



ADMINISTRATIVE RULES OF MONTANA



18.7.230 ATTACHMENT TO HIGHWAY STRUCTURES

- (1) For existing attachments:
 - (a) Attachments to existing structures in place prior to the effective date of these rules are considered to be in compliance with this rule, provided:
 - (i) The owner shall inspect the attachment annually and shall repair any deficiencies. The owner shall maintain a record of the inspections.
 - (ii) If the attachment is not currently permitted by a structure attachment permit, the owner shall submit an application for a permit and drawings to the appropriate district office for approval under these rules within six months of the effective date of these rules.
- (2) For proposed attachments to existing structures:
 - (a) Where it is feasible and reasonable to locate utility facilities elsewhere, attachment to highway structures will not be allowed. Where other locations create undue hardship for the installation of the facility, consideration will be given to attaching the utility facility to a highway structure. The following conditions will apply:
 - (i) All utility facilities attached to structures shall be attached as provided in this rule unless written approval to do otherwise is granted by the department's bridge engineer.
 - (ii) Attachments to structures shall be inspected by the owner at least once per year and the owner shall repair any deficiencies immediately. Records of the inspections shall be maintained by the owner for a minimum of three years.
 - (iii) Attachment to longitudinal structures on a full control access facility system generally will not be permitted except to exclusively serve a highway facility. Attachments to existing structures crossing the full control access facility will be considered on a case-by-case basis.
 - (iv) The attachment method shall conform to engineering standards for preserving the highway, its safe operation, maintenance and appearance.
 - (v) Attachment of a utility facility will not be permitted unless the structure can support the additional load, and accommodate the utility facility without compromising highway user safety and convenience, and its attachment does not impair bridge inspection or maintenance.

- (vi) Manholes will not be allowed in the driving lanes of a bridge deck. Where the structure has a minimum shoulder width of 3.048 meters (10 feet) , manhole access through the deck in the shoulder area may be allowed within the discretion of the department.
- (vii) The utility attachment will be installed on the bridge in a manner which will not reduce the vertical clearances above river, stream, pavement or top of a rail.
- (viii) Utility attachments to the outside of a structure that is located within 402.336 meters (440 yards) of a residential structure, park, fishing access site, or other recreational facility will not be permitted. A residential structure is any go building intended for human occupancy, including businesses. This provision may be waived by the district administrator if the utility can demonstrate the provision will place an economic hardship on the utility and that the design and attachment of the facility will not detract from the aesthetics of the structure. In other areas where, in the opinion of the district administrator, bridge aesthetics are not a particular concern, a utility may be attached to the outside of the structure. Utilities attached to the outside of the structure will be on the downstream side.
- (ix) Utility facilities shall be firmly attached to the structure and where necessary padded to eliminate noise and abrasion due to vibrations caused by wind or traffic.
- (x) The installation of a utility through the abutment or wing wall of an existing structure shall not be permitted.
- (xi) In locations where a utility attached to a structure is carried beyond the back of the abutment, the utility shall curve or angle out to its proper alignment outside the roadbed area within the shortest possible distance from the abutment.
- (xii) So long as utility facilities comply with the other conditions set forth in these rules such a facility may be attached to structures by hangers or roller assemblies suspended from inserts in the underside of the deck or from hanger rods clamped to a flange of a superstructure member.
 - (A) Bolting through the deck or concrete beams shall not be permitted.
 - (B) Welding of attachments to steel members or bolting through such members shall not be permitted.
 - (C) The use of anchors driven using the explosive type drilling force shall not be permitted.
 - (D) Drilling in prestressed concrete beams shall not be permitted.
 - (E) Attachments of utilities facilities to bridge handrail or guardrail or their anchorage systems shall not be permitted.
 - (F) Attachment of pipelines carrying deleterious or corrosive substances shall not be permitted.
- (xiii) The design of a utility attachment to a highway structure shall include provisions acceptable to the department for lineal expansion and contraction due to temperature changes. Line bends or expansion couplings may be used for this purpose.

- (xiv) Each proposed bridge attachment will be considered on a case-by-case basis by the department.
- (xv) Trenching in the vicinity of piers, bents or abutments shall be a sufficient distance from footings to prevent undercutting or material from sloughing from under the footing.
- (xvi) An application which involves the reduction of existing waterway area shall not be permitted.
- (xvii) Utilities attached to bridges shall not be maintained from the bridge deck without the prior approval of the department's district engineer.
- (xviii) Utility facilities shall not be attached to bridges on or eligible for listing on the national register of historic places without written consent of the state historic preservation officer.
- (xix) By accepting the occupancy permit, the owner of the utility facility shall be fully liable to the department, or others, for any damage to the structure, or the surrounding environment, caused by the placement and use of the facility on a highway structure. If the structure is damaged by the utility facility, through negligence or otherwise, so that the structure can not be used by the traveling public, then the utility must pay all costs to repair the structure, and associated costs.
- (xx) The department shall not allow any new attachments to a highway structure by petroleum, natural gas, or other products pipelines in seismically active areas (those areas where the anticipated acceleration coefficients due to an earthquake exceed 100 of gravity) unless the structure has been retrofitted or built in conformity to the department's seismic requirements since January 1, 1992. The department may waive this requirement if the department determines that the structure is adequate for the seismic area within which it is located.

(3) For proposed attachments to new bridge structures:

- (a) Where the department plans to construct a new structure, the design of the structure will, upon request of a utility company, be reviewed by the department's bridge bureau for accommodation of existing or proposed utility installations consistent with the requirements set forth herein. The utility company may be required to reimburse the state for additional design and construction costs associated with accommodating the utility facility on the new structure.
- (b) Installation of a utility facility on a new structure shall be coordinated with the bridge construction so as not to interfere with the operations of the highway contractor.
- (c) The applicant shall submit complete plans and specifications of the proposed installation, including the weight per lineal meter (foot) and detail drawings to the department prior to the department's completion of plans and specifications for the proposed structure.
- (d) Utility facilities may be installed through free standing bridge abutments, but shall not be permitted through abutments or bents that are expected to move as the thermal expansion and contraction affects the bridge. The hole created in the bridge abutment must be of the minimum size necessary to accommodate the utility and it shall be sleeved to permit relative movement between the abutment and utility.

(4) For pipelines:

- (a) At the option of the utility, pipelines must be attached to a highway structure by one of the following methods:
 - (i) The carrier line shall be encased throughout the length of the structure and the casing shall be carried beyond, but not through, the bridge abutments and shall be effectively opened or vented at each end. The casing shall be designed to withstand the same internal pressure as the carrier pipe; or
 - (ii) The carrier line may be attached to the structure unencased using the following design factors:

Class Location 1	0.50
Class Location 2	0.40
Class Location 3	0.33
Class Location 4	0.27

The design factor specified shall be obtained in accordance with the equations set forth in 49 CFR 192 by any combination of wall thickness and/or pipe yield strength that will provide the required design factors. If the design factor is obtained by increasing steel strength, the utility shall provide certification at the time of installation to the department that the pipe, in fact, meets the strength requirements in the design calculations.

- (b) The carrier pipe shall be pressure tested before start-up in accordance with the latest edition of applicable industry codes, as well as the applicable statutes and regulations.
 - (c) The attachment shall be designed to prevent any discharge from damaging the structure or reaching the waterway in the event of a rupture. That capability shall be demonstrated to the satisfaction of the department's bridge engineer prior to approval of the attachment.
 - (d) Pipelines using bridge members to resist forces generated by fluids in motion shall not be permitted.
 - (e) The following information shall be included in the application: outside diameter, inside diameter, pipe material, actual working pressure, substance carried, type of coating, and any other information requested by the department.
 - (f) Pipelines attached to highway structures shall be electrically isolated from the structure.
 - (g) Pipelines shall be attached to provide sufficient clearance for convenience and safety during maintenance and repair of the structure or other utility attachments on the structure. The pipeline shall be located to minimize the possibility of damage from traffic. Pipelines shall include the capability to allow for expansion and contraction of the structure and the pipeline.
- (5) For power and communication lines:
- (a) Electric power and communication conductors attached to a highway structure shall be insulated from the structure, and carried in protective conduit or pipe throughout the structure. Exposed metallic conduit shall be grounded on each end. Where metallic conduit is installed within two meters (seven feet) of any metal parts of the structure which are

readily accessible, including, but not limited to, railings, platforms, or stairs, the metallic conduit shall be bonded to the metal parts of the structure. When bonding, all sections of the structure shall be bonded to the metallic conduits.

- (b) Electrical power and communication lines shall be attached to provide sufficient clearance for convenience and safety during maintenance and repair of the structure or other utility attachments on the structure. The conduit shall be located to minimize the possibility of damage from traffic. Conduits shall allow for the expansion and contraction of the structure.
 - (c) Attachments shall comply with the national electrical safety code and applicable regulations.
 - (d) Metallic conduit attached to structures that are cathodically protected shall meet all of the above requirements and shall not adversely affect the cathodic protection of the structure, i.e., insulate the conduit from the soil and use anodes at each end for grounding. Method to be used shall be approved by the department's bridge engineer on a case by case basis.
- (6) Aerial power or communication lines will not cross over bridges where it is possible to avoid such installations. A minimum vertical clearance of 7.62 meters (25 feet) from the top of the bridge rail will be maintained. A horizontal clearance of 7.62 meters (25 feet) will be maintained from the neat lines of the structures.
- (7) For attachment materials:
- (a) All attachments to structures shall be constructed from durable materials designed for long service life and be free from routine servicing or maintenance. All materials shall conform to current applicable industry specifications and codes.
 - (b) All steel materials used in attaching a utility conduit to a structure shall be stainless or galvanized.
 - (c) Materials used for attaching a utility facility to the structure shall be compatible with the structural material to eliminate the possibility of corrosion.

Authorizing statute(s): Sec. 60-3-101 and 60-4-402 MCA

Implementing statute(s): Sec. 60-3-101 and 60-4-402 MCA

History: Eff. 12/31/72; AMD, 1995 MAR p. 854, Eff. 5/12/95.