

AOPFN Preliminary Comments on the Initial Project Description for the Alexandra Bridge Project

Algonquins of Pikwakanagan (AOPFN) provides the following comments on the Initial Project Description (IPD). AOPFN considers these comments preliminary as AOPFN has not had opportunity to resolve concerns with PSPC prior to publicly providing comment. AOPFN looks forward to further engagement with PSPC and IAAC regarding these comments. **Table 1** provides a list of concerns and recommendations for information to be provided in the Detailed Project Description and or Tailored Impact Statement guidelines and **Table 2** provides information regarding initial concerns with the Project based on information received to-date.

Table 1 AOPFN comments on the IPD including recommendations for the DPD and/or TISG

Comment #	IPD Reference	Concern	AOPFN Recommendation
1	Project Description Part A, Section 1 p. 2	PSPC on this page and throughout the document refers to ‘Indigenous Partners’.	AOPFN requests in future all reference to Indigenous Partners be removed in future documents and be replaced with “Affected Indigenous Nations” – while participating in the impact assessment AOPFN has not provided Free, Prior, and Informed Consent to the Project and should not be considered a “Partner”
2	Project Description Part A, Section 4.7, Table 4-2, p. 65	AOPFN is concerned that Indigenous Participation in Bridge alignment and alternative means assessment is not explicitly included as part of future engagement activities. AOPFN Algonquin Knowledge must inform the development of criteria and weighting for the selection process for bridge alignment.	AOPFN requires participation in the alignment selection process and alternatives assessment in collaboration with the Proponent.
3	Project Purpose and Need Part B, Section 7.1 p. 76	PSPC mentions that land and river infrastructure improvements may be necessary or desirable, including ecosystem enhancements. AOPFN needs to be involved in future land and river infrastructure improvements.	AOPFN needs to be part of the identification of any land and river infrastructure improvements including: <ul style="list-style-type: none"> identifying potential improvements, e.g., riverine travel improvement; creation of lost or under-represented features, e.g.,

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			<p>rapids or eddy pools; fish habitat retention or creation; edible/medicinal plantings; wildlife habitat features</p> <ul style="list-style-type: none"> • Workshop(s) with AOPFN and PSPC representatives to plan and design the improvements • identify necessary study and assessment needs to design improvement(s), develop study plans, and assign roles and responsibilities
4	Project Purpose and Need Part B, Section 7.3 p. 77	PSPC states one vision of Confederation Boulevard is “to create a memorable image ... reflective of Canadian values, heritage...”.	AOPFN recommends that PSPC commit to working with AOPFN to identify AOPFN history and values that may be able to be captured in the design of Confederation Boulevard. Any preliminary design elements and features that can be shared should be provided to AOPFN and should be presented in the DPD.
5	Alternatives to the Project Part B, Section 9.1, p. 70	<p>The draft IPD notes that, “Based on the cost estimates developed, indefinite maintenance of the existing structure was determined to be more costly over the next 75 years” (p. 70).</p> <p>It is not clear if the costs for repair outweigh any cultural or environmental impacts or if this will be further investigated in future.</p>	Please provide further information to AOPFN on next steps for “Alternatives to” assessment and “Alternative means” assessment to AOPFN and within the IPD acknowledge a commitment to engage with Indigenous groups on Alternatives assessment.
6	Alternative Means to Project Execution Part B, Section 9.2, p.72-73	The IPD states, “An important aspect under review is how to deconstruct the existing bridge and rebuild a new one. Design, engineering, environmental, social, and economic impacts will affect the selection of the approach” (p.72). AOPFN is concerned that cultural	Revise wording to recognize potential impacts to AOPFN and other indigenous groups Culture. Recommendations provided in AOPFN comment #6 apply in this circumstance as well.

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		impacts were not included in this statement.	
7	Biophysical environment and potential impacts Part C, Section 14	Section 14 does not adequately recognize the cumulative context in describing the current conditions of the biophysical environment	Cumulative effects in the Ottawa River are a serious concern to AOPFN that must be a key focus of this impact assessment.
8	Biophysical environment and potential impacts Part C, Section 14	Of the numerous reports used to inform the potential environmental impacts of The Project (Appendix G, referenced here), only 1 document is based in Indigenous Knowledge	<p>PSPC must provide additional details in this section regarding how Indigenous Knowledge has or will be integrated into the description of the environment and potential impacts. In particular, a more thorough investigation to locate reports, maps, and documents that hold Indigenous and AOPFN environmental knowledge (that are permissible to be shared), must be included in the desktop review of potential environmental impacts. AOPFN looks forward to participation in the planned desktop review.</p> <p>It should be noted that reports uncovered from desktop review may not contain or include AOPFN-specific Algonquin knowledge. AOPFN looks forward to collaborating on the desktop review. The proponent must also ensure that AOPFN is engaged and consulted with respect to the Nation's specific Algonquin knowledge in consideration of the Project impacts in addition to the proposed desktop review.</p>
9	Biophysical environment and potential impacts Part C, Section 14	Preliminary potential adverse impacts and mitigation of the Project were evaluated through consideration of The Project without the knowledge of environmental values or specialized AOPFN Algonquin Knowledge of this area and	AOPFN requests that PSPC adopts a holistic design approach, that includes AOPFN Algonquin knowledge throughout the entire process of deconstruction, construction, mitigation, and restoration planning. AOPFN expects the Proponent to work with AOPFN

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		interconnected aquatic and terrestrial ecosystems.	to identify methods and approaches to achieve this to be included in the DPD.
10	Biophysical environment and potential impacts Part C, Section 14 p. 102	‘Residual impacts’ do not mention impacts to AOPFN’s loss of access and use of this area. Loss of access and degradation of this area has greatly and negatively impacted AOPFN’s economic and cultural way of life.	The loss of AOPFN’s ability to use this land for the last two centuries must be acknowledged and accounted for in this assessment which will require accompanying mitigation. AOPFN requests acknowledgement in the IPD that the replacement of the bridge continues the presence of the bridge and associated impacts for years to come. As such, AOPFN expects PSPC to collaborate with and ensure that AOPFN is supported to conduct appropriate and comprehensive eco-cultural restoration of this area to the spatial extent identified by AOPFN Knowledge keepers as a component of offsetting. In addition, AOPFN must be returned a renewed ability to access the area and potentially elsewhere as compensation for the continued loss of this area.
11	Biophysical environment and potential impacts Part C, Section 14	AOPFN needs more detailed description, as well as scale drawings, photographs, etc. of the existing structures, the habitat on and around these structures; cofferdams and habitat in and around where these are to be placed; and any other in-water and shoreline works.	PSPC is requested to provide additional Project information to AOPFN when it is available and expects to also see this in the DPD.
12	Biophysical environment and potential impacts Table 14-1 Part C, Section 14 p. 112	PSPC describes the Valued Components (VCs) and spatial boundaries they intend to use to assess impacts, namely the Project Development Area (PDA) and the Local Assessment Area (LAA). Table 14-1 provides the Valued Components and	PSPC is requested to engage with AOPFN to review and update the list of valued components and to determine the spatial boundaries of the impacted area for the Project for each VC, informed by AOPFN Algonquin knowledge and empirical data.

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		<p>the spatial extent of the LAA that will be used for each of the Valued Components.</p> <p>AOPFN expects that the VCs and spatial areas for assessment will be identified in consideration of AOPFN Algonquin knowledge. The LAA for each of the 7 Valued Components (buffers around the PDA) do not include AOPFN values or AOPFN Algonquin knowledge. Specifically, the LAAs for Drainage and Surface Water; Vegetation; Wildlife and Wildlife Habitat; and Aquatic Environment are smaller than AOPFN requires.</p> <p>AOPFN expects that the Aquatic Environment and Drainage and Surface Water LAA's should more closely reflect the expected changes to the water flow and sediment transport pattern in the Ottawa River that will result from a) cofferdams during construction, b) change in pier and shoreline form during operation. Although PSPC predicts Project-related impacts will be encompassed within their 200-m PDA buffer, AOPFN expects these changes will extend beyond 200 meters, primarily in the downstream direction from the PDA. Changes to these Valued Component's LAAs may create changes in the other Valued Component's LAAs, for example Vegetation.</p>	<p>Consideration of AOPFN-specific knowledge needs to be included in identifying appropriate valued components and indicators, as well as defining the spatial boundaries of local and regional assessment areas.</p> <p>For both the LAA and the RAA, AOPFN expects PSPC to share the rationale for selecting the spatial extents of assessment and to commit to working with AOPFN to revise VCs and spatial extents to be included in the DPD.</p>

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		AOPFN expects that PSPC will be using a Regional Assessment Area (RAA) in addition to the PDA and LAA, in order to assess the proposed Project's contribution to cumulative effects.	
13	Acoustic Environment Part C, Section 14.1.2 p. 118	The Acoustic Environment section only includes impacts to human health and does not consider wildlife or aquatics. AOPFN is concerned with impacts to terrestrial and aquatic species.	PSPC to include an evaluation of the impacts of acoustic noise to include terrestrial and aquatic species in the Project area in the DPD. PSPC is requested to ensure that AOPFN Algonquin knowledge is integrated into the noise assessment and development of a mitigation plan for any impacted species.
14	Biophysical environment and potential impacts Part C, Section 14.1.3.1.1 p. 124	In discussing potential impacts to physiography, geology, and hydrogeology, PSPC mentions excavations and dewatering. It is unclear from descriptions and scale drawings provided, how many and where excavations are anticipated, nor how much dewater volume PSPC could expect to be handling, and their initial thoughts on where they will direct this water. AOPFN desires to understand, based on excavation locations, recharge rates, dimensions and duration of excavation, etc – what volume is PSPC anticipating to handle per day? What is anticipated total volume?	AOPFN expects PSPC to provide adequate information, including figures at suitable scale to AOPFN directly for AOPFN to understand where excavations will occur, how much water could be dewatered, and where PSPC intends to direct this water, including cofferdams that may be far from shore. AOPFN also recommends this information be provided in the DPD.
15	Table 14-4: Project interactions with physiography, geology and hydrogeology.	AOPFN is concerned that groundwater withdrawal rate amounts for dewatering	PSPC is requested to conduct further study of the interconnectedness of groundwater, surface water, and the hydrological system

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	Part C p. 125	may negatively impact the interconnected hydrological systems.	within the watershed, once daily pump rate amounts are known. PSPC is requested to support AOPFN in reviewing this additional hydrological study.
16	Biophysical environment and potential impacts Part C, Section 14.1.4 p. 127	PSPC mentions that some banks “are lined with armour stone and large boulders” (p. 116). In the sub-section discussing potential impacts, PSPC does not explicitly state whether there are any proposed removal or additions to bank protection associated with the proposed Project.	PSPC must provide narrative description and scale drawings of any proposed bank protection removals or additions for AOPFN review, this should also be included in the Detailed Project Description.
17	Drainage and Surface Water Part C, Section 14.1.4 p.127	The cumulative impacts of the hundreds of dams throughout the Ottawa River watersheds have drastically impacted the natural water flow activities of all water ways. This modern human-engineered regulation of water negatively impacts the species that depend on healthy and substantial water flows – including fish, aquatic animals, and terrestrial species within the riparian zone.	This section as written currently minimizes consideration of the highly impacted / regulated aquatic environment in which the Project is situated and that it ultimately contributes to. There needs to be a disclaimer of the negative impacts to the environment from the highly regulated rivers and streams in the Ottawa River watersheds in the IPD, and documentation on how the damming of rivers has disproportionately impacted the AOPFN and other Indigenous Nations in this region included in assessment. The cumulative impacts of the dams must be assessed and a subsequent restoration of more natural flows within the watershed must be considered. The impacts of the Chaudière Dam (2 km away) to fish and fish habitat need to be explored and understood in connection to the Project and this should be referenced in the DPD.

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18	Biophysical environment and potential impacts Part C, Section 14.1.4.1.1 p. 129	<p>While PSPC recognizes that erosion and sedimentation rates can be influenced by changes in water flow and velocity, resulting from changes in the piers, they do not describe what impacts may result, e.g., change in downstream deposition areas. This is referred to as ‘catch-and-release’, raising a point but dropping it from consideration.</p> <p>Related to this, PSPC does not mention or describe changes in water flow and velocity that will result from cofferdam placement on the riverbed.</p> <p>In fact, in reading PSPC’s potential impacts section, it is apparent PSPC considers the proposed Project’s impacts to be related to water quality; increased sediment load during construction and possible contaminants from the bridge deck during operation.</p> <p>While these are important impact pathways, especially sediment load during construction, AOPFN sees significant gaps in this understanding.</p> <p>AOPFN predicts the largest impact to surface water from this project will be change to water flow and velocity, especially related to the cofferdams. This impact will extend to how fish and other wildlife use the water by virtue of this physical change.</p>	<p>PSPC is requested to conduct a construction-stage and operation-stage sediment transport model, including predictions of deposition area(s), and recalibrate study and assessment boundaries.</p> <p>Since this is the primary impact source of the proposed Project, AOPFN expects much more detail in PSPC’s DPD, including such things as:</p> <ul style="list-style-type: none"> • Detailed descriptions of such things as: <ul style="list-style-type: none"> - temporary barge construction (where, dimensions, anticipated water quality; and fish habitat impact?) - Cofferd dams (#, placement, dimensions) – predicted impact on water quality (and fish habitat) - Caisson and cofferdam dewatering – predicted volumes, dewatering location, schedule - Removal of cofferdam – predicted water quality impact - Abutment excavation (dimensions, pit dewatering expectations, schedule) - De-construct piers, abutments and placing fill • Provide figures and scale drawings at adequate scale • Provide conceptual schedule for works and activities in and around water, for example: start and end of

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		<p>Secondarily, this will change sediment transport in the river and there is potential for noticeable change in downstream deposition areas, especially resulting from change to flow around the cofferdams.</p> <p>As AOPFN already mentioned, spatial extent of study areas need to capture impacts, this issue being the fundamental concern AOPFN has with the spatial boundaries.</p>	<p>coffer dams, anticipated period of dewatering; start and end of abutments construction (in or near water portions); start and end of bank protection removal/installation</p>
19	Deconstruction and Construction Part C, Section 14.1.4.1.1 p. 129	<p>There is no mention of impacts to fish or fish habitat in connection to the changes in water quality (deleterious substances) during deconstruction and construction. There is mention of toxins and high levels of turbidity and velocity in this section, yet no mention of the impacts to fish and fish habitat.</p>	<p>PSPC must revise this section to include a more holistic analysis reviewing potential toxins released into the Project Area water way and interconnected shoreline and embarkment, that is informed by AOPFN Algonquin knowledge.</p> <p>PSPC must commit to engage with AOPFN to determine the impacts of construction and deconstruction, including around impacts / changes to water quality.</p>
20	Mitigation and Protective Measures Part C, Section 14.1.4.2 p. 130	<p>This section does address the creation of an Environmental Protection Plan (EPP) although does not consider the knowledge of AOPFN or other impacted Indigenous Nations.</p> <p>AOPFN expects to be afforded the opportunity to guide and develop environmental management plans, including environmental enhancements. Several statements are made throughout</p>	<p>AOPFN's interests and environmental knowledge must be supported, funded, and integrated into the framework of the anticipated components of the EPP for mitigation and protective measures in this section. The systems thinking process for this section is reductionist (not holistic), nor does it consider cumulative impacts. Please include commitment to directly engage AOPFN and AOPFN knowledge keepers on the development of the EPP within the IPP.</p>

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		the IPD regarding development of environmental management plans; AOPFN suggests clarity in roles and input be made throughout future documents, e.g., the DPD, to reflect AOPFN's anticipated input.	
21	Biophysical environment and potential impacts Part C, Section 14	AOPFN needs more detailed description, as well as scale drawings, photographs, etc. of the existing structures, the habitat on and around these structures; cofferdams and habitat in and around where these are to be placed; and any other in-water and shoreline works.	PSPC is requested to provide additional Project information to AOPFN when it is available and expects to also see this in the DPD.
22	Plant Species at Risk Part C, Section 14.2.1 p. 136	Species at risk management can be a valuable conservation and strategic restoration tool. Stating this, all plant species are important to AOPFN in the Project area and the Project's impacts to plant species need to be managed in a holistic way.	AOPFN knowledge keepers must be included in the assessment of creating values for plants in the framework design of the Project, as well as strategies for eco-cultural restoration.
23	Biophysical environment and potential impacts Part C, Section 14.2.1.2 p. 140	PSPC mentions pre-construction survey that will be undertaken to confirm plant SAR presence, presumably as well as to identify weed populations and inventory and classify plant communities. AOPFN would like to clarify whether PSPC also plans to inventory and classify aquatic and semi-aquatic plant communities.	PSPC is requested to confirm the scope of the plant survey. AOPFN requests involvement of Algonquin knowledge keepers to identifying the appropriate scale and scope of this survey. AOPFN looks forward to receiving further information from PSPC regarding the scope and timing of studies.
24	Biophysical environment and potential impacts Part C, Section 14.2.1.3 p. 142	PSPC refers to a compensation plan that includes re-planting and/or financial contributions for impacts to (off-site) natural areas and vegetation.	AOPFN requests that PSPC provide this additional information directly to AOPFN and recommends this be included in the DPD.

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		<p>AOPFN requests PSPC provide description and site drawings of on-site and off-site natural areas, as well as trees, by species, that have roots or branches on-site (even if the tree stem is off-site) to better understand the compensation plan.</p> <p>Also provide conceptual compensation plan based on PSPC's current understanding of impacts to natural areas and vegetation.</p>	<p>In addition AOPFN Algonquin Knowledge of plant species must be included in the design of any habitat restoration plans for the Project</p>
25	<p>Species at Risk (Wildlife) Part C, Section 14.2.2 p. 142</p>	<p>All wildlife species are important to AOPFN within the Project area.</p>	<p>AOPFN knowledge keepers must be included in creating the list of species, designing values for wildlife, and in strategies for eco-cultural restoration. AOPFN must be part of the design and development of habitat restoration plans.</p>
26	<p>Biophysical environment and potential impacts Part C, Section 14.2.2 p. 142-150</p>	<p>PSPC does not include consistent discussion/assessment of wildlife aquatic, semi-aquatic, and riparian habitat that may be impacted by the project. For example, there is general discussion of potential impacts to turtles from sediment load (p. 144), but Table 14-7 does not indicate work in aquatic environments will impact habitat. AOPFN expects PSPC to consider these types of impacts in their assessment; recognizing the potential impacts from change to sediment transport, deposition areas, etc.</p>	<p>Include discussion in the wildlife and wildlife habitat section of the DPD to account for impacts from aquatic work and activities, and changes to the water flow and sediment transport regimes.</p>
27	<p>Mitigation and Protective Measures (Wildlife) Part C, Section 14.2.2.4 p. 146;</p>	<p>AOPFN Algonquin knowledge of species present, species interactions, and migration patterns are not mentioned in the mitigation and protective measures assessment.</p>	<p>AOPFN Algonquin knowledge must be included in the design of mitigation and protective measures for wildlife. AOPFN Algonquin Knowledge Keepers also have specialized knowledge of the ways in which</p>

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	Enhancement Measures (Wildlife) Part C, Section 14.2.2.5 p. 150		the Project area can be restored and must be included in the design of eco-cultural improvements to the area post construction. PSPC needs to commit to developing protective measures and enhancement measures for wildlife with Indigenous groups.
28	Potential changes to Migratory birds, as defined in subsection 2(1) of the Migratory Birds Convention Act, 1994 Part C, Section 14.2.2.6 p. 150	A holistic, non-reductionist and long-term vision for birds and birds migration routes impacted by The Project was not considered. AOPFN Algonquin Knowledge needs to be included in the design of the bird field surveys during project design progress	AOPFN and AOPFN Algonquin Knowledge Keepers need to be part of the development of the design of the bird field surveys during project design progress.
29	Aquatic Environment Part C, Section 14.2.3 p. 150	The entire Aquatic Environment section exclusively uses a western science approach to understanding the study area. There is no research lens or supporting documentation included that incorporates an Indigenous understanding of the aquatic and interconnected environment, nor in the creation of buffer zones.	AOPFN Algonquin knowledge of the aquatic environment (species, management, history, cultural use, trade, abundance, life cycles, etc.) must be upheld and braided into the entire Aquatic Environment section. AOPFN needs to be included in all enhancement and restoration activities of impacted species. PSPC must work with AOPFN to address gaps in the Aquatic Environment characterization in the DPD.
30	Biophysical environment and potential impacts Part C, Section 14.2.3.6 p. 158	PSPC provides an overview of their regulatory requirements for harmful alteration, disruption or destruction of fish habitat. AOP notes PSPC references to the difference in some aquatic species at risk protection between provincial and federal legislation, depending on where they are	AOPFN needs to be involved in the process of considering the potential impacts of <i>all</i> aquatic species at risk, regardless of which SAR regulations apply. As a single area that spans multiple jurisdictions, PSPC should use a precautionary and holistic approach when considering impacts and for standards of protection, offsetting, and mitigation for aquatic species at risk.

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		<p>listed (e.g. within ON, QC, or federal legislation).</p> <p>AOPFN notes PSPC’s statement that “details of habitat offsetting will require further analysis and calculation of habitat impacts at the detailed design stage” (p. 146). AOPFN expects habitat offsetting details be required within the IS so AOPFN can better understand impact mitigation and compensation.</p> <p>AOPFN also notes PSPC reference to calculating footprint from the PDA. AOPFN expects the following inputs for calculating ‘footprint’, or HADD:</p> <p><u>Net habitat</u></p> <ul style="list-style-type: none"> • old vs new pier footprint • old vs new embankment • temp coffer dam placement • water flow change and resulting scour/deposition change (during construction, and old vs new piers) • need to account for cumulative effects (see Section 14.2.3.5 of the IPD) <p><u>Information needed:</u></p> <ul style="list-style-type: none"> • habitat types, function – overlay footprint • compensation ratios that will be used • conceptual designs 	

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		<p>This information can and should be included in PSPC’s Impact Statement so AOPFN can make an informed decision on how impacts will be addressed; and to demonstrate to IAAC how IK has informed the project.</p>	
31	<p>Future Studies Part C, Section 14.3 p. 159</p>	<p>Although there is a section “Baseline Conditions: Indigenous Peoples”, AOPFN knowledge is not mentioned / considered in the other list of future studies.</p>	<p>AOPFN appreciates the information provided by PSPC concerning future studies. Reference should be made in the IPD concerning planned continued AOPFN engagement on the design and creation of other future study materials.</p> <p>Please note that AOPFN , in addition to collaboration on studies with PSPC, needs to be included in the entirety of framework design for planning and mitigating environmental concerns for the Project Area.</p>
32	<p>Climate Change Assessment Part C, Section 14.3.1 p. 162</p>	<p>AOPFN and AOPFN Indigenous Knowledge is not included in the Climate Change Assessment section.</p>	<p>Climate change assessments need to use a more holistic framework and include Indigenous Knowledges. AOPFN has valuable AOPFN Algonquin knowledge to help support the development of this section, and their knowledge should be considered and utilized in mitigating and planning for the impacts and parameters of climate change.</p>
33	<p>Socio-economic setting, Section 15, p. 163</p>	<p>Section 15 notes, “To identify potential social, economic, and human health considerations relevant to the Project, a desktop review of available information in the form of reports, maps and publicly available databases has been conducted” AOPFN was not aware that this review was taking place.</p>	<p>AOPFN would like to see any reporting associated with this Desktop Review and requests that a similar desktop review process for the human environment be established to mirror what PSPC is planning on doing for the biophysical desktop review.</p>

Table 2 AOPFN’s initial concerns with the Project based on information received to-date

#	Project Component/Activity/Impact	Key Concerns and Recommendations	PSPC and NCC Integrated Project Team (IPT) Response
AOPFN Cultural Heritage			
	Respect for culture of original inhabitants From AOPFN: Aspects related to design, and consideration of Algonquin culture, language and history has been discussed with the proponent. This inclusion has also proposed as part of the initial design plans of the bridge.	Rename Alexandra bridge with an Algonquin word or name and organize a ceremony as part of renaming process.	
		Ensure Algonquin culture and history is acknowledged and reflected in the bridge design/structure.	
		Erect statues of Indigenous veterans at the site.	
		Use suspension bridge design to avoid dominating the cultural landscape.	
		Use Algonquin language first on the bridge signage.	
	Culturally sacred sites	AOPFN is concerned about impacts to Chaudière Falls and Victoria Island, which are sacred to members.	Valued components and their spatial boundaries will be reviewed and confirmed as the Project becomes better defined at the design stages. This will provide opportunities to identify valued components of concern to the Algonquins of Pikwakanagan First Nation and to establish appropriate boundaries for the assessment of impacts from the Project. The spatial boundaries for the cumulative assessment on valued components of interest will be established in collaboration with Indigenous Partners to determine if the residual effects of the Project after the application of mitigation, may, in combination with others, cause a significant change now or

			in the future in the existing characteristics of the valued component.
		Disruption of cultural and spiritual practices.	Additional studies are anticipated to be required to complete the Impact Statement of the Project. During this Phase of impact assessment, the IPT will engage Indigenous Partners to identify concerns and determine appropriate studies needed as well as opportunities to include Indigenous Knowledge.
		There must be acknowledgement that the areas are unceded Algonquin Territory	
		AOPFN needs to be closely involved at every step of the project as partners	The IPT will seek advice from internal and external experts and will engage with Indigenous Partners to contribute Indigenous Knowledge that will help to shape proposed mitigation, enhancement measures and compensation measures if required.
		Chaudière Falls and Victoria Island areas should be marked as Indigenous Protected Conservation Areas (IPCA)	
		The Proponent must arrange a site visit for AOP to assess proximity to Chaudière Falls and explore possible relocation	
	Protection of cultural heritage	AOPFN concerned about further impacts to and loss of cultural heritage.	Additional studies are anticipated to be required to complete the Impact Statement of the Project. During this Phase of impact assessment, the IPT will engage Indigenous Partners to identify concerns and determine appropriate studies needed as well as opportunities to include Indigenous Knowledge.
		AOP requires involvement in Project-related cultural heritage/ archaeological work.	Additional studies are anticipated to be required to complete the Impact Statement of the Project. During this Phase of impact assessment, the IPT will engage Indigenous

			Partners to identify concerns and determine appropriate studies needed as well as opportunities to include Indigenous Knowledge.
Aquatic environment			
	Wetlands	AOP concerned about impacts on wetlands/ riparian areas.	The IPT looks forward to working with Indigenous Partners as part of the engagement process to incorporate Indigenous Knowledge to the baseline information used in the assessment of potential biophysical impacts that will help to shape proposed mitigation, enhancement measures and compensation measures if required.
Water and Water Management (Surface and groundwater quality, quantity, and flow)			
	Water quality	AOPFN concerned about water contamination. Proponent needs to ensure that water is protected from debris.	<p>An Environmental Protection Plan (EPP) will be prepared, which will stipulate the environmental protection measures and commitments to be carried out by the contractor during construction.</p> <p>A turbidity curtain (or other equivalent measure) around the perimeter of the in-water work zone will isolate the construction zone, reducing water quality impacts and the downstream migration of silt and sediment from dewatering activities (Section 14.1.4). The information requested [changes to water flow and velocity, especially related to cofferdams; impacts of these changes to fish and wildlife; sediment transport downriver] is not available at this stage of the Project. Further details will become available during the design stages of the Project and will form part of the Impact Statement. During that</p>

			Phase of impact assessment, the IPT will engage Indigenous Partners to contribute Indigenous Knowledge, identify concerns and discuss appropriate mitigation strategies Hydrological assessments are anticipated to be required in the design of the piers for the new bridge to understand the risks for the structure as well as impacts on navigation and sediment transport from potential changes in the water flow and velocity. This assessment will provide guidance in the selection and configuration of coffer dams, if needed in the construction stages, as well as approaches to reduce impacts and provide direction on mitigation needed to isolate the construction areas
		Proponent needs to ensure that contaminated snow is not allowed into the Ottawa River.	
		Proponent must develop and share with AOPFN a Hazardous Material Management Plan for potential spills.	During in-water construction activities, turbidity will be monitored daily to confirm there are no increases as a result of construction. A spill prevention and management plan will also be developed for the Project (Section 14.1.4).
		AOPFN should be provided data on yearly sewage dumping/spills in the Ottawa River, to assess water quality	
		AOP concerned about oil spills and existing contamination. Need for cumulative effects study	
	Water level	AOP concerned about low water levels of the Ottawa River	
	Navigation	Concerns about impacts to travel on the river.	Hydrological assessments are anticipated to be required in the design of the piers for the new bridge to understand the risks for the structure

			as well as impacts on navigation and sediment transport from potential changes in the water flow and velocity. This assessment will provide guidance in the selection and configuration of coffer dams, if needed in the construction stages, as well as approaches to reduce impacts and provide direction on mitigation needed to isolate the construction areas
		Need for navigation assessment	
Air quality			
	Air quality	AOPFN concerned about air pollution from construction contaminants	
Fish and Fish Habitat			
	Management	AOPFN Guardians to be carry out parallel monitoring of fish species (including total Project monitoring)	The IPT looks forward to working with Indigenous Partners as part of the engagement process to incorporate Indigenous Knowledge to the baseline information used in the assessment of potential biophysical impacts that will help to shape proposed mitigation, enhancement measures and compensation measures if required.
		AOP must be involved in fish rescue planning and fish management planning	Fish and mussels will be removed and/or rescued from the coffer-dammed area prior to complete dewatering, and the use of low impact coffer-dam materials such as Aqua-Barrier or Aqua Dam coffer dams will be preferred (Section 14.1.4).
		AOP must be involved in cofferdam placement	Hydrological assessments are anticipated to be required in the design of the piers for the new bridge to understand the risks for the structure as well as impacts on navigation and sediment transport from potential changes in the water flow and velocity. This assessment will provide guidance in the selection and

			<p>configuration of coffer dams, if needed in the construction stages, as well as approaches to reduce impacts and provide direction on mitigation needed to isolate the construction areas</p> <p>The information requested [scale drawings, photographs, etc., of the existing structures, the habitat on and around these structures; cofferdams and habitat in and around where these are to be placed; and any other in-water and shoreline works] is not available at this stage of the Project. Further details will become available during the design stages of the Project and will form part of the Impact Statement. During that Phase of impact assessment, the IPT will engage Indigenous Partners to identify concerns and determine appropriate mitigation strategies.</p>
		AOP requires data on how boats have impacted fish and fish habitat	
		Construction timing should take fish seasonal patterns into account.	Wherever possible, in-water construction activities will be timed to avoid sensitive fish-spawning windows to reduce harm to fish populations. Timing windows for in-water works will be determined with approval authorities during the detailed design stage (Section 15.2.3.4).
	More information	AOP must be part of baseline data collection and any planning around fish/aquatic habitat management.	The IPT looks forward to working with Indigenous Partners as part of the engagement process to incorporate Indigenous Knowledge to the baseline information used in the assessment of potential biophysical impacts that will help to shape proposed mitigation, enhancement measures and compensation measures if required.

			<p>Substantial details on the preliminary assessment of potential impacts to fish and fish habitat and initial mitigation measures are described in Section 14.2.3 – Aquatic Environment.</p> <p>Additional information will be obtained from the planned studies to characterise the aquatic habitat and determine the presence of species.</p>
		AOP requires fish population survey and spawning bed site data.	
		A Traditional Knowledge and Use Study that includes tributaries of the Ottawa River	<p>The IPT looks forward to working with Indigenous Partners as part of the engagement process to incorporate Indigenous Knowledge to the baseline information used in the assessment of potential biophysical impacts that will help to shape proposed mitigation, enhancement measures and compensation measures if required.</p>
		AOPFN concerned about impacts to fish and requires a new study conducted to determine the number of fish species impacted	<p>The Project will be reviewed in detail by DFO and is expected to require a Fisheries Act authorization. This Act and authorizations under it will ensure all potential impacts to fish and fish habitat for all construction activities are thoroughly evaluated, and that impacts are reduced and mitigated. If impacts cannot be adequately reduced or mitigated, we will work with DFO and our interested partners to propose compensation and/or habitat offset measures, as required.</p>
	Species of concern	Sturgeon, eel	
	Other Aquatic Species		

	Scope of assessment	AOP concerned about the absence of aquatic species other than fish in the Project assessment, such as aquatic plants, amphibians, etc.	Once the bridge design is advanced and construction activities and methods are determined, potential significant negative impacts on water temperature and flow levels in the vicinity of the bridge will be further evaluated, along with linkages to other potential impacts (disturbances to aquatic species, erosion of riverbank, etc.).
	Project timing	Construction timing should take seasonal patterns of aquatic life into account	Wherever possible, in-water construction activities will be timed to avoid sensitive fish-spawning windows to reduce harm to fish populations. Timing windows for in-water works will be determined with approval authorities during the detailed design stage (Section 15.2.3.4).
Sustainability			
	General	AOP concerned about the designation of “key species,” as all aspects of the environment are interconnected and valuable in the First Nation value system. All species affected by the Project should be considered and assessed for impacts.	
	Sustainable design	Proponents should use environmentally friendly components in project design - e.g., precast concrete, recycled steel, aluminum, solar powered component, waste reduction strategies.	Fish and mussels will be removed and/or rescued from the coffer-dammed area prior to complete dewatering, and the use of low impact coffer-dam materials such as Aqua-Barrier or Aqua Dam coffer dams will be preferred (Section 14.1.4).
Birds and Bird Habitat			
	General	AOP concerned about the protection of nesting and spawning areas.	The IPT looks forward to working with Indigenous Partners as part of the engagement process to incorporate Indigenous Knowledge to the baseline information used in the assessment of potential biophysical impacts

			that will help to shape proposed mitigation, enhancement measures and compensation measures if required.
		Need to avoid disturbance of any bird habitat.	The IPT will work with Indigenous Partners to contribute Indigenous Knowledge to identify species of concern, determine potential sources and magnitude of impacts of acoustic noise, establish monitoring protocols and possible mitigation strategies as appropriate.
		AOP requires a study conducted to identify bird habitat and bird populations in the study area	The IPT looks forward to working with Indigenous Partners as part of the engagement process to incorporate Indigenous Knowledge to the baseline information used in the assessment of potential biophysical impacts as well as impacts to Indigenous physical and cultural heritage.
Terrestrial Environment			
	Landscape	AOP concerned about impacts to Pentagon Park, wider landscape.	<p>The IPT looks forward to working with Indigenous Partners as part of the engagement process to incorporate Indigenous Knowledge to the baseline information used in the assessment of potential biophysical impacts that will help to shape proposed mitigation, enhancement measures and compensation measures if required.</p> <p>The Algonquins of Pikwakanagan First Nation and other interested Indigenous Partners will have opportunities to contribute to the identification, planning and design of potential land and river infrastructure improvements as well as studies required to support their development.</p> <p>Valued components and their spatial boundaries will be reviewed and confirmed as the Project becomes better defined at the design stages. This will provide opportunities</p>

			<p>to identify valued components of concern to the Algonquins of Pikwakanagan First Nation and to establish appropriate boundaries for the assessment of impacts from the Project.</p> <p>The spatial boundaries for the cumulative assessment on valued components of interest will be established in collaboration with Indigenous Partners to determine if the residual effects of the Project after the application of mitigation, may, in combination with others, cause a significant change now or in the future in the existing characteristics of the valued component.</p>
	Stewardship	Concerns about impacts to inherent role as Stewards of the land.	<p>The Environmental Protection Plan is developed by the construction team based on the structural design and construction activities. The Environmental Protection Plan components will be shared with Indigenous Partners as part of the engagement process to provide opportunities to contribute Indigenous Knowledge and address concerns.</p> <p>The Algonquins of Pikwakanagan First Nation and other interested Indigenous Partners will have opportunities to contribute to the identification, planning and design of potential land and river infrastructure improvements as well as studies required to support their development.</p> <p>Residual impacts would be further evaluated and confirmed at the Impact Statement phase of the IA process and recommended follow-up program measures. When more details are available at the bridge design stage, residual impacts on Valued Components (VCs) that</p>

			may contribute incrementally to existing cumulative effects will be evaluated and confirmed.
	Ground surface	AOP concerned about contamination of the ground surface from Project activities.	
	Vegetation	Concerns about impacts to and loss of culturally important plants, including traditional medicines.	The Algonquins of Pikwakanagan First Nation and other interested Indigenous Partners will have opportunities to contribute to the identification, planning and design of potential land and river infrastructure improvements as well as studies required to support their development.
Socio-economic Conditions			
	Asserting self-governance	There must be clear acknowledgement that the Project area is on unceded Algonquin Territory. Also, acknowledgement of AOPFN history and cultural heritage in the area. These should be reflected in Project-related documents.	
		Project impacts on future opportunities must be taken into account. For instance, AOP is currently exploring Rideau River for future economic opportunities	The IPT looks forward to working with Indigenous Partners as part of the engagement process to incorporate Indigenous Knowledge to the baseline information used in the assessment of potential biophysical impacts as well as impacts to Indigenous physical and cultural heritage.
		AOP must be included in all Project stages, from early planning, design and impact assessment.	The IPT will seek advice from internal and external experts and will engage with Indigenous Partners to contribute Indigenous Knowledge that will help to shape proposed mitigation, enhancement measures and compensation measures if required. The IPT has initiated engagement with Indigenous groups to determine if they wish to

			participate in this Project and provide opportunities for them to engage in the impact assessment as well as studies that inform this process. This engagement will continue for the duration of the Project.
		TEK/Algonquin Knowledge must be incorporated throughout Project stages.	<p>An update of the desktop review will be completed in summer 2022. The review will gather additional information published since the preliminary work for the development of the Initial Project Description was completed. This work will provide an opportunity to engage with Indigenous Partners to gather knowledge from available reports, maps or any other source materials (that are acceptable to be shared) that may hold Indigenous Knowledge to contribute to the assessment of potential biophysical impacts as well as impacts to Indigenous physical and cultural heritage.</p> <p>The additional information, including Indigenous Knowledge gathered in the desktop review, will contribute to a more detailed understanding of data gaps that require further investigation to evaluate potential biophysical impacts as well as impacts to Indigenous physical and cultural heritage.</p>
	Access to Project area	Ensure access to the area for AOPFN members, post Project and into the future. Present and future generations should never have to pay tolls.	Indigenous Partners will be engaged in the identification of impacts and residual impacts related to access to the area associated with the Project as well as the planning and design of appropriate mitigation and enhancement measures.
		AOP has a duty to preserve the land for future generations.	The IPT will seek advice from internal and external experts and will engage with Indigenous Partners to contribute Indigenous

			Knowledge that will help to shape proposed mitigation, enhancement measures and compensation measures if required.
	Compensation	Compensation for encroachment into unceded territory. Original bridge constructed without Algonquin/ AOP consultation; ecological and socio-economic impacts as a result. Negotiation on compensation for values foregone (past, present & future) needs to take place.	Per AOPFN's request wording in the IPD has been changed to: Engagement with Algonquins of Pikwakanagan First Nation is ongoing regarding identification of economic barriers and opportunities, further details are not available at this time.
		AOP to be given discount on LRT monthly pass, as compensation.	
	Employment/ training	To improve employment rates for AOP members, Proponent should invest in training and apprenticeship opportunities.	Engagement with Algonquins of Pikwakanagan First Nation is ongoing regarding identification of economic barriers and opportunities, further details are not available at this time.
	Socio-economic assessment	AOP should lead the socio-economic study (as well as health assessment), as opposed to the Proponent. AOP requires adequate capacity funding support for this.	The IPT looks forward to working with Indigenous Partners as part of the engagement process to incorporate Indigenous Knowledge to the baseline information used in the assessment of potential biophysical impacts as well as impacts to Indigenous physical and cultural heritage.
Bridge siting/ design			
	Alternatives assessment	AOP requires involvement in alternatives assessment (including alternative means).	The IPT will provide opportunities for Indigenous Partners to contribute Indigenous Knowledge to inform the design of the replacement bridge including an evaluation of alternative alignments.