

**Table 2 - Comparative Evaluation Summary Alternative Solutions
for the McEwen Bowstring Arch Bridge Class Environmental Assessment**



Areas of Consideration/ Criteria	Alternative No. 1 Do Nothing	Alternative No. 2 Rehabilitate the Bridge	Alternative No. 3 Remove Existing Bridge and Build a New Concrete Bowstring Arch Bridge	Alternative No. 4 Remove Existing Bridge and Build a New Precast Concrete Box Girder Bridge	Alternative No. 5 Remove Existing Bridge and Build a New Structural Steel Girder Bridge	Alternative No. 6 Remove Existing Bridge and Replace with a Prefabricated Pedestrian-Only Bridge	Alternative No. 7 Remove the Bridge
Description of Alternative	Bridge is left as is. Note: Transferring the bridge to TRCA ownership is a variation of this alternative, but its implications are not explored in this analysis.	The existing McEwen Bridge structure would be maintained, while reinforcing and/or restoring the deteriorating sections to improve the overall structural integrity of the bridge to allow full vehicular use.	Complete removal of the existing McEwen Bridge structure and the construction of a new 2-lane concrete bowstring arch bridge in the same vicinity.	Complete removal of the existing McEwen Bridge structure and the construction of a new 2-lane precast concrete box girder bridge in the same vicinity.	Complete removal of the existing McEwen Bridge structure and the construction of a new 2-lane structural steel girder bridge in the same vicinity.	Complete removal of the existing McEwen Bridge structure and replacement with a prefabricated steel bridge to allow for pedestrian use only.	Complete removal of the existing McEwen Bridge and no new structure built in its place.
1. Technical							
1.1 Potential to improve safety for bridge users.	None	High (positive effect)	High (positive effect)	High (positive effect)	High (positive effect)	High (positive effect)	Moderate
1.2 Constructability of proposed infrastructure.	None	Low constructability	High constructability	High constructability	High constructability	High constructability	High constructability
1.3 Potential for future maintenance requirements.	High	Moderate	Moderate	Moderate	Moderate	Moderate	None
2. Natural Environment							
2.1 Potential for short-term construction related effects on the aquatic environment.	None	High	High	High	High	High	High
2.2 Potential for short-term construction related effects on the terrestrial environment.	None	High	High	High	High	High	High
2.3 Potential for short-term construction related effects on baseflow and/or groundwater.	None	Low	Moderate	Moderate	Moderate	Moderate	Low
2.4 Potential for long-term effects on the aquatic environment.	None	Low	High	High	High	High	Low
2.5 Potential for long-term effects on the terrestrial environment.	None	Low	Low	Low	Low	Low	Low
2.6 Potential for long-term effects on baseflow and/or groundwater.	None	Low	Low	Low	Low	Low	Low
3. Social Environment							
3.1 Potential for disturbing existing residences, community, and recreation facilities through temporary and/or permanent effects (i.e. construction noise, dust, property access disruption, etc).	None	Moderate	Moderate	Moderate	Moderate	Moderate	High
3.2 Potential to maintain and improve access to the Humber Valley Heritage Trail for cycling and walking.	Moderate/None	High (positive effect)	High (positive effect)	High (positive effect)	High (positive effect)	High (positive effect)	None

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3.3 Potential for requiring the acquisition of private property.	None	Moderate	High	High	High	High	None
3.4 Degree of compatibility with Regional and Local Official Plans (OP), Pedestrian and Bicycle Plans, and other relevant policies and plans.	High compatibility	High compatibility	Moderate compatibility	Moderate compatibility	Moderate compatibility	Moderate compatibility	Low compatibility
3.5 Potential for creating a visually appealing structure.	Moderate	High	High	High	High	High	None
4. Cultural Environment							
4.1 Potential for negative effects on archaeological resources.	None	Low	Low/Moderate	Low/Moderate	Low/Moderate	Low/Moderate	Low
4.2 Potential for negative effects on built heritage resources.	None	Low/Moderate	Moderate/High	High	High	High	High
5. Financial							
5.1 Potential cost for acquiring property.	None	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
5.2 Potential Capital costs to the City of Vaughan for implementation.	None	Approximately \$793,000.	Approximately \$1,695,000.	Approximately \$1,345,000.	Approximately \$1,280,000.	Approximately \$780,000.	Approximately \$284,000.
5.3 Potential future maintenance costs.	High	Moderate	Moderate	Moderate	Moderate	Moderate	None
Ranking of Alternative Solutions	Pros - low immediate cost Cons - Does not address problem/opportunity statement - Conflicts with City's Pedestrian and Cycling Master Plan - Liability issues continue to exist	Pros - preserves cultural heritage - improves safety - best protects environment - moderately high cost Cons - provides only 1-lane vehicular access	Pros - preserves cultural heritage - improves safety - provides 2-lane bridge Cons - highest cost	Pros - improves safety - provides 2-lane bridge Cons - high cost - loss of cultural heritage	Pros - improves safety - provides 2-lane bridge Cons - high cost - loss of cultural heritage	Pros - improves safety - moderately high cost Cons - does not allow vehicular access - loss of cultural heritage	Pros - improves safety - low cost Cons - loss of cultural heritage - loss of recreational use - loss of potential vehicular connectivity
	7th	1st	2nd	4th	5th	3rd	6th

Note: Recommended Solution