

Posting and Utilities

BRIDGE POSTING AND UTILITIES



Technical Standards Branch
Class B Bridge Inspection
Course



Posting and Utilities

Posting and Utilities Information

- Entered into TIMS BIS application at first inspection
- On subsequent BIM reports
- Inspectors verify information is correct
- Note changes for updating



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Responsibility for Posting

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



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Vertical Clearance

Posting Information							
Required Vert. Clearance Posting (m)							
Posted Vertical Clearance (V/N)							
Posted	Lane	On bridge (m)	In Advance (V/N)	Lane	On Bridge (m)	In Advance (V/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 4.15m
- New structures are 5.35m



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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 responsible authority
 - look for new pavement or gravel
 - notify RRA if signs are incorrect or inconsistent



Vertical Clearance Posting is Important!

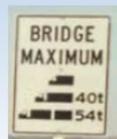


Posted Loading

- Bridges that cannot accommodate legal loads are posted

Legal Loading on:

- Local Roads
 - CS 1 28 tonnes
 - CS 2 49 tonnes
 - CS 3 54 tonnes
- Provincial Highways
 - CS 1 28 tonnes
 - CS 2 49 tonnes
 - CS 3 63.5 tonnes



Posted Loading

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	16	Semi		Truck Train	48	
Posted Load (t)	Single	10.0			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 W/B. E/B signing is adequate. Posted at 10 T.						

- Inspection and coding
 - note posting at the junctions of roads leading to bridge, in advance, and at the bridge structure
 - legible and visible
 - loading values on sign consistent with “Allowable Loading” and “Required Load Posting” on report
 - may be posted less than rating due to conditions
 - note missing or incorrect signs, report to responsible authority

Posted Loadings

Alberta Transportation Bridge Inspection & Maintenance System (BIMS 2005) 00271-1 Bridge

Bridge File Number: 00271-1 Bridge
 Span Number: 19937903
 Span: 19937903
 Bridge or Span Name: SUNNYVALE
 Location Code: KENDRICK DISTIC, 3.6M, WATERWORKS ST
 Location Name: LOCAL ROAD
 Highway Co. Name: LOCAL ROAD
 Highway Co. Other: LOCAL ROAD
 Inspector Name: G. Schmitt
 Assessor Name: G. Schmitt
 Inspection Date: 2/15/11
 Actual Time: 8:30 AM
 Depart Time: 8:30 AM
 Date Entry In: 2/15/11
 Date Entry Date: 2/15/11
 Hardware Name: 2.5 T
 Name Date: 2/15/11
 Dept. Receiver Name: 2.5 T
 Follow-Up By: 2.5 T

Posted Loadings: 100 kN, 150 kN, 200 kN, 250 kN, 300 kN, 350 kN, 400 kN, 450 kN, 500 kN, 550 kN, 600 kN, 650 kN, 700 kN, 750 kN, 800 kN, 850 kN, 900 kN, 950 kN, 1000 kN

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Posted Loadings



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 down toward road



Hazard Markers

- Inspection and Coding
 - noting orientation and location (in line with bridge railing & 1200mm above deck top/wearing surface)
 - note condition
 - If missing record as “No”
 - problems notify responsible authority

Other Signs

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



Utilities

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

- Utility owner responsible for maintenance and operation
- Note only those on or near bridge
- Check if utility
 - overloads bridge
 - interferes with maintenance or operations
 - hazard to public or bridge
 - unattractive appearance (corrosion)
- Installed with approval of AT Regional staff

Utilities Proper Locations

- Newer concrete bridges
 - ducts in curbs for Telephone and Power
- Reinforced concrete precast
 - clamp on side of curb or clamped to rail
- Pre-stressed concrete precast
 - in outside void of stringer
- Should not interfere with bridge or culvert maintenance

Utilities Improper Attachments

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

Utilities

- Inspection and Coding
 - note location of power, phone, etc. (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

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. (i.e. West ROW)

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

Questions??