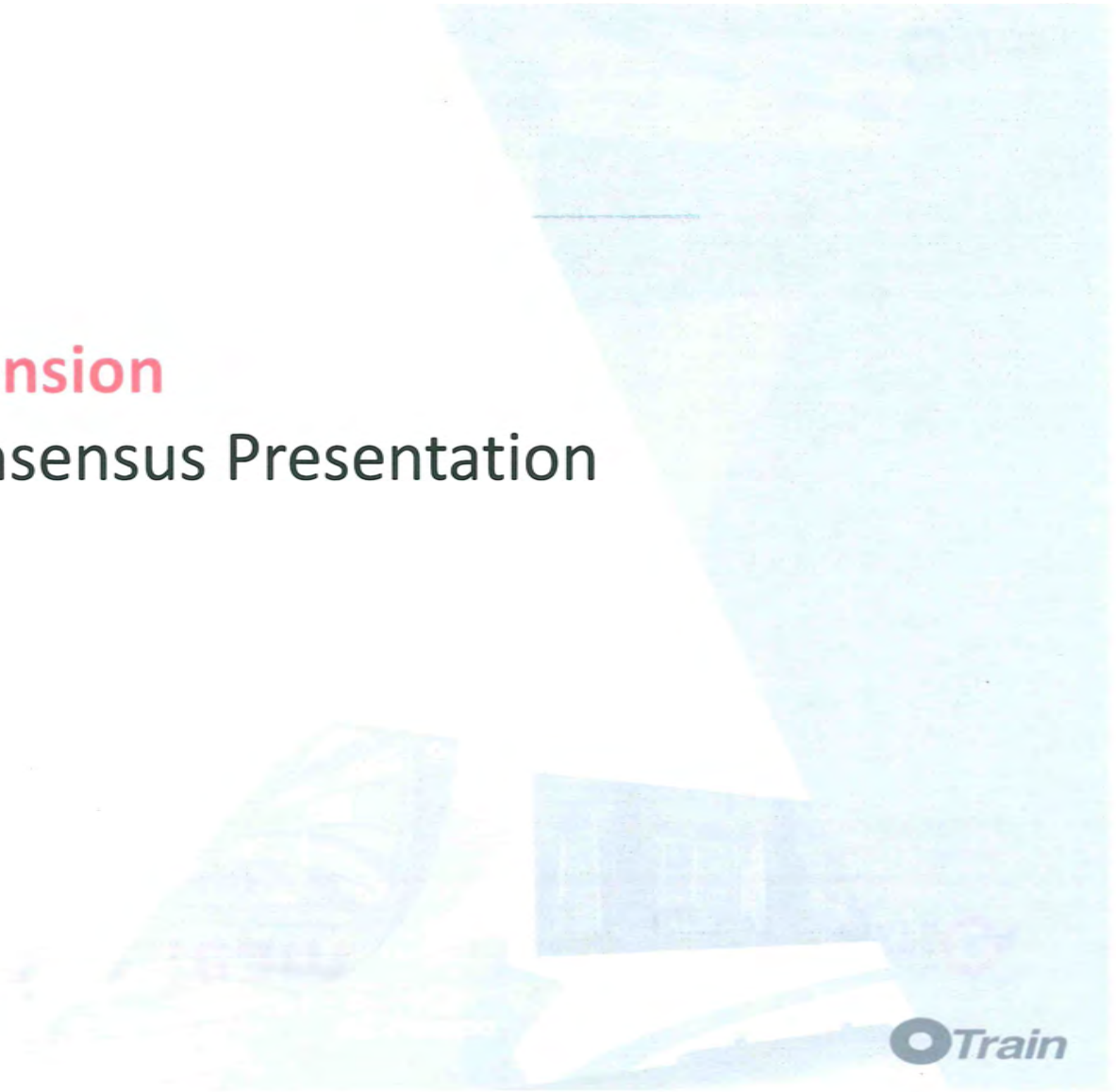
Ottawa LRT Stage-2

Confederation Line Extension

Technical Evaluation Consensus Presentation

December 7, 2018



A. Technical Evaluation Team

Technical Evaluation Team:

Michael Morgan, City of Ottawa (Lead)
Colleen Connelly, City of Ottawa
Jack D'Andrea, CTP2
Kim Howie, CTP2
Al Klag, CTP2

Support Team:

Evaluation Managers:

Emily Marshall-Daigneault, City of Ottawa
Raquel Gold, Boxfish Infrastructure Group

Fairness Commissioner:

Martin Cukierman, P3 Advisors

Schedule:

Technical Evaluation: Oct 30 – Nov 30, 2018
Consensus Dates: Dec 3 – Dec 6, 2018

B. Proponent Consortiums

EWC	CTG	CL2
Kiewit Construction	Ferrovial Agroman Canada Inc.	Bechtel
Vinci Construction Grands Projets	Colas JV (Colas Canada Inc.; Colas Rail S.S.; Colas Projects S.A.S.U.)	Aecon
Eurovia Infra	R.W. Tomlinson	Pomerleau
WSP	Arup	Jacobs
Hatch		IBI

C. Review Process

The Technical Evaluation Review is a two stage process:

1. Individual Assessments:
   - Scoring of each category by each member of the Technical Evaluation Team

2. Technical Evaluation Team Consensus:
   - Consensus was reached for both the score, and positive and negative attributes
   - To receive a passing score, a Technical Score threshold of **70%** for each of the following criteria is required:

     1.0 General Technical Requirements
     2.0 Design Submission
     3.0 Construction Submission
     4.0 Testing and Commissioning

C. Review Process – Individual

1. Individual Assessments

- Reviewing the submission and identifying the strengths and weaknesses in the responses to each of the RFP Technical Submission Requirements, as applicable;
- Assigning a preliminary grade, based on the adequacy of the response to the RFP requirements in each Evaluation Sub-Category, understanding that 70% would be a passing score;
- Reviewing the Conformance Report, i.e. any NCs associated with a particular section;

C. Review Process – Consensus

2. Technical Evaluation Team Consensus

- Reviewing of each Submission (this step was repeated for each of the Proponent's submissions, before proceeding to the next step)
  a) Sharing individual scores with the group;
  b) Discussing individual strengths and weaknesses in the responses to each of the RFP Technical Submission Requirements, as applicable;
  c) Achieving group consensus on strengths and weaknesses for each Sub-Category;
  d) Referencing the Conformance Report, as required;
  e) Achieving group consensus on the final score for each Sub-Category; and,
  f) Agreeing on strengths and weaknesses to be included in the Consensus Evaluation Worksheet for each Sub-Category.

C. Review Process – Consensus

2. Technical Evaluation Team Consensus

- Consistency check
  - Reviewing all Sub-Categories for all Submissions to ensure consistency of application of strengths and weaknesses and scores across all 3 Proponents' submissions; and,
  - Review text in the Consensus Evaluation Worksheet for each Sub-Category for clarity and for accuracy.
- Final scores and Presentation to BESC
  - Calculate final scores for each Submission; and
  - Prepare final ranking and presentation to BESC.

D. Scoring results

Overall scores by Category

Requirement	CTG	EWC	CL2
1.0 General Technical Requirements	80.09%	81.09%	76.05%
2.0 Design Submission	80.53%	78.36%	78.02%
3.0 Construction Submission	81.47%	83.94%	80.65%
4.0 Testing and Commissioning	87.77%	80.69%	73.77%
5.0 Mobility Matters	80.00%	75.00%	75.00%
Total Percentages	81.52%	80.11%	77.39%
Total Points	**407.60**	**400.55**	**386.95**

D. Scoring results

PBS-1 review

PBS-1	CTG	EWC	CL2
East Substantial Completion	Oct 2024	Nov 2024	Feb 2025
West Substantial Completion	Oct 2025	May 2025	Aug 2025
East Final Completion	Oct 2026	Mar 2025	Aug 2025
West Final Completion	Oct 2027	Nov 2025	May 2026

D. Scoring results

Evaluation details per Proponent

EWC

(Kiewit, Vinci, Eurovia)

D. Scoring results (cont.) | EWC

1.0 General Technical Requirements	EWC
1.1 Project Governance	
1.1.1 General Approach and Organizational Structure	79%
1.1.2 Communications & Stakeholder Management	82%
1.1.3 Permits, Licences, Approvals and Agreements Strategy	89%
1.2 Program Management Plans	
1.2.1 Works Schedule PBS-1	85%
1.2.2 Integrated Management System	75%
1.2.3 Environmental Management Plan	80%
1.2.4 Risk Management Plan	75%

1.0 General Technical Requirements

Positive Attribute Highlights	Negative Attribute Highlights
Good peer-to-peer communication; Kiewit partnering awards is a positive attribute.	Several Key Individuals do not appear to meet the full Schedule 9 requirements.
Schedule management process is good and provides good detail on critical path/near critical path.	City design review period not apparent
"Craft Voice in Safety" approach is good	Independence of QC staff is not apparent
External environmental award recognition	Does not describe linkage of risk based framework to the environmental plan
Weighted Section Score: 81.09%	

D. Scoring results (cont.) | EWC

2.0 Design Submission	EWC
2.1 Civil and Guideway, Roadways, Structures and Trackwork	
2.1.1 Civil and Guideway	82%
2.1.2 Roadways	75%
2.1.3 Structures	87%
2.1.4 Trackwork	89%
2.2 Utilities, Drainage and Stormwater Management, and Geotechnical	
2.2.1 Utilities	80%
2.2.2 Drainage & Stormwater Management	80%
2.2.3 Geotechnical	80%
2.3 LRT Systems Design Submission	72%

D. Scoring results (cont.) | EWC

2.0 Design Submission	EWC
2.4 Stations, Structural, Mechanical and Electrical Design Submission	
2.4.1 Stations	75%
2.4.2 Structures	75%
2.4.3 Mechanical and Electrical	70%
2.5 LMSF Design Submission	75%
2.6 Urban Design, Landscape Architecture Submission	79%
2.7 Underground Structures Design Submission	85%
2.8 Highway Works Design Submission	75%

2.0 Design Submission

Positive Attribute Highlights	Negative Attribute Highlights
Elimination of track work transitions is a good design optimization for the civil and guideway	Additional consideration required for snow removal and approach to winter conditions
Montreal bridge overall design is excellent	Does not mention minimum BCI requirements at handover for existing structures.
Pre and post CCTV inspections for utilities is good	Notifications for property owners not discussed
CBTC migration strategy details are good	Run times are non-compliant per the Conformance Report (minor deviations to time allowances)
Exterior stairs are covered/heat-traced	Micro-climate study is incomplete
Geotechnical/geological very detailed	Tree planting within bus loops / adjacent to buildings will interfere with CCTV / CPTED principles
Weighted Section Score: 78.36%	

D. Scoring results (cont.) | EWC

3.0 Construction Submission	EWC
3.1 Underground Structures Construction Methodology	82%
3.2 Emergency Response Plan	85%
3.3 Traffic and Transit Management Plan	85%
3.4 Construction Management	85%

Positive Attribute Highlights	Negative Attribute Highlights
Detailed summary of various key risk management issues to consider (settlement; WNC; noise, etc…)	Did not discuss contingencies for utility obstacles
Description of traffic and transit staging is good; staging drawings are very good	Montreal Road: non-conformance with Stage 2 phasing for bus ramps
Weighted Section Score: 83.94%	

D. Scoring results (cont.) | EWC

4.0 Testing and Commissioning	EWC
4.1 Systems Integration Management Plan	83%
4.2 Draft Testing & Commissioning Program Outline	75%
4.3 Safety Management and Certification	83%
4.4 Reliability, Availability, and Maintainability	84%

Positive Attribute Highlights	Negative Attribute Highlights
Narrative on City and Thales scope is good	Limited information on network topology approach
Use of DOORS software for tracking purposes	RAMS targets are not included in the submission
Weighted Section Score: 80.69%	

D. Scoring results (cont.) | EWC

5.0 Mobility Matters	EWC
5.1 Mobility Matters Bus Rapid Transit	75%
5.2 Mobility Matters Lanes	75%

Positive Attributes	Negative Attributes
	Submission does not articulate independent verification of lane closures

Weighted Section Score: 75%

D. Scoring results (cont.)

Evaluation details per Proponent

CTG

(Ferrovial, Colas, Tomlinson)

D. Scoring results (cont.) | CTG

1.0 General Technical Requirements	CTG
1.1 Project Governance	
1.1.1 General Approach and Organizational Structure	79%
1.1.2 Communications & Stakeholder Management	82%
1.1.3 Permits, Licences, Approvals and Agreements Strategy	83%
1.2 Program Management Plans	
1.2.1 Works Schedule PBS-1	75%
1.2.2 Integrated Management System	85%
1.2.3 Environmental Management Plan	85%
1.2.4 Risk Management Plan	87%

1.0 General Technical Submission

Positive Attribute Highlights	Negative Attribute Highlights
Detailed listing of specific initiatives that will be used to ensure successful collaboration with the City	Overall limited information on degrees/qualifications for all individuals; Design Manager has a systems background and no DM experience
Series of detailed project schedule sections that summarizes constraints, specific construction methods, seasonal issues, and design issues.	Critical path narrative is unclear
Risk register: detailed listing of project specific risks across all areas including specific mitigation plans	

Weighted Section Score: 80.08%

D. Scoring results (cont.) | CTG

2.0 Design Submission	CTG
2.1 Civil and Guideway, Roadways, Structures and Trackwork	
2.1.1 Civil and Guideway	89%
2.1.2 Roadways	85%
2.1.3 Structures	80%
2.1.4 Trackwork	85%
2.2 Utilities, Drainage and Stormwater Management, and Geotechnical	
2.2.1 Utilities	80%
2.2.2 Drainage & Stormwater Management	75%
2.2.3 Geotechnical	80%
2.3 LRT Systems Design Submission	83%

D. Scoring results (cont.) | CTG

2.0 Design Submission	CTG
2.4 Stations, Structural, Mechanical and Electrical Design Submission	
2.4.1 Stations	75%
2.4.2 Structures	75%
2.4.3 Mechanical and Electrical	78%
2.5 LMSF Design Submission	75%
2.6 Urban Design, Landscape Architecture Submission	79%
2.7 Underground Structures Design Submission	89%
2.8 Highway Works Design Submission	75%

2.0 Design Submission

Positive Attribute Highlights	Negative Attribute Highlights
Limiting extent of track transitions by using ballast in a larger number of areas is a very good design.	Stillwater Creek has a closed bottom channel structure (environmental issue, non-compliance)
Changes to Lincoln Fields station for a smaller footprint and reduced impact on NCC lands	Baseline Station moved to central-north entrance which is unworkable for bus circulation
Montreal Station positioning is non-conformant (NC) however the overall solution is good	Place D'Orleans does not include the pedestrian bridge which is noted as a non-conformance
Queensview ramp is replaced with elevators (NC) however the overall solution is good	Extents of slab heating unobservable – full heating required
Very good details on West Nepean Collector protection including advanced analysis (FEA)	Numerous station design details to be resolved and confirmed during discussions with team

Weighted Section Score: 80.53%

D. Scoring results (cont.) | CTG

4.0 Testing and Commissioning	CTG
4.1 Systems Integration Management Plan	95%
4.2 Draft Testing & Commissioning Program Outline	85%
4.3 Safety Management and Certification	83%
4.4 Reliability, Availability, and Maintainability	80%

Positive Attribute Highlights	Negative Attribute Highlights
Detailed analysis and flow charts indicating how the safety certification will function; All required testing submittals were very detailed	Preliminary assessment of RAM targets not included
Very good V-model mapping of test elements to the various phases; very good test plan details	
Clear connection between RAMS and design noted	

Weighted Section Score: 87.77%

D. Scoring results (cont.) | CTG

3.0 Construction Submission	CTG
3.1 Underground Structures Construction Methodology	85%
3.2 Emergency Response Plan	85%
3.3 Traffic and Transit Management Plan	70%
3.4 Construction Management	85%

Positive Attribute Highlights	Negative Attribute Highlights
Noted a number of materials that could be reused (rock, fill, other) which is very good	Details on traffic and transit impacts are insufficient to be able to assess overall approach
Concept of rolling staging areas is a very good approach for minimizing impact durations	Approach to handling, testing, and disposal of water conditions could be more definitive
General narrative on emergencies is good	

Weighted Section Score: 81.47%

D. Scoring results (cont.) | CTG

5.0 Mobility Matters	CTG
5.1 Mobility Matters Bus Rapid Transit	80%
5.2 Mobility Matters Lanes	80%

Positive Attribute Highlights	Negative Attribute Highlights
Note included regarding independent certification of lane closure reporting	

Weighted Section Score: 80%

D. Scoring results (cont.)

Evaluation details per Proponent

CL2

(Bechtel, Aecon, Pomerleau)

D. Scoring results (cont.) | CL2

1.0 General Technical Requirements	CL2
1.1 Project Governance	
1.1.1 General Approach and Organizational Structure	73%
1.1.2 Communications & Stakeholder Management	75%
1.1.3 Permits, Licences, Approvals and Agreements Strategy	70%
1.2 Program Management Plans	
1.2.1 Works Schedule PBS-1	79%
1.2.2 Integrated Management System	75%
1.2.3 Environmental Management Plan	80%
1.2.4 Risk Management Plan	72%

1.0 General Technical Submission

Positive Attribute Highlights	Negative Attribute Highlights
DB Co Director has extensive experience; Systems Integration Manager has very good experience; Design Manager has strong experience	T&C Coordinator has no rail experience; Traffic Manager only has experience on small scale projects; Highway Manager has limited highway experience
Detailed listing of the permit types, timelines, and authorities for the permit process.	Link between communications and risk management plan not demonstrated / included
Project constraints are properly identified; end dates are good; and, clear construction design durations are included in the PBS-1 submissions	City review periods unobservable in the schedule
Specialized software tool (ARM) used for risk management	Overall risk management system included but limited detail on how to integrate risk management within the team
Weighted Section Score: 76.05%	

D. Scoring results (cont.) | CL2

2.0 Design Submission	CL2
2.1 Civil and Guideway, Roadways, Structures and Trackwork	
2.1.1 Civil and Guideway	75%
2.1.2 Roadways	75%
2.1.3 Structures	75%
2.1.4 Trackwork	79%
2.2 Utilities, Drainage and Stormwater Management, and Geotechnical	
2.2.1 Utilities	80%
2.2.2 Drainage & Stormwater Management	84%
2.2.3 Geotechnical	80%
2.3 LRT Systems Design Submission	80%

D. Scoring results (cont.) | CL2

2.0 Design Submission	CL2
2.4 Stations, Structural, Mechanical and Electrical Design Submission	
2.4.1 Stations	75%
2.4.2 Structures	79%
2.4.3 Mechanical and Electrical	75%
2.5 LMSF Design Submission	80%
2.6 Urban Design, Landscape Architecture Submission	79%
2.7 Underground Structures Design Submission	75%
2.8 Highway Works Design Submission	80%

2.0 Design Submission

Positive Attribute Highlights	Negative Attribute Highlights
Design approach to structures is thorough	No discussion on vegetation; details on snow handling is vague
Proponent noted that additional subsurface utility engineering investigations to be undertaken	Some issues with roadway design, e.g. bus stop at Iris Station in the middle of a T-intersection
Good discussion on Pinecrest Creek drainage and stormwater management	Incomplete information on bus facilities; bus layup not shown at multiple locations
Detailed summary of information to support CPTED principles for station design included	Series of station design elements raised passenger flow concerns, CPTED issues, and concerns regarding detailed design elements
Extensive list of LMSF equipment noted including diesel exhaust systems	Transit – landscape issues on Richmond Road vis-à-vis tree conflicts with bus operations

Weighted Section Score: 78.02%

D. Scoring results (cont.) | CL2

3.0 Construction Submission	CL2
3.1 Underground Structures Construction Methodology	82%
3.2 Emergency Response Plan	87%
3.3 Traffic and Transit Management Plan	70%
3.4 Construction Management	85%

Positive Attribute Highlights	Negative Attribute Highlights
Logistical detail provided down to the quarry level	Lack of detail in the TTMP sub-plans to assess compliance for emergency plans, risk plans, monitoring plans, and TIMG plans.
Detailed summary of their construction strategy, procurement, health and safety, labour strategy, cost controls, and schedule controls.	Did not speak to specific plans for excavated materials including environmental measures
Weighted Section Score: 80.65%	

D. Scoring results (cont.) | CL2

4.0 Testing and Commissioning	CL2
4.1 Systems Integration Management Plan	77%
4.2 Draft Testing & Commissioning Program Outline	70%
4.3 Safety Management and Certification	75%
4.4 Reliability, Availability, and Maintainability	72%

Positive Attribute Highlights	Negative Attribute Highlights
Detailed listing of City requirements (information and timelines); and, suggested alternate network topologies was good.	Restated the PSOS requirements for T&C plan only – no additional details or strategy presented
Summary analysis and assessment of safety certification process included in submission	RAMS demonstration strategy not observable/missing
Weighted Section Score: 73.77%	

D. Scoring results (cont.) | CL2

5.0 Mobility Matters	CL2
5.1 Mobility Matters Bus Rapid Transit	75%
5.2 Mobility Matters Lanes	75%

Positive Attribute Highlights	Negative Attribute Highlights
	Flow chart difficult to follow

Weighted Section Score: 75%

E. Technical Scores and Ranking

Proponent	Technical Ranking	Technical Score (%)	Points
CTG	1	81.52%	407.60
EWC	2	80.11%	400.55
CL2	3	77.39%	386.95

Questions