

BRIDGE POSTING AND UTILITIES



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Posting and Utilities Information

- Posting refers to Posted Loading or Posted Vertical Clearance
- Information is entered into TIMS BIS application at first inspection
- On subsequent BIM reports
- Inspectors verify information is correct
- Inspectors revise if incorrect
- Note and report changes in Posting information for system updating



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Responsibility for Posting

- All bridges on local roads are responsibility of Local Road Authority (County, MD, Town, Village, rtc)
 - passing by-laws
 - purchasing, installing and maintaining signage



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Vertical Clearance

Posting Information					
Required Vert. Clearance Posting (m)					
Posted Vertical Clearance (Y/N)					
Posted:	Lane	On Bridge (m)	In Advance (Y/N)	Lane	On Bridge (m)
In Advance (Y/N)					
Remarks					

- On culvert Grade Separations and other various Major bridge forms
- Mounted at midpoint over travel lanes
- Advance warning in each direction
- Legal height in Alberta without a permit is 4.15m
- New grade separation structures are designed for 5.35m clearance



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Vertical Clearance

- Inspection and Coding
 - look for signs in advance and on bridge
 - legible and visible
 - clearance values consistent
 - If signs are missing record as “No”
 - note direction and location if missing and notify RRA
 - look for new pavement or gravel
 - notify RRA if signs are incorrect or inconsistent



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Vertical Clearance Posting is Important!



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Vertical Clearance Posting is Important!



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Posted Loading – BIM Bulletin #8

BIM Advisory Bulletin #8 – April 2021
Legal Loads on the Local Roads

On January 1, 2021, the Commercial Vehicle Dimension and Weight Regulation was amended. Part of the changes involved the removal of the previous weight restrictions for tri-axle and tri-axle on non-highway (Local Roads) roadways. As a result, the legal CS3 truck load for Local Roads previously had 54 tonnes rating will now have the same 63.5 tonnes rating as for the Provincial Highways.

Effective immediately, Table 5.1 of Bridge Inspection and Maintenance System – Inspection Manual (Version 4.0 – December 2020) will be replaced in its entirety with the following:

Truck Type	Local Roads	Provincial Highways
Single (CS1)	28 tonnes	28 tonnes
Semi (CS2)	49 tonnes	49 tonnes
Truck Train (CS3)	63.5 tonnes	63.5 tonnes

Table 5.1 – Legal loads

*previously 54 tonnes

In addition, the eleventh bullet point in Section 5.2.2 of Bridge Inspection and Maintenance System – Inspection Manual (Version 4.0 – December 2020) is deleted and is replaced in its entirety, with the following:

"If no Allowable Load or Design Load is shown, or CS3 truck load for Local Roads is less than 62 tonnes on the BIM inspection form and is not currently posted, a recommendation to assess allowable load should be made in the 'Special Comments for Next Inspection' field. For these bridges, the Responsible Road Authority should initiate appropriate action, to either confirm that the bridge is sufficient for a CS3 63.5 tonnes rating or the Responsible Road Authority will need to post the bridge to CS3 64 tonnes."

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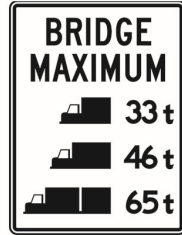
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Posted Loading

Bridges that cannot accommodate legal loads are posted
 Legal Loading on:

- Local Roads
 - CS 1 28 tonnes
 - CS 2 49 tonnes
 - CS 3 63.5 tonnes
- Provincial Highways
 - CS 1 28 tonnes
 - CS 2 49 tonnes
 - CS 3 63.5 tonnes



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Posted Loading

- Inspection and coding
 - compare Allowable Load to legal loads to determine if posting is required
 - loading values on sign consistent with "Allowable Loading" and "Required Load Posting" on report
 - note posting at the junctions of roads leading to bridge, in advance, and at the bridge structure
 - legible and visible
 - note missing or incorrect signs, report to responsible authority

Allowable Load (t)	Single	H 18 STRINGER	Semi	HS 32 STRINGER	Train	CS3 48 STRINGER	→ On Critical Spans → Critical Member	
Design Loading	HS15						→ Primary Span	
Posting Information								
Required Load Posting (t)	Single	18	Semi			Truck Train	48	
Posted Loading (t)	Single	10.0	Semi			Truck Train		
Posted:	Lane	EB	At Junction (Y/N)	No	In Advance (Y/N)	Yes	At Bridge (Y/N)	No
Posted:	Lane	WB	At Junction (Y/N)	Yes	In Advance (Y/N)	No	At Bridge (Y/N)	Yes
Remarks	Located on dead end road WB. EB signing is adequate. Posted at 10 T							

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Posted Loading

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Posted Loading



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Hazard Markers

Hazard Marker At Bridge (Y/N)	
Remarks	
Other Sign Types	



- All bridges when bridge clear road less than approach road
- All standard bridges on local roads – except when bridge is wider than road.
- Black stripes point down and toward road



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Hazard Markers

- Inspection and Coding
 - noting orientation and location (in line with bridge railing & 1200mm above deck top/wearing surface) except when required to be higher due to snow banks
 - note condition
 - If not installed because not required record “No” and “Not req” in “Remarks” area
 - If some missing record as Yes or No? Make comments in “Remarks” area
 - If all missing record as “No” and make maintenance recommendation to install
 - problems notify responsible authority

Other Signs

- Narrow Bridge, Speed Limit, Curve, Bump,
 - note condition, legibility
 - record type and location

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Utilities

Utilities (Located at)			
Telephone		Gas	
Power		Municipal	
Others		Problem (Y/N)	
Remarks			

- Utility owner responsible for maintenance or removal if requested by RRA
- Note only those on or within 200 m of bridge or culvert
- Check if utility
 - overloads bridge
 - interferes with maintenance or operations
 - hazard to public or bridge
 - unattractive appearance (corrosion, loose and sagging)
- Installed only after review and approval of AT or LRA staff

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Utilities Proper Locations

- Newer prestressed concrete bridges
 - Voids/ducts in curbs for Telephone and Power
- Reinforced concrete precast
 - clamp on curb fascia
- Older pre-stressed concrete precast
 - in outside void of stringer
- Should not interfere with bridge or culvert maintenance

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Utilities Improper Attachments

- Drilled into pre-stressed girders
- Explosive fasteners in steel or concrete
- Welding or drilling on steel members or in culvert barrels
- Oversize holes in timber
- Failure to treat cut timber

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Utilities

- Inspection and Coding
 - note location of power, phone, etc. within 200m (i.e. East ROW)
 - remark if hazardous, report to owner
 - look for improper installation
 - look for leaks in water, sewer or gas
 - check connections for safety
- Notify RRA (AT or LRA) concerning problems or defects

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Culverts

- Vertical clearance only if underpass
- No load posting
- Utilities typically not in culverts
- May have ducts in headwalls
- Record location of power, phone, etc. within 200m (i.e. West ROW)

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Major Bridges

- Local Road Authorities are responsible for signing of major bridges on Local Roads
- Lack of signs
 - legal liability
 - damage bridges
 - damage / injury to public
- Report missing or incorrect Posted Loading signs to Bridge Manager & Bridge Preservation Specialist, or LRA as appropriate.

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Questions?



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