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Public

NATIONAL CAPITAL COMMISSION
COMMISSION DE LA CAPITALE NATIONALE

		No.	2025-P222
		To	Board of Directors
For	DECISION	**Date**	2025-01-23

Subject/Title

Federal Land Use and Design Approval for the Public Services and Procurement Canada (PSPC) and National Capital Commission (NCC) Alexandra Bridge Replacement Project – 15% Schematic Design

Summary

- The purpose of this submission is to present the evaluation process and obtain land use and design approval from the Board of Directors for the recommended concept design for the replacement of the Alexandra Bridge.
- This approval will allow the Integrated Project Team to continue design work for the new bridge and produce a final schematic design.

Risk Summary

As this submission formalizes the identification of a preferred schematic design concept for the bridge replacement, there are risks of public or stakeholder concerns in relation to the proposed bridge's schematic design. Compliance with the applicable Performance Criteria, management of project schedule and cost have also been identified as potential risks.

Recommendation

- THAT the Federal Land Use and Design Approval for the Alexandra Bridge Replacement Project – 15% Schematic Design be granted, pursuant to section 12 of the *National Capital Act.*
- THAT the signature of the Federal Land Use and Design Approval document be delegated to the Vice-President, Capital Planning Branch.

Submitted by:

DocuSigned by:

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Alain Miguelez
VP Capital Planning and Chief Planner

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1. Strategic Priorities

- NCC Corporate Plan 2024-2025 to 2028-2029
    - Strategic Direction #2: Ensure a picturesque and natural National Capital Region, through conserving and enhancing natural assets, cultural landscapes and built heritage under the NCC's stewardship.
    - Strategic Direction #3: Contribute to a thriving, connected and sustainable National Capital Region that inspires Canadians, through the planning, development and improvement of the NCC's assets.
- NCC Corporate Plan 2024-2025 to 2028-2029
    - Priority #2: Plan, rehabilitate and revitalize key assets and transportation networks in the National Capital Region.
    - Priority #5: Demonstrate national leadership in achieving an environmentally sustainable and climate-resilient National Capital Region.

Government of Canada

- Budget 2019
- Minister of Public Services and Procurement Canada (PSPC) Mandate Letters (2019 and 2021) directing that the bridge be replaced within ten years.

2. Authority

National Capital Act, section 12

3. Context

This submission follows two previous project updates provided to the Board of Directors on June 20 and October 1, 2024. The Alexandra Bridge Replacement Project has reached an important early design milestone with the Integrated Project Team's identification of a single schematic design concept to be carried forward for further design development. This submission for Federal Land Use and Design Approval represents the first of several approvals that consider the design development of the new bridge.

The Alexandra Bridge spans the Ottawa River in the core area of the Capital between Kìwekì Point in Ottawa and the intersection of Boulevard des Allumettières and Rue Laurier in Gatineau. This interprovincial bridge is a landmark and forms an integral part of Confederation Boulevard, the Capital's ceremonial and discovery route.
In 2019, the Government of Canada mandated that the Alexandra Bridge be replaced.

An Integrated Project Team (IPT) comprised of PSPC and NCC staff was established to advance the replacement of the Alexandra Bridge. The team worked collaboratively to

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define the project's scope and design requirements. These are established in the document entitled *Planning and Design Principles for the Replacement of the Alexandra Bridge*, approved by the NCC's Board of Directors in June 2021. The NCC subsequently developed Performance Criteria employing compliance-based language. The *Alexandra Bridge Replacement Performance Criteria for Bridge Design* (Appendix F) were finalized and approved in September 2022 by the Executive Management Committee of the NCC.

The Performance Criteria serve as a primary reference for the NCC's regulatory review of proposed bridge designs submitted for Federal Approval. A bridge design proposal must, at a minimum, meet the requirements of the Performance Criteria to be recommended for approval to the NCC's Board of Directors.

In May 2023, PSPC appointed a Technical Advisor to support the Integrated Project Team in the delivery of the project. The Technical Advisor advanced conceptual designs for the new bridge and, with the IPT, established a design framework and project schedule, including the sequence of steps required to develop the new bridge design. Prior to the Board presentation in October 2024, the following work was completed:

1) Detailed analysis of possible solutions and constraints
2) Identification of a broad range of possible bridge types and associated alignments
3) Development of a multi-criteria assessment tool to evaluate design concepts
4) Preparation of a long list of bridge type and alignment options
5) Evaluation of long list of options with multi-criteria assessment tool
6) Down selection from long list to three design concepts to be carried forward
7) Further design development and refinement of the three retained design concepts

In parallel with these steps, a Heritage Impact Analysis and an associated heritage conservation approach were developed to ensure the conservation of the site's historical and cultural significance. This important work informed the design of the retained and refined concepts.

A brief overview of key features of each of the three retained design concepts is provided below:

Echo –This concept draws inspiration from the existing historic bridge, reinterpreting its form along contemporary lines. The design combines two primary support piers, and a twin plane of structure through which the cycleway passes. While the Ottawa approach is fixed, the setback on the Gatineau side offers more flexibility, facilitating improved public access to the shoreline. The bridge's vertical alignment is shaped by existing

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constraints including the Ottawa abutment, river clearance, and accessibility requirements.

Rendez vous – A twin arch bridge featuring subtle asymmetry and one in-water pier located north of the navigation span. Although reaching approximately 15 metres above the existing bridge at their crown, the arches' height and transparency amplify views, providing a feeling of openness. The arches create a public space for gatherings. The transparent arches enhance visual connections between previously separated areas on either side of the river. The alignment accommodates river navigation while minimizing gradients to improve accessibility.

Motion – A three-arch bridge featuring arches of varying heights, forming a tribute to the dynamic movement of the river and the American eel (Pimisi). The bridge’s vertical alignment is designed to accommodate existing constraints while maintaining a gentle, inclusive gradient, leading to two large public spaces between the arches. The concept features two supports in the river, on either side of the main navigation span. The structural ribs that support the deck and echo the similar form found in the lookout on Kìwekì Point.

The three refined concepts were presented in additional detail at the October 2024 meeting of the Board of Directors. Following the Board presentation, a second round of public consultation was undertaken to obtain public feedback on the three design concepts. Nearly 5,200 online surveys were completed and 350 individuals attended in-person events. Section 9 outlines the public consultation process in further detail and the results of this round of public consultation activities are presented in Appendix C.

In November 2024, FLUDTA staff reviewed the three refined concepts and were able to confirm the compliance of the three refined concepts with the *Performance Criteria for Bridge Design.* The three refined design concepts were then evaluated by the IPT employing a multi-criteria assessment tool. The evaluation process resulted in the identification of ‘’Motion’’ as the preferred concept by the IPT. A summary of the multi-criteria evaluation process is provided in Appendix E. The purpose of this FLUDTA submission is to recommend approval of the preferred concept, Motion at the 15% Schematic Design stage.

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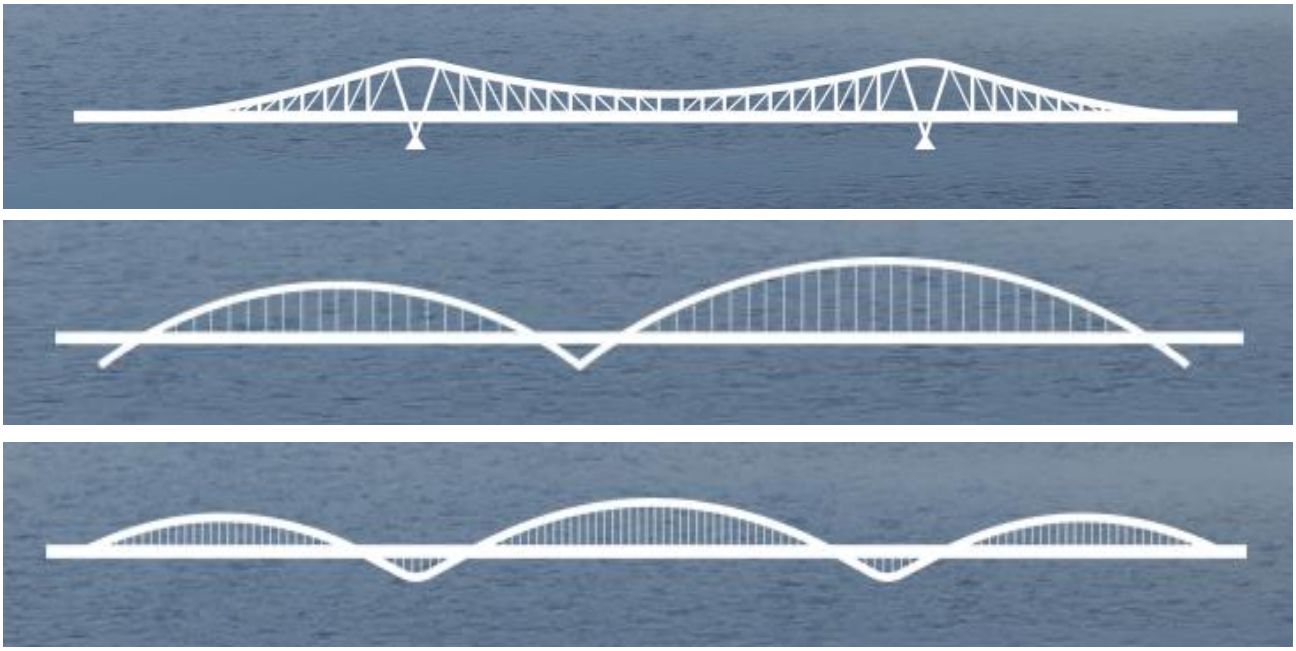

Figure 1 - Three Retained Design Concepts – Echo (top), Rendez vous (centre), Motion (bottom)

4. Options Analysis / NCC Staff Analysis

Capital Planning Framework and Basis for FLUDTA Review

The three refined design concepts were reviewed by Regulator Advocate (FLUDA) to ensure that the concepts were are in alignment with the strategic framework and policies of the following NCC Plans:

- Plan for Canada's Capital, 2017–2067 (2017)
- Canada's Capital Views Protection (2007)
- Canada's Capital Core Area Sector Plan (2005) (currently under review)
- Confederation Boulevard Guidelines (2011) (currently under review)
- Ottawa River North Shore Parklands Plan (2018)
- Capital Illumination Plan, 2017–2027 (2017)
- Capital Pathways Strategic Plan (2020)
- Capital Design Guidelines (2023)

The FLUDTA review was supported by the *Alexandra Bridge Replacement Performance Criteria for Bridge Design* and further informed by three presentations to the NCC's

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ACPDR in November 2023, March 2024 and October 2024, which allowed the committee to follow the project's design development process closely and provide iterative feedback to staff. A summary of the latest ACPDR comments from the October 2024 meeting is provided in Appendix D.

FLUDTA staff's analysis supporting this submission involved a more detailed review of project documentation submitted by the Integrated Project Team. The documentation submitted includes a detailed Concept Design Report, the Public Consultation Report (see Appendix C), as well as project drawings and renderings of the three refined concepts. FLUDTA staff were able to confirm that, based on the submitted material, the three refined design concepts were compliant with the applicable performance criteria.

The Integrated Project Team leveraged FLUDTA's analysis, along with insight from the public consultations, indigenous engagement, the Heritage Impact Assessment in addition to feedback from ACPDR, Advisory Committee on Universal Accessibility (ACUA) and the Independent Review Panel to inform a multi-criteria assessment of the three design concepts. This process identified ''Motion'' as the preferred concept. A summary of the multi-criteria analysis and evaluation is provided in Appendix E.

FLUDTA Review of the Recommended Concept

The Federal Approvals (FLUDTA) review for the Alexandra Bridge Replacement Project will involve a series of sequential approvals presented to the NCC Board of Directors at key milestones during the design development process. This first submission recommends approval of the preferred concept, Motion, at the 15% Schematic Design stage.

The following is a summary of the analysis made by the FLUDTA staff is based on the material submitted by the Integrated Project Team to date for the preferred concept. This review emphasizes the key performance criteria that are most relevant to this stage of design (see Appendix F).

- The FLUDTA review confirmed that "Motion" is compliant with the *Performance Criteria for Bridge Design* across all applicable sections (Urban Design Framework, Public Space, Bridge Expression and Views and Visual Experience). The design response to other performance criteria will be advanced as the project team's design work continues.
- Of the three retained concepts from the long list of options, Motion was the most significantly evolved to improve integration with the surrounding cultural landscape and is supported by a well-developed design narrative reflective of input received from Indigenous communities and the design experts represented on the Independent Review Panel, ACPDR and ACUA.

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- It was found that the central structural spine, the “trussed girder,” originally featured in previous iterations of this design concept, would be unable to achieve the desired scale of visual presence on the skyline of the capital’s core. This resulted in the evolution toward an arch bridge featuring taller arches and a more sinuous form, with structural elements both above and below deck, without a dominant main span.
- The overall scale of this revised concept is viewed to be cohesive with the surrounding topography (UD1a, UD1b, BE2c, BE2d). Motion’s arches have a symmetrical vertical profile featuring two arches that are 3.5 metres lower than the existing bridge and the one centre arch that is 3.5 metres taller.
- Technical drawings of Motion demonstrate conformity with the bridge’s minimum cross-section requirements including the public space zone (minimum 3m with 0.3m fixed object buffer), pedestrian through-route (minimum 4.0m with 0.3m fixed object buffer), bi-directional cycleway (minimum 3.0m with 0.3, fixed object buffer) and the two vehicle lanes (3.5m lanes with 1.2m shoulders) as prescribed in the Performance Criteria (BE1c). Motion has also been designed to accommodate mixed auto-transit uses and potential future conversion to transit-only and / or a rail-based transit link such as a tram. It also provides the flattest and most accessible bridge slope gradient of the three concepts.
- Motion’s cross-section and design morphology allow the incorporation of elements from the other two designs, along with those it already encompasses, to protect and prioritize the safety and enjoyability of active mobility modes.
- Motion’s arches are angled outward resulting in a more significant visual ‘mass’ above the bridge deck. While this visual effect is relatively subtle, the angled expression should continue to be considered within the broader composition of the landscape (UD1a, UD1b) and as it appears within views. This will help to ensure that the visual integrity and symbolic primacy of the National Symbols continue to be maintained (VA1, VA1c).
- Motion, as compared to the other concepts, is especially reflective of the Integrated Project Team’s emphasis on a “river first” vision and desire to reference the power and beauty of the Ottawa River as inspiration for its design. Unique design details were developed and informed by locally significant cultural and Indigenous iconography, specifically the lifecycle of the American Eel.
- Motion responds to the Heritage Conservation Approach developed for the project from the findings of the Heritage Impact Assessment (HIA). In particular, the vertical profile and structural expression of the bridge is viewed to integrate well within the broader landscape setting and offers several features that will enhance the public’s experience of the bridge including two large gathering spaces (PS2a), accessible viewing areas, and opportunities for integrated seating. The bridge’s design is

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intended to honour Algonquin Anishinabeg relationships with the Kichi Zībī (the Ottawa River) (UD2a).

- As noted through the Integrated Project Team's evaluation of the concepts, further consideration will be required to address possible impacts to river navigation around the wharf on the Gatineau shoreline. It is expected that the overall design of the selected concept will continue to evolve as design development continues and further input is received. Future iterations of the design will incorporate improvements and additional detail.

Figure 2 - Rendering of Motion as viewed from Jacques Cartier Park

5. Financial Details

- Not Applicable – This submission concerns land use and design approval only, as a result, financial details are not included.

6. Opportunities and Expected Results

- The approval of this submission will allow the advancement of the selected design concept. This submission is a key step in the implementation of the bridge replacement and will support key policies and objectives identified in the NCC's *Performance Criteria for Bridge Design*.

7. Alignment with Government and NCC Policies

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- In 2019, the Government of Canada mandated that the Alexandra Bridge be replaced
- Gender-Based Analysis (GBA) Plus will continue to be considered throughout the design development process. A GBA Plus Study has been initiated to ensure a comprehensive approach to integrating and implementing inclusive and equitable practices through the Alexandra Bridge Replacement Project. The study has involved a review of relevant policies, best practices, and direct engagement (focus groups and interviews). The study will identify gaps and provide recommendations to inform the project's continuing design work in order to foster accessibility and social equity for marginalized and vulnerable groups.
- Universal Accessibility is addressed as part of the project's requirements and objectives are described in the Performance Criteria document (PS4). The criteria require that the new bridge and its approaches be universally accessible, with attention to ensuring that all users feel welcomed, comfortable and safe, and able to engage with public spaces dedicated to pedestrians and active mobility.
- The Impact Assessment Agency of Canada has determined that an impact assessment is not required for the project to replace the Alexandra Bridge. The Detailed Project Description identifies mitigation measures and commitments to be implemented as part of the project to address environmental effects and to respond to feedback received through public consultation, Indigenous engagement and stakeholder feedback.
- Sustainability is identified as a key project objective. All aspects of the project including design, deconstruction and construction are being considered to ensure alignment with the Federal Sustainable Development Strategy 2022–2026. As part of the project, an application for Envision verification is planned. The framework for Envision verification is based on achieving credits based on performance indicators for infrastructure sustainability addressing subjects including climate and resilience, resource allocation and quality of life.

8. Risks and Mitigation Measures

Risk	Likelihood	Impact	Mitigation Measure
Public and stakeholder concerns	Medium	Moderate	• The Integrated Project Team will utilize public feedback received through public consultation and stakeholder outreach to inform and enhance the continued design development of the selected concept. • Additional public consultations are planned to support the subsequent phases of design for the new bridge.

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			• NCC and PSPC will continue to collaborate on public communications initiatives, both proactive and reactive
Compliance with Performance Criteria for Bridge Design	Low	Moderate	• The Performance Criteria will continue to serve as the primary basis for the NCC's regulatory review of proposed bridge designs submitted for Federal Approval. • The sequential approval process will ensure consistency with the criteria throughout the project's design development.
Reduction in anticipated project funding, which could impact the implementation of the approved concept	Low	Moderate	• The proponent is proactively identifying and incorporating design efficiencies to optimize project costs without compromising the approved concept, and compliance with the performance criteria. • The proponent will maintain regular touchpoints with ACPDR to present updates on the concept's evolution and ensure alignment with expectations.
Impacts related to delay in design approvals	Low	Moderate	• The sequential approval process has been established in order to provide the project team additional certainty as design development for the new bridge reaches significant milestones. • FLUDTA staff will continue to ensure proposed designs are consistent with the approved, project-specific Performance Criteria, and to proactively identify and work to resolve any project compliance risks.

9. Public Engagement and Communications

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- In accordance with the project's design framework and schedule, the NCC, as part of the IPT alongside PSPC, has developed a Public and Stakeholder Engagement Plan to support design development.
- A first round of extensive public and stakeholder consultations was undertaken in Fall 2020-2021, through Round 1A and 1B. The feedback received informed the development of the project's requirements as defined by the planning and design principles, the Detailed Project Description, as well as the subsequent Performance Criteria for bridge design.
- A Public Advisory Group (PAG) has been established to ensure that a diversity of stakeholder and community interests are considered throughout the design development process.
- Public consultation was undertaken in October 2024, including two open house events, an online survey as well as other stakeholder meetings to seek feedback on the three refined design concepts. All three concepts were very well received in the survey and open house activities. Feedback from the public allowed the Integrated Project Team to identify common aspects that people appreciated or felt could be improved in all three concepts. The detailed results of this second round of public consultation activities are presented in Appendix C.
- The Integrated Project Team is coordinating ongoing consultation and engagement with 19 Indigenous communities and organizations. Indigenous engagement for the project is grouped around three pillars:
    - Social and environmental impacts of the project;
    - Participation in the economic benefits of the project; and
    - Indigenous knowledge including integration of Indigenous culture and values in the design.
- A robust communications and marketing campaign accompanied the October 2024 public consultations, to ensure survey uptake and participation in the open house events.
- The NCC continues to collaborate with PSPC to ensure that communications key messages, web content and media lines are aligned.

10. Next Steps

- Winter 2025 – Finalization and signature of the associated Federal Land Use and Design Approval document
- Spring 2025 – NCC ACPDR presentation of continued advancement of the Schematic Design
- Fall 2025 – Submission to the Board of Directors for approval of the 100% Schematic Design

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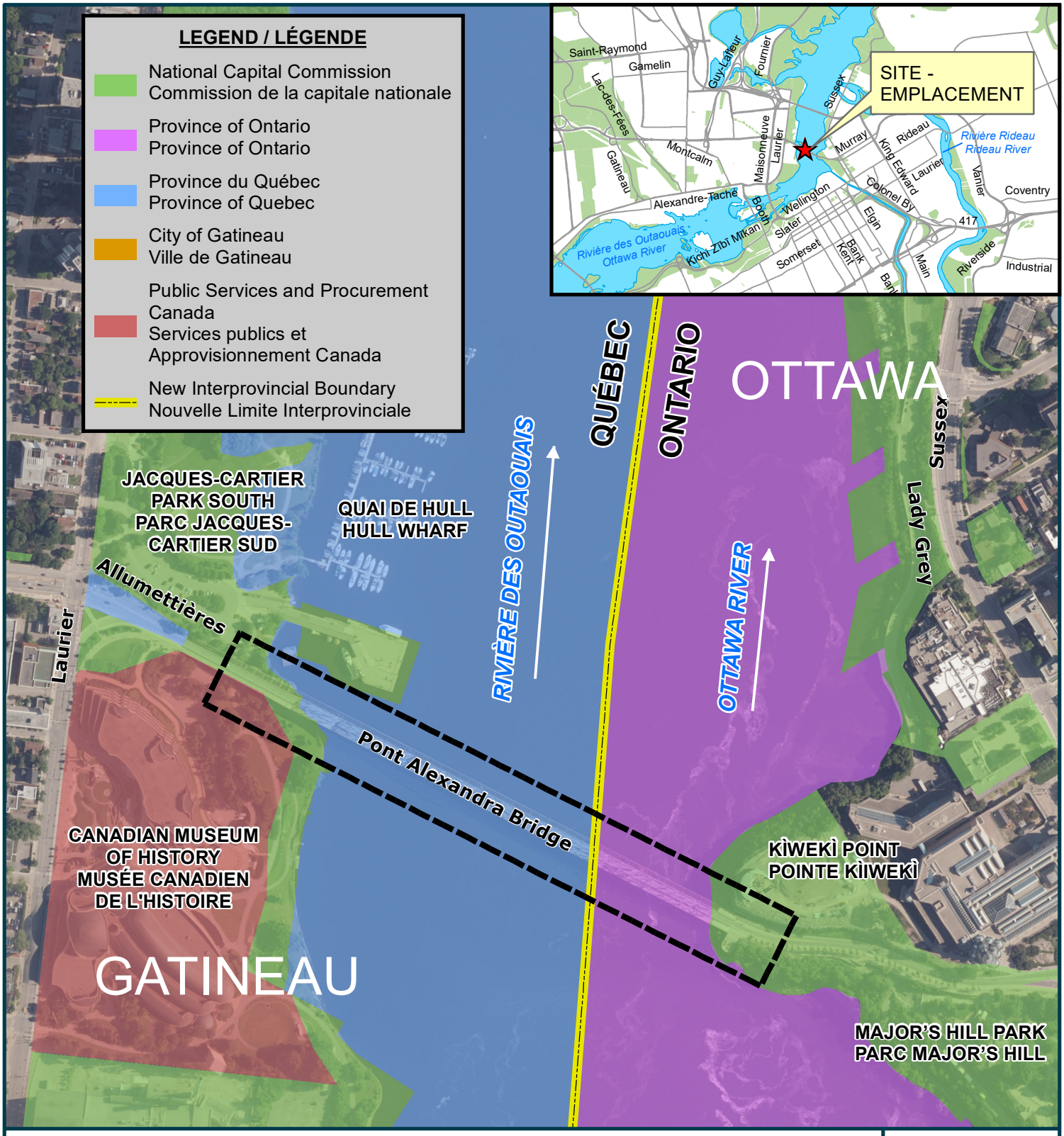
- 2025-2028 – Procurement Phase – Partner engaged to support the preparation of Developed Design and construction documents.
- 2028 – Submission to the Board of Directors for approval of the 100% Developed Design
- 2028-2032 – Construction / Implementation

11. List of Appendices

Appendix A – Location Plan
Appendix B – Concept Design Drawings - Motion
Appendix C – Public Consultation Report
Appendix D – Excerpts of the ACPDR Meeting Minutes (October 2024)
Appendix E – IPT Evaluation and Identification of Preferred Concept
Appendix F – Alexandra Bridge Replacement Performance Criteria for Bridge Design

12. Authors of the Submission

- Alain Miguelez, Vice-President, Capital Planning Branch (CP)
- Isabel Barrios, Director, Federal Approvals and Heritage, and Archaeology Programs (FAHA), CP
- Kate-Issima Francin, Chief, Federal Land Use and Transaction Approvals, FAHA, CP
- Christopher Meek, Senior Planner, Land Use and Transactions, FAHA, CP



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NATIONAL CAPITAL COMMISSION

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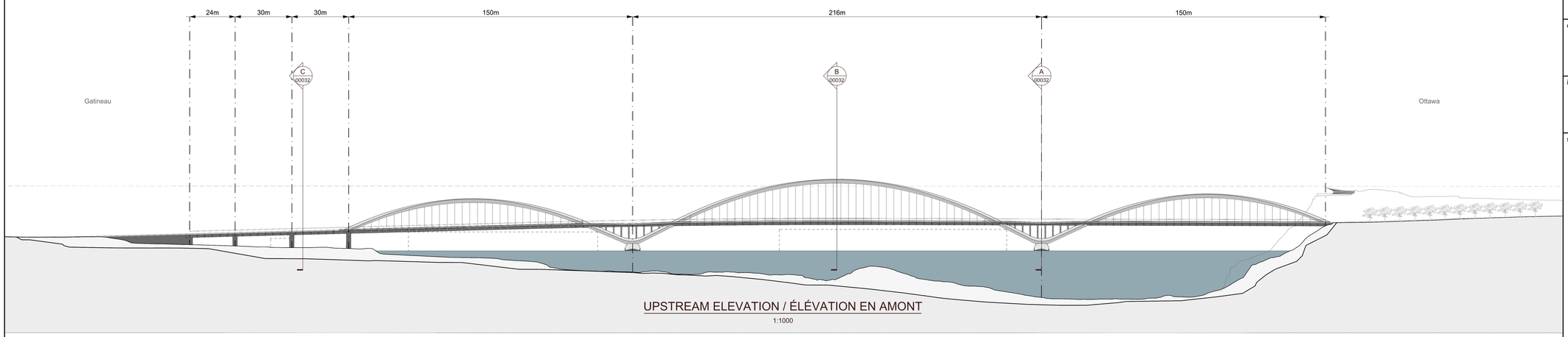
Subject - Objet	ALEXANDRA BRIDGE LAND OWNERSHIP / PROPRIÉTÉS FONCIÈRES PONT ALEXANDRA	
Submitted by - Soumis par A. MIGUELEZ, Vice-President / Vice-président	*Branch - Direction* CP/ AC	
Date 2024-01-19	*Scale - Échelle* 1:5,000	*Parcel - Parcelle*



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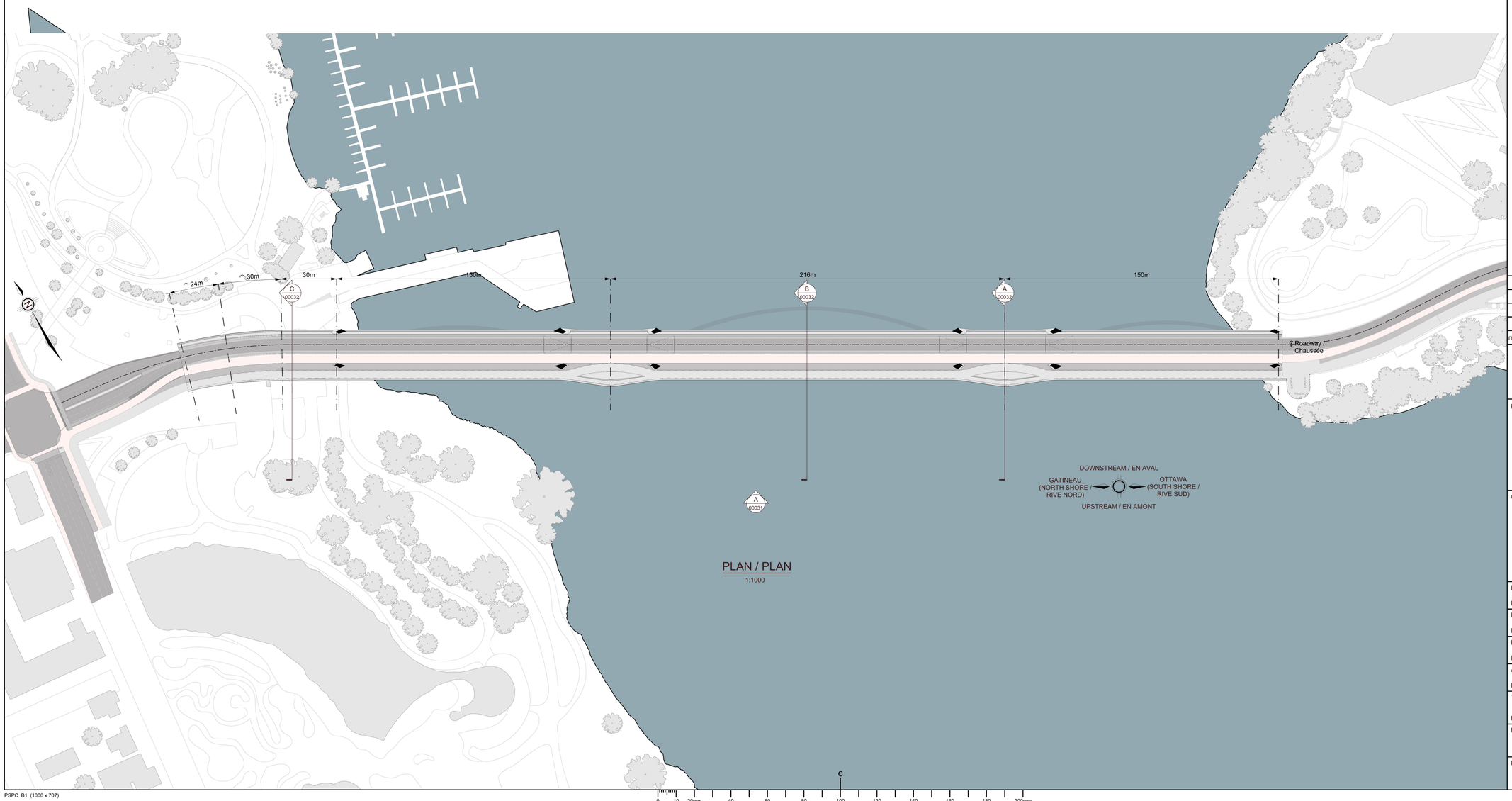

PLAN / PLAN

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revisions	description	date
P01	FOR IPT REVIEW	2024/08/23

A detail no. / no. du détail
B location drawing no. / sur dessin no.
C drawing no. / dessin no.

project / projet

ALEXANDRA BRIDGE REPLACEMENT PROJECT R. 103064

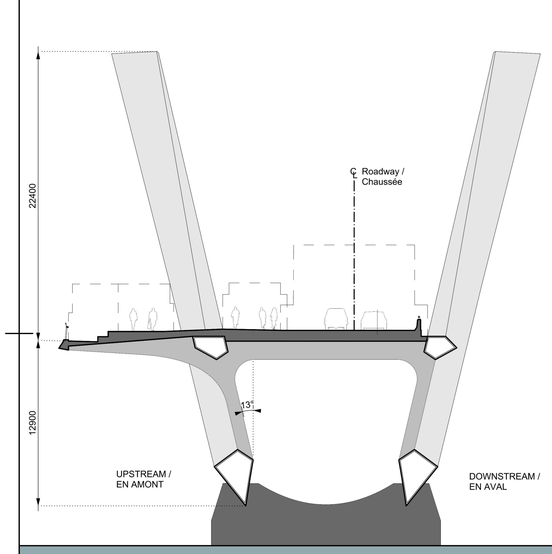
drawing / dessin

ARCHITECTURE
FLOW
GENERAL ARRANGEMENT
ARCHITECTURE
COULER
DISPOSITION GÉNÉRALE

Designed By / Conçu par	J.HEATON	
Date (yyyy/mm/dd)	2024/08/23	
Drawn By / Dessiné par	J.HEATON	
Date (yyyy/mm/dd)	2024/08/23	
Reviewed By / Examiné par	L.LANGRIDGE	
Date (yyyy/mm/dd)	2024/08/23	
Approved By / Approuvé par	M.KNIGHT	
Date (yyyy/mm/dd)	2024/08/23	
Tender / Soumission		
Project Manager / Administrateur de projets		

Project no. / No. du projet: 295265-00

Drawing no. / No. du dessin: ABRP-TA-CD-AB-DR-A-00031-BI



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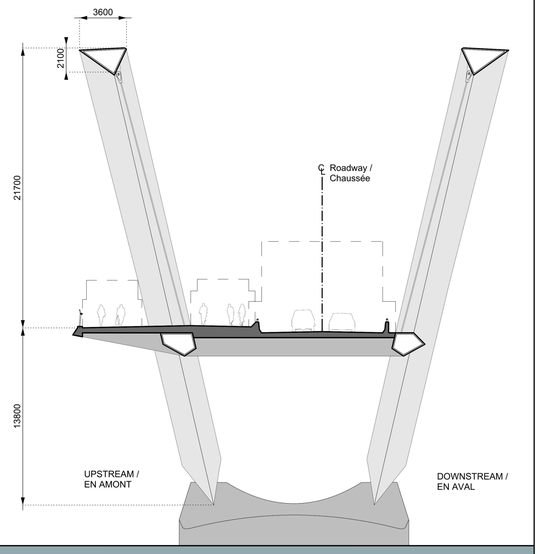

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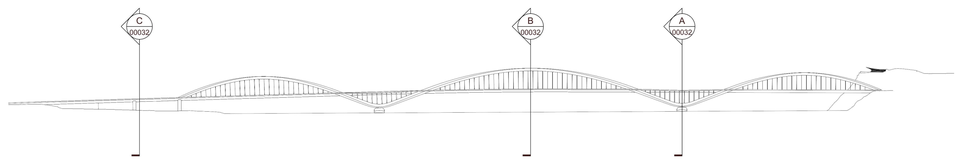

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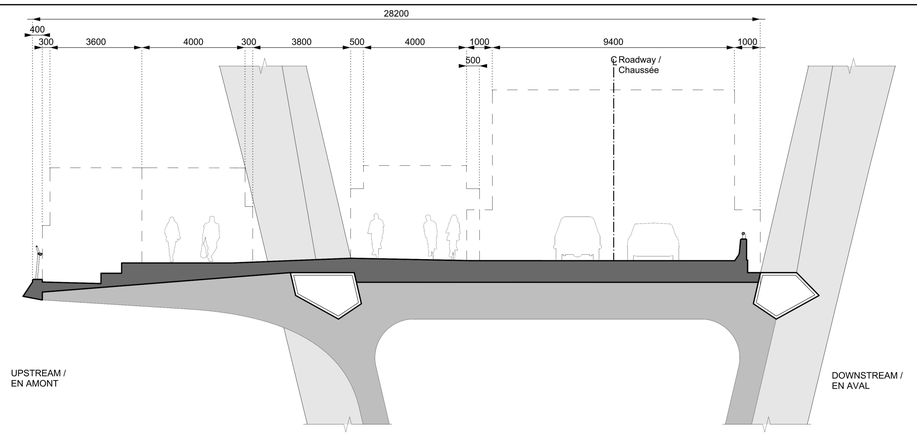

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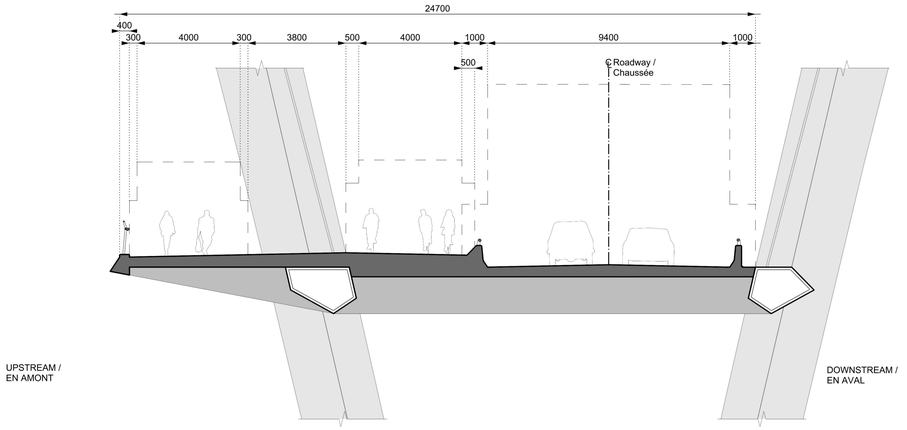

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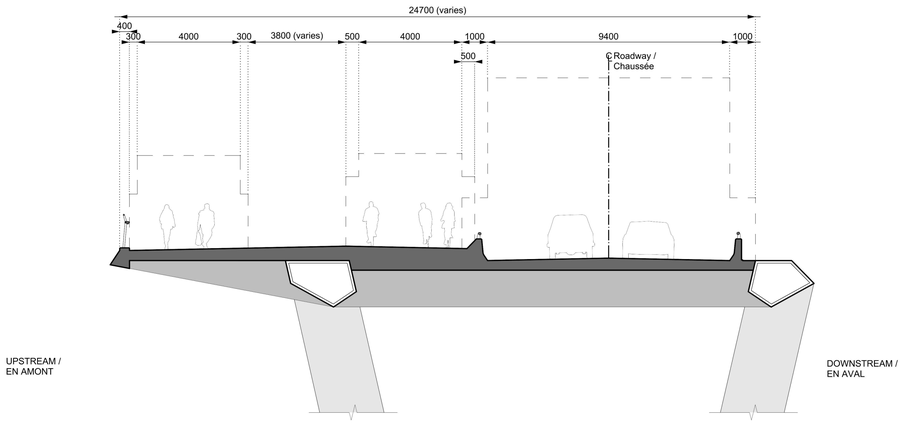

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R. 103064

drawing / dessin

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FLOW
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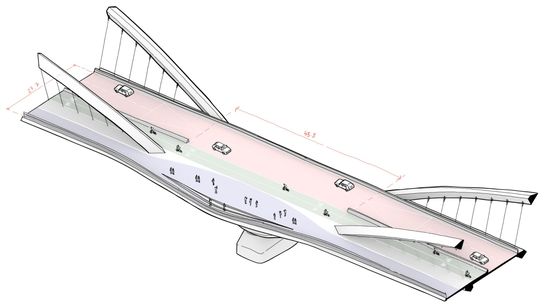
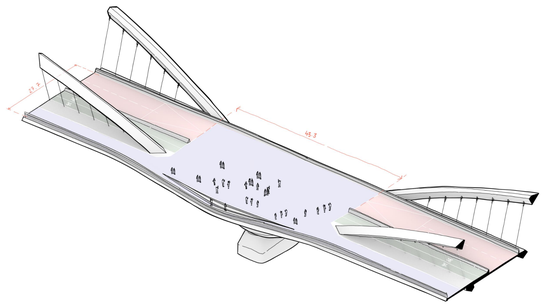


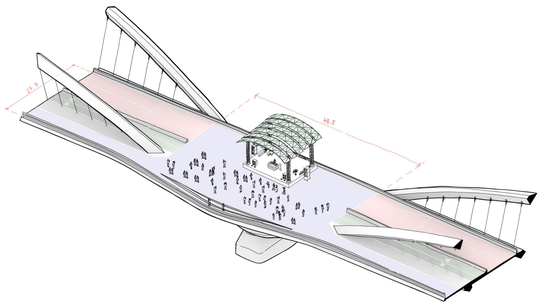
D - BRIDGE DECK USE 1 / D - UTILISATION DU TABLIER DE PONT 1

Place between the Arches
Place entre les Arches
General modal use arrangement
Dispositions générales d'utilisation modale



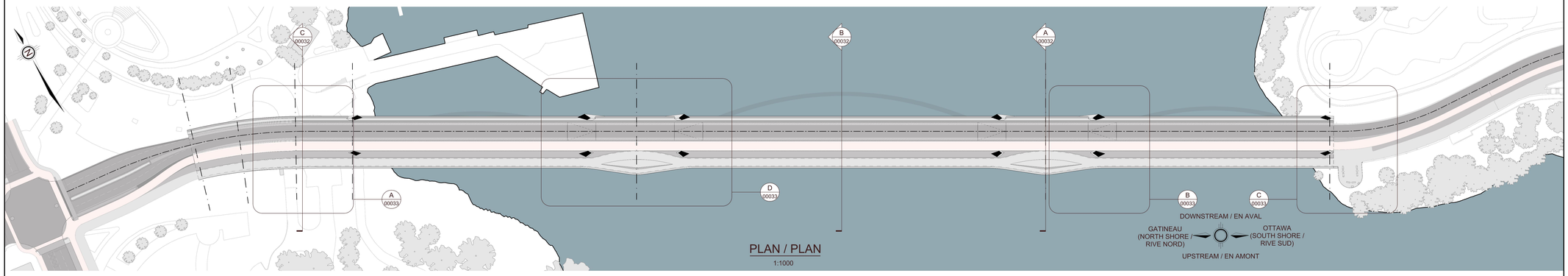
D - BRIDGE DECK USE 2 / D - UTILISATION DU TABLIER DE PONT 2

Place between the Arches
Place entre les Arches
Public space use arrangement
Aménagement de l'espace public



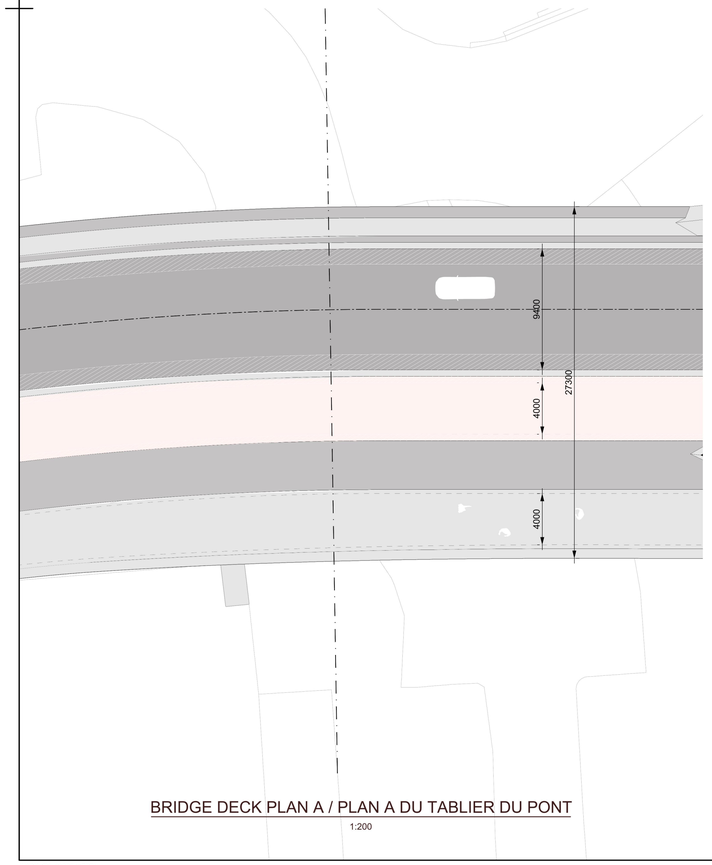
D - BRIDGE DECK USE 3 / D - UTILISATION DU TABLIER DE PONT 3

Place between the Arches
Place entre les Arches
Special event use arrangement
Disposition en cas d'activités événementielles



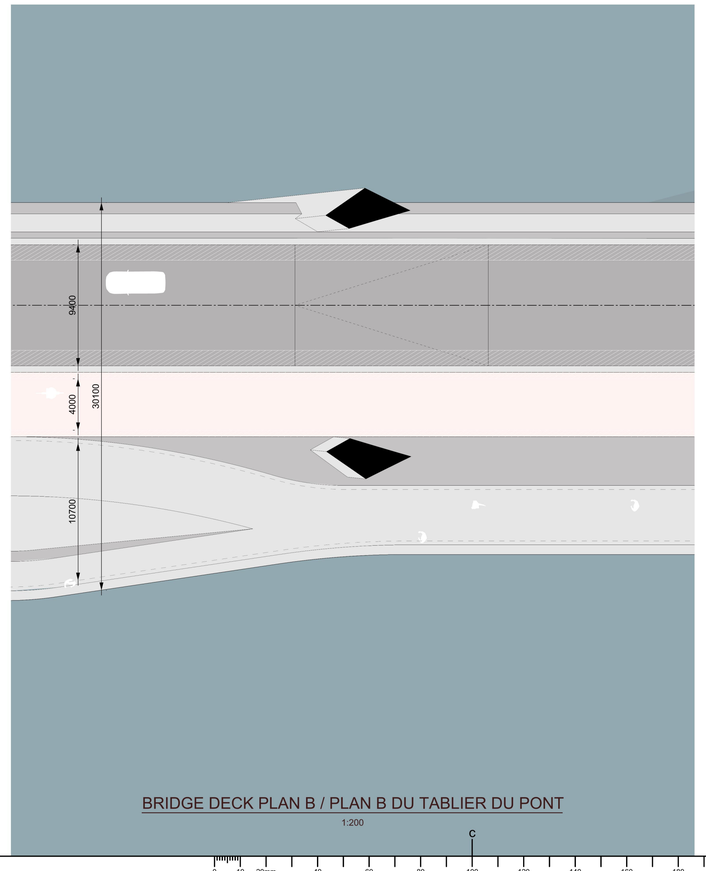
PLAN / PLAN

1:1000



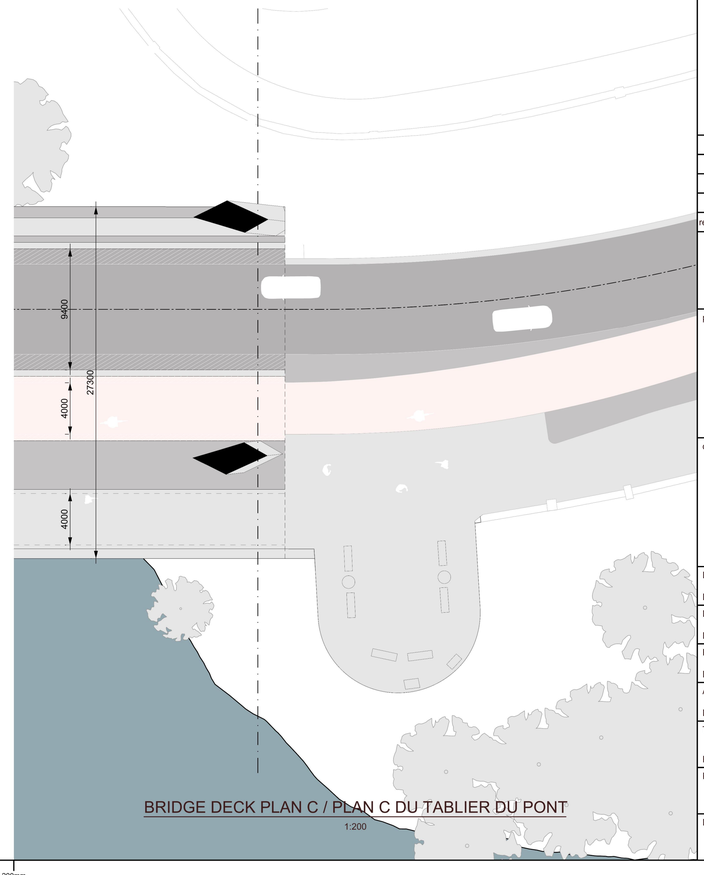
BRIDGE DECK PLAN A / PLAN A DU TABLIER DU PONT

1:200



BRIDGE DECK PLAN B / PLAN B DU TABLIER DU PONT

1:200



BRIDGE DECK PLAN C / PLAN C DU TABLIER DU PONT

1:200

C

0 10 20mm 40 60 80 100 120 140 160 180 200mm

PSPC B1 (1000 x 707)

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Public Services and Procurement Canada / Services publics et Approvisionnement Canada

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Verify all dimensions & conditions on site and immediately notify the departmental representative of all discrepancies.

Vérifier les dimensions et conditions sur le site et en aviser le représentant ministériel immédiatement de toute divergence.

revisions	description	date
P01	FOR IPT REVIEW	2024/08/23

A detail no. / no. du détail
B location drawing no. / sur dessin no.
C drawing no. / dessin no.

project / projet

ALEXANDRA BRIDGE
REPLACEMENT PROJECT
R. 103064

drawing / dessin

ARCHITECTURE
FLOW
BRIDGE DECK USE
ARCHITECTURE
COULER
UTILISATION DU TABLIER DU PONT

Designed By / Conçu par	J.HEATON	
Date	2024/08/23	(yyyy/mm/dd)
Drawn By / Dessiné par	J.HEATON	
Date	2024/08/23	(yyyy/mm/dd)
Reviewed By / Examiné par	L.LANGRIDGE	
Date	2024/08/23	(yyyy/mm/dd)
Approved By / Approuvé par	M.KNIGHT	
Date	2024/08/23	(yyyy/mm/dd)
Tender / Soumission		
Project Manager / Administrateur de projets		

Project no. / No. du projet

295265-00

Drawing no. / No. du dessin

ABRP-TA-CD-AB-DR-A-00033-BI

National Capital Commission
Commission de la capitale nationale

Alexandra Bridge Replacement Project

PUBLIC CONSULTATION ROUND 2 REPORT

OCTOBER 2024

Canada

Table of Contents

Executive summary

Key Findings

Echo

- Pays tribute to the existing bridge
- A good balance between heritage preservation and modernity
- Truss design impedes views and does not suit the area

Rendez vous

- Allows for open and unobstructed views
- Respondents appreciated the modern and minimalistic design
- Some feel the design is boring or unoriginal

Motion

- The unobstructed views were praised
- Fluid and dynamic concept with proportions that integrate well in the landscape
- The separation of cyclists, pedestrians and vehicles should be improved

5,188 surveys completed

350 participants in the open houses

1,900 comments on social media

Common themes across all designs

- Separate bridge users (Dedicated lanes for each type of use)
- Seating is necessary
- Proactive planning for mass transit (LRT, tram)
- Traffic management must be considered
- Connectivity in the area for active transportation must be improved
- The gathering space concept was well received by the public

Canadian Museum of History – October 2, 2024

Public consultation round 2

On October 1, three design concepts for the replacement of the Alexandra Bridge (Echo, Rendez vous and Motion) were presented during a public meeting of the NCC Board of Directors.

Through a comprehensive consultation process, the public was invited to provide their thoughts and comments regarding each design. Feedback from the public, Indigenous communities, Gender-based Analysis Plus (GBA+) meetings and other interested party meetings was shared through the evaluation process, which will include design elements that were recommended for the final concept.

Public consultation activities

From October 1 to October 24, the public was given the opportunity to provide feedback on the three design concepts through several methods, both in person and online.

The consultation was first promoted through the media as part of the update to the NCC Board of Directors meeting, resulting in good coverage of the three concepts on multiple platforms. The NCC website showcased each concept, and newsletters with updates were sent to the NCC's Public Engagement mailing list.

Moreover, project information panels were displayed at each end of the bridge. Advertising in local media and on social media also provided visibility on the consultation.

Comments were received through:

- An online survey.
- Post-it notes and conversations at two open house events.
- The comments section of the social media posts related to the consultation.

Various GBA+ focus groups, a Public Advisory Group meeting and individual stakeholder meetings were held.

Open house events

- **October 2**
  Canadian Museum of History – 153 participants
- **October 3**
  Rogers Centre – 196 participants

558 comments were left by the public.

Online survey

From **October 1 to October 24**

5,188 responses

Social media

- **Engagement:** The social media campaign received nearly 1,900 messages about the bridge, indicating a high level of public interest and engagement.
- **Reactions and likes:** There were 1,700 post reactions and likes on bridge-related content, reflecting positive public interaction and support.
- **Impressions:** The bridge content generated 300,000 impressions, demonstrating the extensive reach and visibility of the campaign across all platforms.

Eblast

The open rate for the Alexandra Bridge consultation eblast was 54%, which is notably higher than the public engagement benchmark of 51%. This elevated open rate indicates a robust interest in the consultation emails among recipients. The click-through rate (CTR) for the Alexandra Bridge consultation eblast was 18%, significantly surpassing the benchmark of 12%.

Public Advisory Group

The Public Advisory Group met in September 2024, to discuss the three design concepts. Nine members of the group provided feedback.

Rogers Centre - October 3rd 2024

Summary: Feedback from the public

The three concepts were well received in the survey and open house activities. Some members of the public indicated they believed there would be a clear favourite and were surprised to find that all three concepts would be viable options to replace the current bridge.

Feedback received from the public allowed us to identify common aspects that people appreciated or felt could be improved in all the three concepts:

Aesthetic appeal

Respondents emphasized the importance of the visual and aesthetic aspects of the bridge and the need to blend harmoniously with local architecture and the surrounding landscape.

Community connectivity

Respondents highlighted the importance of the bridge in enhancing community connectivity. They indicated the need to prioritize linking neighbourhoods and integrating with existing active transportation networks, which is essential for fostering connections and positively impacting the local economy.

Future-proofing

Respondents appreciated the consideration of future needs, such as the potential for rail integration and the inclusion of Indigenous art and cultural elements. They also supported the idea of designing the bridge to accommodate future population growth and transportation needs.

Commuting

- **Commuting efficiency:** Respondents appreciated the bridge's potential to facilitate smooth traffic flow by providing dedicated spaces for all commuters, including drivers, cyclists and pedestrians.
- **Separation of users:** The clear separation between pedestrian, cycling and vehicle lanes was a key priority for respondents on all three of the bridge design concepts. An emphasis was placed on having adequate protection between active transportation and vehicle lanes to enhance the safety and usability for all bridge users.
- **Accessibility:** Ensuring accessibility for all commuters, including those without cars, was emphasized.
- **Motorized vehicle access:** Opinions on car access were mixed. Some respondents emphasized the need for more vehicle lanes to address traffic, while others preferred prioritizing active transportation.
- **Public transit integration:** Efficient traffic flow and integration with public transportation are key concerns across all designs. A recurring theme was the preference for including public transit in place of the proposed motor vehicle lanes. Some respondents recommended including dedicated bus lanes, trams or light rail.

Recreation

- **Gathering spaces:** The concept of a gathering space was well received. Many respondents saw it as useful space for various recreational activities and events. A recurring suggestion was to ensure the inclusion of seating and shaded areas, as well as ensuring adequate spaces for larger events.
- **Amenities:** Adding amenities like benches and ensuring access to scenic views were suggested to make the bridge more pedestrian-friendly.

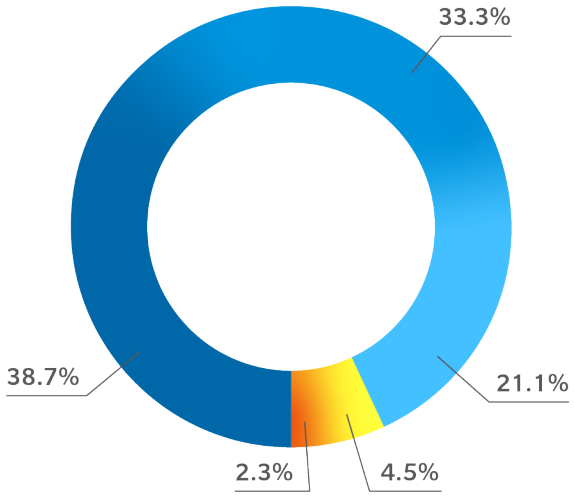
Colour and material choices

Several respondents emphasized the importance of colour, suggesting that the new bridge should match the existing stone colours of Parliament and the natural rock formations. Copper and steel were popular material choices, reflecting the historical and industrial heritage of the area. Some stated their preference for natural, locally sourced materials.

Feedback about the Echo concept

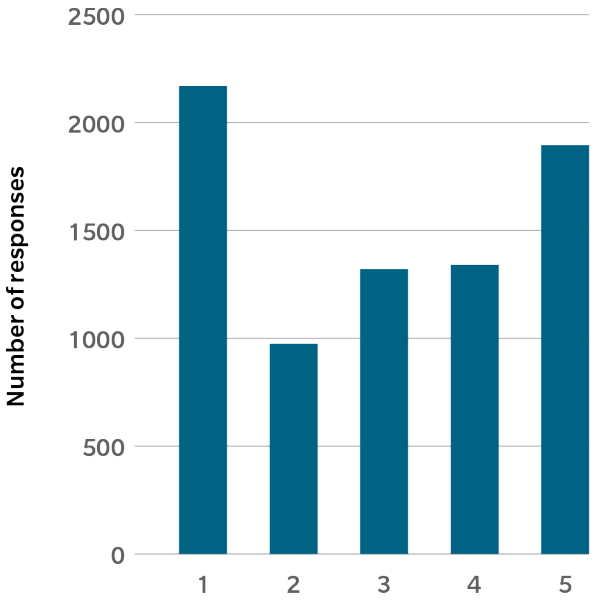
The Echo design concept received a largely positive response, with over 70% of participants rating it as "Excellent" or "Good."

How would you rate the Echo design concept?



Rating scale option	Number of responses
Excellent	1817
Good	1565
Average	992
Poor	212
Very Poor	107

Echo: Preferred design elements



	Design aspect/element of Echo Concept	Number of selections
1	A contemporary reinterpretation of the existing Alexandra Bridge	2169
2	A twin plane of steel truss structure	974
3	Distinctive V-piers support the bridge and mark the position of public space on the deck	1321
4	Timber bracing inspired by the structure of birch bark canoes	1340
5	A straight alignment providing a direct and efficient crossing	1895

The contemporary reinterpretation of the existing Alexandra Bridge was the most favoured element, selected by 59.29% of respondents. This suggests a strong desire to maintain historical continuity while modernizing the structure.

A straight alignment for efficient crossing was also highly valued, with 51.80% of respondents selecting this option. This highlights the importance of functionality and ease of use, particularly for daily commuters.

The timber bracing inspired by birch bark canoes and the distinctive V-piers were both selected by over one-third of respondents, indicating significant appreciation for these cultural and structural elements.

The twin plane of steel truss structure, while important for structural integrity, was the least favoured element, selected by 26.63% of respondents.

The following feedback is presented in alignment with the design principles used for the evaluation process:

Echo: Bridge expression

Balancing modernity and heritage:

The Echo design approach to balance modern engineering with a nod to the historical significance of the original bridge was appreciated by many respondents. However, some respondents felt the design could be more innovative and forward-looking. A few respondents recommended incorporating more modern elements, while still respecting the historical design.

Emotional attachment:

Many respondents appreciated that the Echo design recalls the profile of the current Alexandra Bridge, which holds emotional significance for them. This connection to the past was seen as a positive aspect.

Aesthetic appeal:

Many respondents appreciated the arches and curves of the Echo design, noting that they create a classic and timeless look. Many respondents mentioned that it feels different from many modern bridge designs, while still providing a reminder of the old design. Some respondents indicated they appreciated the truss structure compared to the cable design of the other concepts.

Bulkiness:

Some respondents found the structure too bulky and imposing, which could block views and detract from the overall aesthetic.

> ***"I find the smooth curved structure to be very visually appealing and unique. A design I don't remember seeing in another bridge. I think the symmetry of the two peaks is aesthetically pleasing."***

Echo: Capital realm integration

Unique and familiar:

The Echo design was considered the most unique while also being familiar. Respondents liked the thick support structures and the shade they provide.

Integration with surroundings:

Respondents liked how the Echo design complements the Museum of History and the surrounding geography. The design's reference to the Algonquin birchbark canoe was appreciated for its cultural significance and aesthetic appeal.

Echo: Public space and user experience

Active transportation safety:

Many respondents praised the use of the bridge's structure to create separation of lanes for pedestrians, cyclists and vehicles to enhance safety and usability. The central bike lane within the central support structure was frequently noted as a positive feature, providing a dedicated space for cyclists.

Dedicated spaces:

The design's dedicated spaces for pedestrians and cyclists were well received. There was also support for the potential integration of transit options.

> ***"Safer spaces for walking, cycling and driving."***

Small gathering spaces:

Some respondents felt that the gathering spaces are too small and obstructed by the structural supports, making them less inviting for public events. There were suggestions to enlarge the space and reduce the number of obstructive supports to make it more functional and inviting. Several respondents suggested integrating elements from the Motion design concept into the gathering spaces on Echo including the cantilevered gathering space and integrated seating.

Echo: Views and visual experience

Bulkiness:

Some found the structure too bulky and imposing, which could block views and detract from the overall aesthetic.

> ***"Overall structure, especially vertical beams, is too bold and heavy. It sets a visual barrier and misses an opportunity to promote visual permeability."***

> ***"As far as I'm concerned, the structure's too heavy. The vertical beams are too imposing and block the beautiful views."***

Echo: Sustainability and the environment

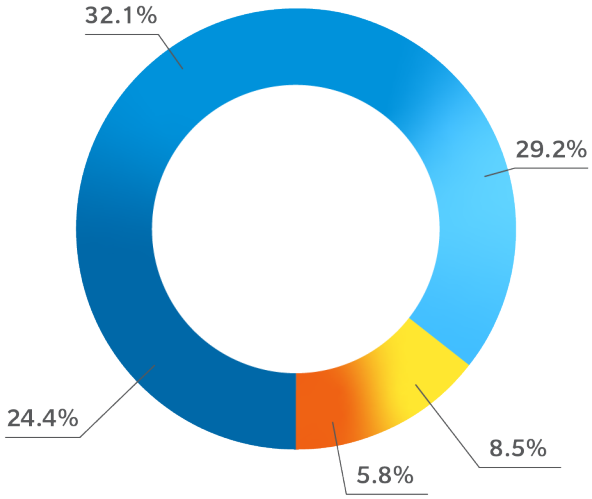
Incorporating elements from the current bridge:

Many attendees suggested incorporating elements from the current bridge into the new design, such as using parts of the current bridge for street furniture or decorative elements.

Feedback about the Rendez vous concept

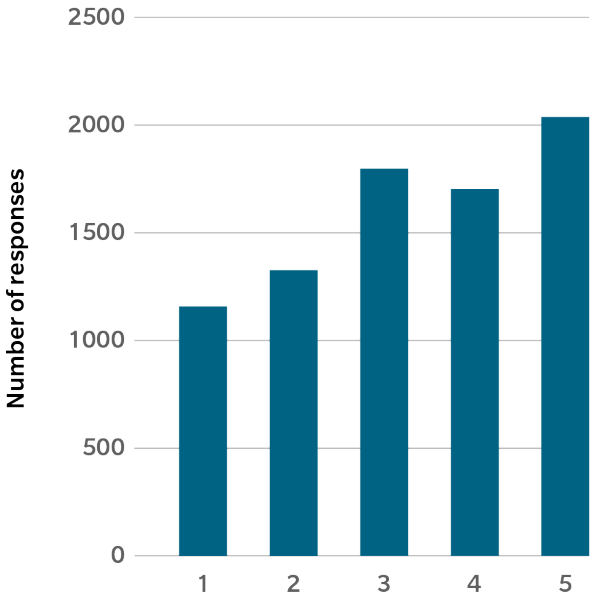
The Rendez vous design concept received positive reviews from survey respondents. The majority of respondents rated the design as either "Excellent" or "Good," with these two categories together accounting for 56.52% of the total responses.

How would you rate the Rendez Vous design concept?



Rating scale option	Number of responses
Excellent	796
Good	1041
Average	947
Poor	277
Very Poor	189

Rendez vous: Preferred design elements



	Design aspect/element of Rendez vous Concept	Number of selections
1	Two grand arches which appear to tread lightly in the river with a single support	1158
2	The meeting of the arches naturally forms a meeting space at deck level, inspired by the traditional function of the river as a gathering place	1326
3	Arches that naturally divide pedestrians, cyclists and vehicles	1797
4	Generous public space provided between the cycleway and pedestrian route, celebrating the bridge as a destination as well as a route	1702
5	A wide deck featuring openings to allow views and light down to the river and shoreline below	2036

The wide deck with openings for views and light to the river below was the most favoured element, chosen by 65.13% of respondents, indicating a preference for visual and aesthetic enhancements.

Arches dividing pedestrians, cyclists and vehicles were highly valued by 57.49% of respondents, highlighting the need for clear separation for safety and functionality.

Generous public space between the cycleway and pedestrian route, selected by 54.45% of respondents, shows appreciation for the bridge as both a crossing and recreational space.

The meeting of the arches forming a meeting space at deck level, chosen by 42.42% of respondents, reflects a desire to incorporate cultural and historical elements.

Two grand arches with a single support were the least favoured, selected by 37.04% of respondents, suggesting that other features are prioritized over structural design.

The following feedback is presented in alignment with the design principles used for the evaluation process:

Rendez vous: Bridge expression

Modern and sleek:

The modern, minimalist aesthetic of the bridge was appealing to many, with its clean lines and elegant curves.

> ***"Modern/contemporary look. The structure seems light, and opens onto panoramic views."***

Single pier design:

The use of a single pier in the river was noted for its minimal environmental impact and aesthetic appeal.

Generic appearance:

Many respondents felt that the design was too generic and lacked uniqueness and distinctiveness, comparing it to other modern bridges found in various cities around the world. This was a common concern, with some describing the design as boring or uninspiring, while it reminded others of the Vimy Memorial Bridge in Barrhaven.

Arch asymmetry:

Some respondents were not fond of the asymmetrical design of the arches, preferring a more balanced and symmetrical look. There were also comments about the proportions of the arches being too high or too imposing.

Rendez vous: Capital realm integration

Cultural significance:

The central gathering space was appreciated by some respondents, not only for its practical uses, but also for its cultural significance, particularly its connection to the area's Indigenous history as a meeting place.

Historical reference:

There were concerns that the design does not reflect the historical significance of the existing Alexandra Bridge, missing an opportunity to incorporate elements that honour its heritage.

> ***"Nothing resonates with me about this design. It could be anywhere – it seems bland and placeless to me, without any historic reference or iconic identity to this one-of-a-kind location."***

Visual impact:

The height and scale of the arches were seen as potentially overwhelming and out of place in the context of the surrounding historical buildings and landscape. Some respondents suggested that the height of the arches could be reduced to better integrate with the existing landscape.

Contextual fit:

A few respondents felt the design was "too modern" and did not fit well with the historic and cultural context of the area. While many appreciated the design, a frequently mentioned caveat was that the design might not be appropriate for the location.

Rendez vous: Public space and user experience

Central gathering space:

The concept of a central meeting place or gathering space was well received in general, emphasizing the bridge as a place for community and events. Respondents suggested including shading structures and seating to make the gathering space more comfortable and usable.

> ***"I really like the 'meeting place' concept. This feels quite unique."***

Concerns about safety:

There were concerns about the safety of the open flat space, with potential risks of cars sliding into bike and pedestrian areas.

Rendez vous: Views and visual experience

Openness:

Many appreciated the open design, which allows for better visibility and unobstructed views of the surrounding landscape, including the river and nearby landmarks.

Visual impact:

The height and scale of the arches were seen as potentially overwhelming. Some respondents felt that the design might block important views, such as those of Parliament Hill or from Kìwekì Point toward Gatineau. Some respondents suggested that the height of the arches could be reduced to better integrate with the existing landscape and minimize visual obstruction.

Rendez vous: Sustainability and the environment

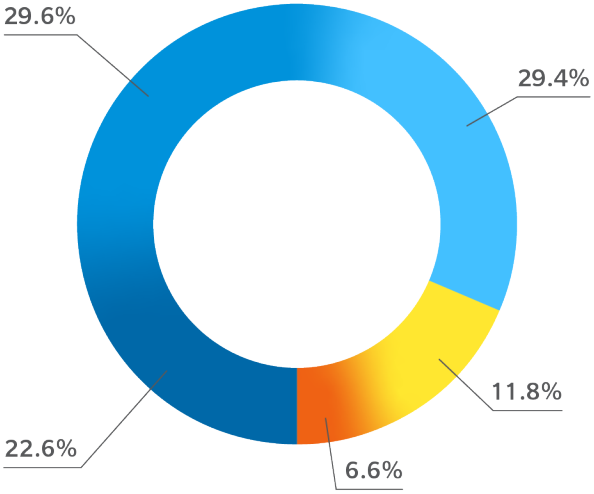
Single pier design:

The use of a single pier in the river was noted for its minimal environmental impact and aesthetic appeal.

Feedback about the Motion concept

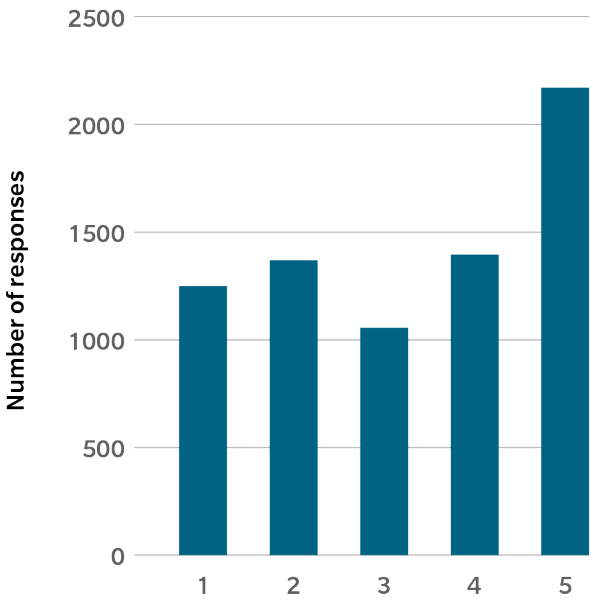
The Motion design concept received a positive reception from the survey respondents. The majority of survey participants rated the design as either "Excellent" or "Good," with these two categories together accounting for 52.20% of the total responses.

How would you rate the Motion design concept?



Rating scale option	Number of responses
Excellent	692
Good	908
Average	901
Poor	361
Very Poor	203

Motion: Preferred design elements



	Design aspect/element of Rendez vous Concept	Number of selections
1	A distinctive series of arches inspired by the fluid motion of the river and its precious native species, the eel, or pimisi	1249
2	The arches flow above and below the deck to naturally create two open public spaces at deck level	1369
3	Curved ribs inspired by a portaged canoe support the cantilevered viewing points	1056
4	The roadway passes between the lines of structure, with a segregated cycleway raised above the roadway level	1396
5	Seating is provided within the public spaces and along the arches, which naturally divide the pedestrian walkway and cycleway	2170

The inclusion of seating within the public spaces and along the arches was the most favoured element, selected by 71.64% of respondents. This indicates a strong preference for features that enhance comfort and usability. The roadway passing between the lines of structure, with a segregated cycleway raised above the roadway level, was also highly valued, with 46.09% of respondents selecting this option. This highlights the importance of safety and convenience for cyclists.

The arches that flow above and below the deck to create two open public spaces at deck level were selected by 45.20% of respondents, suggesting significant appreciation for these functional and aesthetic elements. The distinctive series of arches inspired by the fluid motion of the river and its native species, the eel, was favoured by 41.23% of respondents, while the curved ribs inspired by a portaged canoe, supporting the cantilevered viewing points, was selected by only 34.86% of respondents.

The following feedback is presented in alignment with the design principles used for the evaluation process:

Motion: Bridge expression

Modern and Unique Design:

Many respondents appreciated the modern and unique design elements of the Motion concept, finding it visually appealing and interesting. Descriptions such as "appealing," "beautiful" and "attractive" were commonly used.

> ***"This design is a knockout. It fits well in the environment: with the shapes of Douglas Cardinal's artwork (the museum), with the river, with the rolling Gatineau hills. It calls to the efforts of reconciliation with Indigenous groups in the region that have been there for centuries. It's modern and simple. Beautiful."***

Fluid and dynamic shape:

Many respondents appreciated the fluidity and dynamic nature of the design, which resembles the motion of an eel or waves, creating a sense of movement and harmony with the river.

Aesthetic appeal:

The design's curvaceousness and the arches dropping and rising below the road were seen as adding the design's aesthetic appeal.

Symmetry and balance:

Some felt the design could be more symmetrical and balanced, with suggestions to make the arches more uniform in size and shape.

Arches and supports:

The outward-leaning arches were seen as potentially unstable or visually unappealing by some respondents. Suggestions included making the arches higher, thinner or more integrated with the bridge deck.

Generic appearance:

A few respondents felt that the design was too generic and lacked distinctiveness. They suggested that more unique elements could be incorporated to make the bridge stand out.

Motion: Capital realm integration

Aesthetic appeal:

The design's curvaceousness and the way it complements the surrounding landscape, particularly the Museum of History, were highly appreciated.

> ***"Well, I can see myself walking on this bridge. It blends in well with the museum and Kìwekì."***

Better integrated lower profile:

The lower height of the arches compared to other designs was seen as less obtrusive, preserving important sightlines and blending better with the surrounding environment.

Indigenous inspiration:

The reference to the eel and the connection to Indigenous culture resonated with many respondents, adding a meaningful and symbolic layer to the design. Some respondents suggested a preference for incorporating more visible or meaningful Indigenous elements into the design.

Visual impact:

Some respondents felt the design was too modern and did not align well with the historical context of the area, preferring a design that reflects the heritage of the surroundings.

Motion: Public space and user experience

Inviting lookout areas:

The inclusion of lookout areas was a significant positive aspect. These areas were seen as unique tourist attractions that would enhance user experience.

Concerns with bike lane safety:

Many respondents raised concerns about the proximity of pedestrian and particularly bike lanes to vehicular traffic lanes in this design. Many respondents worried about the lack of separation of transportation modes in this design. Respondents expressed concerns about safety, comfort and noise pollution. Many suggested physical barriers between lanes as a possible solution to prevent accidents and improve overall user experience.

> ***"Cycle track and road lanes need more separation; current design could be unpleasant to cycle during poor weather conditions due to road spray, and in regular conditions due to noise and proximity."***

Seating and shading:

Including more seating and shading structures was a common suggestion to make the bridge more user-friendly and comfortable.

Motion: Views and visual experience

Open and airy:

The open and airy structure of the Motion design was another appealing feature for those who appreciated the design concept. Respondents valued the unobstructed views and sense of spaciousness provided by the outward angle of the arches, with several mentioning the absence of large support structures that could obstruct views.

Less obtrusive lower profile:

The lower height of the arches compared to other designs was seen as less obtrusive by those who appreciated the design, preserving important sightlines and blending better with the surrounding environment.

Motion: Sustainability and the environment

No substantial comments were received regarding sustainability for the Motion concept.

Feedback on the gathering spaces

Survey participants were asked to consider the use of proposed gathering spaces for each of the design concepts and provide their creative ideas for everyday use, smaller-scale events and larger-scale programming. The analysis of the survey responses revealed that common themes emerged across all proposed design concepts.

Ideas for everyday use

Seating and relaxation:

Respondents consistently suggested adding benches, shaded areas and comfortable spots for people to rest and enjoy the views.

Vendors and food carts:

There was a strong preference for allowing food and drink vendors, such as ice cream carts, coffee stands and pop-up cafes, to enhance the everyday experience.

Public art and installations:

Incorporating public art, historical information plaques and interactive installations was a popular idea to make the space more engaging and educational.

Fitness and recreation:

Ideas included hosting free fitness classes and yoga sessions and providing spaces for runners and cyclists to take breaks.

Ideas for smaller-scale events

Markets and fairs:

Hosting weekend markets, night markets and seasonal fairs featuring local vendors, artisans and food stalls was a common suggestion.

Performances and buskers:

Allowing buskers, musicians and street performers to entertain visitors and create a lively atmosphere was suggested.

Workshops and classes:

Organizing small workshops, art classes and open mic nights to engage the community was suggested.

Ideas for larger-scale events:

Concerts and festivals:

Using the space for concerts, music festivals and cultural celebrations, especially during events like Canada Day, was suggested.

Fireworks and light shows:

The space could serve as a prime viewing spot for fireworks displays and light shows, offering spectacular views.

Sporting events:

Hosting marathons, cycling races and other sporting events that use the space as a key part of the route was suggested.

Other ideas for the gathering spaces

Ensuring the bridge is well lit and secure was a key concern, with respondents emphasizing the importance of proper lighting, security measures and regular maintenance.

Another significant theme was the need for shade and weather protection to make the space comfortable year-round. Ideas included adding canopies and umbrellas, as well as protection from rain and wind.

Additionally, incorporating green spaces and environmental features, such as gardens and landscaped areas, was suggested to enhance the bridge's appeal and make it more pleasant and environmentally friendly.

Respondents also highlighted the need for inclusive design features to ensure the bridge is accessible to all, including people with disabilities, ensuring that everyone can enjoy the bridge and its amenities.

Ideas on how the bridge can reflect historical significance

Survey participants were asked how the future bridge could commemorate the current bridge and if they had any stories to share about the bridge. The analysis of the survey responses identified common elements that could be considered in the preferred concept.

Colour and material choices:

Several respondents emphasized the importance of colour, suggesting that the new bridge should match the existing stone colours of Parliament and the natural rock formations. Copper and steel were popular material choices, reflecting the historical and industrial heritage of the area.

Reuse of materials:

Many ideas focused on reusing materials from the current bridge. This includes incorporating current bridge metal into the new structure, creating public art or seating from the iron structure, and using the current bridge elements in a commemorative display.

Historical plaques and interpretation:

There were numerous suggestions for installing plaques and interpretation signs that detail the history of the Alexandra Bridge, its construction and its significance. This could include a timeline of the bridge's history, photos and stories about its role in connecting Ottawa and Gatineau.

Indigenous connections:

Reflecting the Indigenous heritage of the area was a recurring theme. Ideas included incorporating Indigenous art and symbols into the bridge design, using motifs that reflect the cultural significance of the river, and ensuring that the bridge honours the land's original inhabitants and their traditional territory.

Design elements:

Some respondents suggested that the new bridge should echo the design of the current bridge, with modern interpretations of its truss structure. Others proposed more decorative and detailed designs to add charm and character.

Overall thoughts

- All three concepts were appreciated, with respondents feeling they each had aesthetic appeal and integrated the landscape in their own way.
- The use of the bridge's design to separate each type of user was highlighted as a strong point, particularly for the Echo and Rendez vous concepts.
- Most respondents appreciated the gathering spaces and had many ideas on how to use and furnish them.
- Many felt the design should reflect the history and place, and the current bridge could be honoured by reusing its materials and through historical plaques and interpretation.

Next steps

The comments and suggestions received from the public were summarized and shared as part of the evaluation process to guide the analysis of each design concept, along with the feedback received from Indigenous communities, members of the NCC's Advisory Committee on Planning, Design and Realty and Advisory Committee on Universal Accessibility and members of the Independent Review Panel.

The evaluation process will identify a preferred design concept that will be submitted to the NCC's Board of Directors for approval in the spring of 2025.

Furthermore, the Integrated Project Team (IPT) will be refining the preferred design concept using the feedback and suggestions received from the public as well as those from the other groups mentioned above.

The next round of public consultation on the bridge's reference design is scheduled for 2025–2026.

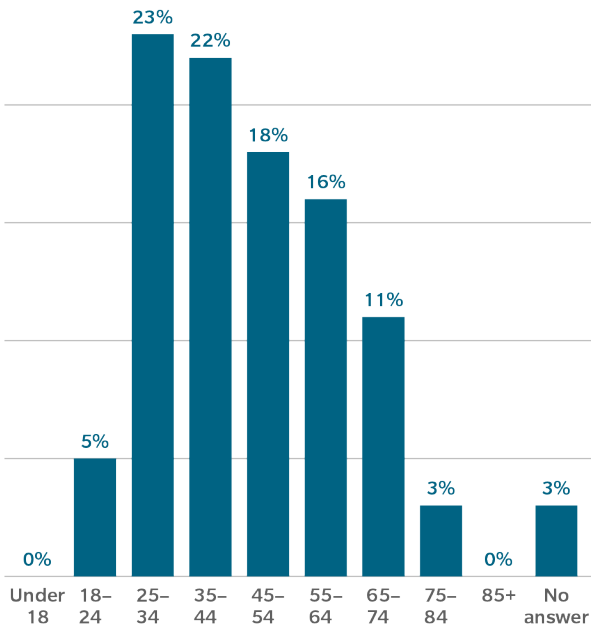
Demographics

Demographic information for survey respondents was gathered through the survey:

Age

Over 50% of respondents were under 44 years of age, indicating significant interest from these groups.

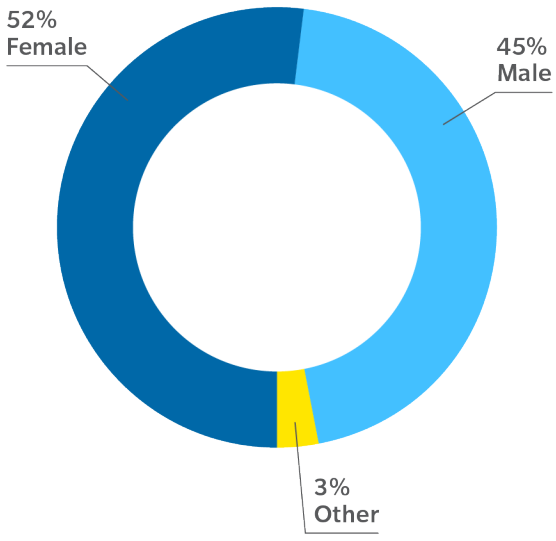
Age of respondents



Gender

Gender distribution is presented below.

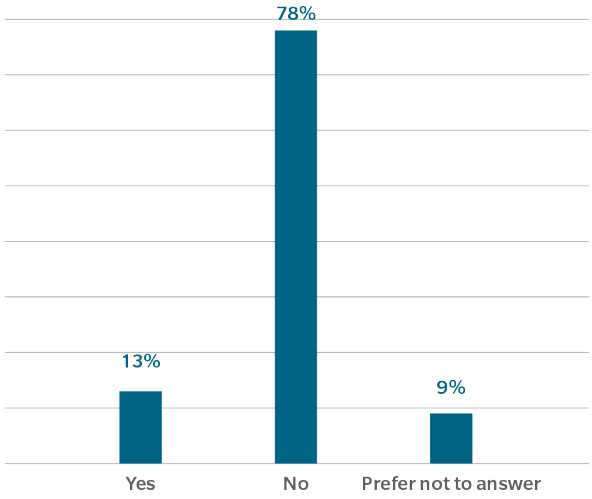
Gender of respondents



Identified as a visible minority

A higher percentage of people identified as a visible minority in the survey than the average for the National Capital Region.

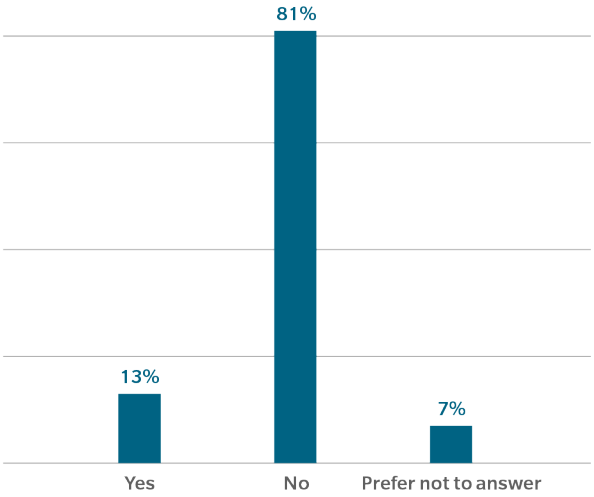
Respondents who identified as a visible minority



Identified as having a disability

Although 13% of respondents identified as having a disability, this is lower than the 27% of the population in Canada that identifies as having at least one disability.

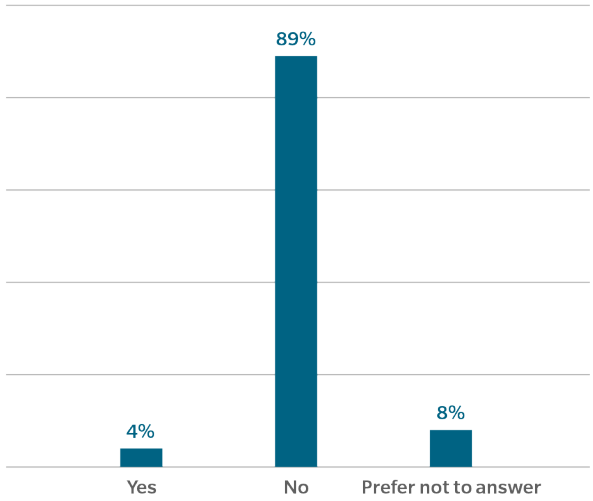
Respondents who identified as having a disability



Identified as Indigenous

The percentage of respondents who identified as Indigenous is twice as high as the estimated Indigenous population in the National Capital Region.

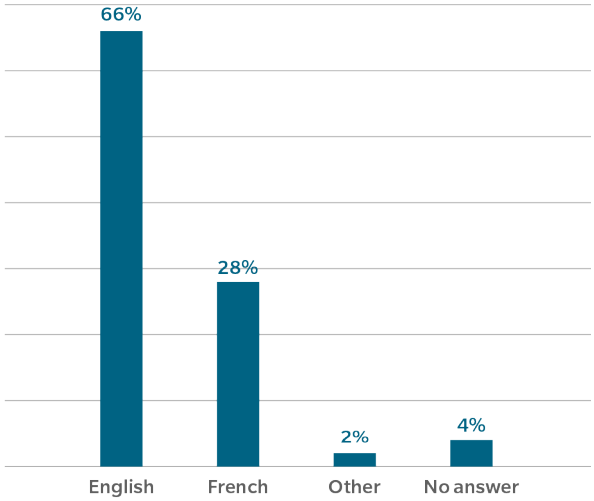
Respondents who identified as Indigenous



Language

The proportion of respondents that identified their first official language spoken is representative of the statistics for the National Capital Region.

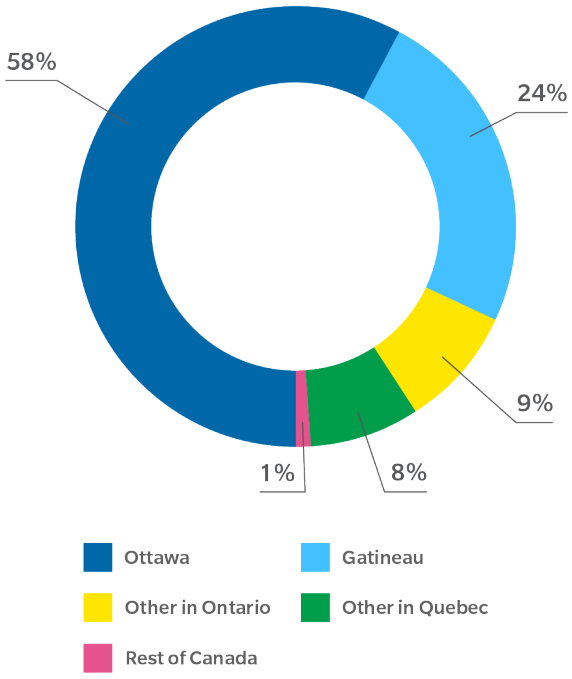
First official language of respondents



Origin

The origin of people that responded indicates good representation from outside the National Capital Region in Ontario and Quebec that responded to the survey. The proportion between Ottawa and Gatineau is in line with each city's population.

Respondents' place of origin



National Capital Commission
Commission de la capitale nationale

NATIONAL CAPITAL COMMISSION
COMMISSION DE LA CAPITALE NATIONALE

Advisory Committee on Planning, Design and Realty

Thursday, October 24, 2024

IN CAMERA MEETING
40 Elgin Street, Ottawa, Room 324

MINUTES

The committee has approved these minutes on December 12, 2024.

Comité consultatif de l'urbanisme, du design et de l'immobilier

Le jeudi 24 octobre 2024

SÉANCE À HUIS CLOS
40, rue Elgin, Ottawa, pièce 324

PROCÈS-VERBAL

Le comité a approuvé ce procès-verbal le 12 décembre 2024.

PSPC / NCC – Alexandra Bridge Replacement Project 9

Refinement of Design Options

Concept improvement

- The 3 proposed plans are sophisticated and meet objectives at different levels, such as active mobility, sustainability, visual signature.
- Include Jacques Cartier Park in the plan's design, drawing inspiration from Washington DC's 11th Street Bridge over the Anacostia River, and the park that is integrated into it.
- Encourage reflection on the use of the bridge by pedestrians during different seasons :
  - To better define the impact of meteorological elements such as wind, sun, precipitation and snow on the use of public space.
  - The winter pedestrian experience should not focus exclusively on snow shovelling. As Ottawa is known for its

SPAC / CCN - Projet de remplacement du pont Alexandra

Affinement des options de conception

Amélioration du concept

- Les 3 plans proposés sont sophistiqués et répondent aux objectifs à différents niveaux, tels que la mobilité active, la durabilité, la signature visuelle.
- Inclure le parc Jacques Cartier dans la conception du plan en s'inspirant du pont de la 11ème rue de Washington DC qui traverse la rivière Anacostia ainsi que le parc qui y est intégré.
- Encourager une réflexion au sujet de l'utilisation du pont par les piétons durant les différentes saisons :
  - Mieux expliquer l'impact des éléments météorologiques tel le vent, le soleil, les précipitations et la neige lors de l'occupation de l'espace public,
  - L'expérience du piéton en hiver ne doit pas se focaliser exclusivement sur le déneigement. Ottawa étant connu

Canada

severe winters, the bridge must take this season into consideration and fulfill its mission as a public gathering place at all times.

- Allow for a clearer distinction between pedestrian, cycling and vehicular spaces.

- The Motion option :
  - Indigenous inspiration at each and every level of design, as opposed to forced application.
- The Echo option :
  - Provide open space to encompass pedestrians within the Echo option.

National Identity

- Given the importance of respecting Indigenous culture, it is essential to include this perspective in the design of the bridge.

Connectivity and Accessibility

- Improve the connectivity between the bridge and landing areas on both sides of the shoreline.
- Conduct a prior universal accessibility assessment.
- Reflect beforehand on universal accessibility in all its aspects, and include the perspective from the outset of the bridge's design once the option has been chosen, including notably:
  - useful measures to ensure that people with reduced mobility not only have sufficient space to circulate in areas dedicated to gatherings;
  - but also, an unobstructed view of the river, avoiding the use of standardized railings;
  - Adopt clear demarcations between the different lanes (pedestrian, cycle and road)

pour la rudesse de son hiver, le pont doit prendre en considération cette saison et accomplir sa mission de lieu de rassemblement public en tout temps.

- Permettre une distinction plus claire entre les espaces piétons, les espaces cyclables et les espaces pour véhicules.
- L'option Motion :
  - L'inspiration autochtone se manifeste à tous les niveaux de la conception, contrairement à l'application forcée.
- L'option Echo :
  - Prévoir un espace ouvert permettant d'englober les piétons au sein de l'option Écho.

Identité nationale :

- Le respect de la culture autochtone étant un aspect important, il est nécessaire d'inclure cette perspective lors de la réalisation du pont.

Connectivité et accessibilité

- Améliorer la connexion entre le pont et les débarcadères dans les espaces des deux côtés de la rive.
- Procéder à une évaluation sur l'accessibilité universelle préalable.
- Réfléchir en amont sur l'accessibilité universelle dans tous ses aspects et en inclure la perspective dès les prémices de la conception du pont une fois l'option choisie, dont notamment :
  - des moyens utiles permettant aux personnes à mobilité réduite d'avoir outre un espace suffisant pour circuler dans les lieux dédiés aux rassemblements;
  - mais aussi une vue dégagée sur la rivière et ce, en évitant l'utilisation des garde-corps standardisés;
  - Adopter des démarcations claires entre les différentes voies (piétonnes, cyclables et routière)

- Ensure that the lanes are adaptable and flexible enough to accommodate rail-based public transportation, including the design of a tramway or other light rail system linking the two sides of the river, which could be envisioned in the future.

- S’assurer que les voies permettent l’adaptabilité et la flexibilité à l’inclusion d’un moyen de transport collectif à rail dont notamment la conception d’un tramway ou autre train léger reliant les deux rives et qui pourrait être envisagé à l’avenir.

Structure and Design

- Consider effective approaches to ensuring the safety of different types of users, in particular:
  - Pedestrians: materials and railings featuring a design compatible with the bridge's structure, guaranteeing optimal suicide prevention.
  - Motorists: cutting-edge technology for automatic speed reduction.

- Encourage reflection on the reuse of parts of the existing bridge as works of art, for example, enabling their implementation as urban furniture.

- Pay particular attention to the details that make this bridge a symbol of the National Capital Region, in enabling the structure to reflect the high quality of its design, including the materials and colors that will be chosen to avoid standardization and uniformity.

- Include in the initial consideration of the bridge's design the selection and fine-tuning of the details necessary for the success of the project as a whole.

Structure et conception

- Réfléchir à des moyens efficaces afin d’assurer la sécurité des différents types d’usagers notamment :
  - Les piétons : des matériaux et garde-corps au design compatible avec la structure du pont, garantissant une prévention optimale contre le suicide.
  - Les automobilistes : des technologies de pointe permettant la réduction automatique de la vitesse.
- Encourager la réflexion au sujet de la réutilisation de parcelles du pont actuel comme des œuvres d’arts par exemple permettant leurs implémentations en tant que mobilier urbain.
- Porter une attention particulière aux détails faisant de ce pont un symbole de la Région de la capitale nationale en ce sens que l’ouvrage puisse refléter la haute qualité de sa conception y compris les matériaux et les couleurs qui seront choisis afin d’éviter sa standardisation et son uniformité.
- Inclure dans la réflexion initiale de la conception du pont celle relative au choix et à la finesse des détails éléments nécessaires à la réussite du projet dans son ensemble.

Subject	Evaluation and Identification of Preferred Concept
PSPC Project number/File reference	R.103064 / 295265
Date	December 9, 2024

1. Introduction

This white paper presents the results of the evaluation process that led to the identification of the preferred concept for the Alexandra Bridge Replacement Project, along with supporting rationale. This preferred concept will inform the preparation of FLUDTA documentation for submission to the NCC Board of Directors for approval.

The Integrated Project Team (IPT) Committee, which was tasked with identifying a preferred concept to bring forward, is satisfied that the evaluation of the three concepts was conducted in accordance with the intended process and that the working groups appropriately discussed and identified significant strengths, strengths and weaknesses associated with each of the three concepts.

2. Overview of Evaluation Process

The evaluation process uses a refined Multi-Criteria Assessment (MCA) approach, based on the *Performance Criteria for Bridge Design*, developed with input on the values identified through Public consultation 1A and 1B, and initially applied in January 2024 to shortlist the three concepts. Designated evaluators, supported by working groups, assessed seven key objectives.

The first five (5) objectives align with the *Performance Criteria for Bridge Design*, approved by the NCC Board of Directors. Objectives 1 and 2, which address Bridge Expression and Capital Realm Integration, focus on creating a bridge that responds to and enhances its heritage and environmental context while representing the cultural identity of the site and building upon the legacy of the existing bridge, providing a meaningful legacy to future generations.

Objectives 3 and 4, which address Public Space and User Experience as well as Views and Visual Experience, focus on creating a dynamic public space that accommodates diverse users while enhancing views and providing a cohesive spatial experience for bridge users.

Objective 5, focused on Sustainability and the Environment, emphasizes designing the bridge to support sustainable development, mitigate impacts, enhance resilience, and align with Indigenous principles of environmental stewardship.

Objectives 6 and 7 focus on technical considerations related to Construction cost, Schedule, Operation and Maintenance.

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The evaluation considered three (3) bridge concepts, assessing their significant strengths, strengths, and weaknesses against each objective which were given an adjectival rating and then translated into numeric scores.

The working groups, evaluators, and the IPT Committee leveraged insights from the following sources as they applied the MCA to the shortlisted concepts:

- Public consultations
- Indigenous engagement
- Heritage Impact Assessment (HIA) and heritage conservation approach
- Report/memos from the Independent Review Panel (IRP)
- Feedback from the Advisory Committee on Planning, Design, and Realty (ACPDR)
- Feedback from the Advisory Committee on Universal Accessibility (ACUA)
- Feedback from GBA+ focus groups

These insights are integrated into the identification of the significant strengths, strengths and weaknesses at the working group level before the concepts are evaluated, with each evaluator providing an independent rating. This method offers evaluators greater flexibility and allows for a wider range of conclusions. The ratings are subsequently used to calculate an average rating for each concept, along with a range provided by the lowest and highest ratings.

A sensitivity analysis evaluated the robustness of the evaluation results under various scenarios. In each scenario, the weight of a single objective is increased, with the weights of other objectives correspondingly decreased. This enabled the IPT Committee to confirm that the evaluation outcome is resilient despite changes in the relative weighting of each objective.

Upon the identification of a preferred concept, the previously gathered insights will contribute to its further development.

3. Common Elements of Bridge Concepts

As per the design process, all three concepts achieve several baseline objectives. These include:

- Meeting the *Performance Criteria* identified by NCC and being acceptable for approval by the NCC Board
- Being informed by the Heritage Impact Analysis (HIA) and heritage conservation approach
- Meeting the established budget envelop and being constructible within schedule

Subject	Evaluation and Identification of Preferred Concept
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The concepts also meet the commitments in the Detailed Project Description and necessary standards for permitting, approvals, and legislative compliance, including environmental compliance.

4. Overview of Concept Evaluations

The MCA determined that all concepts are similar with regards to embodied carbon, cost, schedule and long-term maintenance. All concepts are similar with regards to Objectives 6 (Construction Costs and Schedule) and 7 (Operations and Maintenance). The subsequent subsections outline the performance of the three concepts relative to the remaining objectives.

4.1 Echo

This concept is a reinterpretation of the existing bridge, which builds a sense of place by evoking the memory of the past structure. It has a strong presence and effectively defines the downstream limit of the river basin at the heart of the central capital landscape, screening views of vehicles from upstream viewpoints. Nevertheless, the design's opacity and unevenness across the span introduces complexities with regards to the user experience and views.

This concept scored well in Objectives 1 (Bridge Expression) and 2 (Capital Realm Integration). However, at least one other concept scored higher in Objectives 3 (Public Space and User Experience) and 4 (Views and Visual Experience).

4.2 Rendez vous

This arches of this concept require a single in-water support which, in general, is expected to make environmental impacts easier to contain and mitigate. This concept is however assessed as ubiquitous and lacking relationship to its surroundings. The arches also tower above adjacent landmarks and interfere with the skyline.

Due to the presence of a single pier, this concept scored well in Objective 5 (Sustainability and the Environment). Nevertheless, at least one other concept scored higher in Objectives 1 through 4 (Bridge Expression, Capital Realm Integration, Public Space and User Experience and Views and Visual Experience).

4.3 Motion

This concept complements the surrounding sites and natural landscape. The structure achieves a balance between transparency and mass, framing national symbols while also providing an engaging sequence of views both upstream and downstream. The accessible viewing platforms establish a strong visual connection between the bridge and the river. Additionally, the concept has the flattest gradients, supporting universal accessibility.

The concept requires two piers, introducing impacts on wildlife habitat and challenges to navigation associated with the proximity to the wharf on the Gatineau shore. These impacts should be mitigated through further refinements.

This concept scored well in Objectives 1 through 4 (Bridge Expression, Capital Realm Integration, Public Space and User Experience and Views and Visual Experience). However, a least one other concept scored higher on Objective 5 (Sustainability and the Environment).

5. Outcome of Evaluation Process

As outlined in Section 3, all concepts meet the *Performance Criteria for Bridge Design*, established budget, and construction schedule. They also adhere to the environmental criteria and standards defined in the DPD. Furthermore, all concepts were informed by the HIA, and the MCA determined that they are comparable in terms of embodied carbon, cost, schedule, and long-term maintenance.

The MCA does however identify distinctions in the first five (5) objectives outlined in Section 2. Following a thorough review of the three concepts, the IPT Committee identified **Motion** as the preferred concept. This outcome is based on the concept achieving the highest score in the MCA, by a significant margin, and this performance is consistent across all sensitivity tests scenarios. These results are illustrated in Figures 1 and 2.

Subject	Evaluation and Identification of Preferred Concept
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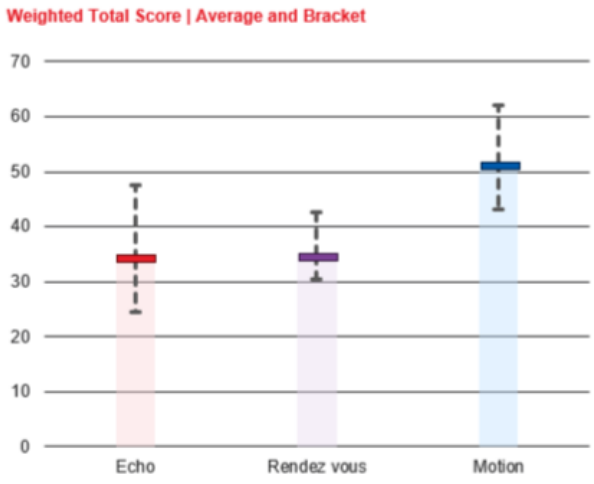

#	Description	Weighting	Score
1.0	Bridge Expression	12.5%	/12.5
2.0	Capital Realm Integration	12.5%	/12.5
3.0	Public Space & User Experience	17.5%	/17.5
4.0	Views & Visual Experience	15.0%	/15
5.0	Sustainability and the Environment	20.0%	/20
6.0	Construction Cost and Schedule	10.0%	/10
7.0	Operation and Maintenance	12.5%	/12.5

Figure 1 – Weighted Total Score

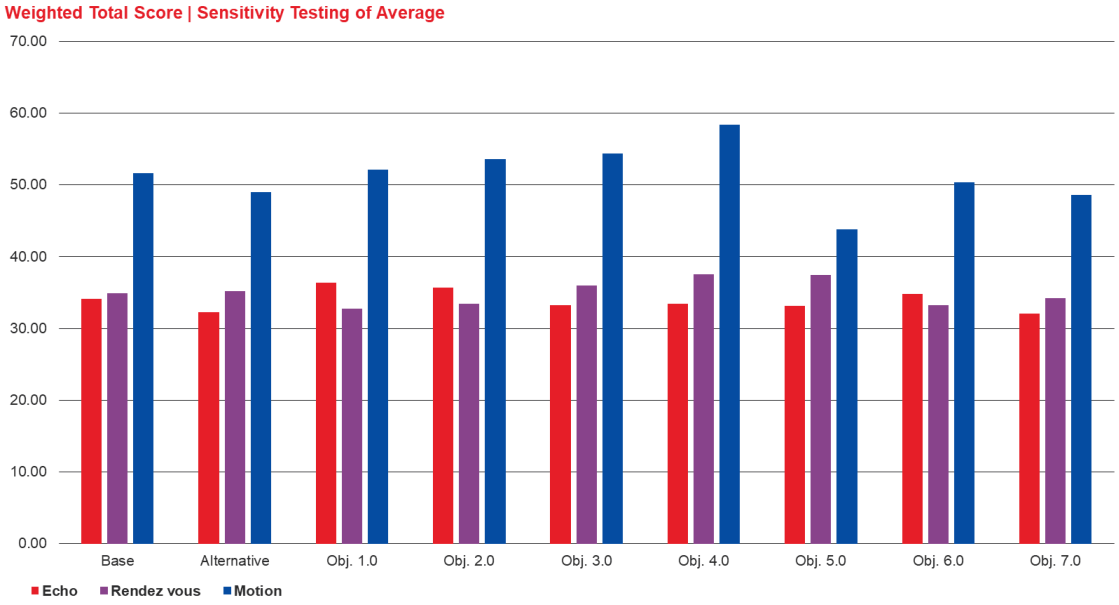

Figure 2 –Sensitivity Testing

Subject	Evaluation and Identification of Preferred Concept
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6. Opportunity for Enhancement of the Identified Preferred Concept

Although **Motion** is identified as the preferred concept, many notable strengths were also identified for **Echo** and **Rendez vous** during the evaluation process. The preferred concept will be further refined, with the opportunity to integrate, where possible, elements from **Echo** and **Rendez vous**, ensuring the final design integrates positive attributes of all three concepts.

The evaluation process also identified potential areas for further development with the identified preferred concept. One key area is the selection of the construction method to ensure the most environmentally responsible approach for in-water work. Additionally, another opportunity for improvement is mitigating the concept's impact on navigation, currently restricting the use of the wharf on the west side.

7. Conclusion and Next Steps

The identification of a preferred concept relied on a rigorous and comprehensive evaluation process, supported by a diverse range of inputs. Based on its review of the evaluation results, the IPT Committee puts forward **Motion** as the identified preferred concept.

This concept should undergo further refinement, with careful consideration to integrate, where possible, the strengths of **Echo** and **Rendez vous** into its development. Additionally, weaknesses identified during the evaluation process must be mitigated, where possible, to enhance the overall concept.

The design refinement process is expected to respect cultural sensitivities and remain responsive to feedback gathered through consultations, ensuring that the final concept reflects the diverse needs and aspirations of all Canadians.

Next Steps :

- December 2024: Endorsement of the *Evaluation and Identification of Preferred Concept* by the Alexandra Bridge Replacement Project Governance Structure
- December 2024 to January 2025: FLUDTA Board submission process
- January 2025: Recommendation of the identified preferred concept (Motion) to the NCC Board of Directors for approval

Alexandra Bridge Replacement Performance Criteria for Bridge Design

July 2022

National Capital Commission
Commission de la capitale nationale

Canada

Prepared for the National Capital Commission by DTAH
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July 2022

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Purpose

This document articulates the NCC planning and design requirements and expectations associated with the Alexandra Bridge Replacement Project in the form of performance criteria. Any new bridge design put forward for Federal Approval under section 12 of the National Capital Act will be assessed by the NCC against these criteria and other factors, such as the input received through public consultation and Indigenous and stakeholder engagement. A design proposal must, at minimum, meet the requirements of the performance criteria to be recommended to the NCC Board of Directors for approval.

The purpose of this document is to guide the Proponent (Public Services and Procurement Canada/National Capital Commission Integrated Project Team (PSPC/NCC IPT)) throughout the design and decision-making process by providing transparency and predictability of NCC expectations for a successful Federal Approval.

The performance criteria summarize the NCC's Capital Interests that apply to the project, consistent with the NCC's mandate, plans, policies, guidelines and the Alexandra Bridge Planning and Design Principles approved by the NCC Board of Directors in June 2021. This document applies specifically to the Alexandra Bridge Replacement Project and does not supersede the NCC Federal Approvals requirements.

The criteria are to be read by the Proponent including their consultants and contractors in conjunction with all applicable federal, provincial, and municipal plans and regulations as well as project-specific studies, field investigations, and analyses. It is also expected that the Proponent will undertake public, stakeholder and Indigenous engagement and demonstrate that input from these parties and project partners was considered in the design of the new bridge.

While the performance criteria do not prescribe design methodology, architectural style or engineering solutions, the Proponent must develop design concepts that:

- Meet these criteria;
- Range from a reinterpretation of the historic bridge design to a totally contemporary modern structure; and
- Demonstrate design excellence through the implementation of best practices to generate **an appropriate and responsive design** for the replacement of this asset of national historic importance in this prominent location.

It is therefore strongly recommended that these criteria be included in the Proponent's procurement documents for design services.

Source: Jeffrey Eisen

1.0 Urban Design Framework

Alexandra Bridge is situated in a unique cultural, archaeological, recreational, and interprovincial urban setting within a rich heritage context of high significance. It is bookended by two of the most important cultural institutions in the National Capital, the Canadian Museum of History, and the National Gallery of Canada. The bridge is located approximately 250m from the Rideau Canal locks, a UNESCO World Heritage site, and Parliament Hill. It also sits next to several iconic open spaces of the National Capital Region including Nepean Point, Major Hill's Park and Jacques-Cartier Park, the latter annually hosting the Capital's "Winterlude" winter festival.

Mission Statement

"To create a sustainable interprovincial transportation connection that will prioritize active mobility and highlight the symbolic importance of the site to all Canadians for many generations to come."

Source: Alexandra Bridge Replacement Planning & Design Principles

1.1 Heritage, Archaeology & Cultural Landscape

UD1. The new bridge design shall build upon the existing bridge's legacy by achieving its own distinctive stature, realized in a way that is sensitive to the unique heritage context of the Ottawa River Corridor Cultural Landscape.

UD1a. Preserve the visual integrity of the Cultural Landscape through a cohesive integration of the new bridge into the existing and evolving urban and natural environmental context. The size, scale and design expression of new bridge features shall be sympathetic to and compatible with the heritage context.

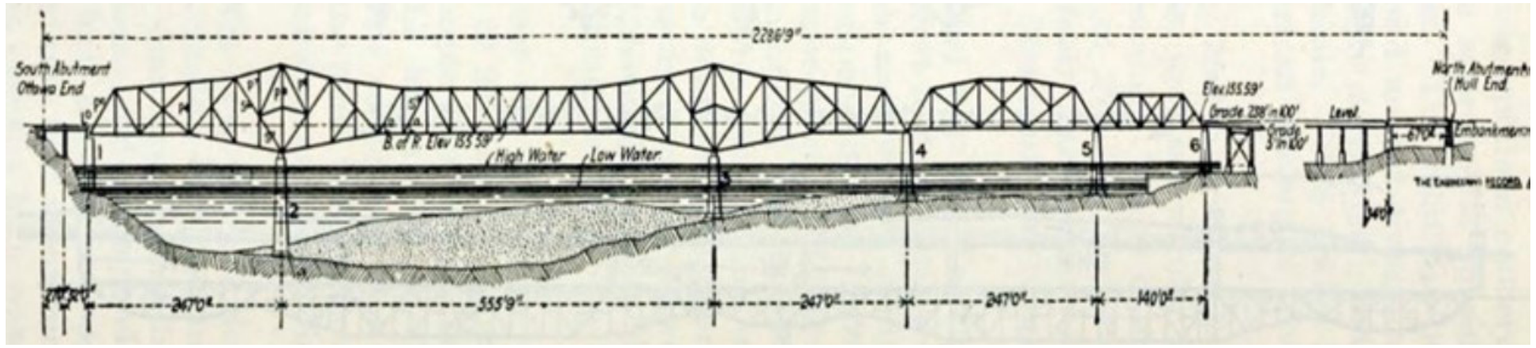
UD1b. The new bridge design shall recognize its role as one of the bridge "bookends" of the Central Capital Landscape and contribute positively to the overall visual and symbolic composition.

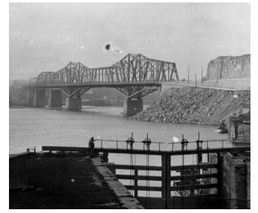
UD1c. The new bridge design shall consider and incorporate where feasible for elements beyond the primary bridge structure, the re-use of stone, steel, and other materials salvaged from the existing structure's demolition.

UD1d. Integrate bridge approaches with the landscape along the shorelines to maintain the topography and natural quality of the Ottawa River corridor and improve the visual prominence of these features.

UD1e. Protect and conserve archaeological resources on federal lands in the project area, either in situ or as a record, in accordance with the Protocol for the Co-management of Archaeological Resources (2017) between the NCC, the Kitigan Zibi Anishinabeg and the Algonquins of Pikwakanagan First Nation.

UD1f. Archaeological resources occurring on provincial lands shall be managed in accordance with applicable provincial legislation.





Historical images of Alexandra Bridge. Source: NCC

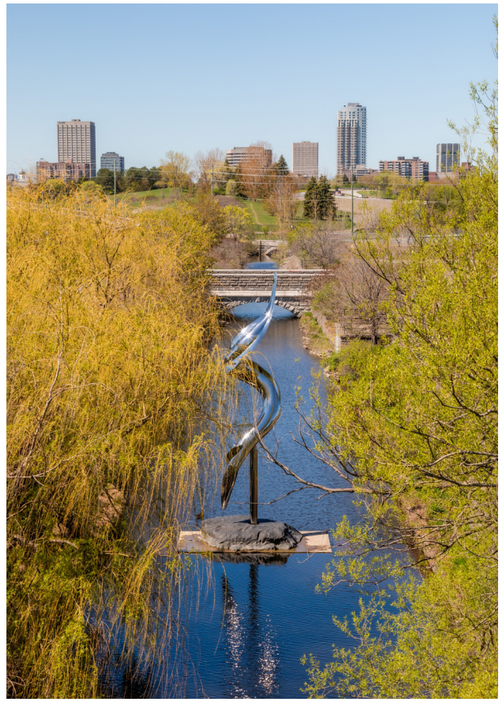
Source: The Engineering Record, Building Record and Sanitary Engineer - Volume 44 - 1901

1.2 Indigenous Culture

UD2. The new bridge design shall acknowledge and integrate Indigenous culture and traditional knowledge in an appropriate and meaningful way.

UD2a. Indigenous traditional knowledge and Algonquin Anishinabeg perspectives, values, and culture shall be appropriately integrated into the design, informed by ongoing engagement between the PSPC/NCC Integrated Project Team and the project's Indigenous Partners.

Red moose statue by indigenous artist Simon Brascoupe at Pimisi LRT station, Ottawa. Source: NCC



The chrome eel at the Pimisi LRT station in Ottawa. Created by indigenous artist Nadia Myre. Source: NCC

1.3 Confederation Boulevard

UD3. As an important component of Confederation Boulevard's Ceremonial Route, the new bridge design shall reinforce the physical and symbolic continuity of the route, providing a cohesive connection between the City of Ottawa and the City of Gatineau as a unifying feature of the Capital Core Area to create a singular Capital identity.

UD3a. Comply with the Confederation Boulevard guiding principles:

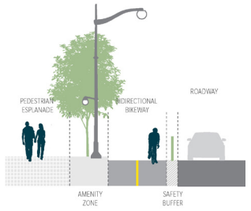
- **A Memorable Image:** Confederation Boulevard projects an image that is dignified, unique and lasting, and that is reflective of Canadian values, heritage, and achievements.
- **A Vibrant Public Space:** Confederation Boulevard is a vibrant public place that presents Canadians with a range of opportunities for enhanced community, intellectual and emotional experience.
- **Pedestrians First:** Confederation Boulevard gives first priority to the comfort, safety and enjoyment of pedestrians, and then to the accommodation of cyclists, public transit and other vehicles.
- **Universal Accessibility:** Confederation Boulevard is accessible to all persons and shall extend accessibility to those beyond the National Capital through a range of communication media.
- **Sustainability:** Confederation Boulevard is a demonstration of the NCC's leadership in environmental sustainability and stewardship.

UD3b. In keeping with the principle of a "Grand Esplanade", provide a generous and relatively open pedestrian link that offers framed and unobstructed views to the national symbols, the natural landscape, and the Ottawa River, and a sense of grandeur commensurate with the importance of the national symbols and landscapes.

UD3c. Streetscape elements shall be carefully considered and designed to integrate with both the new bridge expression and the Confederation Boulevard palette, using high quality noble materials, finishes, furnishings and an appropriate colour palette to achieve an overall cohesive visual effect befitting of the Grand Esplanade.

UD3d. Make appropriate space provision for a visually prominent node at the intersection of Laurier Street and des Allumettières Boulevard, to enable future installation of gateway features, such as a major commemoration of national importance.

Source: Confederation Boulevard Guidelines, Management and Stewardship of Our Capital Legacy



Source: Capital Pathway Strategic Plan

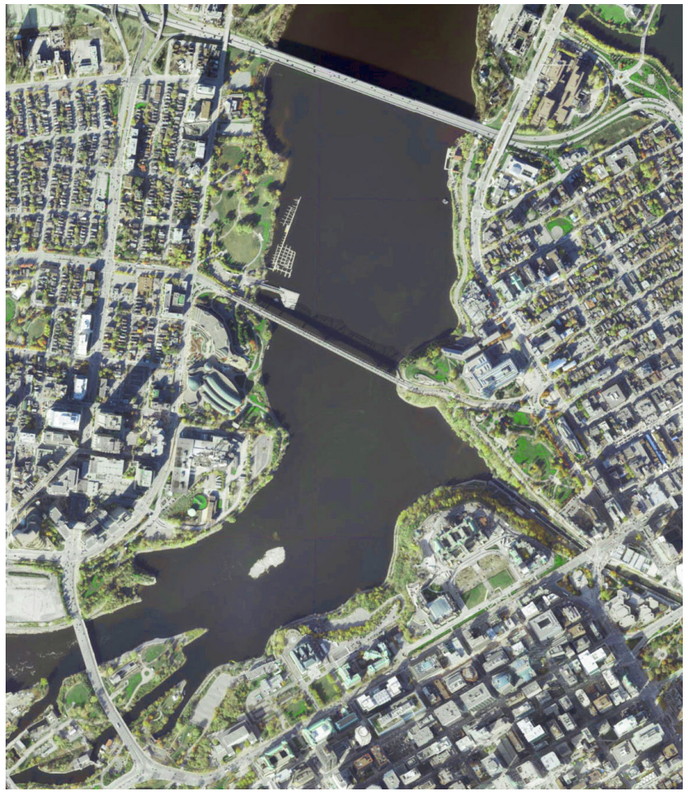
1.4 Natural Environment

UD4. The new bridge design shall showcase exemplary environmental conservation and mitigate potential negative impacts and threats, in order to avoid damage to vulnerable aspects of the river ecosystem, habitats and living organisms.

UD4a. Maximize preservation of the Ottawa River corridor's iconic, lush green shoreline landscape between the mouth of Brewery Creek (to the north) and the Rideau Canal Locks.

UD4b. Detailed fish, wildlife, and vegetation inventories, as well as habitat identification and assessment, shall inform the design and construction of the new crossing.

UD4c. New landscape improvements shall use only native, non-invasive vegetation appropriate to the proposed location.



Aerial map of Alexandra Bridge between Ottawa and Gatineau.
Source: GeoOttawa

1.5 Climate & Microclimate

UD5. The bridge design shall be appropriate to the local climate of the Ottawa River Valley and resilient to the anticipated impacts of future climate change and extreme weather events.

UD5a. The bridge shall be designed to last at least 125 years. Selection of materials and finish treatments shall be based on the anticipated degradation and weathering resulting from local climatic conditions, and allow for straightforward maintenance, replacement, repairs and upgrades (as necessary) throughout the new bridge's service life.

UD5b. The bridge shall be built to withstand 100-year storm events as a minimum, protecting both the bridge structure and bridge users.

UD5c. Bridge design shall consider structural health monitoring, operational requirements for stormwater, snow storage and removal, impacts on river water quality and shoreline erosion during storm events, as well as visual impacts pertaining to the above.

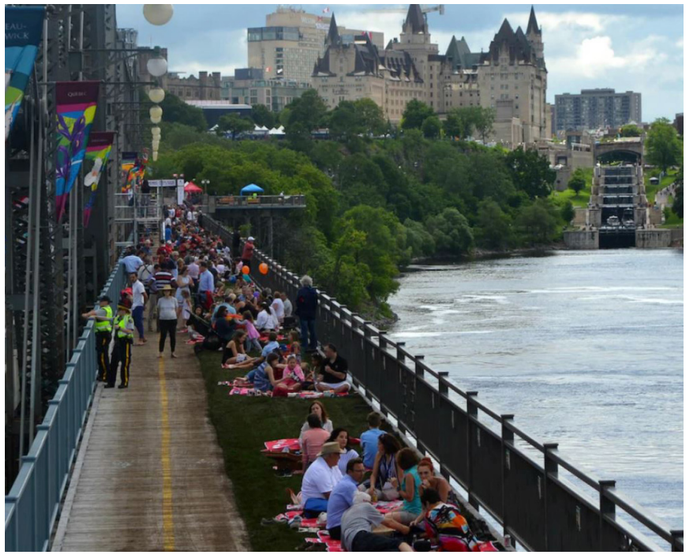
UD5d. Bridge design shall incorporate sustainable and climate-friendly solutions that reduce the embodied carbon in the structure as well as operational carbon associated with use and maintenance of the infrastructure.

UD5e. The new bridge design shall incorporate measures to moderate the extremes of microclimate for pedestrians and cyclists to increase user comfort despite climate extremes.

Alexandra Bridge being used during winter months.
Source: NCC

2.0 Public Space

The new bridge will need to function as both part of the core area sector transportation network and as a dynamic public space in its own right. The bridge needs to accommodate a multitude of uses, both in motion and stationary, including utilitarian travel, recreation and tourist travel, sightseeing, and resting. At special celebratory times, the bridge may also function as an urban gathering place.



2.1 Mobility

PS1. Provide a functional design configuration for the bridge and its approaches that improves mobility and safety while prioritizing active modes, and allows for future conversion of the vehicular lanes to a dedicated light rail or tram transit system.

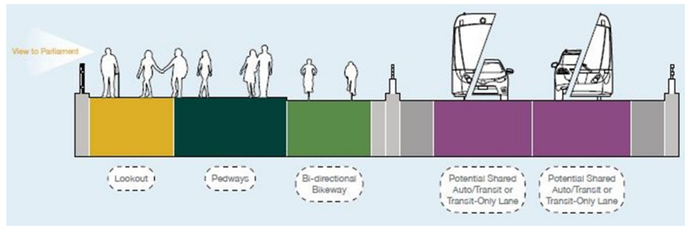
PS1a. Provide dedicated active mobility space for cyclists and pedestrians on the upstream side of the bridge.

PS1b. In order to prioritize the convenience, safety, and enjoyment of active pedestrians, provide a continuous, open and direct pedestrian through-route as part of the public space zone, free of obstructing elements, located upstream of and clearly separated from the cycleway.

PS1c. Provide a continuous bi-directional year-round cycleway to accommodate all types of cyclists, located downstream of the pedestrian space. Incorporate appropriate safety buffers between the cycleway and the vehicular lanes to ensure comfort and safety of active users.

PS1d. Provide two roadway lanes (one for each direction of travel) on the downstream side of the bridge, suitable for a mix of transportation modes (such as cars, buses, tram, or light-rail train system), with appropriate traffic calming measures to promote slower vehicle speeds crossing the bridge, and built-in adaptability for future potential conversion from private vehicular traffic to a transit-only configuration.

PS1e. Accommodate a reconfiguration of the Laurier/Allumettières intersection to provide dedicated space for pedestrians and cyclists and improve the safety of all users, in consultation with the Ville de Gatineau and the Province of Quebec.



Illustrative functional section. Source: Alexandra Bridge Replacement Planning & Design Principles

"The new bridge must continue to serve as a vital link between communities, as a public space to move-through and go-to." *Source: Alexandra Bridge Replacement Planning & Design Principles*

Example of separated pedway and cycleway on bridge.

"Alexandra Bridge offers a unique platform from which residents, tourists and visitors can stop and take in views of emblematic and symbolic elements, and to ponder while observing the national treasures of the Capital and panoramic views of the River. Seasonal celebrations held in the core area bring individuals together and invite the sharing of the space as a place of gathering. Accommodating and supporting active uses during year-round special events, whether it be for the Capital's Winterlude Festival or Canada Day celebrations, must be considered in the design of the new bridge."

Source: Alexandra Bridge Replacement Planning & Design Principles

2.2 Public Space & User Experience

PS2. The new bridge design shall provide vibrant, high quality public space to accommodate a wide range of active and passive uses, ensuring amenity, convenience, and comfort for all users, especially pedestrians.

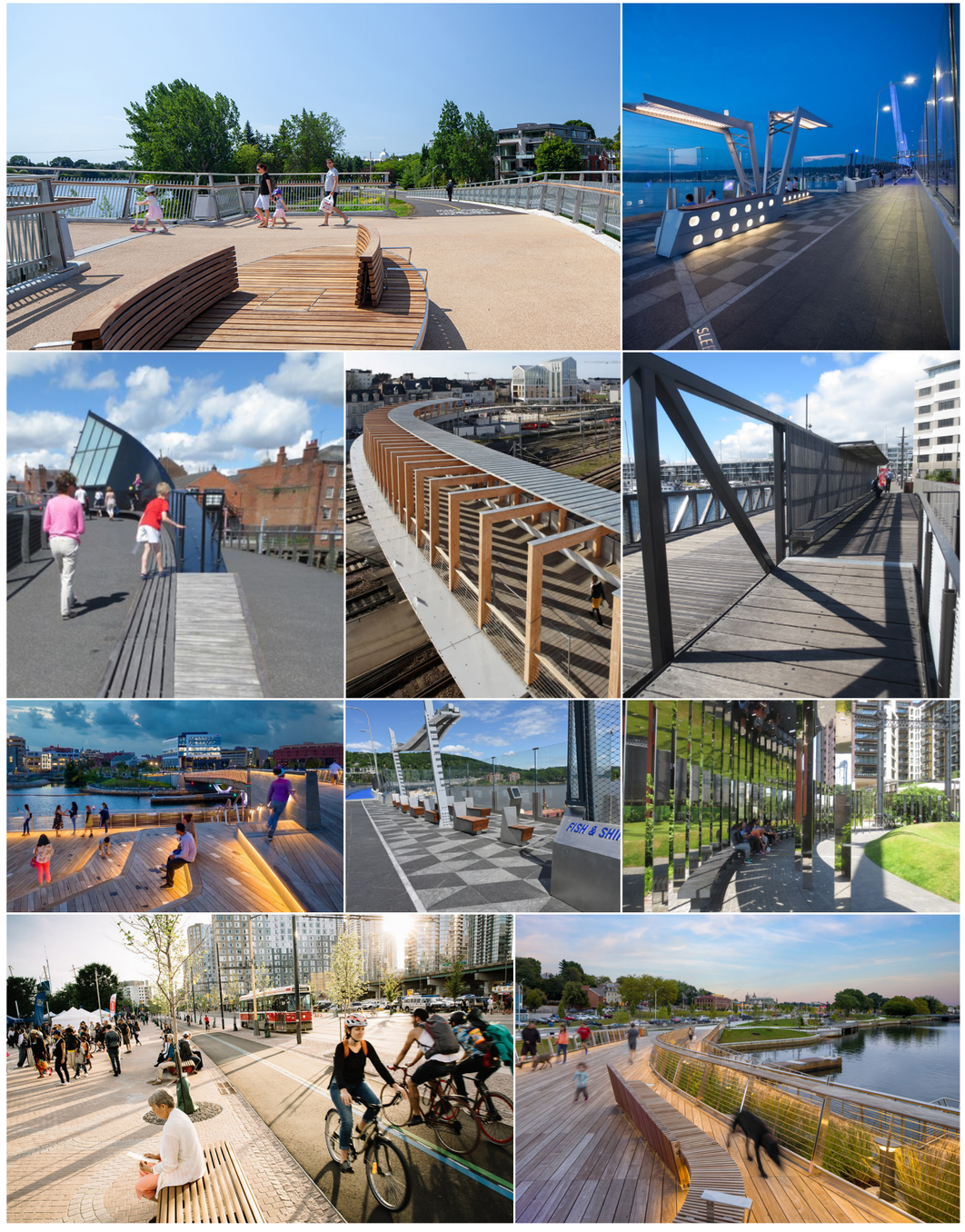
PS2a. Provide generous and attractive public space, amenities, and furnishings to accommodate a multitude of uses including sightseeing, strolling, sitting, and resting in order to enhance the user experience of the new bridge crossing and panoramic views of the Ottawa River, National Symbols, Central Capital Area and the Gatineau Hills. The public space zone shall include at a minimum:

- Viewing areas/lookouts located and configured to optimize views to the National Symbols;
- Plentiful places to sit and rest or view special events during festivals and National Holidays, suitable for all ages and abilities; located so as not to impede the movement of active pedestrians and cyclists crossing the bridge, with some locations providing appropriate shelter from the elements;
- Space provision for interpretive elements;
- Connections through to the cycleway at appropriate intervals.

PS2b. Consider and integrate supplementary design elements, such as interpretive panels or public art that respond to the local or historic context, to provide additional visual interest, richness, and enjoyment to the pedestrians' experience.

PS2c. Provide seamlessly integrated above-deck infrastructure to support various types of high-quality signage on the new bridge (site identification, wayfinding, operational, regulatory, interpretive) as well as seasonal decoration, carefully located to avoid interfering with the path of travel of pedestrians and cyclists; to be developed through an integrated design approach with NCC.

PS2d. Ensure an impressive and enjoyable experience for boat users on the Ottawa River, heading towards and passing under the bridge.



2.3 Shoreline Connectivity

PS3. The approaches at the ends of the new bridge shall provide enhanced connectivity for pedestrians and cyclists to pathway networks and shoreline amenities.

PS3a. New connections to existing pathways shall be direct, visible, safe, and usable throughout the year.

PS3b. The design and location of the north bridge abutment shall allow for a continuous, high-quality multi-use pathway along the north shore, segregated from the museum service vehicle access, that offers an inviting and comfortable user experience under the bridge.

PS3c. The design and location of the south bridge abutment shall allow for a continuous, high-quality multi-use pathway along the south shore, consistent with the NCC's vision for a long-term Waterfront Promenade between the Rideau Canal Locks and Rideau Falls.

PS3d. New and re-established pathway connections to and along the river shorelines shall incorporate landscape designs that are well integrated with their surroundings and enhance visual and/or physical access to the river.

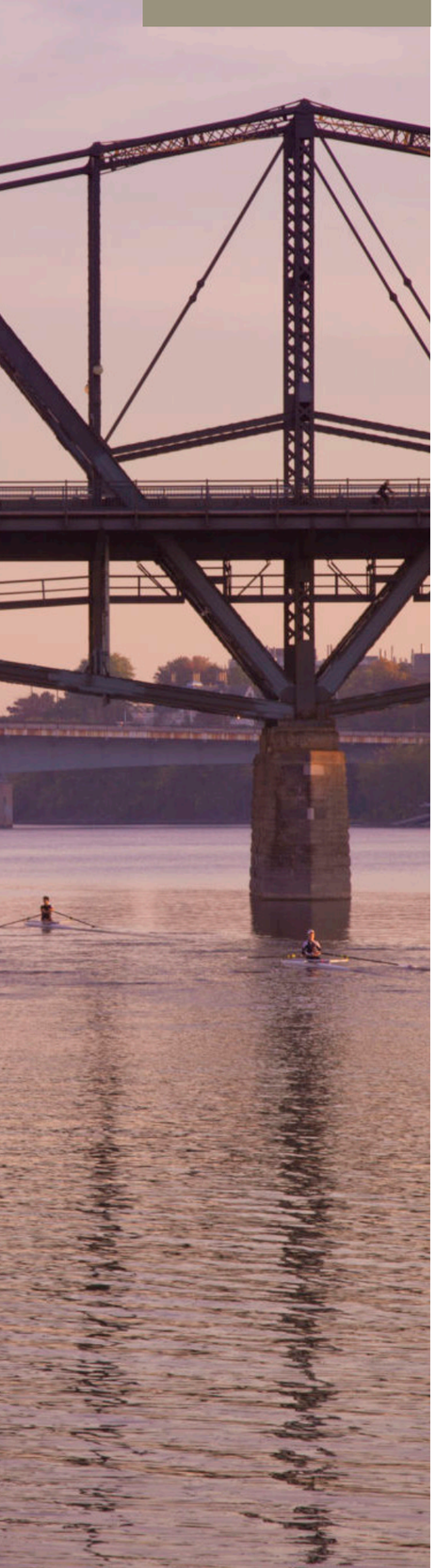
Rideau Locks and Alexandra Bridge.
Source: Fotenn Planning and Design

2.4 Universal Accessibility & Inclusivity

PS4. The new bridge and its approaches shall be universally accessible, with special attention paid to ensure all users feel welcomed, comfortable, and safe, and able to engage with the public spaces dedicated to pedestrians and active mobility.

PS4a. Provide universal access throughout public space areas on the bridge, the approaches, and adjoining pathways that connect directly to the bridge deck level.

PS4b. Implement as a minimum the recommendations of the Best Practices Guide to the Accessible Design of the National Capital Commission's Outdoor Spaces, as well as the latest requirements of the Accessible Canada Act and any applicable regulations.



3.0 Bridge Expression

The existing Alexandra Bridge is an iconic landmark, a recognizable feature of the Capital's landscape with a unique silhouette that differentiates it from the other four interprovincial bridges (Champlain Bridge, Chaudières Bridge, Portage Bridge and MacDonald-Cartier Bridge). Its trussed profile and cantilevered structure make it a memorable landmark of the National Capital Region since its construction.

The new bridge shall be a signature bridge that responds to its heritage and environmental context. It should be sensitively inserted into this landscape of national significance. Its architectural, structural, and urban character should strongly represent the identity of "place" and the values of the country, cities, and communities it serves, providing a meaningful legacy to future generations.

"The public consultation feedback highlighted aspects of the current Alexandra Bridge that set it apart with a distinct character. Comments included:

- its uniqueness;
- the history and heritage it evokes;
- the appearance and character of the bridge;
- its wooden boardwalk, and its separation from the roadway;
- the sight, smell, sound and feel of the boardwalk that provides unique experiences to pedestrians and cyclists, albeit also recognized as needing improvement to provide a more even surface.

Together, these elements contribute to the creation of a sense of place that enriches the overall users' memorable experience of the current bridge."

Source: Alexandra Bridge Replacement Planning & Design Principles

3.1 General Arrangement

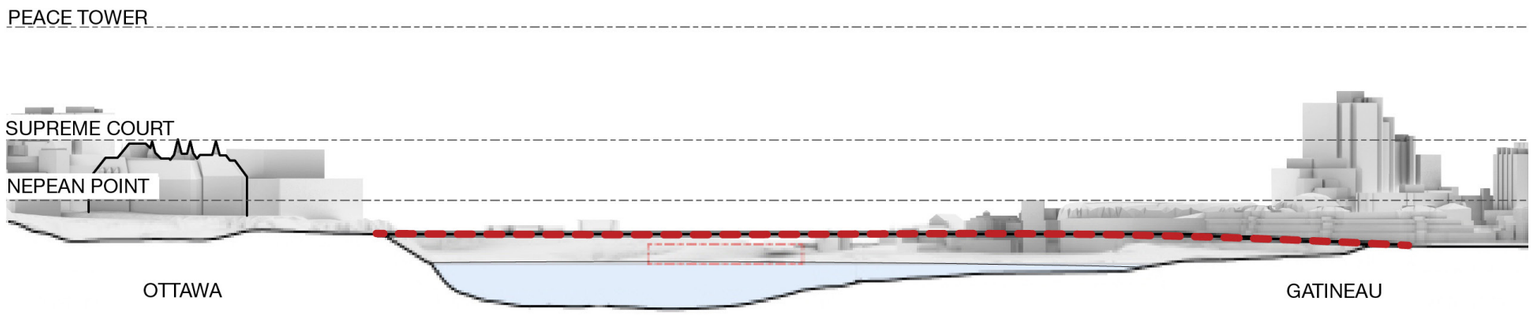
BE1. The general arrangement of the new bridge shall present a clear and logical design response to structural type, plan alignment, vertical profile, cross section configuration, pier locations, navigation requirements and other specific technical aspects.

BE1a. Plan Configuration; the new bridge shall connect to the north and south shorelines in substantially the same plan locations as the existing, allowing for minor realignment to optimize integration with the adjoining road networks, with a predominantly linear alignment between these two points; if curved configurations are incorporated, they shall be subtle and gradual so as not to provide a strong visual distraction within the setting, or significantly obstruct existing views to the national symbols from the new bridge.

BE1b. Elevation; the new bridge shall connect to the north and south approaches at the same elevation levels as the existing; the required upward slope from the Gatineau abutment to the main deck level shall be no greater than 4% in order to allow for universal access as well as a feasible transition for future transit vehicles.

BE1c. Cross Section; the bridge cross-section shall provide 2 vehicle lanes of 3.5m width (to be confirmed) with 1.2m shoulders on each side; 3.0m minimum width bi-directional cycleway, with 0.3m minimum buffer distance on both sides to any fixed object or furnishing; 4.0m minimum width continuous direct pedestrian through-route as part of the public space zone, with 0.3m minimum buffer distance on both sides to any fixed object or furnishing, widening out to provide an additional 3.0m minimum width at key viewing areas/lookouts/ gathering spaces within the public space zone.

BE1d. A navigation channel of 90m wide by 11m high (preliminary dimensions, to be confirmed), measured from the high-water mark, shall be provided mid-river below the new bridge, in order to maintain the navigability of the river.



"In crossing the Alexandra Bridge from Gatineau to Ottawa, there is a notable elevation change reflective of the natural topographical setting of the Ottawa River corridor. From Gatineau, the existing bridge's profile begins at an approximate elevation of 53 metres, rising at a 5% slope before flattening and continuing over the Ottawa River at an elevation of approximately 59 metres, before rising again at an approximate 4% slope to reach the general street elevation of 65 metres along St. Patrick Street near Sussex Drive in Ottawa."
Source: Alexandra Bridge Replacement Planning & Design Principles

3.2 Visual Form & Image

BE2. The new bridge shall achieve a unique signature design that fits within, and enhances, the built and natural heritage setting of the Capital's Core Area, now and into the future.

BE2a. Building on and continuing the legacy of our national icons, the bridge shall work as a foreground and a background, a sculpture and a setting to experience the Nation's Capital, and shall itself become an impressive and meaningful new landmark in the future.

BE2b. The design shall be compelling and meaningful for, and resonate with, Indigenous and non-Indigenous Canadians. It shall avoid a ubiquitous "signature" expression that could be found in many other locations globally.

BE2c. The new bridge design shall respond distinctively to "this place", evoking the memory and character of the existing heritage bridge and context in an appropriate manner: it should include elements that achieve a unique silhouette and visual permeability at a distance, with sufficient aesthetic interest and complexity to avoid a monotonous above-deck effect. The height, location, quantity, visual complexity, and rhythm of these elements should create an overall composition that is interesting and pleasing to the eye, and that resonates with the character and proportions of the surrounding built and natural landscapes.

BE2d. The overall bridge structure should appear to be "in scale" with its surroundings: the height and proportions of above-deck elements shall be visually cohesive with and complementary to the adjoining landscape and national symbols.

BE2e. The bridge design should be impressive and awe-inspiring when viewed up close; it should seek to evoke a sense of delight, wonder and pride from users and onlookers, especially those taking the time to fully appreciate the crossing and viewing experience.

"The Alexandra Bridge replacement will be an emblematic bridge in the form of an exceptional civic site that reflects Canada's national identity and values, while respecting the integrity of the cultural landscape of the Capital."
Source: Alexandra Bridge Replacement Planning & Design Principles

3.3 Design Excellence

BE3. The architectural and structural design of the new bridge shall aim at the highest industry standard levels of design excellence and visual quality.

BE3a. The bridge, above deck and below deck, shall demonstrate excellence and integrity in design, materials, detailing and construction workmanship, appropriate to such a prominent and important new built intervention in a National Capital.

BE3b. Architectural and structural expression and detailing should achieve an enduring "timeless" quality that will age gracefully and still be perceived as symbolic, meaningful, and aesthetically pleasing in 100 years' time.

BE3c. Details of bridge components shall follow naturally and consistently from the overall design philosophy, the structural system and construction methodology. Detailing shall exhibit clean-lined, well-resolved transitions between elements and at junctions of different materials; connectors shall be of high-quality durable material suitable for the application.

BE3d. Secondary elements such as utility, conduit, and drainage systems; sign structures, traffic management and potential future transit infrastructure; spaces, systems, and technology required for maintenance and monitoring; channel navigational and aeronautical lights shall be well integrated into the bridge architecture in order to minimize adverse visual impacts. Linear runs of conduit and piping should be clustered together in a compact arrangement tight to the underside of deck, as far inboard as possible to be in the deck shadow. Visible pipe clusters shall be covered with architectural metal cladding that allows for maintenance access.

BE3e. Crash-tested barriers framing vehicle space should be of minimal design that seek to minimize height, maximize views through, and convey a sense of visual lightness.

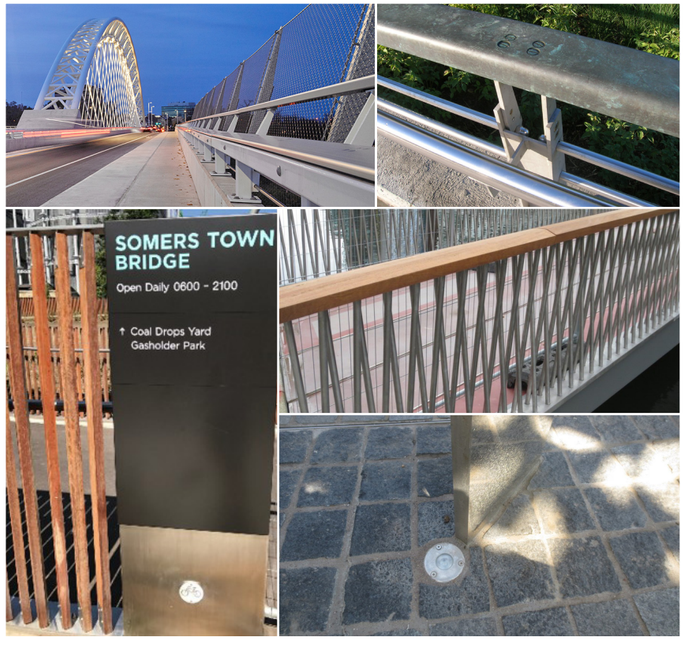
BE3f. Abutments and retaining wall systems at bridge approaches shall minimize large extents of smooth concrete and incorporate surface finish patterns/textures that are visually cohesive with the overall architectural aesthetic, discourage graffiti, and stay looking good over time.

3.4 Materials & Finishes

BE4. The new bridge design shall incorporate high quality materials and finishes that showcase leading-edge technology and resonate with the palette established for Confederation Boulevard and the built heritage of the Nation's capital.

BE4a. Honour the rich legacy of the Capital through an appropriate and carefully considered palette of materials, finishes, textures, patterns, tactile qualities, colours, and tones that will be layered by the new bridge design onto the Central Capital Landscape and enhance the everyday close-up user experience.

BE4b. Utilize traditional materials such as granite, copper, steel, and wood, as well as appropriate contemporary materials including stainless steel and aluminum, with textures and finishes that will age well, based on careful consideration of Ottawa's heritage tradition, the Confederation Boulevard palette, as well as durability, sustainability, innovation, and maintenance characteristics.



3.5 Lighting

BE5. The new bridge design shall provide a high-quality lighting scheme that responds appropriately to the site and surrounding context and allows the crossing to be used and enjoyed by people at all hours throughout the year.

BE5a. Through a sensitively designed lighting scheme, the bridge shall combine a continuation of the Confederation Boulevard "string of pearls" concept with architectural lighting that highlights the bridge structure itself, creating a nightly streetscape that is subtle and respectful of the place, while ensuring that the bridge will not compromise the visual primacy of the buildings that compose the National Capital's core landscape.

BE5b. Bridge lighting, including luminaires, supporting poles/brackets and associated infrastructure, shall be aesthetically minimal, clean-lined, and elegant, discreetly concealed whenever possible and visually integrated into the overall bridge design aesthetic.

BE5c. Light fixtures shall utilize state-of-the-art LED technology, selected with consideration for durability, energy efficiency, longevity, proven performance, and low maintenance.

Source: Capital Illumination Plan

4.0 Views & Visual Experience

New bridge designs shall meet three principal qualitative visual standards: (1) the protection and enhancement of views of the National Symbols from the bridge and key points on the adjacent shorelines; (2) the quality and appropriateness of the bridge's contribution to the larger river-related Central Capital landscape; and (3) appropriateness of the bridge's contribution to the spatial sequence and the tactile material design quality of Confederation Boulevard.

4.1 Views Protection

VA1. The new bridge design shall preserve the visual integrity and symbolic primacy of the Parliament Buildings and other National Symbols, when viewed from the bridge, in accordance with Canada's Capital Views Protection (2007) document.

VA1a. The new bridge design shall preserve a view of Centre Block from the approximate location of "Control Viewpoint" #6, so as to provide a clear reading of the silhouette of Centre Block without the intrusion of background buildings.

VA1b. Preserve the integrity and quality of viewsheds towards the primary subjects (Centre Block and Supreme Court) from the public space zone of the new bridge at the approximate locations of Key Viewpoints #5, #6, #7 and #8, considered as a sequence of evolving views. The views of the parliamentary Triad and the Supreme Court to be protected are considered to include both the buildings and their natural setting, including the escarpment, the river, and its shoreline.

VA1c. Minimize the quantity and extent of visual intrusions in the foreground of these protected views from a pedestrian's perspective on the bridge.

Parliament Hill.
Source: Shubham Sharan

Nepean Point.
Source: Ross Dunn

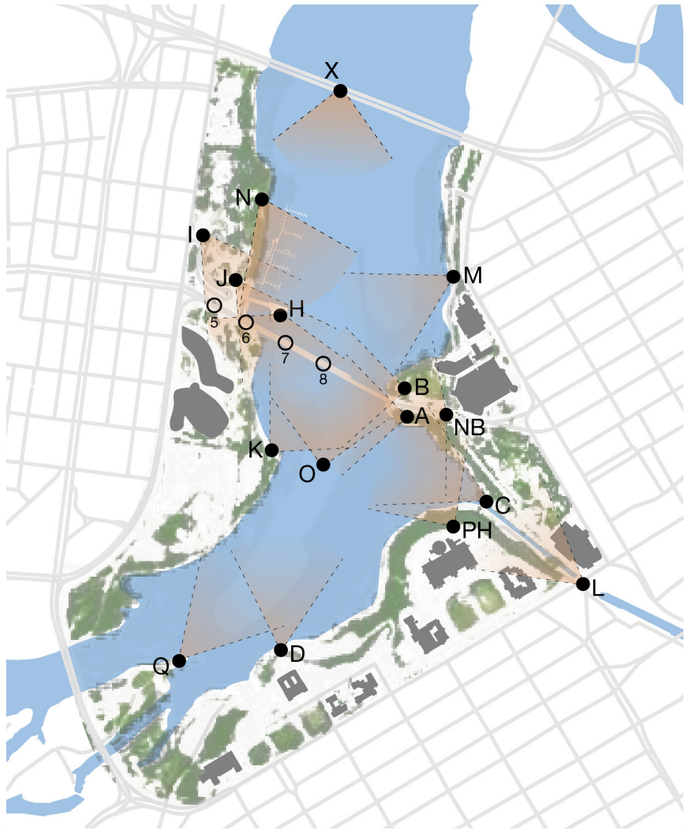
4.2 Views towards the Bridge

VA2. The new bridge design shall be visually integrated within the Central Capital Landscape and enable exceptional views of the natural features and National Symbols in the area.

VA2a. Views of the Central Capital Landscape from the following viewpoints shall retain the core elements and qualities identified in Appendix A for each viewpoint listed below. Where possible, the new bridge shall improve upon the views by enhancing the existing visual qualities or providing new sightlines towards National Symbols, key landscape features or new views of the bridge structure itself. Key opportunities for improvement are identified in Appendix A.

- **Viewpoint A:** On the Observation Deck/Belvedere at the South end of the Bridge.
- **Viewpoint B:** On the Nepean Point lookout.
- **Viewpoint NB:** On the new pedestrian bridge leading to Nepean Point.
- **Viewpoint C**: On Walkway at foot of the Rideau Canal Locks.
- **Viewpoint L:** On Confederation Boulevard at Sappers Bridge.
- **Viewpoint PH:** On Parliament Hill adjacent to Baldwin/Lafontaine Commemoration.
- **Viewpoint D:** On the riverside Recreational Trail below the Supreme Court escarpment.
- **Viewpoint K:** On Voyageurs Trail below the Museum of Canadian History.
- **Viewpoint Q:** On the eastern tip of Victoria Island.
- **Viewpoint H:** On the Ottawa River close to Hull Marina.
- **Viewpoint J:** On Voyageurs Trail 50m east of the Bridge.
- **Viewpoint N:** On the Riverbank in Parc Jacques Cartier.
- **Viewpoint I:** From proposed elevated event space in Parc Jacques Cartier.
- **Viewpoint M:** On Lady Grey Drive.
- **Viewpoint O:** On a boat mid-river on the up-stream side of the Bridge.
- **Viewpoint X**: On the west-side pedestrian/cycle deck of the Macdonald Cartier Bridge.

Refer to "Appendix A—Selected Viewpoints" for descriptions, photos (of the view and sometimes of the setting) as well as preliminary NCC GIS model views for each of the above viewpoints.



Map of viewpoints to and from Alexandra Bridge.

Source: Fotenn Planning and Design

Alexandra Bridge as a backdrop for Winterlude festival.
Source: Fotenn Planning and Design

Source: Alexandra Bridge Replacement Program and Design Guidelines

4.3 Spatial Sequence

VA3. The new bridge shall be designed to contribute to and enhance the dynamic visual sequence of the Sussex/Mackenzie – Laurier/Allumettières section of Confederation Boulevard and provide an exceptional experience of progressively unfolding views.

VA3a. The new bridge design shall consider and enhance the experience of the spatial sequence of views that will gradually be revealed to bridge users, particularly pedestrians, moving through the bridge approaches and across the new bridge, in both directions, between the Sussex/Mackenzie Node and the Laurier/Allumettières Node.

Approaching and crossing the bridge from Gatineau to Ottawa.

5.0 Other NCC Standards & Requirements

Beyond the primary design performance criteria highlighted in this document, there are other design and technical factors that the design team will need to take into account during the development of bridge concept and detailed designs. Some of these are subject to current ongoing studies or processes, and NCC will provide updated approval requirements and performance criteria as they become available.

ON1. The design team shall consider various other design and technical factors, and any future updates to criteria contained herein, as specifically identified by the NCC through the pre-procurement and procurement phases.

ON1a. These include the following:

- **Indigenous Engagement;** ongoing efforts to understand and define community-driven planning processes that reflect Indigenous interests and circumstances, and to clarify ways in which Indigenous themes could be integrated into the bridge design.
- **Sustainability Targets and Strategies;** meet targets of latest versions of NCC Sustainable Development Strategy 2018-2023, Federal Sustainable Development Strategy 2019-2022, United Nations 2030 Agenda for Sustainable Development. Climate adaptation requirements may be added or modified based on the results of a Climate Vulnerability and Risk Assessment (CVRA).
- **Heritage Integration & Impact Mitigation;** analyses with respect to heritage impacts are underway, and recommendations regarding the handling of heritage materials and other mitigation measures are expected to be developed. These recommendations should be implemented through the project design phase.
- **NCC Custodian Stipulations;** detailed technical specifications related to future operations, inspection, maintenance, repair, replacement and access of bridge components and systems.

Appendix A—Selected Viewpoints

This section contains descriptions, photos (of the view, and sometimes of the viewpoint setting) as well as preliminary NCC GIS model views for each of the following viewpoints:

- **Viewpoint A:** On the Observation Deck/Belvedere at the South end of the Bridge.
- **Viewpoint B:** On the Nepean Point lookout.
- **Viewpoint NB:** On the new pedestrian bridge leading to Nepean Point.
- **Viewpoint C**: On Walkway at foot of the Rideau Canal Locks.
- **Viewpoint L:** On Confederation Boulevard at Sappers Bridge.
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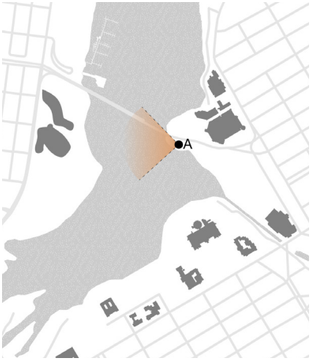
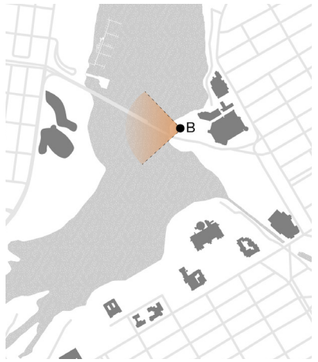
- **Viewpoint M:** On Lady Grey Drive.
- **Viewpoint O:** On a boat mid-river on the up-stream side of the Bridge.
- **Viewpoint X**: On the west-side pedestrian/cycle deck of the Macdonald Cartier Bridge.

Viewpoint A: On the Observation Deck/Belvedere adjoining the south end of the Bridge

This prominent observation deck, cantilevered from the face of the escarpment, is designed to heighten the experience of being projected out and over the river. It provides spectacular views up the Rideau Canal locks and towards the tree-clad escarpment of Parliament Hill, capped by Parliamentary Library and the Centre Block. The panoramic view encompasses the entire Central Landscape visually bracketed by the bridge, seen to the right.

This vantage point provides an acute angular view of the entire bridge structure, from water level to top of superstructure, and clearly reveals its structural system. At this acute viewing angle, the bulk and opacity of the existing superstructure screens the middle-ground buildings in Gatineau, while lending a sense of enclosure to the central landscape and a strong backdrop to the pedestrian/ cyclist boardwalk.



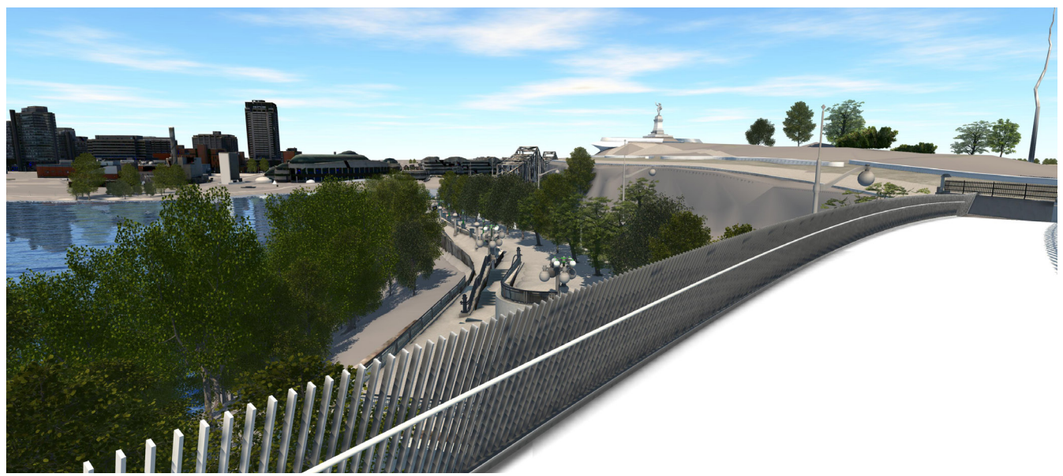


Viewpoint B: On the Nepean Point lookout

This vantage point, almost as high as Parliament Hill, provides a 360-degree panoramic view that encompasses the full grandeur of the Ottawa River, City of Gatineau, Hull Marina in the middle-ground, and the Gatineau Hills beyond. The bridge's structural configuration, layout and separations of the travel lanes are readily apparent from this birds-eye perspective. The Grand Hall of the Museum of Canadian History and its riverside position are revealed.

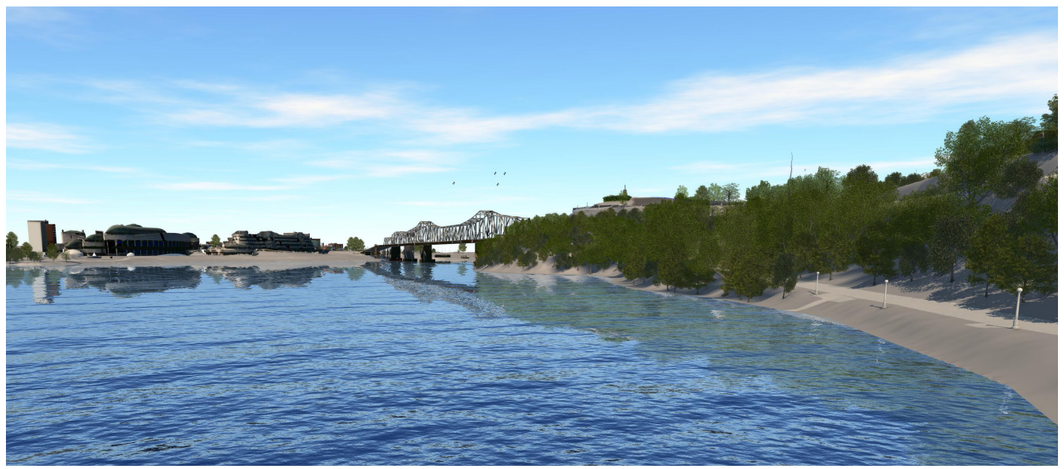
Viewpoint NB: On the New Pedestrian Bridge leading to Nepean Point

This new pedestrian bridge will provide an excellent vantage point for panoramic views of the river and the National symbols. It will provide an interesting "end-on" view looking down Confederation Boulevard/St. Patrick's Escarpment towards the new bridge crossing. The bridge superstructure does not compete visually with the Nepean Point promontory.



Viewpoint C: On the walkway at the foot of the Rideau Canal Locks

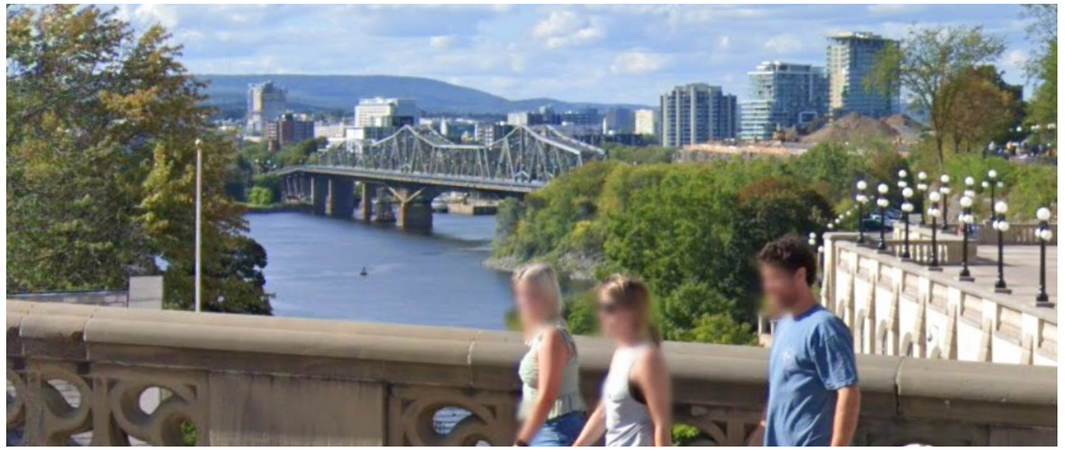
This vantage point provides a river level view of the Gatineau shoreline and vegetated escarpment of Nepean Point. The bridge structure and the rocky vegetated riverbank merge to create an almost continuous frame to the picturesque riverside composition and a firm "bookend" to the Central Capital Landscape. The opening between the second bridge pier and the treed escarpment frames a glimpsing view into Hull Marina that heightens the sense of 'here' and 'there'.



Viewpoint L: On Confederation Boulevard Esplanade at Sappers Bridge

This vantage point is similar to Viewpoint C, but at a much higher elevation. It overlooks the Rideau Canal Locks and is framed by trees and stone terraces on each side of the canal valley. The bridge structure appears heavy and opaque from this acute angular perspective.

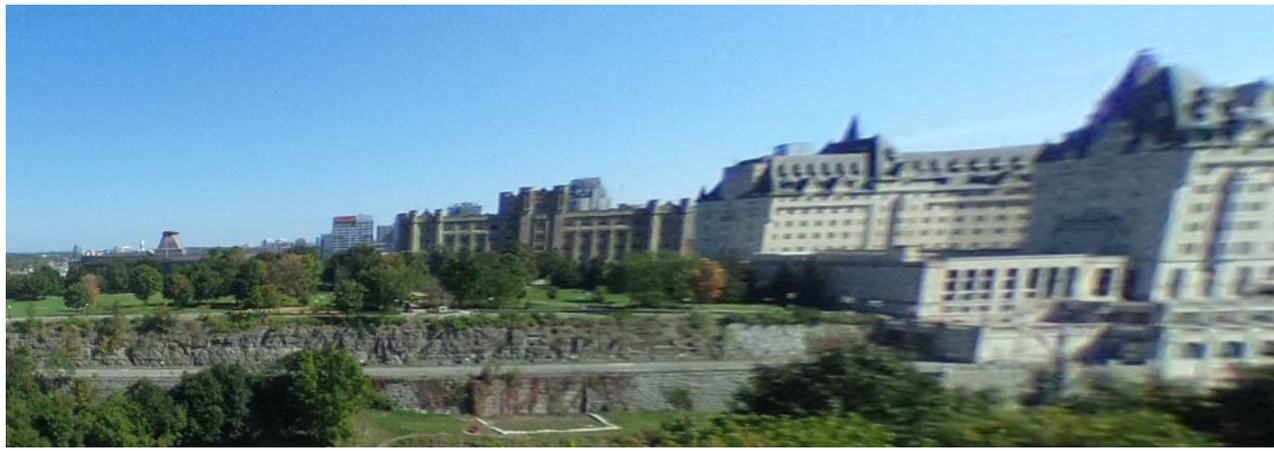
The narrowly framed view below the bridge to Hull Marina and the backdrop of the Gatineau Hills gives a strong sense of continuity and containment. The bridge's alignment relative to other landmarks seems uncertain as it merges with the vegetation and the middle-ground buildings in Gatineau.

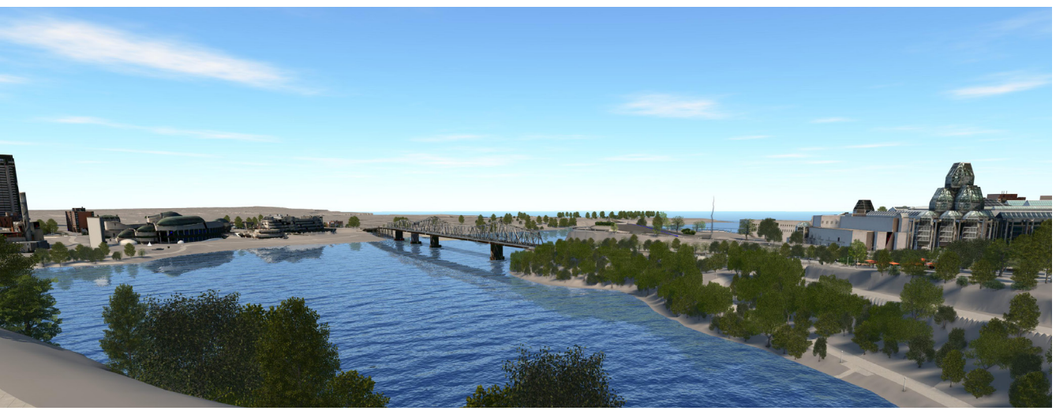


Viewpoint PH: On Parliament Hill adjacent to the Baldwin / Lafontaine Commemoration

The bridge is seen in the context of Major's Hill Park in the right foreground, the National Gallery, Nepean Point, and the Museum of Canadian History. The terrace below Major's Hill Park connecting with the bridge clearly shows the earlier railway bed alignment.

From here, the bridge's structural order is legible. It has sufficient substance visually to define a spatial edge to the central landscape without disturbing the obvious continuity of the river that seems to bend around Nepean Point. The southern half of the superstructure is approximately 50% transparent. The Gatineau Hills are a consistent backdrop that give a strong sense of orientation.





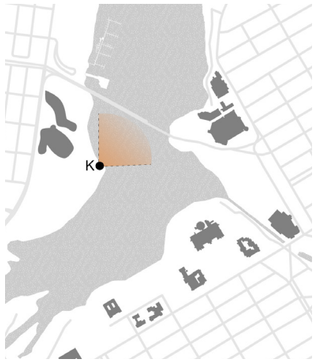
Viewpoint D: On the riverside Recreational Trail below the Supreme Court escarpment.

Almost perpendicular to the bridge, this view clearly shows the complete silhouette of the bridge superstructure. The features of the Gatineau shoreline are apparent, including the Hull Marina below and beyond the bridge. The superstructure of the bridge barely rises to the height of Nepean Point and maintains the 'datum' of vegetated landscape.

The view captures the full line-up of National Symbols along the Laurier/Sussex link of Confederation Boulevard—the Museum of Canadian History, Alexandra Bridge, Nepean Point and Champlain statue, the National Gallery (and spires of Notre-Dame Basilica), and the Parliamentary Library and the Centre Block above the forested escarpment of the Hill.

Viewpoint K: On Voyageurs Trail below the Museum of Canadian History

Similar to the riverside view from the other side of the river (Viewpoint D), the bridge is seen in almost true elevation across the open water. The continuity of the line of the bridge structure with the escarpment of Nepean Point and the silhouette of the Champlain statue and the National Gallery is clearly visible. The top chords of the bridge trusses have sufficient visual weight to be legible from a long distance.



Viewpoint Q: On the Eastern tip of Victoria Island

Views from this and other locations in the western part of the Central Capital Landscape, show the bridge in a supporting background position to the principal National Symbols—the Supreme Court and the Parliament Buildings each set on their escarpment promontories. Collectively, Major's Hill, the National Gallery, Nepean Point, and Alexandra Bridge make a strong line of visual connection between Parliament Hill and the Gatineau shoreline. Examination of the bridge close-up reveals that the Macdonald Cartier Bridge, seen below the Alexandra Bridge, visually reinforces this line.

Viewpoint H: On the River close to the Wharf of Hull Marina

This vantage point provides an excellent close-up view of the piers and underside of the bridge silhouetted against the sky, with framed views below the bridge into the Central Capital Landscape, including parts of the Parliamentary Precinct and the Supreme Court.

The profile of Nepean Point and the Champlain statue are clearly visible with the bridge touching down midway on the escarpment face. The Great Hall of the National Gallery is visible above the tree line and there is a glimpse of the Chateau Laurier roofline and the Peace Tower seen through the Bridge superstructure.

The view of the Great Hall of the Museum of Canadian History is framed below the bridge but further visual access along the Gatineau shoreline is obscured by the bridge structure and vegetation. Opportunities for restructuring the landscape to frame and open-up views towards the Museum may be presented with the new bridge design.

Viewpoint J: On Voyageurs Trail pathway 50m east of the bridge

From the Gatineau shoreline in Parc Jacques Cartier, the bridge is experienced as an overhead structure with very obstructed views through and between the supporting columns and bracing.

There is a significant design opportunity here to enhance use of the covered space below the bridge, to frame views to the Central Capital Landscape, and to improve pedestrian and cyclist pathway experiences.

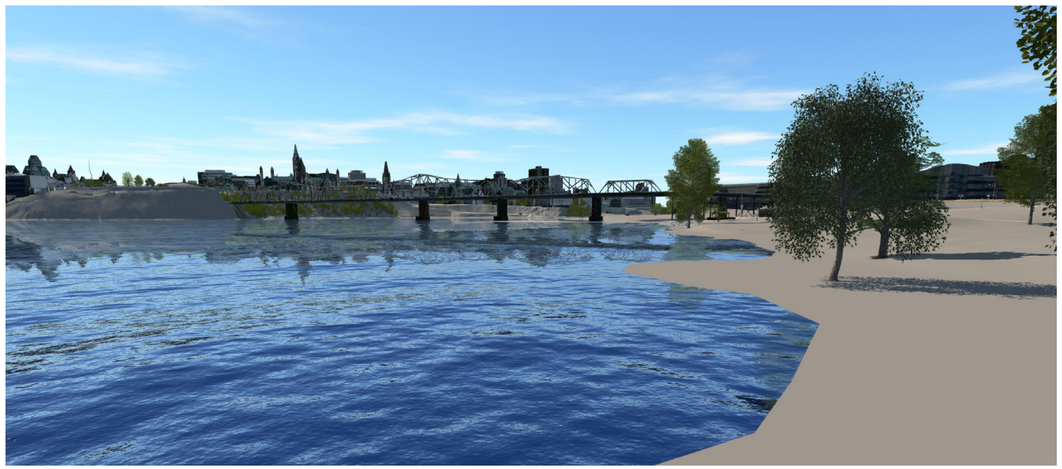
Viewpoint I: From proposed elevated event space in Parc Jacques Cartier.

From the proposed elevated event space in Parc Jacques Cartier, the bridge is part of the rich visual backdrop of the vegetated parkland. Seen in winter through the tracery of the deciduous tree canopy and the bridge superstructure, are National Symbols on both sides of the river extending from the National Gallery beyond Nepean Point in the east, to the Parliamentary Precinct, the Supreme Court and the undulating east wall of the Museum of Canadian History in the west. In summer, the bridge and other landmark buildings/structures are glimpsed between and below the almost opaque tree canopies.

The orchestration of view sequences from the multi-use pathways through the park could become an important part of the park's re-design.

Viewpoint N: On the Riverbank of Parc Jacques Cartier

From the east side of the bridge, views to the Central Capital Landscape are generally through or over the bridge and because the structure is relatively open this can lead to both interesting, framed views and disappointing blocked views. From this viewpoint, which is some distance away from the bridge along the low-lying shoreline, views to the central landscape and the National Symbols are above the deck or through the veil-like structural members of the bridge. The higher towers and spires of Parliament Buildings can be seen above the bridge.



Viewpoint M: On Lady Grey Drive

Lady Grey Drive is envisaged to return to a key multi-use pathway connection and an important part of the riverside public realm. From this Viewpoint, the bridge is seen partly in silhouette against the sky and partly against the Museum of Canadian History with the skyline of downtown Gatineau beyond. From this perspective, the Alexandra Bridge appears to spring from behind Nepean Point. Victoria Island and the Portage Bridge are visible below its deck.

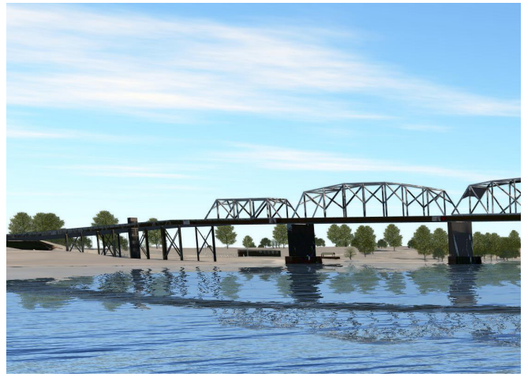
Viewpoint O: On a boat Mid-River on the up-stream side of the Bridge

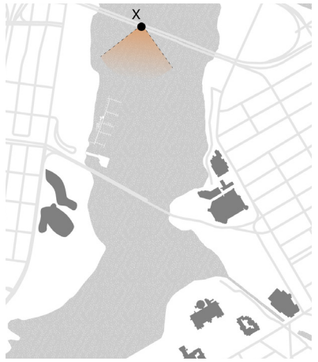
From the River, the elegance and geometry of the bridge structure can be fully appreciated. The superstructure that seems heavy and ponderous when seen close-up—from Nepean Point for example—seems light and airy and very much in-scale with its setting from this riverboat perspective.

The slender line of the horizontal deck, the open trusses of above and below deck and the open balustrades are important contributors to this apparent lightness. By comparison, the Macdonald Cartier Bridge, seen down-river, appears much heavier because of the deck's deep shadow cast on its solid, concrete arches.

From this viewpoint, the landings of the bridge are obvious. At Nepean Point the bridge seems well-anchored into the vegetated cliff face and the terrace that previously supported the rail track. There is a visually clear and sympathetic distinction between the engineering artifact and the natural terrain.

The Gatineau landing is less distinguished. Beyond the waterline, there is a "value engineered" structure that pays little attention to the bridge's under-side or to the potential for habitable riverside space. The current tree planting seems intended primarily to conceal the connection between land and bridge. The result below the bridge (see Viewpoint J) is "left-over space" that seems uncared for and unsafe. (One might have hoped for a third cantilever that would have allowed the bridge to ride clear over the riverside landscape—allowing bridge and landscape to remain distinct—until they meet in a more decisive way at the top of the slope).



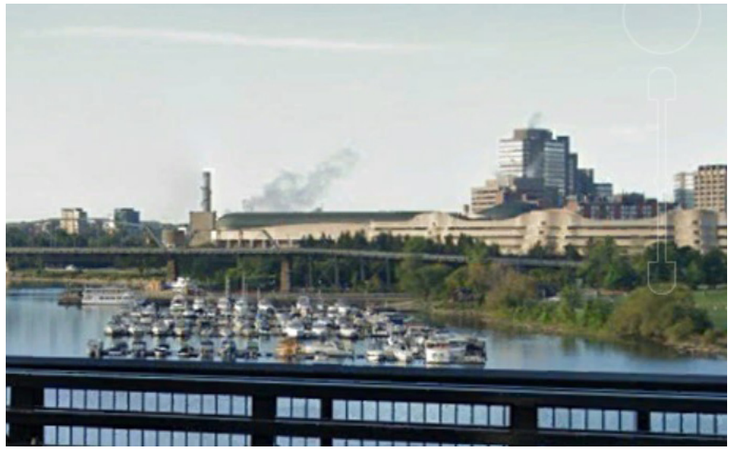


Viewpoint X: On the west-side pedestrian/cycle deck of the Macdonald Cartier Bridge.

With an eye level similar to the deck of the Alexandra Bridge and an uninterrupted foreground, pedestrian views from the Macdonald Cartier Bridge reveal the entire anatomy of the Alexandra Bridge and its position within the larger urban/river landscape.

The width of the Ottawa River and the length of the bridge spans can be fully appreciated from this perspective. The less familiar façade of the National Gallery and the vegetated cliff-face of Nepean Point to the left (south) and the curving wings of the Museum of Canadian History to the right (north) visually anchor the ends of the bridge.

The entire superstructure of the bridge is seen against the panoramic backdrop of building masses of the two cities rising from the treed shorelines. In Ottawa, for much of the day when back-lighting is normal, the National Symbols visually join the overall building cluster of the downtown except where spires and towers of the Parliamentary Precinct poke through the irregular profile.



Appendix B—Guidance Statements

This section contains supplementary background information and context pertaining to each of the criteria statements presented in this document.

1.1 Heritage, Archaeology & Cultural Landscape

UD1. The new bridge design shall build upon the existing bridge's legacy by achieving its own distinctive stature, realized in a way that is sensitive to the unique heritage context of the Ottawa River Corridor Cultural Landscape.

Guidance

- The existing Alexandra Bridge was a marvel of engineering at the time of its conception and construction, being recognized worldwide for its innovative design at the beginning of the 20th century.

- The inshore portions of the Ottawa River-bed on the Québec and Ontario sides of the Alexandra Bridge are evaluated as having pre-contact and historical archaeological potential.

- The new bridge design concept shall be informed by the definition of the Ottawa River Corridor Cultural Landscape and its key components and underpinning ideas, as identified in the Definition and Assessment of Cultural Landscapes of Heritage Value on NCC Lands (2004) and the updated Cultural Landscape Assessment (approval date TBC).

- The Alexandra Bridge is located within the Ottawa River Corridor Cultural Landscape. It is also in close proximity to and has visual connections with the Parliament/Governance Cultural Landscape, Parliament Hill and the Rideau Canal National Historic Site.

- The value of the Ottawa River Corridor Cultural Landscape is connected to cultural ideas expressed by First Nations and the NCC and those associated with the region's history of settlement and development. The continuity of this cultural landscape is highly valued within NCC policies and by the public. The Alexandra Bridge is a key feature of the evolved cultural landscape with its approaches sensitively positioned to respect the geomorphology of the Ottawa River's shorelines and escarpments.

- Review the *Heritage Impact Analysis* and other heritage reports completed for Alexandra Bridge to understand the character-defining elements of the existing bridge and their collective contribution to the cultural landscape. A new bridge design shall consider recommendations provided through existing and forthcoming heritage reports and impact analyses, as well as the advice of expert panels on heritage matters, and implement these into the design where appropriate and feasible.

- Opportunities to pay tribute to the surrounding heritage shall be considered in the new design, potentially expressed in aspects such as materials, form, spatial organization, as well as interpretation offering visitors an enriching experience aimed at expanding their understanding of the region's evolution.

- Re-use of salvaged materials to create new elements (such as benches, steps, light columns, or a memory wall) and interpretive material could be an appropriate way to reinforce the memory of the existing structure and distinctiveness of the place.

- A detailed archaeological study shall be undertaken to identify all known archaeological resources and areas of pre-contact and historical archaeological potential to be avoided by project work, as well as to determine required remediation measures (e.g., rescue excavation and monitoring) for zones of archaeological sensitivity that cannot be avoided.

- An underwater archaeological survey shall be undertaken, comprising the submerged concrete piers of the existing bridge, and the riverbed within 30 to 50 metres of the two shorelines.

- New bridge construction activities shall protect the rich archaeological resources of the river and shoreline, with archaeological sites to be managed in collaboration with the Algonquin Nation and in accordance with the Protocol for the Co-management of Archaeological Resources, 2017 and Parks Canada's Cultural Resource Management Policy.

1.2 Indigenous Culture

UD2. The new bridge design shall acknowledge and integrate Indigenous culture and traditional knowledge in an appropriate and meaningful way.

Guidance

- The Algonquin Anishinabeg have been stewards of the Ottawa Valley since time immemorial, where their oral traditions tell the story of creation of the territoryand waterways within it. The territories of the Algonquin Anishinabeg Nation cover the entire Kichi Sibi (Ottawa River) watershed from the headwaters to the St. Lawrence River. The Algonquin Anishinabeg Nation remain the host Indigenous nation in the National Capital Region.

- Potential opportunities to meaningfully acknowledge Algonquin territory and culture may include integration of sustainability values, stewardship of the natural environment; materials and aesthetic considerations; bridge naming; use of Algonquin language; and inclusion of artistic, interpretive, or commemorative elements. These opportunities will be identified and developed in collaboration with the Indigenous Partners on the project, per ongoing engagement activities.

1.3 Confederation Boulevard

UD3. As an important component of Confederation Boulevard's Ceremonial Route, the new bridge design shall reinforce the physical and symbolic continuity of the route, providing a cohesive connection between the City of Ottawa and the City of Gatineau as a unifying feature of the Capital Core Area to create a singular Capital identity.

Guidance

- Confederation Boulevard is a key feature of the Capital Core that is not only closely identified with the National Symbols, but also widely recognized as a destination in its own right. Alexandra Bridge is a national asset, integral to Confederation Boulevard and the new bridge will continue as a key link of the Confederation Boulevard Ceremonial route. Street intersections on either end of the bridge simultaneously function as gateways to and nodes of Confederation Boulevard.

- The NCC's Confederation Boulevard Guidelines, Management and Stewardship of Our Capital Legacy report defines the nature of Confederation Boulevard, and the major components that reinforce the image of a continuous circuit within the central capital landscape.

1.4 Natural Environment

UD4. The new bridge design shall showcase exemplary environmental conservation and mitigate potential negative impacts and threats, in order to avoid damage to vulnerable aspects of the river ecosystem, habitats and living organisms.

Guidance

- Riverfront lands, shoreline vegetation, and the river provide a rich and diverse ecological setting for the Alexandra Bridge, home to many species, including some species at risk. A variety of shoreline typologies are found along the approaches and adjacent areas of the river shoreline, from wooded rocky natural sites to landscaped park open spaces with expanses of manicured lawns, pathways, and cultural institutional buildings and spaces. Protection and improvement of these natural environmental components must be at the forefront of bridge design decisions.

- Consider how structural and design decisions, such as the placement, size and shape of piers and abutments will interact with the river and shorelines, and identify potential positive or negative impacts to the associated habitats.

- Leverage opportunities to integrate information from traditional Indigenous knowledge in the design of the bridge.

- Where possible, provide improvement in quality or size of habitat for local fauna and flora and consider the potential to create new habitat or restore habitat damaged through previous activity in the river. For example, consider opportunities to make improvements to the environment through:
  - Increased vegetation cover
  - Shoreline erosion control measures
  - Reduction in environmental contaminants
  - Creation of new fish, amphibian, bird or bat habitat

1.5 Climate & Microclimate

UD5. The bridge design shall be appropriate to the local climate of the Ottawa River Valley, and resilient to the anticipated impacts of future climate change and extreme weather events.

Guidance

- The Capital Region is located in a dynamic environment with a wide variety of seasonal meteorological events. Climate change over the next 100 years is likely to increase the intensity and frequency of atypical events. Bridge design must take into consideration the regional and local climate and be resilient to a climate future.

- Some bridge components are expected to last 125 years and hence, will be non-replaceable, mainly foundations, piers, elements of a single load path structure, deck, towers (if any); whereas other components such as coatings, railings, bearings, joints, etc., will need to be replaced during its service life.

- Consider how the peculiarities typical of all four seasons such as seasonal floods, heat waves, fall leaves, snow, high winds, tornados, and freeze/thaw cycles can be accommodated by the bridge design, and how impacts to maintenance can be mitigated.

- To implement criterion UD5d, mitigation (through the use of shading elements, wind barriers, etc.) of the following impacts should be considered to encourage active use of the bridge:
  - heat and high humidity on summer days,
  - cold and wind in winter and shoulder season days,
  - precipitation (rain and snow),
  - and variable surface conditions (wet, icy, gritty/salty) throughout the year.

Note: The prevailing winter winds are from the west, northwest, southwest and east. In the summer months, the prevailing winds tend to provide some cooling, but pedestrians are still very exposed to strong sun. In winter, the relatively mild and slower easterly winds generally deposit snow, but the colder, stronger westerly winds tend to redistribute it. The latter are therefore more significant in terms of wind-chill and snow accumulation. Bridge users will be very exposed to these prevailing winds moving up or down the river valley.

2.1 Mobility

PS1. Provide a functional design configuration for the bridge and its approaches that improves mobility and safety while prioritizing active modes, and allows for future conversion of the vehicular lanes to a dedicated light rail or tram transit system.

Guidance

- Many respondents from the first public consultation phase for the bridge replacement project remarked that the existing bridge is the safest active mobility crossing between Ottawa and Gatineau, as well as the shortest and most conveniently located route between the two downtown cores.

- The Alexandra Bridge is an important structure for the communities of Ottawa and Gatineau, both in terms of its function as an essential transportation link but also because of its iconic presence in the landscape and skyline of the two cities and the heritage of the region's development that it embodies.

- The pedestrian space, cycleway, and intersection upgrades shall adhere to the guidance and requirements established in the Capital Pathway Strategic Plan (2020).

- Allowing for future transit may have an impact on the road geometry on the bridge and at the Gatineau and Ottawa approaches, to be clarified in the preliminary design stage.

- Road traffic lanes and active transportation laneways shall have a closed deck system to protect the superstructure from the elements and dirt and de-icing products, contributing to a longer-lasting structure.

2.2 Public Space & User Experience

PS2. The new bridge design shall provide vibrant, high quality public space to accommodate a wide range of active and passive uses, ensuring amenity, convenience, and comfort for all users, especially pedestrians.

Guidance

- New public spaces should include viewing and seating areas that are accessible and of high quality, with consideration for:
  - Creation of unencumbered sightlines to the National Symbols,
  - Minimizing impact of railings and barriers on views,
  - High-quality furnishings with minimal maintenance requirements,
  - Integration of public art or interpretive elements,
  - Lighting for functional and aesthetic quality, and
  - Protection from inclement weather.

- Areas immediately adjoining and under the bridge should also be considered as opportunities to extend the overall public space design for the project.

- Signage on the new bridge shall contribute to the beauty, quality and uniqueness of Canada's Capital Region, and incorporate recommendations from the NCC's Signage Design Guidelines, 2012.

- Wayfinding; the new bridge design shall incorporate a wayfinding system that seamlessly merges with the remainder of Confederation Boulevard and follows the direction given in the Capital Pathway Strategic Plan 2020, and other applicable NCC design standards.

- Interpretive Material; innovative technologies and strategies shall be considered to provide interpretive information. These may be integral to the structure itself and/or explore other senses to create a truly interactive experience. Potential interpretive material topics shall be defined by the Department of Canadian Heritage and the NCC, with final review and approval by Canadian Heritage required.

- Interpretive layers are especially effective when they respond to the bridge's context and explain the history of the setting in a way that educates onlookers, and makes people see it and appreciate it in a new light.

- If traditional interpretive panels are proposed, these should be designed to reinforce the character of the place and reflect the distinctive quality of the ceremonial route along Confederation Boulevard.

- Crime Prevention Through Environmental Design; bridge design should consider CPTED techniques to encourage open sightlines and safe behaviour, and avoid concealed areas and unsafe situations. Utilize thoughtful design to mitigate health and safety risks, including carefully considered location and design of secondary elements such as benches, bicycle racks or interpretation panels, to avoid the need for excessive and highly visible security and safety infrastructure.

- Where it is essential, security infrastructure shall be integrated into the bridge design to avoid retrofits or incompatible additions. Any infrastructure for new technologies shall not detract from the primacy of surrounding heritage landmarks, the natural landscape, or the user experience of the new structure.

- Signage to regulate behaviour and guide users should be kept to a minimum through the use of intuitive design e.g., use of materiality, grade changes, physical barriers, or urban furniture to guide users to the appropriate corridors and safe spaces, and alert them to potential dangers or need for increased attention.

- Hazards; consider in advance potential hazards presented by the bridge (e.g., falling ice or snow, potential for boat collisions with bridge piers etc.) and design integrated solutions to eliminate the hazards, so as to avoid future highly visible add-on features (such as anti-climb structures or pier protection devices) and/or additional maintenance requirements such as de-icing that could result in temporary bridge closures.

2.3 Shoreline Connectivity

PS3. The approaches at the ends of the new bridge shall provide enhanced connectivity for pedestrians and cyclists to pathway networks and shoreline amenities.

Guidance

- The Alexandra Bridge is a key connection of the NCC's Capital Pathway network, linking major Capital spaces and recreational networks on both sides of the river.

- Design for the active lanes must consider the variety of access routes users will take, including connections from the Capital Pathway network, municipal bike routes and roads, as well as walking through parks and other public property. Walking distance should be minimized where possible and crossing of vehicular lanes avoided.

- Where possible, the bridge design and active mode approach should contribute to resolving the difference in elevation between the shoreline pathways and the bridge deck to enable smooth and accessible movement from the Capital Pathway network onto the bridge.

- Three major south shoreline redevelopment projects which should be considered in the design of the bridge approach on the Ottawa side are: (1) Nepean Point Redevelopment; (2) Park Masterplan for Major's Hill Park; and (3) Rideau Canal to Rideau Falls Waterfront Promenade—NCC's long term vision to create a new, multi-use promenade on the Ottawa side to connect existing public spaces overlooking the Ottawa River.

- The design of the new bridge shall consider and complement the current redesign for Nepean Point, which includes a new pedestrian bridge (vertical clearance height of 5.3 metres) over St. Patrick's Street, linking Nepean Point to Major's Hill Park.

2.4 Universal Accessibility & Inclusivity

PS4. The new bridge and its approaches shall be universally accessible, with special attention paid to ensure all users feel welcomed, comfortable, and safe, and able to engage with the public spaces dedicated to pedestrians and active mobility.

Guidance

- Consider the needs and experiences of all types of users, including people using mobility aids, people with visual or auditory impairments, people with learning disabilities and those who are neurodiverse.
- Furnishings and required dedicated elements related to universal access shall be seamlessly integrated into the overall design and materiality of the bridge.
- Surface materials for active user areas shall meet the accessibility criteria according to CSA B651-12, Accessible Design for the Built Environment, and the Accessibility Design Standards (Ottawa, 2015).

3.1 General Arrangement

BE1. The general arrangement of the new bridge shall present a clear and logical design response to structural type, plan alignment, vertical profile, cross section configuration, pier locations, navigation requirements and other specific technical aspects.

Guidance

- The general arrangement of the bridge shall consider the unique characteristics of the topography, riverbed, and geological conditions of the site, including the existing topographical elevation change between the Ottawa and Gatineau shorelines.
- Integration of optimal bridge spans, given river bathymetry and navigation requirements, along with the potential desire to limit aerial structural heights may affect bridge type selection. Under the Canadian Navigable Waters Act (RSC 1985, c.N-22), Transport Canada is responsible for protecting vessel navigation in navigable waters.
- Existing geological conditions have the six central river-based piers of the Alexandra Bridge sitting directly on bedrock as is the abutment on the Ottawa side, whereas the abutment and piles on the Gatineau shore are buried and stabilized within the overburden soil.

3.2 Visual Form & Image

BE2. The new bridge shall achieve a unique signature design that fits within, and enhances, the built and natural heritage setting of the Capital's Core Area, now and into the future.

Guidance

- The part of the river-centred landscape space which includes the principal nationally symbolic buildings, book-ended by the Portage and Alexandra Bridges, and framed by the central Ring of Confederation Boulevard and the built-up edges of the cities—Gatineau and Ottawa—is referred to as the Central Capital Landscape. It is a complex composition of buildings, topographic features, vegetation and interlocking public spaces. Its component parts, both singularly and in their compositional contexts, are of great symbolic, aesthetic and economic value. They are to be protected, through positive interventions and through the control of potentially damaging intrusions.

- The design expression should not seek to visually compete with the presence and primacy of national symbols but more to respectfully "complete the panorama" and continue the story being told by Confederation Boulevard's Ceremonial Route.

- Design development shall consider what bridge form and expression is appropriate to become the new backdrop for the continued evolution of the natural and urban capital cultural landscape, a new national landmark and a reflection of our national identity.

- The new bridge will celebrate the legacy of the Alexandra Bridge through the means of exceptional design that responds to current and future demands, while ensuring that the crossing of the Ottawa River remains a visually breathtaking experience, providing opportunities for pause and enjoyment, and a journey through the natural, historical, and cultural landscape of Canada's Capital Region.

- Opportunities to view the bridge silhouette from above and afar, such as from the higher elevation at Nepean Point or from Plaza Bridge, as well as from below, such as from the shorelines and Parc Jacques Cartier, must also be considered during the design development.

- The bridge design should consider the opportunity to express the rich identity built over centuries by the Indigenous people of this territory, and the successive waves of immigrants who chose Canada as a place to live. Canadian identity and values can be represented through the following themes:
  - Canada as a welcoming land
  - Freedom of expression
  - Respect for diversity
  - Reconciliation
  - Creativity and innovation
  - Environmental stewardship

3.3 Design Excellence

BE3. The architectural and structural design of the new bridge shall aim at the highest industry standard levels of design excellence and visual quality.

Guidance

- The new bridge will feature prominently at the centre of the Capital for the next hundred years—the design needs to stand up over time, to become an impressive symbol and revered landmark in the identity of the region.

3.4 Materials & Finishes

BE4. The new bridge design shall incorporate high quality materials and finishes that showcase leading-edge technology and resonate with the palette established for Confederation Boulevard and the built heritage of the Nation's capital.

Guidance

- The new structure should strive for sustainable design and material selection excellence, to become a model project for sustainable infrastructure design.
- The colour palette of the existing bridge (grey and green) is complementary to the landscape and capital landmarks. New bridge designs should consider and if necessary, reinterpret the materiality of the architectural context in ways that complement the richness of textures and tones within the existing landscape.
- Priority will be given to materials and products with a reduced environmental footprint from recycled or local sources. Materials shall be highly durable, ideally recyclable and consider life cycle assessment and cost over 125 years or more, including impacts on long-term maintenance and repair requirements.
- Ensure the incorporation of appropriate anti-corrosion and anti-graffiti coatings for susceptible materials as required.
- Consider incorporation of carefully removed demolition materials in the new design for such elements as walls, stairs, benches, memory wall, interpretive elements, etc.
- Small yet important functional components and details of bridge design such as handrails, lighting components, and guard-rails shall be conceived as an integral part of the overall design; custom designs may be required, while balancing the need to avoid overly onerous specialized operation or maintenance requirements.
- Natural stone should be considered where the bridge meets the landscape: slope treatments at abutments, pier surrounds at grade, terracing opportunities, drainage swales, etc.
- Consideration shall be given to utilizing lighter neutral colour tones in order to maximize visual lightness of the new structure, and not compete visually with the natural sky-water-land colours and textures within the surrounding landscape.

- Colour and texture contrast of different materials shall be used strategically, for example to clearly indicate differences between bicycle and pedestrian paths.

- Surface paving materials for bridge roadways and active transportation routes and materials for retaining walls, edge protection, stairs, landings, ramps, handrails, furniture, signage and lighting shall consider effects of temperature, sunlight, wind, ease of maintenance, cost and impacts to users in terms of tactile, auditory and visual experience.

3.5 Lighting

BE5. The new bridge design shall provide a high-quality lighting scheme that responds appropriately to the site and surrounding context, and allows the crossing to be used and enjoyed by people at all hours throughout the year.

Guidance

- Lighting in the core area is governed by the Capital Illumination Plan, 2017–2027, which defines lighting strategies to enhance the nighttime landscape of the Central Capital Landscape Sector, which includes Confederation Boulevard.

- Consider architectural illumination as a complementary layer that highlights the bridge's architectural expression rather than overbearing it, focuses on the interior structure above the deck, and minimizes lighting below the bridge.

- Functional road lighting and the lighting treatment of architectural elements should favour and embellish the bridge's design (in terms of safety, aesthetics, enhancements) while reducing the impact on the river, vegetation, and local wildlife species, especially birds, by implementing current best practices and standards, including CSA A460:19, bird-friendly building design.

- Amber or warm white tones are preferred to reduce impacts on the river and native wildlife.

- Creative solutions should allow for flexibility in usage, permitting selective use of colour in addition to ephemeral lighting themes to be integrated into the bridge during national holidays, special events and seasonal festivities; consider temporary high-quality, artistic lighting projects in addition to permanent illumination.

4.1 Views Protection

VA1. The new bridge design shall preserve the visual integrity and symbolic primacy of the Parliament Buildings and other National Symbols, when viewed from the bridge, in accordance with Canada's Capital Views Protection (2007) document.

Guidance

- Views Protection policies have been established by both the National Capital Commission and the City of Ottawa to safeguard the silhouette and the foreground of views of the National Symbols. (Reference: Canada's Capital Views Protection Plan, NCC, Jan. 2007).

- As outlined in the Plan, protection and enhancement of views of the National Symbols encompass two basic parts of viewsheds: the foreground and the background. Foreground controls relate primarily to visual openness. Background controls relate primarily to visibility of a clear silhouette. While Background controls are fully defined in the Plan, measures to protect foregrounds are developed through sub-areas studies, conducted in response to specific building and landscape development proposals as they are initiated. Such is the case with the Alexandra Bridge replacement project and thus standards for the protection of the foreground of views from the Bridge will be determined through ongoing visual analyses.

- Viewpoint #6 is located at the top of the existing ramp of the bridge boardwalk in Gatineau and is a background height "Control Viewpoint".

- Section 4 of Canada's Capital Views Protection Plan outlines the methodology for calculating the view-protection measures and the Alexandra Bridge Replacement, Planning & Design Principles provides further guidance on Views Protection and Viewpoints in 4.4.2 Visual Integrity and 4.4.3 Protect Control Viewpoint #6.

- The new bridge will create opportunities for interesting new views to be experienced, while also being mindful and respectful of the sequence of existing protected views, cultural landscapes and the built environment.

- Consideration should be given to potential visual impacts, both negative and positive, including additional opportunities afforded by the new bridge design for viewing the national symbolic buildings and building/landscape compositions within the Central Capital Landscape.

- Accurately compare views from the new bridge with views from the existing bridge to assess the extent and nature of visual impacts in the foreground areas as identified in NCC's Canada's Capital Views Protection Plan, 2007.

- Both single-frame and panoramic views from the new bridge should be considered for the purpose of evaluating foreground views protection of the National Symbols.

4.2 Views towards the Bridge

VA2. The new bridge design shall be visually integrated within the Central Capital Landscape and enable exceptional views of the natural features and National Symbols in the area.

Guidance

- The assessment of alternative bridge designs and their compatible integration with the Central Capital Landscape should be based on rendered views generated from the above pre-selected viewpoints, chosen to capture the various dimensions of the bridge as seen from different places in the public realm and to provide a common ground for comparison.

- Several of the above viewpoints are also Key Viewpoints (noted KV) established in NCC's Views Protection Plan; others have been included in preparatory bridge replacement studies. These include Viewpoint A (KV#9), Viewpoint B (KV#4) and Viewpoint K (KV#11).

- Assess the bridge's potential for enhancing the broad compositional qualities of the Central Capital Landscape and other areas of the river-related landscape in terms of the bridge configuration, scale, visual massing, height, silhouette, etc.

- The new bridge shall not dominate the Central Capital Landscape or usurp the primacy of the National Symbols. It shall meet the criteria established in section 3.0 Bridge Expression.

- The precise location of the above viewpoints should be geo-referenced in advance of photography and preparation of digital modelling to ensure compatibility of images from different sources.

- Additional viewpoints may also be established for consideration of specific design issues, requiring visual analysis of specific aspects of bridge design in relation to particular characteristics of the site. For example, detailed design studies of the bridge's integration with the escarpment and riverbank on the Ottawa and Gatineau sides of the river, or the detailed design of the underside of the bridge in relation to boaters on the river or pedestrians on existing and proposed riverside recreational trails passing below the bridge.

- Computer generated models should be developed to realistically visualize alternative bridge designs and approaches. Visualizations from selected viewpoints will provide a consistent basis for comparison with the existing bridge and alternative designs. Where panoramic views are required to demonstrate the bridge in its broader landscape setting, true panoramic 'pans' should be provided rather than wide-angle lens images, which give a very distorted and deceivingly "stretched" version of what the human eye actually sees.

4.3 Spatial Sequence

VA3. The new bridge shall be designed to contribute to and enhance the dynamic visual sequence of the Sussex/Mackenzie – Laurier/Allumettières section of Confederation Boulevard and provide an exceptional experience of progressively unfolding views.

Guidance

- It should be recognized that the route between Sussex/Mackenzie Node and Laurier/Allumettières Node is an important link in the chain of Confederation Boulevard that was built simultaneously with the National Gallery and the Museum of Canadian History. As an episodic 1.2 kilometre journey, it is a particularly rich visual experience of varying spaces and prospects. The public consultation process and professional studies have identified that the visual and experiential attributes of the existing bridge are highly valued.

- The new bridge design shall build upon spatial qualities of the existing bridge to achieve an articulated, yet seamless progression of spatial experiences integrated with the rest of Confederation Boulevard.

- In order to demonstrate the spatial progression, serial visualizations should be prepared, that capture the dynamic nature of pedestrians' movement and their visual/spatial experiences as they cross the bridge and progress along the Grand Esplanade between the Nodes. Movement in both north to south and south to north directions shall be simulated.

- The urban design intention for requiring a more 'intimate' spatial sequence is to ensure that alternative bridge designs fully consider and 'empathize' with the 'person on the boulevard' and capture the sense of 'being there'.

- From the perspective of the pedestrian realm of the existing bridge, making the crossing is pleasurable as well as convenient. It is filled with sensory stimuli. The bridge's wooden boardwalk and the heavy steel triangulated superstructure create a distinct sense of place with an obvious historical lineage. The boardwalk offers spectacular panoramic views towards the river shorelines, the Gatineau Hills and the up-river horizon. The panoramas encompass the forested, steeply sloped escarpments on the Ottawa side capped by Canada's most symbolically important buildings—the Parliamentary Triad and the Supreme Court, beyond to the Islands, a hint of Chaudière Falls below the Portage Bridge that connects to the gently sloping Gatineau shoreline and on to the Museum of Canadian History.

- Analyses of the visual and material attributes of the existing bridge will provide the 'datum' or 'base case' for reviewing and evaluating alternative new bridge design elements. Significant changes and improvements in comparison with the existing bridge, should be fully documented to facilitate assessment.

- Consider the enhancement of the pedestrian realm in terms of pedestrian/cyclist comfort and sensory, experiential qualities of the bridge, e.g., tactile qualities of materials and details, weather protection measures and/or seasonal adaptations, special viewing or spectator opportunities, infrastructure to support special celebratory events, auditory experience, etc.

- The eye level of all simulated pedestrian views shall not exceed 1.80 metres above the ground/deck level. Lower eye levels should also be tested particularly at 'lookout' places, in consideration of the multiplicity of users.

- Priority should be given to the pedestrian experience but the visual, spatial experiences for cyclists and vehicle driver/passenger users of the route should also be analyzed and compared with existing bridge experiences.

- While the full range of sensory experiences cannot be fully simulated nor assessed in advance of implementation, the visual characteristics of alternative new bridge designs can be anticipated and visualized through computerized simulations. Such tools should be used to advantage; both to support and inform the design process, as well as facilitating comprehensive assessment by design professional peer groups and public audiences.

- The bridge design should stimulate and be pleasing to the other senses, beyond the visual, wherever possible, to expand and improve the holistic sensory experience and to be inclusive of people of all abilities.

- Recommended design modifications to existing bridge approach routes and connections to the Nodes as part of design explorations of the Confederation Boulevard spatial sequence will be encouraged. However, since no commitment has been made at this time to implement such modifications, alternative bridge designs should not be dependent on such design modifications that are beyond the immediate contract.

Appendix C—Criteria Checklist

This section contains the overall design performance criteria checklist. Each criterion has been assigned to be Mandatory, i.e., must be met.

Key evaluation criteria for comparing different options at the concept design stage.

1.0 Urban Design Framework				✓
1.1 Heritage, Archaeology & Cultural Landscape	UD1	**UD1a**	**Visual Integrity**	
		UD1b	**Central Capital Landscape**	
		UD1c	Re-use of Materials	
		UD1d	Integrate with Shoreline	
		UD1e	Protect Archaeological Resources	
		UD1f	Manage Archaeological Resources	
1.2 Indigenous Culture	UD2	UD2a	Indigenous Perspectives	
1.3 Confederation Boulevard	UD3	UD3a	Confed Blvd Guiding Principles	
		UD3b	Grand Esplanade	
		UD3c	Streetscape Elements	
		UD3d	Laurier/Allumettieres Node	
1.4 Natural Environment	UD4	UD4a	Ottawa River Corridor	
		UD4b	Species Inventory & Habitat	
		UD4c	Native Vegetation	
1.5 Climate & Microclimate	UD5	UD5a	Designed to Last 125 Years	
		UD5b	Withstand Storm Events	
		UD5c	Impacts during Storm Events	
		UD5d	Sustainable Solutions	
		UD5e	Moderate Microclimate Extremes	

2.0 Public Space				✓
2.1 Mobility	PS1	PS1a	Active Mobility	
		PS1b	Pedestrian Through-Route	
		PS1c	Bi-Directional Cycleway	
		PS1d	Roadway	
		PS1e	Laurier/Allumettieres Intersection	
2.2 Public Space & User Experience	PS2	**PS2a**	**Public Space Amenity**	
		PS2b	Supplementary Design Elements	
		PS2c	Integrate Infrastructure	
		PS2d	Boast User Experience	
2.3 Shoreline Connectivity	PS3	PS3a	New Pathways	
		PS3b	North Abutment	
		PS3c	South Abutment	
		PS3d	Shoreline Pathway Landscape	
2.4 Universal Accessibility & Inclusivity	PS4	PS4a	Universal Access	
		PS4b	Regulation Compliance	

3.0 Bridge Expression				✓
3.1 General Arrangement	BE1	**BE1a**	**Plan Configuration**	
		BE1b	Elevation	
		BE1c	**Cross Section**	
		BE1d	Navigation Channel	
3.2 Visual Form & Image	BE2	**BE2a**	**Legacy & Landmark**	
		BE2b	**Unique and Meaningful**	
		BE2c	**Respond to Place**	
		BE2d	**In-Scale with Surroundings**	
		BE2e	**Viewing Experience**	
3.3 Design Exellence	BE3	**BE3a**	**Excellence**	
		BE3b	**Timeless Visual Effect**	
		BE3c	Bridge Detailing	
		BE3d	Secondary Elements	
		BE3e	Crash-Tested Barriers	
		BE3f	Abutments	
3.4 Materials & Finishes	BE4	**BE4a**	**Honour Capital Palette**	
		BE4b	Materials & Finishes	
3.5 Lighting	BE5	**BE5a**	**Integrate within Landscape**	
		BE5b	New Lighting Aesthetics	
		BE5c	Light Fixture Performance	

4.0 Views & Visual Experience				✓
4.1 Views Protection	VA1	**VA1a**	**Viewpoint #6**	
		VA1b	**Preserve Viewsheds**	
		VA1c	Minimize Visual Intrusions	
4.2 Views towards the Bridge	VA2	**VA2a**	**Selected Viewpoints**	
4.3 Spatial Sequence	VA3	VA3a	Enhanced Spatial Sequence	
5.0 Other NCC Standards & Requirements				
	ON1	ON1a	Criteria Updates/Other Factors	

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