

TRILLIUM LINE EXTENSION PROJECT
TECHNICAL EVALUATION | CONSENSUS WORKSHEET

PROPONENT:	TLink	FINAL GRADE:	84.94%
DATE:	Start: 27 Sep 2018, 8:45am End: 27 Sep 2018 1:50pm	FINAL SCORE:	424.70

		Maximum Points	Consensus Grade	Strengths and Weaknesses
1.0 General Technical Submission				
1.1 Project Management Plan (maximum of 30 pages, excluding curriculum vitae)				
1.1.1	General Approach – Project Management Plan	15	85%	
				<p>Strengths Well-structured organization, demonstrating very good understanding of project requirements. Organization chart is very comprehensive and covers entire length of the project. Some key individuals exceed the RFP requirements (Project Co Director and M&R Director). Considerable rail experience across the different teams and phases of the project. Narrative identified long lead activities and dependencies.</p> <p>Weaknesses N/A</p> <p>Consensus: 85%</p>
1.2 Integrated Management System (maximum of 30 pages)				
		20	80%	
				<p>Strengths The proposed project-specific IMS documentation is based on Acciona's templates which have been successfully applied in ISO 9001 projects across Canada. Proposing a non-conformance reduction incentive program.</p> <p>Weaknesses Provided limited project-specific information.</p> <p>Consensus: 80%</p>
1.3 Environmental Management Plan (maximum of 20 pages, excluding (1)(l))				
		15	80%	
				<p>Strengths: Demonstrates commitment to sustainability at corporate level (Acciona), which has been externally recognized. Address the monitoring requirements defined in the PA and have linked their environmental management to the risk management process.</p> <p>Weaknesses: Limited reference to past experiences and lessons learned. Limited detail on project-specific information.</p> <p>Consensus: 80%</p>
1.4 Construction Communications and Stakeholder Engagement (maximum of 10 pages)				
		5	75%	
				<p>Strengths Provided details on the marketing tools used in previous projects. Good detail on process for dealing with issues arising at different stages of the Project (Submission Requirements section 1.4 (b) (iii)) and specific actions. Key individual has local experience.</p> <p>Weaknesses: General information, limited project-specific detail provided.</p> <p>Consensus: 75%</p>
1.5 Works Schedule PBS-1 (maximum of 10 pages excluding PBS-1)				
	(a)	30	88%	
				<p>Strengths Provided a fulsome PBS schedule, with very good level of project-specific detail. PBS includes details on the productivity rates and the narrative has reference to a recovery strategy. Time-chainage diagram is well structured, clear and comprehensive, and includes information on winter constraints, vegetation timing, vehicle delivery, and vehicle retrofit. NRC, Airport and City interface schedule is well described. Clear approach to managing design submissions.</p> <p>Weaknesses Description of the critical path in the narrative could be improved. City PLAAs included as milestones, rather than a structured sequence of activities.</p> <p>Consensus: 88%</p>
1.6 Risk Management Plan (maximum of 10 pages – excluding Risk Register)				
		5	79%	
				<p>Strengths Team member (Acciona) has an established corporate Risk Management tool, demonstrating commitment to a systematic implementation of Risk Management. The narrative is clear and concise. Each Manager in the team structure is held accountable for managing project risks.</p> <p>Weaknesses Limited and somewhat generic risk information.</p>

TRILLIUM LINE EXTENSION PROJECT
TECHNICAL EVALUATION | CONSENSUS WORKSHEET

PROPONENT:	TLink	FINAL GRADE:	84.94%
DATE:	Start: 27 Sep 2018, 8:45am End: 27 Sep 2018 1:50pm	FINAL SCORE:	424.70

		Maximum Points	Consensus Grade	Strengths and Weaknesses
				Internal (in-house) Risk Analysis tool is not described in detail. Consensus: 79%
1.7	Systems Integration Management Plan (SIMP) (maximum of 30 pages)	15	89%	
				<p>Strengths Good level of detail in the information describing the system integration strategy, and demonstrating good understanding of the requirements. Provides a list of key interfaces for tracking during implementation. Good detail provided for the head-end coordination for all phases. Detailed systems integration schedule provided.</p> <p>Weaknesses N/A</p> <p>Consensus: 89%</p>
1.8	Early Works Agreement	NOT SCORED		

		Maximum Points	Consensus Grade	Strengths and Weaknesses
2.0 DESIGN SUBMISSION				
2.1	Civil and Guideway Design Submission (maximum of 50 pages)	25	88%	
				<p>Strengths: Meets the PSOS requirements for the track design, addressing pinch points in the network model. Committed to replacing all the existing mainline wooden ties with concrete ties, which benefits the gauge and life cycle issues on the existing line. Drawings provide very good level of detail e.g. existing and new structures, future OCS, second track, and roadway conditions. Good assessment and approach to the rehabilitation of the Rideau River Bridge. Good level of detail in the identification and approach to repair work for drainage. Piers at Airport Station are designed to accommodate the future second track.</p> <p>Weaknesses: Leitrim overpass is not compliant (4% grade for rail over road) and could affect the design of Leitrim Station.</p> <p>Consensus: 88%</p>
2.2	Utilities, Geotechnical, Drainage and Stormwater Management, Urban Design and Landscape Architecture (maximum of 45 pages)	25	75%	
				<p>Strengths Good understating of Geotech concerns and issues with related mitigation measures. Good analysis on expected dewatering requirements. Proposal considers the entire concession period with respect to Utility design. The design was modified to avoid two UBR listed Enbridge relocations. Landscape plans show proposed locations for Public Art and the wayfinding wheel.</p> <p>Weaknesses Poor landscape design, with drawings providing very limited detail and clarity, and not addressing the current scope of PSOS. Stormwater management and drainage with limited overall information, and no detail on how the data is collected and used in the design. Utilities approach does not demonstrate a good understanding of existing conditions, and local processes for Utility relocations.</p> <p>Consensus: 75%</p>
2.3	Systems Design Submission (maximum of 40 pages)	25		
				<p>Strengths Design is providing the most sophisticated signaling system in the market (CBTC), which exceeds the PSOS requirements. Station layout drawings provide substantial detail, including CCTV camera layouts. Methodology for the development of the Systems Design is extensive and thorough.</p> <p>Weaknesses N/A</p> <p>Consensus: 95%</p>
2.4	Station Design Submission (maximum of 40 pages)	30	90%	

TRILLIUM LINE EXTENSION PROJECT
TECHNICAL EVALUATION | CONSENSUS WORKSHEET

PROPONENT:	TLink	FINAL GRADE:	84.94%
DATE:	Start: 27 Sep 2018, 8:45am End: 27 Sep 2018 1:50pm	FINAL SCORE:	424.70

		Maximum Points	Consensus Grade	Strengths and Weaknesses
				<p>Strengths Passenger flow diagrams, provided for each station, allow a good understanding of access and circulation, including principle paths, reduced access paths and emergency egress. Provided detailed platform layout drawings depicting all the systems equipment. Station design demonstrates a balanced approach to vertical circulation, including the use of elevators. Proposing widening the platforms for Carlton Station, which exceeds PSOS requirements. Using fully enclosed Communications rooms ate each station which exceeds PSOS requirements.</p> <p>Weaknesses Bayview station MUP plaza is not adequately captured in the drawing package. Passenger flow at Uplands Station is not intuitive. Did not provide fire life safety block diagram nor single line diagrams for Airport Station.</p> <p>Consensus: 90%</p>
2.5	New Walkley Yard Design Submission (maximum of 30 pages)	20	93%	
				<p>Strengths Demonstrated track redundancy from the yard to the mainline, and a very good track layout in the yard. Provided a LEED checklist score card. Drawings provide a good level of detail, depicting the required maintenance components. Provided detailed and specific movement diagrams for each operational activity. Very good street presence and layout of entrances and parking areas. Positioning of equipment to minimize noise and vibration and overall impact to adjacent communities.</p> <p>Weaknesses Lack of information regarding durability and maintainability of materials and finishes. Submission did not include the required single line diagram.</p> <p>Consensus: 93%</p>
2.6	Vehicle Fleet Design Submission (maximum of 30 pages)	20	95%	
				<p>Strengths Team member (CAF) has significant experience with the integration of on-board equipment on new and existing vehicles. Provided several examples of on-going integration projects with exceptionally detailed description of modifications to integrate the on-board equipment. Provided several examples of on-going integration projects with exceptionally detailed description of modifications to integrate the on-board equipment. Propose to separate the Alstom/Stadler fleets, dedicating the Stadler fleet to the mainline track and the Alstom fleet to the Airport link, which results in consistency and familiarity of passenger experience.</p> <p>Weaknesses N/A</p> <p>Consensus: 95%</p>
2.7	Airport Link (No limit)	NOT SCORED		
2.8	System Safety and Security Certification (Maximum Pages 15)	10	85%	
				<p>Strengths Demonstrates a good understanding of all project phases. Proposal identified where metrics and conformance reports will be provided to the City in several instances. Establishes a Safety and Security committee early in the project.</p> <p>Weaknesses N/A</p> <p>Consensus: 85%</p>
2.9	Dow's Lake Tunnel Design Submission (maximum of 10 pages)	10	92%	
				<p>Strengths Detailed drawings show clear analysis of all upgrades required for NFPA compliance, including additional details such as FTEL locations, and signage requirements. Provided an overall condition assessment clearly identifying all the required repairs. [Potential Proposal Extract] New emergency egress staircase at the southern end of the tunnel which exceeds PSOS requirements.</p> <p>Weaknesses Several assumptions made in the decision to not upgrade the existing outfall.</p>

TRILLIUM LINE EXTENSION PROJECT
TECHNICAL EVALUATION | CONSENSUS WORKSHEET

PROPONENT:	TLink	FINAL GRADE:	84.94%
DATE:	Start: 27 Sep 2018, 8:45am End: 27 Sep 2018 1:50pm	FINAL SCORE:	424.70

		Maximum Points	Consensus Grade	Strengths and Weaknesses
				Consensus: 92%

		Maximum Points	Consensus Points	Strengths and Weaknesses
3.0 CONSTRUCTION SUBMISSION				
3.1	Emergency Response Plan (maximum of 20 pages)	10	83%	
				<p>Strengths Good knowledge of the Airport emergency response process. Good overall understanding of project requirements. Very clear presentation of the allocation of responsibilities to all parties (Table 3-1: Emergency Response responsibilities matrix). Identified several generic events and the actions required to address them.</p> <p>Weaknesses Does not focus on Project Co's responsibilities and involvement at the Airport or operational portions or Walkley and Ellwood diamonds. The section related to railroad incidents does not adequately address CN/VIA.</p> <p>Consensus: 83%</p>
3.2	Traffic and Transit Management Plan and Construction Access Management Plan (maximum of 40 pages)	25	80%	
	(1)			<p>Strengths Identified all construction areas affecting/impacting traffic, including specific construction access points. Accesses identified for each work location. Good access and egress for major deliveries. Discusses a risk analysis and specific case study for each location. Minimizes on-road haul routes by utilizing the alignment. Temporary roads are planned to be used for future MUPs.</p> <p>Weaknesses Does not provide detail on how the lane closures will be monitored nor refers to the required TTMP sub-plans. Limited detail about planning and coordination with other City departments and stakeholders. Roles and responsibilities of the Traffic Manager and supervisors has limited detail.</p> <p>Consensus: 80%</p>
3.3	Construction Plan (maximum of 40 pages, excludes staging drawings)	40	80%	
				<p>Strengths Identified OCTranspo and fare control subcontractor as parties that Project Co is required to interface with. Good construction sketches demonstrating understanding of the scope of work, temporary arrangements, and construction phasing. Narrative provides detail listing of materials and quantities, monitored by quantity surveyors, and discusses the use of a corporate online procurement tool. Provides a detail assessment of resource loading needs. Uses the corridor as internal haul road for segment 4 by removing existing track and ballast.</p> <p>Weaknesses At times the narrative is generic. Elevated guideway at the Airport shows crane on the departures roadway, which is not feasible.</p> <p>Consensus: 80%</p>
3.4	System Testing and Commissioning Plan (maximum of 25 pages)	25	85%	
				<p>Strengths Good testing schedule with adequate level of detail. Good strategy to address the minor deficiencies, involving the City in the process. Narrative recognizes benefits of ensuring early water tightness of equipment rooms. Strong key individual with relevant experience and CBTC experience. IC involvement is discussed in adequate detail. Modelling considers speed reductions in the passing points and recognizes the need to adjust dwell times to optimize passing movements.</p> <p>Weaknesses N/A</p> <p>Consensus: 85%</p>
3.5	Health and Safety Certification (no page limit)	NOT SCORED		
3.6	Mobility Matters Lanes (maximum of 5 pages)	5	75%	

TRILLIUM LINE EXTENSION PROJECT
TECHNICAL EVALUATION | CONSENSUS WORKSHEET

PROPONENT:	TLink	FINAL GRADE:	84.94%
DATE:	Start: 27 Sep 2018, 8:45am End: 27 Sep 2018 1:50pm	FINAL SCORE:	424.70

	Maximum Points	Consensus Points	Strengths and Weaknesses
			<p>Strengths N/A</p> <p>Weaknesses Only provided the cost (no hours included).</p> <p>Consensus: 75%</p>

	Maximum Points	Consensus Points	Notes and Observations [Strengths and weaknesses]	
4.0 MAINTENANCE AND REHABILITATION SUBMISSION				
4.1	Maintenance & Rehabilitation Approach to Part 1 of Schedule 15-3 of the Project Agreement (maximum of 30 pages)	40	85%	
			<p>Strengths Good organization chart overall. The M&R Director has direct DMU experience, and one of the team members (CAF) is a signalling supplier. Rolling Stock manager is engaged at construction phase and oversees vehicle delivery. Provides very detailed tables of personnel with consideration to shift work. Discusses the use of a daily sweep train. Good specific examples of integrating lifecycle considerations into the design. Project-specific maintenance related safety management provides good examples and good itemization of requirements.</p> <p>Weaknesses Limited detail on maintaining a mixed fleet. Speaks of mobilizing M&R team at commissioning phase, but there is limited detail regarding mobilization at Financial Close, at or prior to the shutdown.</p> <p>Consensus: 85%</p>	
4.2	Maintenance & Rehabilitation Approach to Appendix A (Maintenance Performance Requirements) to Schedule 15-3 of the Project Agreement (maximum of 30 pages)	40	85%	
			<p>Strengths Clear understanding of year over year activities, with good level of detail. Provided a detailed listing of types and frequencies of custodial maintenance and preventative maintenance, and common types of corrective maintenance. Good approach to mitigating payment deductions and managing KPI expectations. Detailed listing of training requirements, proposing the implementation of a Competence Management System tied to system performance. Reference to an InforEAM software tool MMS system used in previous projects.</p> <p>Weaknesses Coordination of maintenance activities with other contractors and VIA, CN, and OCTranspo is limited. Limited information regarding minimizing impacts on system operation and adjacent facilities. Generic recognition of Transport Canada regulatory reporting requirements.</p> <p>Consensus: 85%</p>	
4.3	Maintenance & Rehabilitation Approach to Appendix B (Asset Preservation) to Schedule 15-3 of the Project Agreement (maximum of 25 pages (excluding lifecycle work schedule))	35	82%	
			<p>Strengths Lifecycle replacement schedule adequately describes the asset life and renewal strategy. Methodology for inspecting assets provides good examples for turnouts, signals, communication equipment and trains. Classification systems for the assets is detailed and contains a good summary for the approach. Good listing of categories for decision making amongst Preventative, Corrective and Predictive Maintenance, including deterioration rate, serviceability, RAMs, and risk based consequences of failure.</p> <p>Weaknesses Limited information on obsolescence that doesn't fully address the impact of obsolescence on the vehicles. Replacement schedule values are not entirely clear in the Lifecycle replacement schedule.</p> <p>Consensus: 82%</p>	
4.4	Maintenance & Rehabilitation: Approach to Appendix C (Expiry Date Requirements) to Schedule 15-3 and Schedule 23 – Expiry Transition Procedure of the Project Agreement (maximum of 5 pages)	10	77%	
	<p>(1) Describe the Proponent's approach to the requirements of Appendix C to Schedule 15-3 and Schedule 23 – Expiry Transition Procedure of the Project Agreement that includes a description of the process of planning for, managing, implementing and achieving the Remaining Service Life at Expiry Date including,</p> <p>(a) a preliminary Handover Maintenance Plan that addresses as a minimum the requirements contained within Appendix C of Schedule 15-3 of the Project Agreement; and</p> <p>(b) the requirements set out in Schedule 23 – Expiry Transition Procedure of the Project Agreement.</p>			<p>Strengths Provides a description of an 8-step handover procedure. Describes a condition rating classification system which includes consultation with the City.</p> <p>Weaknesses Demonstrates a basic level of understanding but lacks project-specific detail.</p> <p>Consensus: 77%</p>