge mount; water is routed to the central using two pipes over a distance of 95 m downstream from the bridge. The power plant supplies part of the cities of Quebec with electricity and Loretteville as well as the base military of Valcartier.

The eight or so employees who work at the nearby houses. This nucleus of residences is school which are also used for social activities ice rink to the delight of children. Just one more constitute a gathering place for the c Québec finally closes the facility on November 3 have been damaged in the year adjacent to a very strong flood. As for the buildings of the small village, they have disappeared one after the other over the years. The municipality of Shannon has developed an interpretation park along the river where you can admire the remains of the power plant and dam as well as the structure of the Shannon bridge.

central until 1957 remain in five t completed by a Catholic chapel and a s. During winter, the river turns into industrial site, the power station and its small village Irish community at that time. Hydro b re 1964. The dam was demolished in 1977 after s

14. The information in this section come from H el ene Michaud, *Historical summary of the MRC La Jacques-Cartier*, Shannon, MRC La Jacques-Cartier (2002) (unpublished document).

30. Gosford Bridge to the south. On the left, we can see the ba edited by JP Gameau, around 1900. Source: Library and A P547S1SS1SSS1D626P2R.

rrage and right, the hydroelectric plant. Post card National Archives of Quebec, Magella Bureau Collection,

31. The Saint-Gabriel dam on the Jacques-Cartier. Date unknown, Source: MRC La Jacques-Cartier.

32. The Saint-Gabriel hydroelectric plant and the Shannon Bridge. Date unknown, Source: MRC La Jacques Cartier.

9. Landscape quality

Our assessment attributes to the Shannon Bridge a “harmonious landscape of interest”; he is in effect located in a quality environment that has undergone few transformations during the last century. On the bridge, the view offered on the Jacques-Cartier river, rather steep and punctuated by islands and waterfalls, is very significant (Figures 33 and 34).

The site is now known as the site of the former Saint-Gabriel power station. established at the end of the XIXth century due to the hydraulic power that represented the falls hurtling in cascades at this location, this power station with a dam has not been in operation since 1964 but a park built on the south bank of the river by the municipality of Shannon relates the history of the industrial site by observing the remains and by interpretation panels. The p have Shannon overlooks this park which it crosses right in the center. Visitors therefore pass s ou the bridge, which p allows you to appreciate the structure which is in no way visible when you cross member on the upper bulkhead (Figure 35). On the north side, a small belvedere and a staircase leading to the banks are hooked to the sidewalk cantilever, allowing a view and access to the river.

The site has good plant cover and almost no building or development breaks the naturalness of the place. On each side of the bridge, and especially on the west side where is laid out the pedestrian sidewalk, the views are magnificent. The height of the bridge offers privileged views that allow you to embrace a good part of the landscape.

33. View of the Jacques-Cartier river west from Shannon Bridge.

34. View of the Jacques-Cartier river east from Shannon Bridge.

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10. Development potential

The Shannon Bridge is located less than a kilometer from the regional route 369 (boulevard Jacques-Cartier) and about five kilometers from the Henri-IV highway (573). Although it does not part of a tourist circuit as such, it is located near some attractions tourist, including the Saint-Gabriel power station park and track c including Jacques-Cartier / Portneuf connecting Shannon to Rivière-à-Pierre on the old route of the Quebec-Lake railway line Saint Jean.

The bridge has been accessible to pedestrians and cyclists safely since 1997 due to the addition of a cantilevered sidewalk on the west side of the bridge (Figures 35 and 36).

A parking lot has been created at the south entrance of the bridge by the municipality of Shannon for access to the Saint-Gabriel power station park. From this park along the river, several points of interest on the bridge are possible. However, no development particular or no element of interpretation specifically intended to highlight the bridge has not been seen on the site accessible to the public. In this regard, the site offers undeniable potential. One or more interpretive panels on the history of the bridge and railway activities could add to the panels already in place that tell the story of the old power plant hydroelectric.

35. From the road, the bridge is barely visible.

36 Cantilevered sidewalk added on the west side of the structure.

11. Interest of medium for conservation

The environment currently seems fairly indifferent to the conservation of the Pont de Shannon. To the municipality of Shannon, which has never officially spoken out, we rely on the Ministère des Transports to maintain the bridge and assessment of its heritage value. The Shannon Historical Society is hardly more talkative than about the bridge and refers us to the municipality. Although the municipality and the historical society be aware of the rarity and age of this structure, they seem to have little interest in promoting its conservation or developing actions to do so know and enhance it. Although we cannot assume for the future, it is likely

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that if there was a threat of demolition or replacement hanging over the bridge, these institutions and citizens they represent would be quicker to respond and advocate for the conservation of this structure. However, this is not currently the case.

As for certain specialists in the question of bridges or railway heritage, the Pont de Shannon is for them an essential witness to civil engineering in Quebec and even in Canada that should be preserved. Mr. Marc-D. Carette, from the TRAQ group (rail transport at Quebec), organization taking a close interest in all aspects of rail transport, has made numerous researches on the Quebec & Gosford line in wood beams. M. Carette and his group are ardent defenders of railway heritage and the Shannon Bridge constitutes, according to them, an exceptional element that recalls the epic of rail in the region. Quebec to him, Mr. Jean Lefrançois, employed by the Ministère des Transports since 1986 and author of numerous articles and books on bridges in Quebec, is one of the first researchers to be interested at Shannon Bridge. In a very detailed article published in 2001, he highlights the importance heritage of this bridge and emphasizes that it would be the oldest known metal work in the country. According to him, “this dean, a legacy of rail engineering, is a major historical element in the Quebec's industrial heritage ”.

Ultimately, although some specialists point out the great value of this Shannon bridge, the interest of the community conservation remains rather indifferent.

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Conclusion

The Shannon Bridge has a very high heritage value, with a number of points amounting to 154 for a heritage index of 100. This index prescribes without a shadow of doubt the conservation and restoration of this structure.

Several factors contribute to the heritage value of this Pratt type metal structure with steel dowels and upper apron, a unique case in Quebec. First, the designer and the manufacturer of the metal superstructure, the company Clarke, Reeves & Co (Phoenix Bridge) of Philadelphia, is an internationally renowned company that has made its reputation in the construction of railway bridges across North America. The Shannon Bridge is in fact an old railway bridge built from the line connecting Quebec to Lac-Saint-Jean which replaced, in 1879, an old wooden bridge of the Quebec & Gosford line. After having been

replaced in turn by a new bridge and definitively abandoned by the company of railway, this structure was adapted around 1920 to serve both the passage of motorized vehicles and rail-carts filled with wood, making it a hybrid bridge, a fact very rare in Quebec. In 1931-1932, the wooden deck and the rails are removed and a new one d concrete alley is built to make a real road bridge. Aside from his seniority remarkable and the role he played in the development of the territory via the path line iron Quebec-Lac-Saint-Jean, the Shannon bridge is exceptional el for its characteristics constructive. Indeed, it is the last Quebec specimen to have type columns *Phoenix*, these tubular frames in wrought iron consisting of four quadrants whose wings are connected together using rivets. We owe this technological innovation to William H. Reeves who, from 1862, obtained a patent.

Furthermore, the Shannon Bridge stands out for its excellent state of authenticity. Apart from the replacement of the deck and some maintenance work, the bridge has only been altered of importance: the addition of a sidewalk overhanging one side of the structure. Although this element somewhat affects the appearance of the bridge, it has the advantage of making it safe for pedestrians and bikes because the old railway bridge is very narrow and does not allow road traffic one direction at a time alternately. Also, the bridge overlooks the majestic Jacques river-Cartier where it descends in cascades, which favored in the past the installation of a dam and the Saint-Gabriel hydroelectric plant. The landscape that can be discovered from bridge is spectacular and a park has been built at its feet for the interpretation of the old power plant. However, the Shannon Bridge is not highlighted there specific but the potential for interpretation is very strong in this landscaped place accessible to public. Unfortunately, apart from a few specialists who recognize this bridge as a important historical witness to be preserved, a symbol of the arrival of the railway at Lac-Saint-Jean, the last survivor of the *Phoenix* column works in Quebec, a legacy of the genius of rail, a unique element of Quebec's industrial heritage and the oldest metallic structure known in the country, the environment seems rather indifferent regarding its conservation and carries currently quite little interest in this heritage bridge. Although the municipality of Shannon, the MRC La Jacques-Cartier and the local historical society are aware of the historic value of this bridge, no concrete recognition or conservation measure seems to have been carried out.

Finally, it should be mentioned that this heritage assessment was carried out from Quebec equivalents. We did not have the information necessary to determine the uniqueness or rarity of the bridge outside Quebec, in Canada and in North America. Given its age and its characteristics, it is likely that this bridge would rank favorably across the North American continent but this ev aluation remains to be done.

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Shannon Bridge (P-06204)

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Shannon Municipality

new information collected in the field in 2010

ASSESSMENT GRID FOR THE BRIDGE INDEX

Structure number: P- 06204
Last name : Shannon Bridge
Route: Gosford Road
Obstacle: Jacques-Cartier River
Municipality: Shannon

INSERT PHOTO HERE

1- Type of structure	Points	tally maximum	
With triangular metal beams Pratt	15	/ 20	
2- Designer	Points	tally maximum	
Clarke, Reeves & Co., Phoenix Bridge, Philadelphia	5	/ 5	
3- Manufacturer	Points	tally maximum	
Clarke, Reeves & Co., Phoenix Bridge, Philadelphia	5	/ 5	INSERT PHOTO HERE
4- Span length	Points	tally maximum	
L > 33 - Pratt Long span: 2 x 39 m + 6 x 10 to 13 m	10	/ 10	
5- General characteristics	Points	tally maximum	
5.1 Uniqueness Unique specimen of a subtype in Quebec	25	/ 35	
5.2 Rarity of the structure subtype Choice	0	/ 15	INSERT PHOTO HERE
5.3 Longest span of a structural subtype In Quebec	10	/ 15	
5.4 Longest bridge of a structural subtype In Quebec	10	/ 15	
5.5 Type of assembly Steel anchors	10	/ 10	
5.6 Special features Masonry foundation unit (s)	5		
Patented element (Phoenix columns, latest in Quebec)	5		
Oldest specimen of a subtype in Quebec	10		
Choice	0	No	
Choice	0	maximum	
Choice	0		
Choice	0		
Choice	0		
Choice	0		
Choice	0		
6- Degree of authenticity	Points	tally maximum	
Wooden decking replaced by another type	-5		
Addition of a cantilevered sidewalk	-2		
Replacement of some members by a different type of steel	-2		
Choice	0	/ -15	
Choice	0		Heritage value
Choice	0		very high
Choice	0		
7- Seniority	Points	tally maximum	Score: 154
Before 1900	10	/ 10	
1879 (the oldest metal structure in Quebec - road bridges)			
8- Historical significance	Points	tally maximum	Heritage index: 100
The bridge has greatly contributed to the history of the community (notably contributed to the development of the Lac-Saint-Jean region)	8	/ 10	
9- Quality of the landscape	Points	tally maximum	Evaluated by:
The landscape is part of a harmonious landscape of interest	8	/ 10	Martin Dubois
Choice	0		Patri-Arch
10- Development potential	Points	tally maximum	Date:
a) accessibility	2	/ 5	April 7, 2010
The bridge is more than 3 km and less than 10 km from a highway			
The bridge is accessible in a safe way for pedestrians and cyclists	5	/ 5	Validated by :
b) nearby facilities	3	/ 5	Directorate of structures
Presence of a parking lot			Date:
11- Interest of the environment for conservation	Points	tally maximum	April 12, 2010
Indifference	2	/ 10	