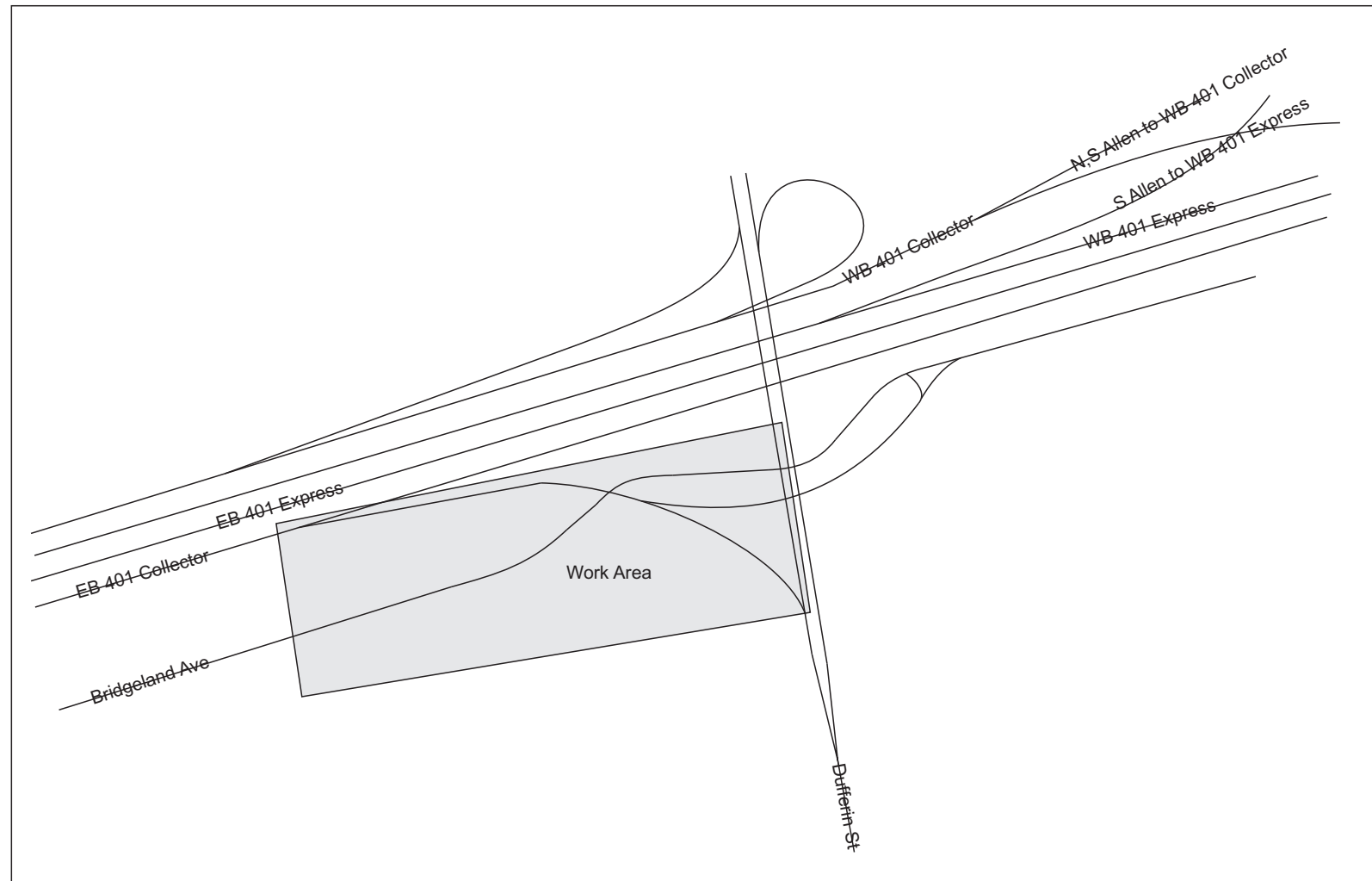


Traffic Control Plan
MTO 2012-2010
Hwy 401 - Bridgeland Avenue / Site 37-283
Grading, Drainage, Garnular Base,
Hot Mix Paving, Electrical, Structural and
Rapid Bridge Replacement

Plan prepared for:
Brennan Paving and Construction

Plan prepared by:
Direct Traffic Management

General Notes



General Notes:

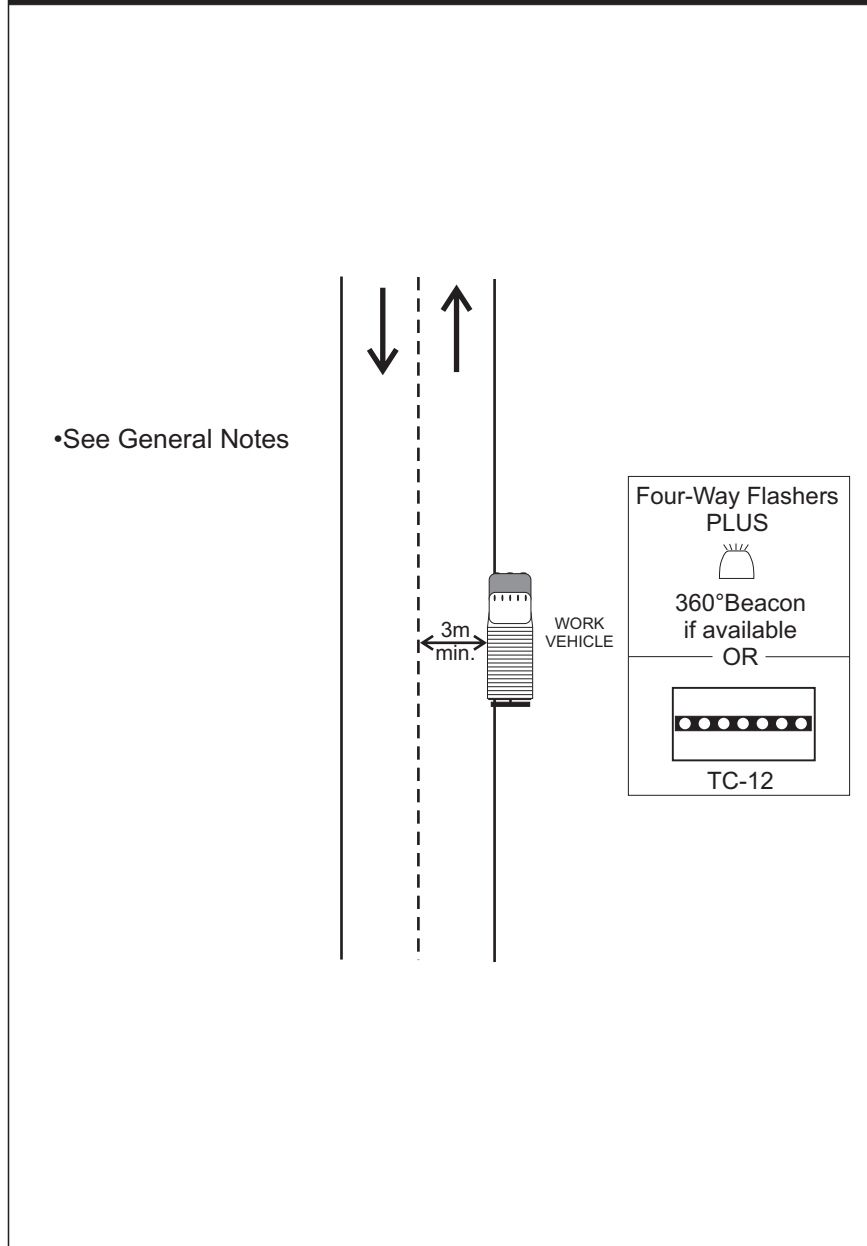
1. Traffic control plan for bridge construction at Hwy 401 / Bridgeland Avenue in Toronto, ON. Work to begin July 2012.
2. Temporary traffic control to be set up as per accompanying TL drawings. Distance between signs and channelizers as per Ontario Traffic Manual Book 7 (Book 7) Table A for non-freeway applications and Book 7 Table C for freeway applications. Taper lengths as per Book 7 Table A for non-freeway and Book 7 Table C for freeway. Sign retroreflectivity to meet or exceed minimum guidelines as set out in Book 7. Truck Mounted Attenuator (TMA) to be used for all freeway closures. Stage signing, lines and Temporary Concrete Barrier (TCB) as per Contract drawings.
3. Lane and ramp closures to be carried out during allowable closure times. Lane and ramp closures to be sent to MTO Roadwork Scheduling and Coordination Unit with as much notice as possible. Closures will be called into MTO COMPASS prior to and after set-up.
4. Advanced Notification Signs (ANS) to be erected 7 calendar days prior to work taking place. After 7 days, the ANS will change to Advanced Warning Signs (AWS). AWS and Alternate Route Signs (ARS) to be in place during closures.
5. Paid Duty Police required as set out in the tender documents..

Owner	MTO	
Project Name	Rapid Bridge Replacement	Project Number 2012-2010
Prime Contractor	Brennan Paving and Construction	Traffic Control Contractor Direct Traffic Management
Phone	(905) 475-6660	Date July 6, 2012
	Sheet Number 1	
Prepared By	Direct Traffic Management	

TL Drawings

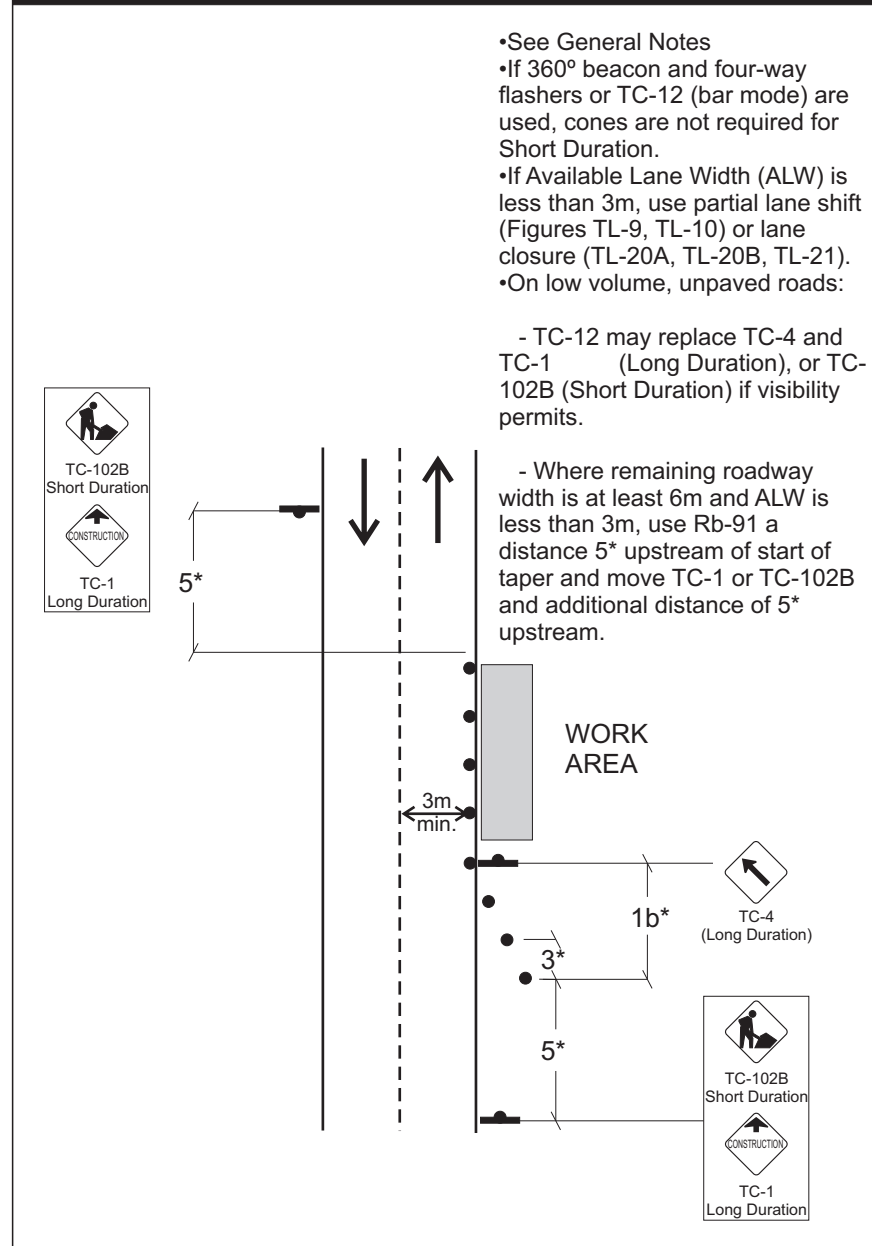
Two Lane Road
Mobile Operations
Very Short Duration

Roadway Edge Work: Encroachment in Right Lane **Figure TL-7**



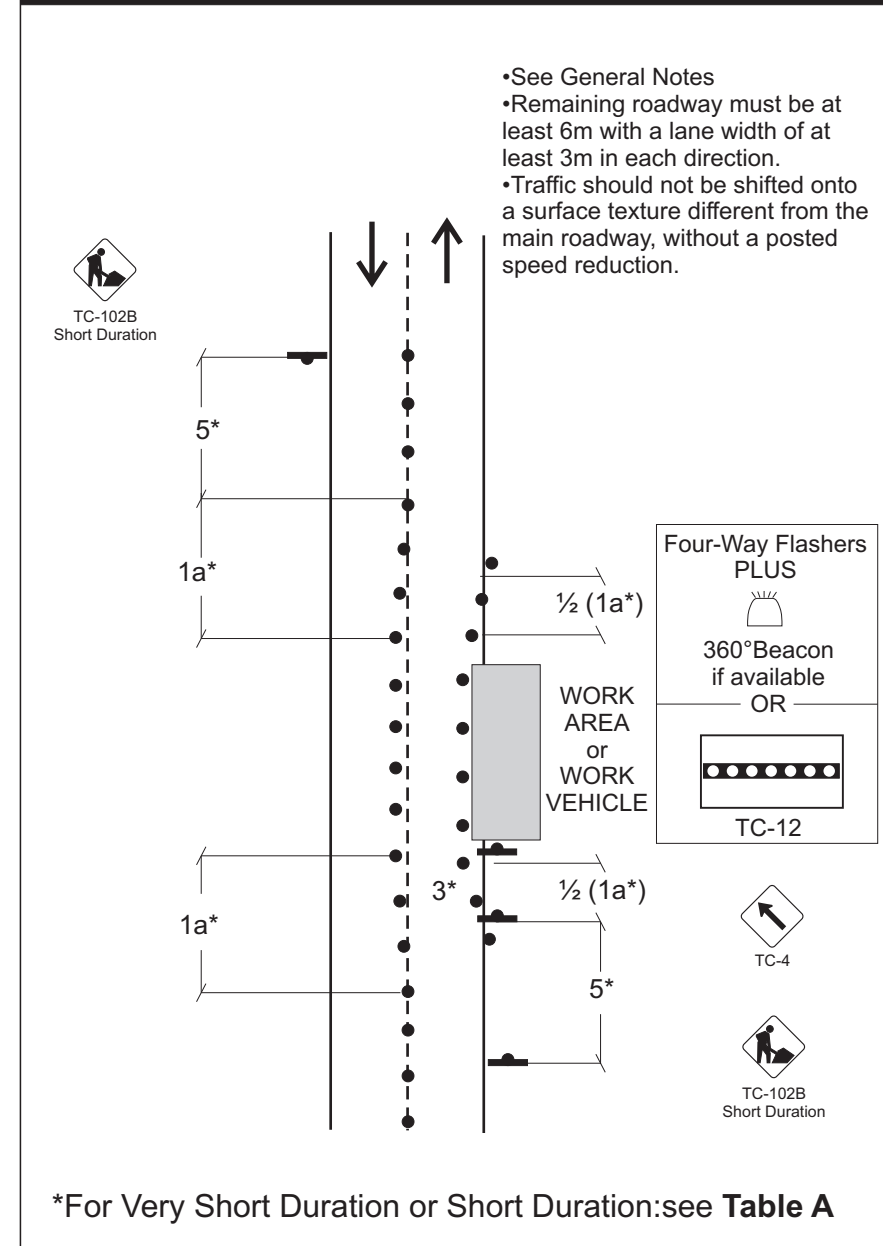
Two Lane Road
Short Duration
Long Duration

Roadway Edge Work: Encroachment in Right Lane **Figure TL-8**



Two Lane Road
Very Short Duration
Short Duration

Partial Lane Shift **Figure TL-9**

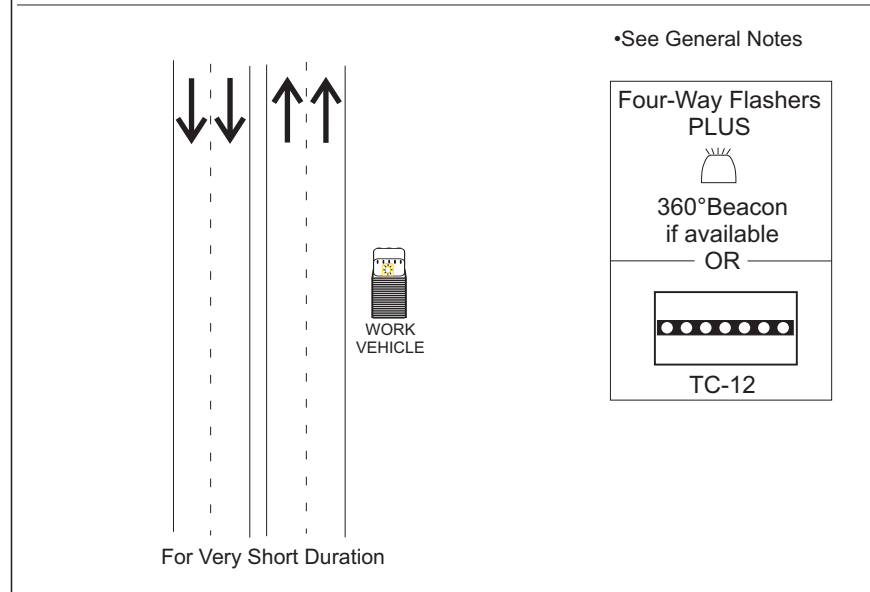
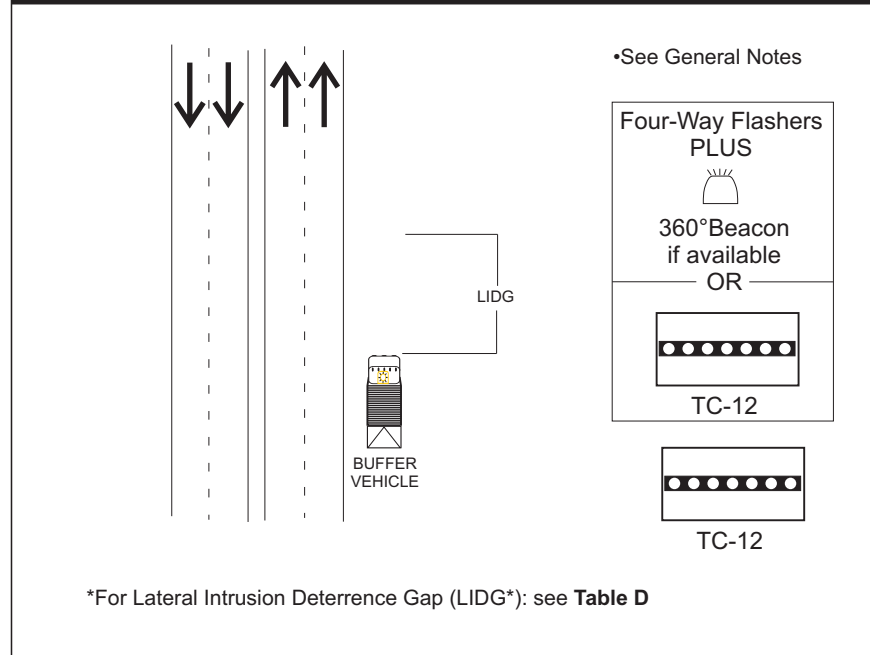


Owner	MTO	
Project Name	Rapid Bridge Replacement	Project Number 2012-2010
Prime Contractor	Brennan Paving and Construction	Traffic Control Contractor Direct Traffic Management
Phone	(905) 475-6660	Date July 6, 2012
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TL Drawings

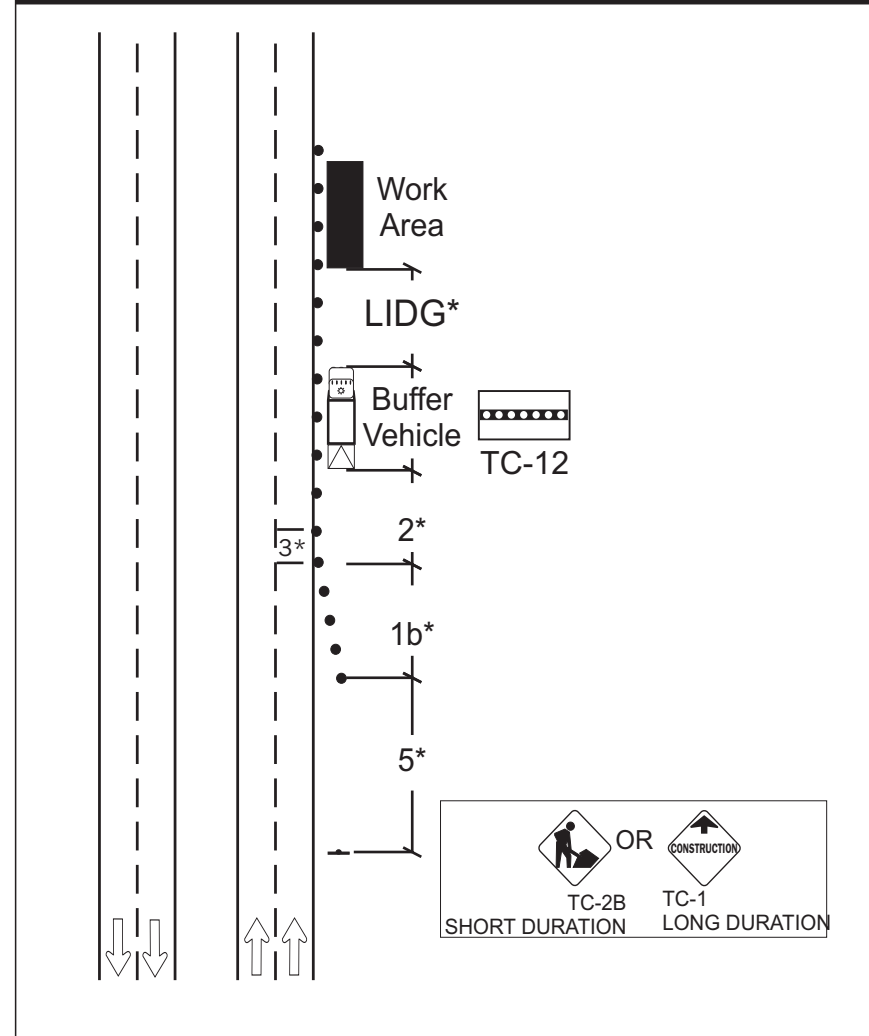
Multi-Lane Road (Freeway) Mobile Operations Very Short Duration

Right or Left Shoulder Work Figure TL-11



Multi-Lane Road (Freeway) Short Duration Long Duration

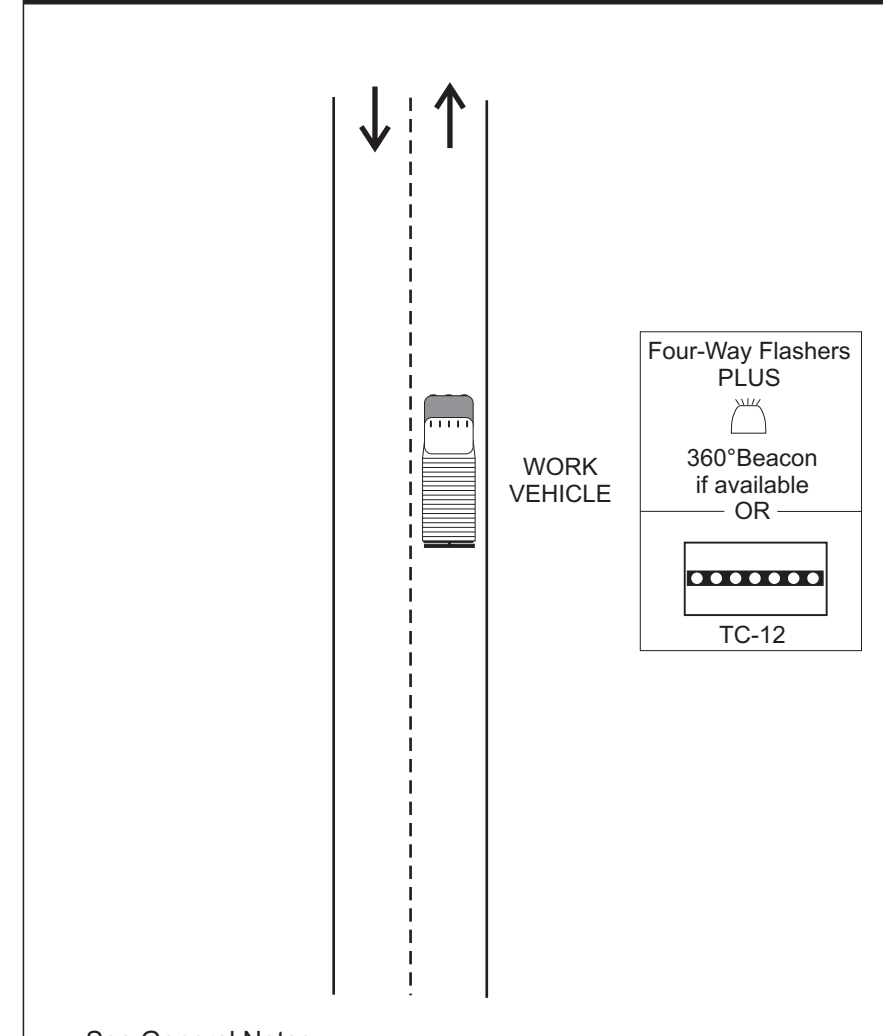
Right or Left Shoulder Work Figure TL-12



•See General Notes
*For Freeways: See TABLE C
For Lateral Intrusion Deterrence Gap (LIDG): see Table D

Two Lane Road Mobile Operations Very Short Duration

Lane Closed Figure TL-18

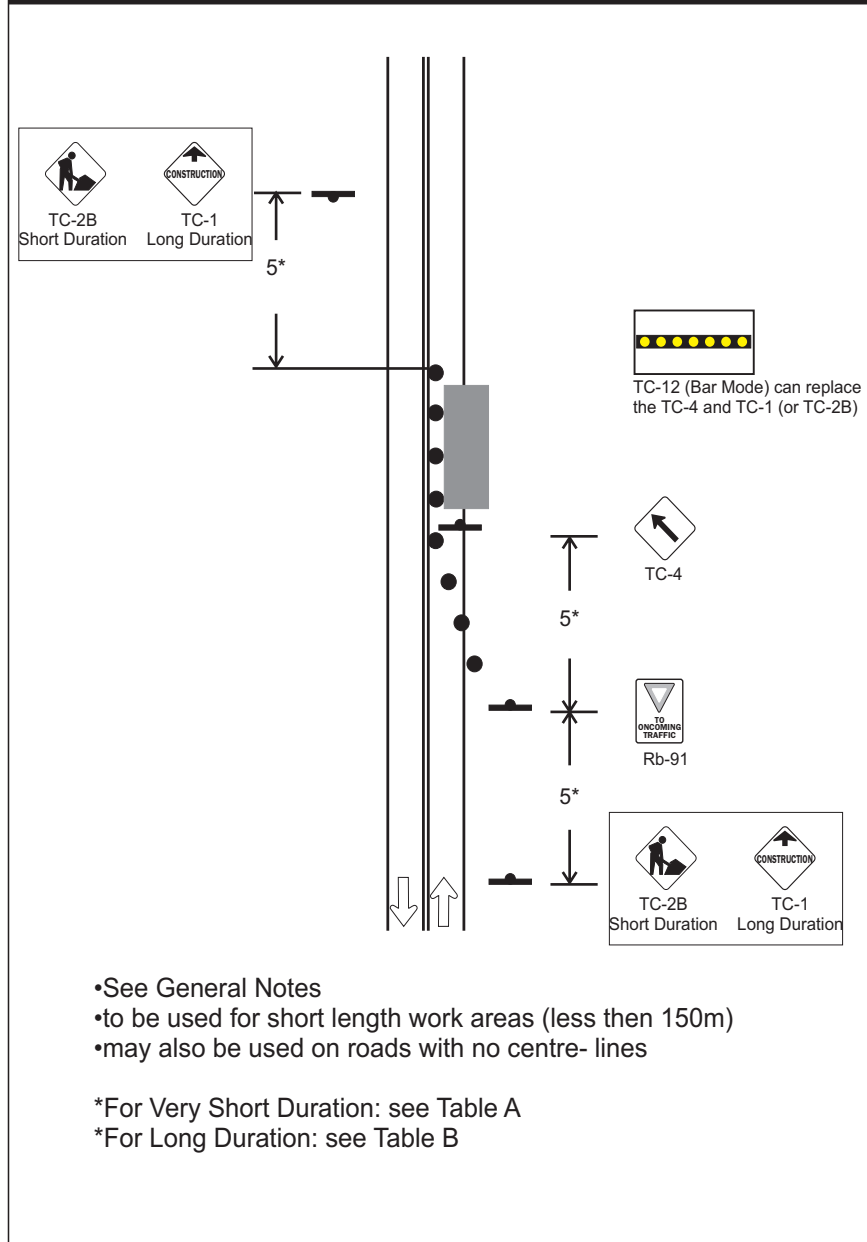


•See General Notes.
•Where high speeds, high volume, and/or poor visibility may result in safety or traffic congestion problems, consider other options such as using TL-19 or TL-20, or working at less congested times.

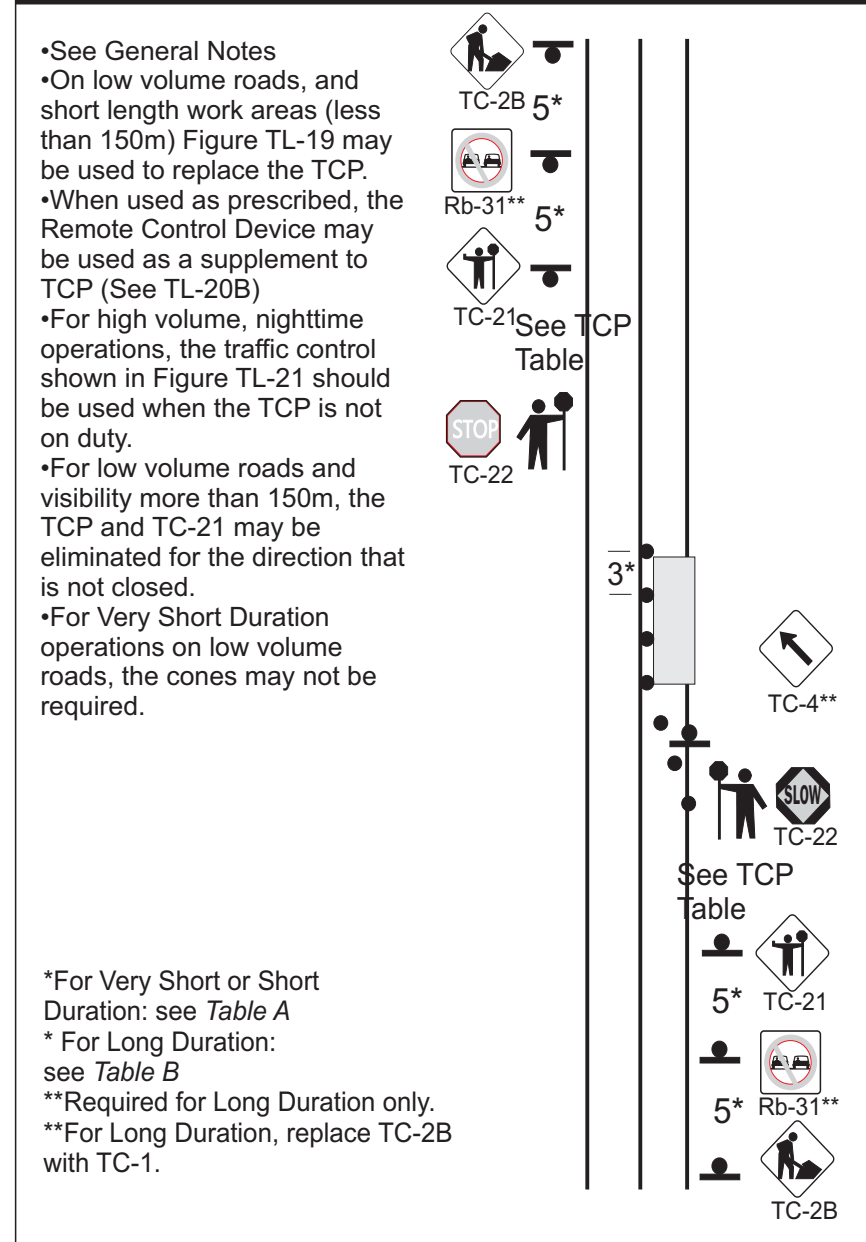
Owner	MTO	
Project Name	Rapid Bridge Replacement	Project Number 2012-2010
Prime Contractor	Brennan Paving and Construction	Traffic Control Contractor Direct Traffic Management
Phone	(905) 475-6660	Date July 6, 2012
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TL Drawings

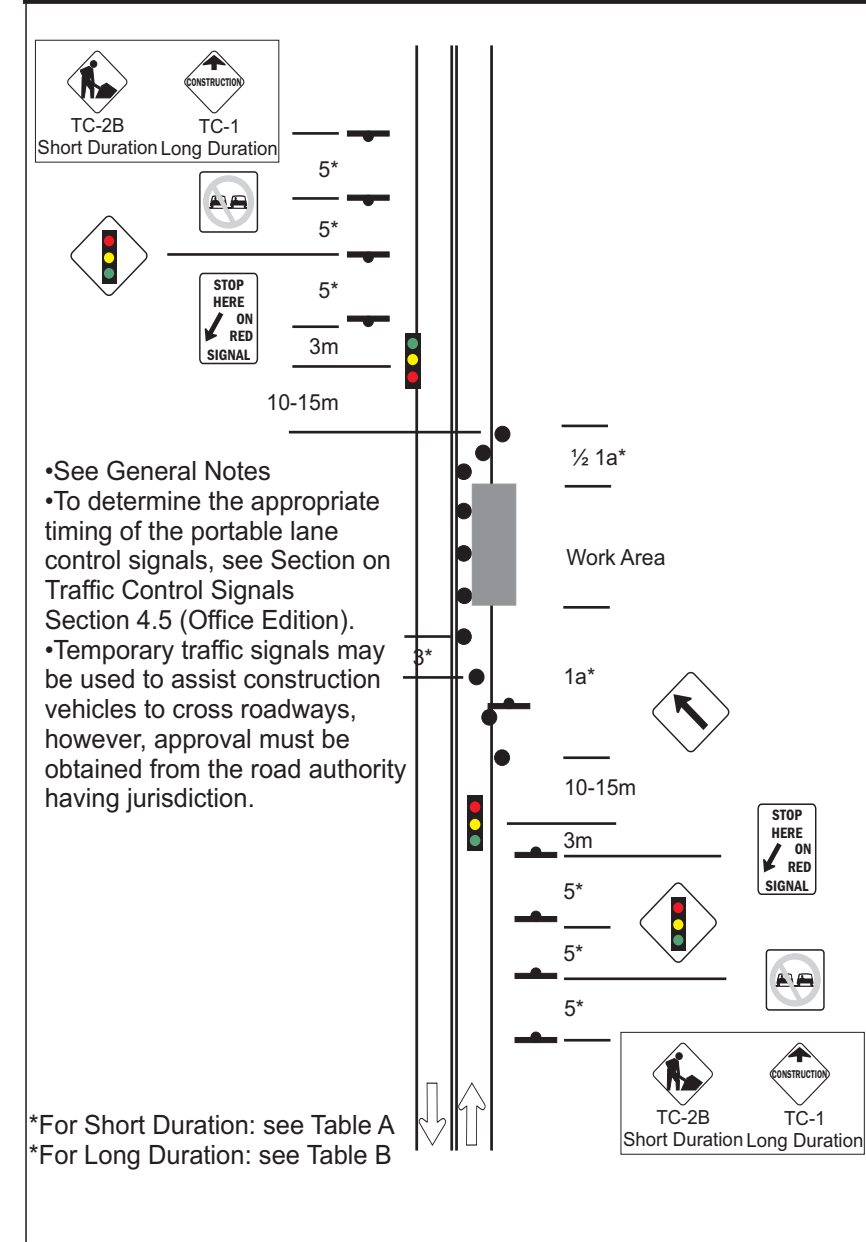
Two Lane Road (Low Volume) Very Short Duration Short Duration Long Duration
Lane Closed (Yield to Opposing Traffic) Figure TL-19



Two Lane Road Very Short Duration Short Duration Long Duration
Lane Closed (Traffic Control Persons) Figure TL-20A



Two Lane Road (High Volume) Short Duration Long Duration
Lane Closed (Portable TC Signals) Figure TL-21

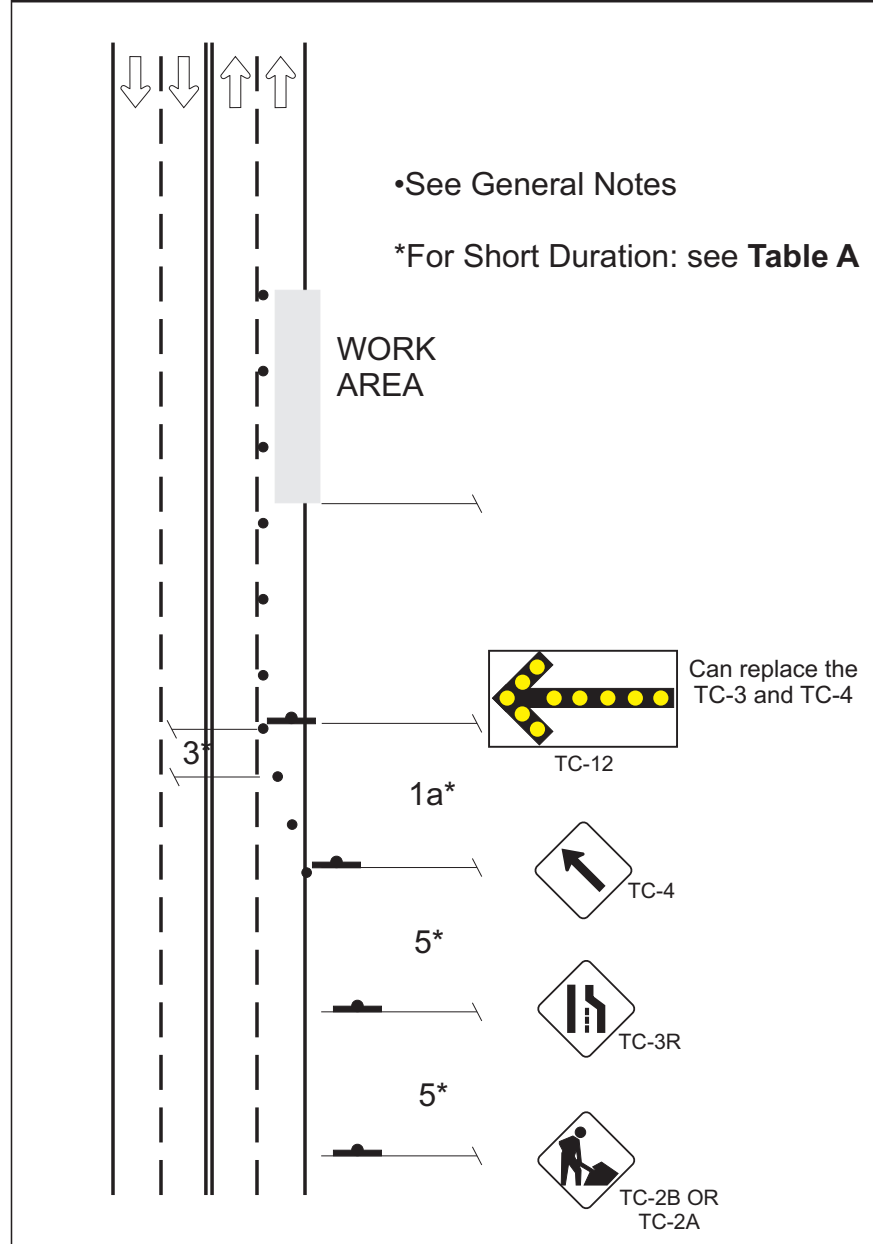


Owner	MTO	
Project Name	Rapid Bridge Replacement	Project Number 2012-2010
Prime Contractor	Brennan Paving and Construction	Traffic Control Contractor Direct Traffic Management
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TL Drawings

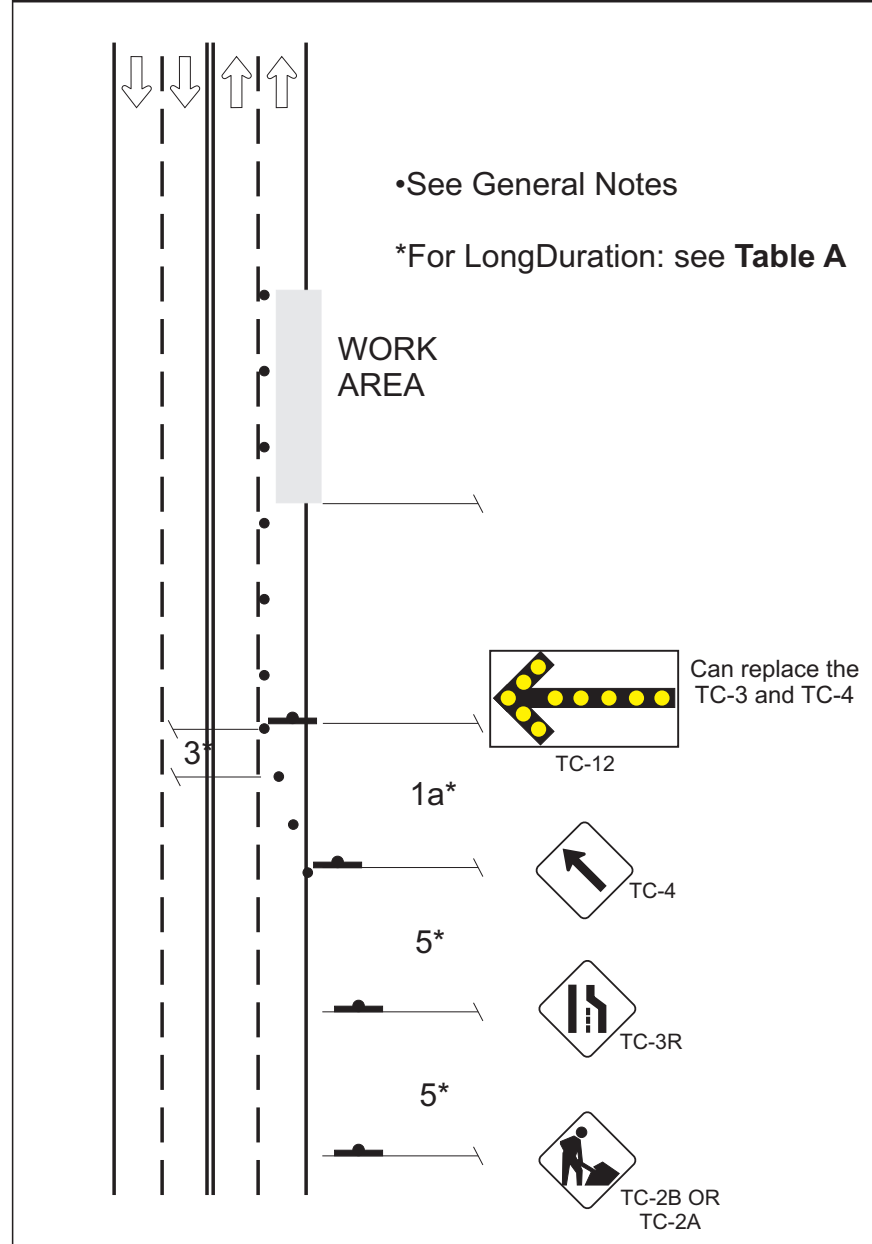
Multi-Lane Road (Non-Freeway) Short Duration

Right Lane Closed Figure TL-23



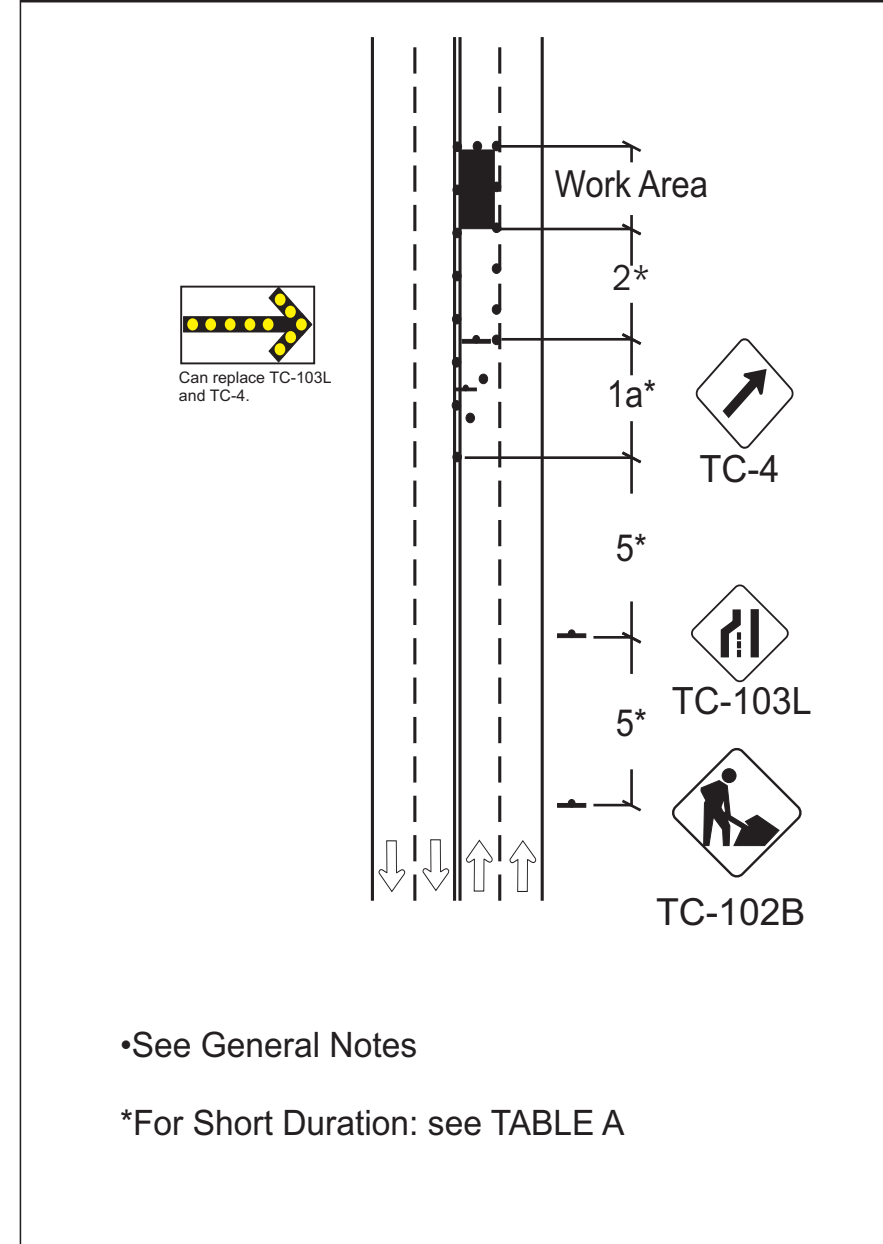
Multi-Lane Road (Non-Freeway) LongDuration

Right Lane Closed Figure TL-24



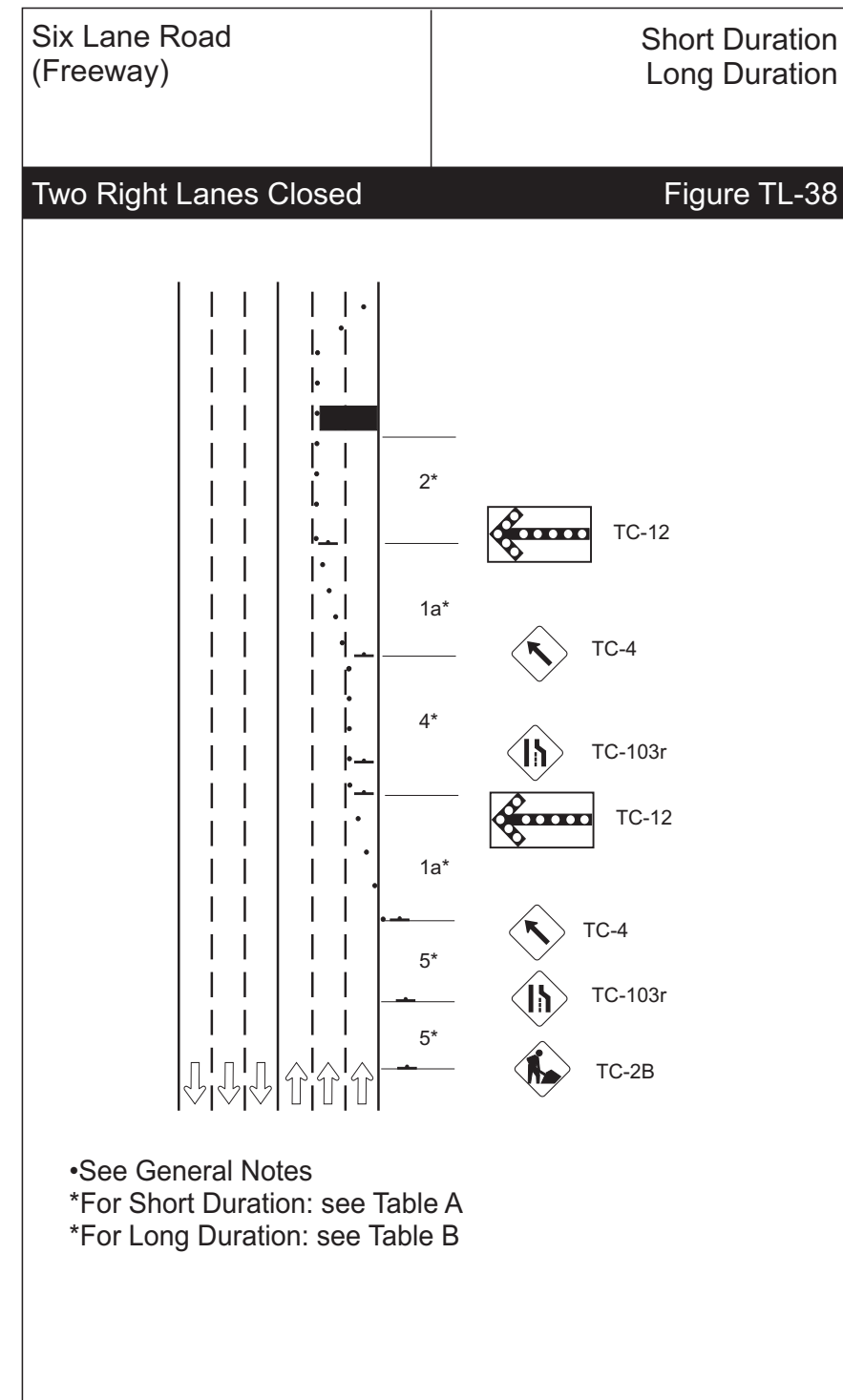
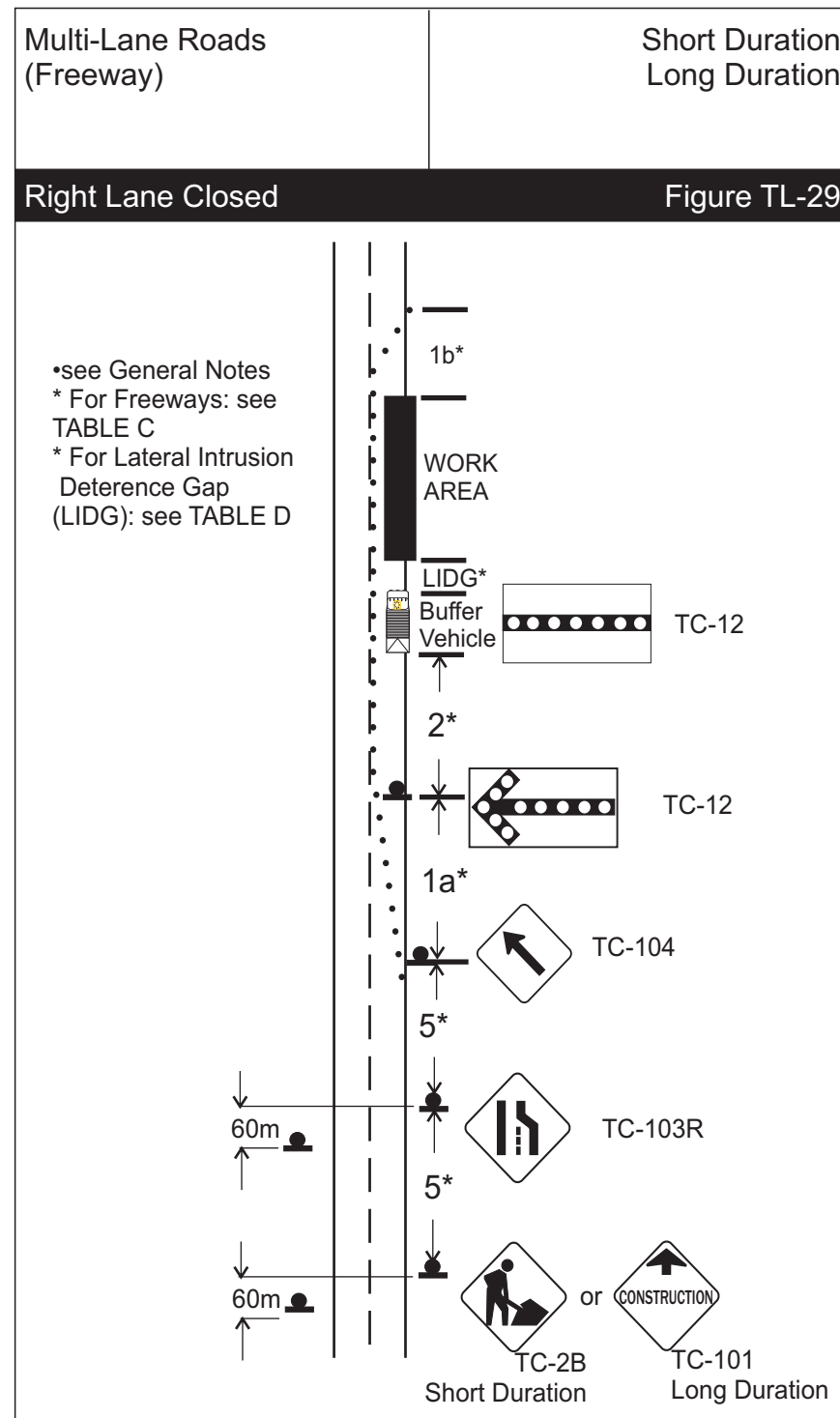
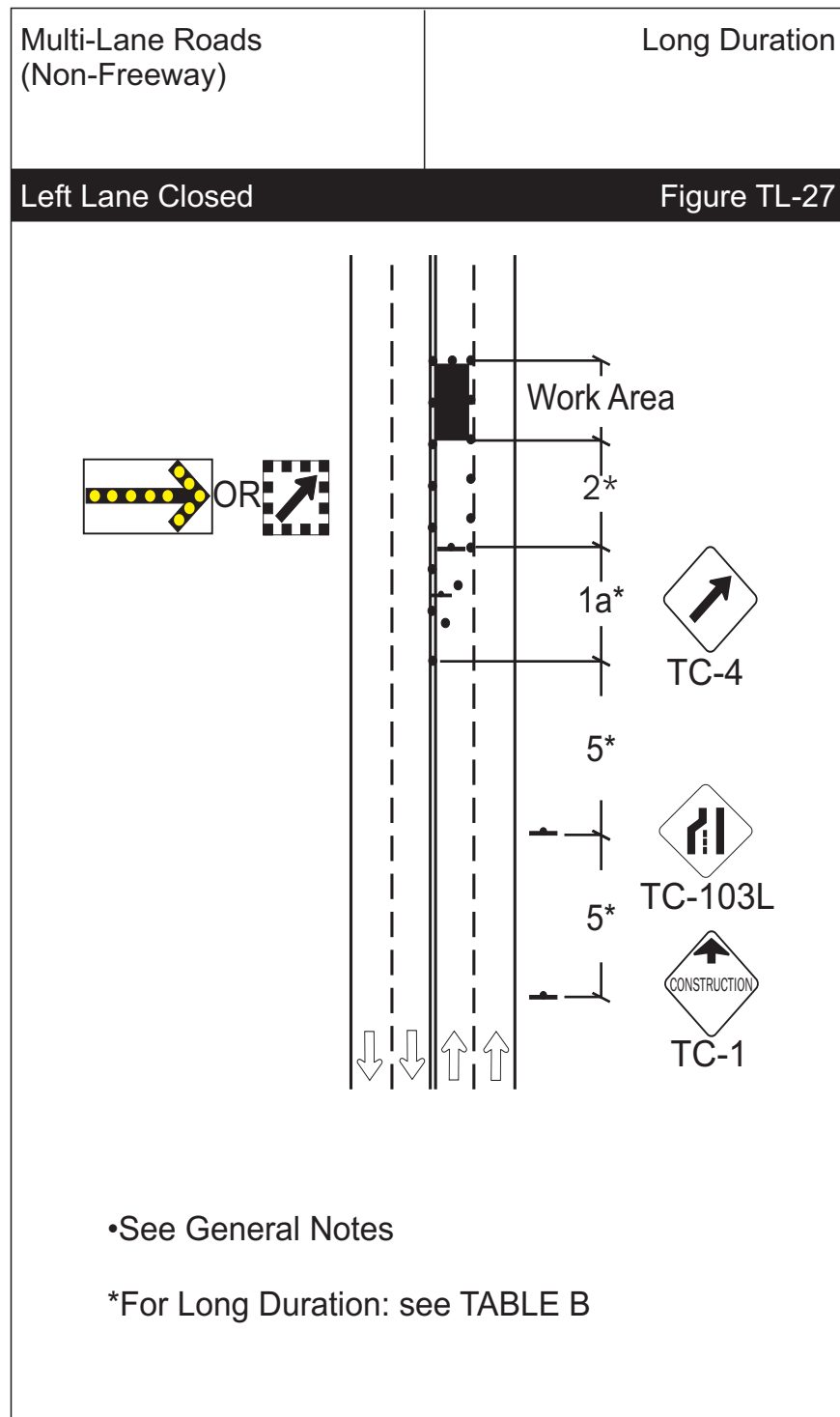
Multi-Lane Roads (Non-Freeway) Short Duration

Left Lane Closed Figure TL-26



Owner	MTO	
Project Name	Rapid Bridge Replacement	Project Number 2012-2010
Prime Contractor	Brennan Paving and Construction	Traffic Control Contractor Direct Traffic Management
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Sheet Number	5	
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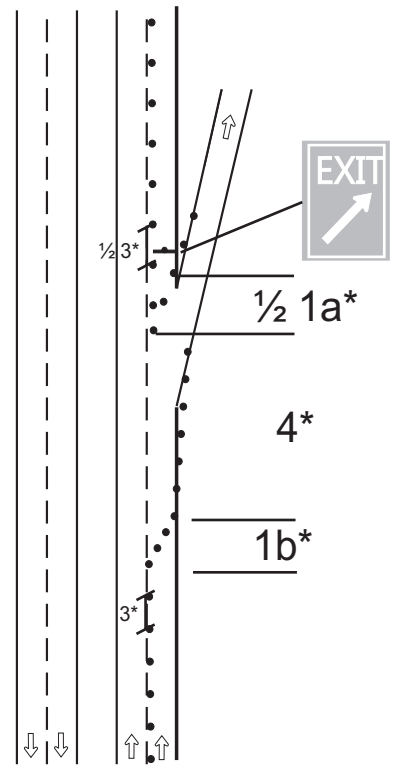
TL Drawings



Owner		MTO
Project Name	Project Number	
Rapid Bridge Replacement	2012-2010	
Prime Contractor	Traffic Control Contractor	
Brennan Paving and Construction	Direct Traffic Management	
Phone	Sheet Number	Date
(905) 475-6660	6	July 6, 2012
Prepared By		
Direct Traffic Management		

TL Drawings

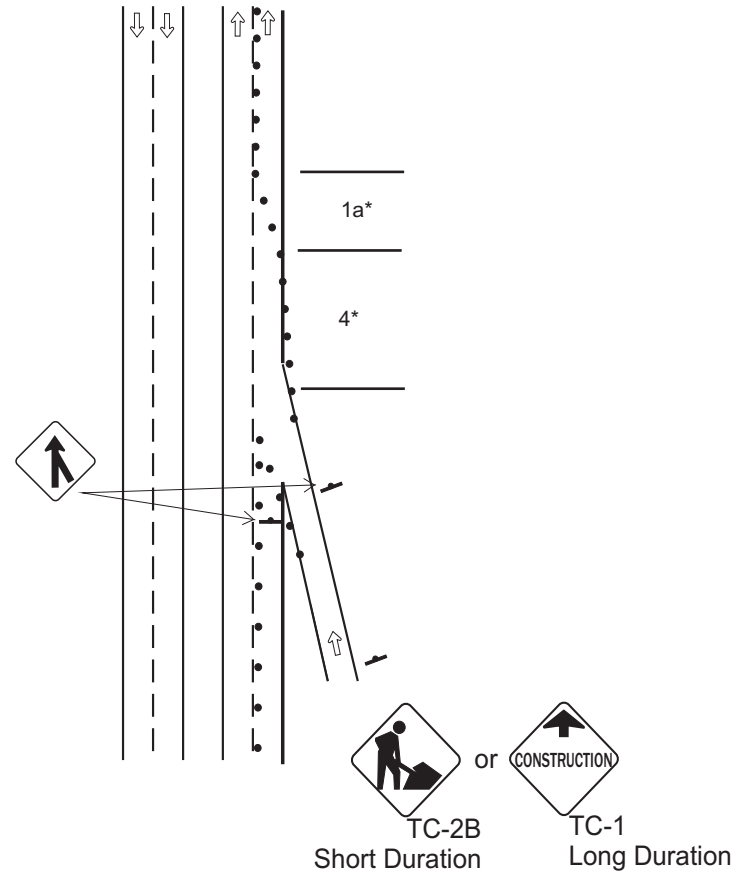
Ramps (Non-Freeway and Freeway)	Short Duration Long Duration
Lane Closed at Exit Ramp	Figure TL-43



- See General Notes
- In the immediate area of the Exit, cone or barrel spacings half of those shown on Table B or C
- For Right Lane Closure, see Figure TL-29

*For Short or Long Duration Exit Ramps from Non-Freeways; see TABLE B
 *For Exit Ramps from Freeways; see TABLE C

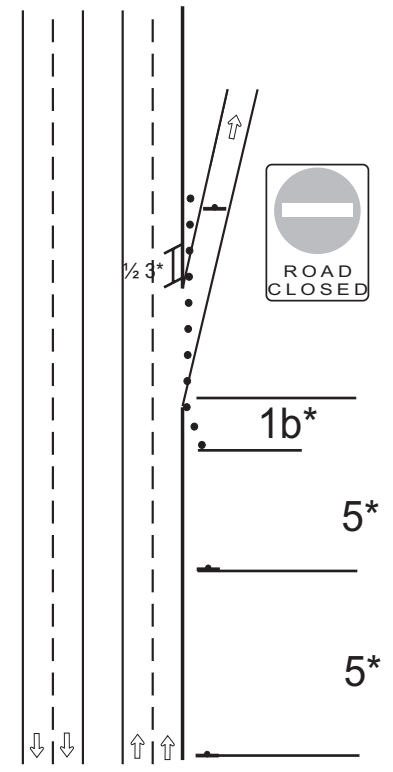
Ramp (Non-Freeway and Freeway)	Short Duration Long Duration
Lane Closed at Entrance Ramp	Figure TL-44



- See General Notes
- For Right Lane Closure see TL-29
- Where space and work activities permit, the acceleration lane should be made as long as possible.
- In the immediate area of the entrance, cone or barrel spacings should be half of those shown on Table B or C should be used.

*For Short or Long Duration Entrance Ramp from Non-Freeway; see TABLE B
 *For Entrance Ramp from Freeway; see TABLE C

Ramp (Non-Freeway and Freeway)	Short Duration Long Duration
Ramp Closure	Figure TL-45



- See General Notes
- Closed sign on directional guide signs to be used for Long Duration only.
- Consideration should be given to the use of a TC-64 sign.

*For Short or Long Duration (Ramp from non-freeway): see TABLE B
 *For Ramp from Freeway: see TABLE C

Owner	MTO	
Project Name	Rapid Bridge Replacement	Project Number 2012-2010
Prime Contractor	Brennan Paving and Construction	Traffic Control Contractor Direct Traffic Management
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		Date July 6, 2012
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Tables

Table C - Work Zone Component Dimensions: Freeways

Normal Regulatory Speed Limit				
*	Dimension	80 km/h	90 km/h	100 km/h
1a	Taper length for full lane closure (m)	220	250	300
1b	Taper length for roadside work (m)	20 - 25	30 - 40	40 - 50
2	Longitudinal Buffer Area (LBA) (m)	60	75	95
3	Maximum Distance between markers (m)***	10 - 14	18 - 24	18 - 24
4	Minimum Tangent between tapers (m)	220	250	300
5	Distance between construction signs (m)	160	180	200

NOTES:

* When the 85th percentile is known, it may be used instead of the normal regulatory speed limit. Table C distances are based on good visibility and should be increased if visibility is poor.

Roadside Work includes shoulder work and roadway edge work.

* For application of LBA and Buffer Vehicles (BVs), see General Notes to Typical Layouts, Table D and Section 5.

***Markers are channelizing devices. Application guidelines are shown in Table E.2. Cones may be used for daytime very short duration or short duration Operations Only. Construction markers or flexible drums must be used for all other conditions.

Table A - Work Zone Component Dimensions: Short Duration Work (Non-Freeways)

Normal Regulatory Speed Limit						
*	Dimension	50km/h or lower	60km/h	70km/h	80km/h	90km/h
1a	Taper length for full lane closure (m)	10 - 15	20 - 30	30 - 40	50 - 60	70 - 80
1b	Taper length for roadside work (m)	3 - 5	5 - 7	7 - 10	10 - 12	15 - 20
2	Longitudinal Buffer Area (LBA) (m)	(30)	(40)	50	60	75
3	Maximum Distance between markers (m)***	4 - 6 (use at least 4 markers)	4 - 6 (use at least 4 markers)	8 - 10 (use at least 4 markers)	8 - 10 (use at least 4 markers)	10 - 12 (use at least 4 markers)
4	Minimum Tangent between tapers (m)	30	30	60	60	80
5	Distance between construction signs (m)	20 - 30	20 - 30	50 - 60	50 - 60	70 - 80
6	Condition	TC-2B or TC-2A Required				
	Visibility less than 150m	Yes	Yes	Yes	Yes	Yes
	Visibility 150m or greater	No	No	No, if a TC-12 is used	Yes	Yes

NOTES:

* When the 85th percentile is known, it may be used instead of the normal regulatory speed limit. Table A distances are based on good visibility and should be increased if visibility is poor. Cones require reflective collars for nighttime operations, and for daytime and nighttime after January 1, 2002.

Roadside Work includes shoulder work and roadway edge work.

* Buffer Vehicles are not required on non-freeways. For application of LBA on non-freeways, see General Notes to Typical Layouts, Table D and Section 5. LBAs are not a requirement at speeds of 60km/h or lower, but should be considered if safety concerns exist.

***Markers are channelizing devices. Application guidelines are shown in Table E.2. Cones may be used for daytime or nighttime operations on non-

Table D - Application of Longitudinal Buffer Area and Buffer Vehicles

Stationary Work Operations		
Required Protection (Freeways): LBA + Buffer Vehicle + LIDG Required Protection (Non-Freeways): LBA Only		
(1) Normal Regulatory Speed Limit (km/h)	(2) Longitudinal Buffer Area (LBA) (m)	(3) Lateral Intrusion Deterrence Gap (LIDG) (m)
50	(30)	(35)
60	(40)	(40)
70	50	50
80	60	60
90	75	65
100	95	70

Mobile Work Operations	
(1) Normal Regulatory Speed Limit (km/h)	(2) Lateral Intrusion Deterrence Gap (LIDG) (m)
70	35
80	45
90	50
100	55

NOTES:

1. See also Section 5 and General Notes to Typical Layouts

Owner	MTO	
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Prepared By	Direct Traffic Management	