



# Appendix B.11

## Design Criteria

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# HURONTARIO-MAIN LRT PROJECT

Preliminary Design/TPAP

Design Criteria

June 2014

508956-3210-4ERA-0001





# Design Criteria

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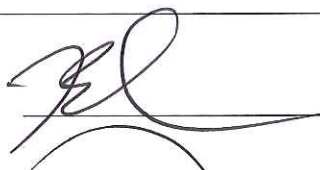
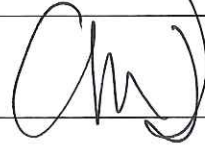
508956-3210-4ERA-0001-0

4 June 2014

 <b>SNC-LAVALIN</b>	<b>Design Criteria</b>		Date:	June 4, 2014
			Revision No.:	0
DOCUMENT NO.:		508956-2214-4ERA-0001-0		

CLIENT: **City of Mississauga/City of Brampton**

PROJECT: **Hurontario-Main St LRT Project Preliminary Design and TPAP**

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REVISION INDEX

Revision No.	Prepared Date	Reviewed Date	Approved Date	Pages Revised	Remarks
0	2014-06-04	2014-06-04	2014-06-04		

## HMLRT Design Criteria (Draft)

<b>Speeds and Classification</b>	
Road Classification	UAD 80 (Urban Arterial Divided)
Road design speed	80 km/h
Road posted speed	60 km/h
LRT design speed	80 km/h
LRT posted speed	60 km/h
<b>Light Rail Vehicle</b>	
Length	30 m (40 m also possible)
Vehicle Width (excluding cameras)	2.65 m
Configuration	Multi-section articulated
Floor Type	100% Low Floor
Floor Height	350mm above top of rail
Vehicle Consist	2 car (30 m or 40 m vehicle) or 3 car (30 m vehicle)
Manufacturer	TBD
Model	TBD
Track gauge	1435 mm
Vehicle weight – empty	TBD
Vehicle weight – full	TBD
Power System	Catenary - Pantograph
Power supply	750V DC
Passenger capacity (seated)	60 persons
Passenger capacity (standing)	130 persons
Passenger capacity (total)	190 persons
<b>Alignment and Guideway Geometry</b>	
Guideway width (centre catenary poles)	7.6 m
Guideway width (side catenary poles)	7.0 m
Distance between track centres (centre catenary poles)	3.91 m
Distance between track centres (side catenary poles)	3.31 m
Desirable min. single-track guideway width	3.8 m
Absolute min. single-track guideway width	3.5 m
Min. shared traffic/LRT lane width	3.5 m (minimum)
Desirable min. horizontal curve radius	35 m
Absolute min. horizontal curve radius	25 m
Absolute min. horizontal curve radius in MSF	25 m
Desirable min. tangent track	30 m
Absolute min. tangent track	9.5 m

Min. vertical crest curve radius	260 m
Min. vertical sag curve radius	520 m
Max. gradient	6%
Desirable gradient at stops	0%
Absolute max. gradient at stops	2.5%
Max. gradient – access track	2%
Min. Vertical clearance on segregated ROW	4.7 m
Spiral absolute min.	10 m
Desirable max. unbalanced superelevation	Eu = 75 mm
Absolute max. unbalanced superelevation	115 mm
Desirable min. turnout	#10
Absolute min. turnout	#6
<b>Stops</b>	
Platform Length	90 m
Desirable platform end ramp length	8 m
Absolute min. platform end ramp length	12:1
Min. bottom of ramp pedestrian area	1 m
Side platform width	3 m
Centre platform width	5 m
Clearance between side platform and travel lane	0.5 m
Platform height	0.35m (or level width design vehicle)
<b>Roadway Geometry</b>	
Design vehicle	WB-20
Lane shift at intersections	NOT ACCEPTABLE
Desirable min. width of running lanes	3.5 m
Absolute min. width of running lanes (excl. Brampton Heritage Area)	3.3 m
Absolute min. width of running lanes (Brampton Heritage Area)	3.25 m
Desirable min. width of single left turn lane	3.3 m
Absolute min. width of single left turn lane	3.0 m
Desirable min. width of single right turn lane	3.5 m
Absolute min. width of single right turn lane	3.3 m
Right turn lane width with island	5.5 m
Min. width double left turn lanes	3.0 m
Desirable min. width of parking lane	2.5 m
Absolute min. width of parking lane	2.15 m

<b>Drainage</b>	
Desirable min. gradient	0.5%
Absolute min. gradient	0.3%
<b>Maintenance and Storage Facility</b>	
Number of vehicles to be stored (opening year)	51
Number of vehicles to be stored (ultimate)	76
Assumed train consists (initial)	2-car
Assumed train consists (ultimate)	3-car
Operations and Control Centre	included
Staff parking provision	# spaces TBD
Desirable max. gradient – storage track	0%
Absolute max. gradient – storage track	0.2%
Absolute min. track centres – storage track	5m incl. pathway
Desirable min. track centres – storage track	6m incl. pathway