

From: Gardner, Debora G (DOT)
Sent: Friday, September 9, 2011 11:37 AM
To: Wright, Robert L (DOT)
Cc: Bennett, John F (DOT)
Subject: RE: Pressure Pipeline Crossing Requirements

Bob,

I am not aware of any requirements specific to pipelines in State law or FHWA regs. The requirement for casing pipeline crossings was dropped a few years ago. The minimum standard requirement for depth of burial (4 ft under road and ditch, 3 ft elsewhere in the ROW) applies, we can require more if it is determined that it is needed to protect the ROW for our use or for safety, maintenance or operations purposes. For installations within access controlled highways, two other conditions apply; a feasible alternative does not exist and the proposed facility cannot adversely affect the design construction, maintenance, safety, or operation of the highway.

If I can get on my soapbox and request that in answering Ms. Gabdrakhmanova's question you emphasize our need to protect the ROW for highway purposes. Given the prohibitive cost of relocating a pipeline, it is in DOT's interest to have the crossing constructed for maximum future flexibility for highway purposes. The details would be site specific. Northern Region has gone to considerable effort and expense in designing highway projects to avoid impacting the TAPS line (Dalton Hwy, Richardson Hwy, Goldstream Road) and the fuel gas line (Dalton Hwy). There are several aerial (the road goes up and over the pipeline) TAPS crossings on the Dalton Highway that we have had to exclude from projects because it is not possible to reconstruct the area to current standards and get Alyeska to agree (they don't have relocation benefits on the Dalton, but I don't think I would have any luck telling them to relocate). If necessary, we should use our authority to require more than the minimums to avoid creating additional problems of this nature.

In Ken's absence, Rory Reddick in CR would be a good person to contact concerning this issue, there are a number of pipelines on the Kenai Peninsula. Rory would know if CR has required anything special (as a special provision of a utility permit) for pipelines.

Appropriate AAC's are below.

Let me know if you need more info,
Gail

17 AAC 15.131. Utility accommodation on controlled-access highways

(a) A utility facility may not be installed within the controlled-access limits of a highway unless the utility demonstrates to the satisfaction of the department that

- (1) a feasible alternative does not exist; and
- (2) the proposed utility facility will not adversely affect the design, construction, maintenance, safety, or operation of the highway.

(b) Access for maintenance of a utility facility located within controlled-access limits of a highway or from the entrance or exit ramp of a highway is prohibited, except if

- (1) alternate locations and means of access are unavailable or impractical due to terrain and environmental constraints; and
 - (2) that use will not adversely affect safety and traffic operation, or damage the highway, a highway structure, or a department installation.
- (c) Where an existing highway will be or has been converted to a controlled-access highway, the department may
- (1) relocate any existing facility that can be maintained only from the proposed controlled access of a highway or its entrance or exit ramps; or
 - (2) make other provisions to maintain any existing facility without using access from the highway or its entrance or exit ramps; or
 - (3) allow access as set out in (b) of this section.

17 AAC 15.171. Utility accommodation on highways

- (a) The department may allow utility facilities to be located within the rights-of-way of highways.
- (b) Manholes for underground facilities must be located so that their maintenance may be accomplished with minimum interference to the use of the right-of-way.
- (c) Facilities installed within the department right-of-way must be designed and placed so that their use or occupancy will not adversely affect the safety, construction, maintenance, or operations of the highway or related structures.
- (d) The minimum distance between the nearest part of a surface-mounted utility facility and the edge of the traveled way must comply with the standards set out in the department's *Highway Preconstruction Manual*, adopted by reference in 17 AAC [15.301\(e\)](#).
- (e) Facilities installed within a department right-of-way must
 - (1) be located as near as practicable to the highway right-of-way line; and
 - (2) comply with the standards set out in the *Highway Preconstruction Manual*, adopted by reference in 17 AAC [15.301\(e\)](#).
- (f) A new facility crossing a highway right-of-way must be installed as nearly perpendicular to the highway centerline as is practicable.
- (g) An underground facility crossing of a highway must be installed by boring, coring, or jacking through the roadway prism. Wet-boring is prohibited. The department may allow trenched or open-cut construction where untrenched construction is not practical. An underground facility crossing in a department right-of-way must conform to the specifications set out in any special provisions of the utility permit.
- (h) If a utility locate service is not available, reference markers must be installed and maintained at both ends of an underground facility highway crossing, at angle points in the

alignment of the underground facility, and at designated points along the longitudinal alignment as specified in any special provisions of the utility permit.

(i) If the utility can demonstrate that adherence to the requirements of this section is impractical because of difficult topography, mountainous terrain, or other special conditions, the department may modify the requirements.

17 AAC 15.201. Utility clearances

(a) A new or relocated overhead facility must be installed with a minimum vertical clearance of 20 feet between the overhead facility and the right-of-way surface.

(b) Existing overhead facilities must have at least 18 feet of vertical clearance between the overhead facility and the right-of-way surface.

(c) The depth of burial for an underground facility constructed or installed through a roadway prism or under a runway surface must be at least four feet, measured from the surface to the top of the cable, conduit, pipeline, or encasement. An underground facility constructed or installed under another surface must have a depth of burial of at least three feet, measured from the surface to the top of the cable, conduit, pipeline, or encasement.

(d) If the minimum depth of burial under (c) of this section is impractical, the department may permit an underground facility to be rerouted or protected with casing or other mechanical protection.

Gail Gardner, P.E. | State of Alaska | NR – DOT & PF | ROW

Northern Region Utilities Engineer

2301 Peger Road Fairbanks, AK 99709 | (: 907.451.5408 | 7: 907.451.5411 | *: gail.gardner@alaska.gov)

From: Wright, Robert L (DOT)
Sent: Friday, September 09, 2011 8:27 AM
To: Gardner, Debora G (DOT)
Cc: Bennett, John F (DOT)
Subject: FW: Pressure Pipeline Crossing Requirements

Gail, normally I ask Ken Morton for this type of info, however Kens' gone for a couple weeks. Can you help?

Regards,

Robert Wright
State Right of Way Chief
DOT&PF Headquarters
Anchorage Office: 907-269-6240
Cell: 907-575-3888
E-Mail: Robert.Wright1@alaska.gov

From: Neidhold, Mark J (DOT)
Sent: Tuesday, September 06, 2011 2:06 PM

To: Morton, Kenneth M (DOT); Wright, Robert L (DOT)
Subject: FW: Pressure Pipeline Crossing Requirements

Bob/Ken,

Can you please help me out on this. Thank you - MJN

Mark J. Neidhold, P.E.
Chief Design & Construction Standards



Alaska Department of Transportation & Public Facilities
Statewide Design and Engineering Services
3132 Channel Drive, P.O. Box 112500
Juneau, AK 99811-2500

(907) 465-6948
(907) 465-5240 FAX
(907) 465-3562 TEXT

mark.neidhold@alaska.gov
<http://www.dot.state.ak.us/stwddes/dcsaboutus/index.shtml>

From: Gabdrakhmanova, Alina (Calgary) [<mailto:Alina.Gabdrakhmanova@WorleyParsons.com>]
Sent: Friday, September 02, 2011 12:05 PM
To: Neidhold, Mark J (DOT)
Subject: Pressure Pipeline Crossing Requirements

Dear Mr. Neidhold,

With regards to our conversation, I am wondering whether there are any specific requirements by Alaska DOT on depth of cover of a pipeline crossing a highway, at the crossing point and within the highway corridor.

Thank you,

Alina Gabdrakhmanova
Pipeline Technical Specialist, Alaska Pipeline Project
Pipeline Systems Business Unit
Calgary Operations, WorleyParsons Canada

Tel: +1 403 385 2513 | Mob: +1 403 354 4334 | Fax: +1 403 258 8080
Suite 400, 10201 Southport Road SW | Calgary, AB T2W 4X9 | Canada
alina.gabdrakhmanova@worleyparsons.com
www.worleyparsons.com

***** WORLEYPARSONS GROUP NOTICE ***** "This email is confidential. If you are not the intended recipient, you must not disclose or use the information contained in it. If you have received this email in error, please notify us immediately by return email and delete the email and any attachments. Any personal views or opinions expressed by the writer may not necessarily reflect the views or opinions of any company in the WorleyParsons Group of Companies."