



**CODE OF PRACTICE FOR PIPELINES  
AND TELECOMMUNICATION LINES  
CROSSING A WATER BODY**

*Water Act – Water (Ministerial) Regulation*

**Office Consolidation**

**Consolidated to include amendment of 2001/03/16 and in  
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ALBERTA ENVIRONMENT

*CODE OF PRACTICE FOR PIPELINES AND  
TELECOMMUNICATION LINES CROSSING A WATER BODY*  
[made under the *Water Act* and the *Water (Ministerial) Regulation*]

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## Definitions

- 1(1) All definitions in the *Water (Ministerial) Regulation* and in section 1 of the *Water Act* apply except where expressly defined in this Code of Practice.
- (2) In this Code of Practice,
  - (a) “this Code of Practice” means the *Code of Practice for Pipelines and Telecommunication Lines Crossing a Water Body*, as amended or replaced from time to time;
  - (b) “to carry out a works” includes to commence or continue the works;
  - (c) “class” means the class of a water body that is specified in section 7, or that is designated by a class symbol on a map that is listed in Schedule 6;
  - (d) “Director” means, for the purposes of this Code of Practice, a Director as specified in Schedule 5;
  - (e) “emergency” means a situation where there is an imminent risk to the aquatic environment, public health or safety, or an imminent risk of structural failure to a pipeline crossing or telecommunication line crossing;
  - (f) “fish” means fish used for domestic, sport and commercial purposes, and fish of special concern, including but not limited to rare, endangered, threatened or vulnerable species;
  - (g) “frac-out” means a leakage of pressurized drilling fluid into a water body or at a location where the fluid may enter a water body;
  - (h) “isolation method” means a pipeline crossing or telecommunication line crossing technique in which there is an excavation of a trench in the bed or banks of a water body, and isolation of the surface water in the water body from the excavation area, including but not limited to fluming, dam and pump, high volume pump

- bypass and two stage coffer dams;
- (i) “map” means a map listed in Schedule 6, and includes the legends on a map;
  - (j) “mapped water body” means a water body that appears on a map that is listed in Schedule 6;
  - (k) “open cut method” means a pipeline crossing or telecommunication line crossing technique in which there is an excavation of a trench in the bed or banks of a water body, including but not limited to excavation by plow, bucket or wheel trencher, hoe, yo yo dragline or dredge;
  - (l) “owner” means
    - (i) the person who owns a pipeline crossing or a telecommunication line crossing, or
    - (ii) a successor, assignee, executor, administrator, receiver, receiver-manager, liquidator or trustee of a person described in (i),
    - (iii) a person who acts as the principal or agent of a person described in (i) or (ii);
  - (m) “pipeline crossing” means a pipe under a water body that is or will be constructed for the transmission of any substance, and includes any associated permanent or temporary structure that is or will be constructed for the installation, maintenance or protection of the pipe, including but not limited to:
    - (i) pump bypass and fluming systems,
    - (ii) structures for erosion protection,
    - (iii) structures that are required to meet clause (a) in Part 1 of Schedule 2 that are located inside the right of way of a pipeline crossing,but does not include:
    - (iv) a telecommunication line crossing,
    - (v) a watercourse crossing for vehicles or equipment as defined in the *Code of Practice for Watercourse Crossings*,
    - (vi) structures to realign the channel of a water body or to divert water from the site of a pipeline crossing that require an authorization under the *Water Act*, or
    - (vii) structures that are required to meet clause (a) in

Part 1 of Schedule 2 that are located outside the right of way of a pipeline crossing and that require an authorization under the *Water Act*;

- (n) “plan” means a plan specified in section 6;
- (o) “productive capacity” means the natural capability of habitats that comprise the aquatic environment to produce healthy fish that are safe for human consumption, or to support or produce the naturally occurring diversity of aquatic organisms upon which fish depend;
- (p) “professional engineer” means a professional engineer as defined in the *Engineering, Geological and Geophysical Professions Act*;
- (q) “qualified aquatic environment specialist” means a person who
  - (i) possesses
    - (A) a post-secondary degree in biological sciences,
    - (B) a technical diploma in biological sciences, or
    - (C) educational equivalencies;
  - (ii) has a detailed knowledge of the aquatic environment, including fish and fish habitat, management and assessment; and
  - (iii) is currently experienced with
    - (A) fisheries and aquatic environment assessment methods, and
    - (B) the determination of mitigation measures required to maintain the productive capacity of the aquatic environment, including fish habitats in Alberta that may be adversely affected by the carrying out of works in and adjacent to the water, bed and shore of water bodies;
- (r) “restricted activity period” means the time period during which fish migration, fish spawning, egg incubation, fry emergence and early fry development are likely to occur in a water body;
- (s) “telecommunication line crossing” means a pipe, cable or an arrangement of lines of wire or other conductors by which telephone or other kinds of communications

are transmitted and received that is or will be installed under a water body, and includes any permanent or temporary structure that is constructed for the installation, maintenance and protection of the pipe, cable or arrangement of lines of wire or other conductors, including but not limited to:

- (i) pump bypass and fluming systems,
- (ii) structures for erosion protection,
- (iii) structures that are required to meet clause (a) in Part 1 of Schedule 2 that are located inside the right of way of a telecommunication line crossing, but does not include
  - (iv) a pipeline crossing,
  - (v) a crossing for vehicles or equipment as defined in the *Code of Practice for Watercourse Crossings*,
  - (vi) structures to realign the channel of a water body or to divert water from the site of a telecommunication line crossing and that require an authorization under the *Water Act*, and
  - (vii) structures that are required to meet clause (a) in Part 1 of Schedule 2 that are located outside the right of way of a telecommunication line crossing and that require an authorization under the *Water Act*;
- (t) “trenchless method” means a pipeline crossing or telecommunication line crossing technique in which there is no trenching of the bed and banks of a water body, including but not limited to directional drilling, boring, punching, tunnelling and pipe ramming;
- (u) “uncoded water body” means a water body that appears on a map listed in Schedule 6, and that has no class symbol specified on the map;
- (v) “unmapped water body” means a water body that does not appear on a map listed in Schedule 6;
- (w) “UTM coordinates” means coordinates that use the Universal Transverse Mercator grid to identify or plot the specific location of a site or object;
- (x) “water body” means, for the purpose of this Code of Practice, a water body with defined bed and banks, whether or not water is continuously present, but does

- not include fish bearing lakes;
- (y) “works” means the placement, construction, installation, maintenance, replacement or removal of all or part of a pipeline crossing or telecommunication line crossing, or any activity associated with the placement, construction, installation, maintenance, replacement or removal, and includes works for both a pipeline crossing or telecommunication line crossing except where otherwise specified.
- (3) Notwithstanding the definition of "owner" in subsection (2)(1), where there is a requirement for an owner to provide notice to the Director under this Code of Practice, and there is more than one owner of a pipeline crossing or telecommunication line crossing, one owner may provide notice on behalf of the other owners in order to meet such a requirement.

#### Bound by Code of Practice

- 2 An owner and any person who carries out a works shall comply with the requirements set out in this Code of Practice.

#### Notice to the Director

- 3(1) For the purposes of section 4 of the *Water (Ministerial) Regulation*, an owner must provide notice to the Director, in writing, at least 14 calendar days before any works are carried out or as specified in writing by the Director.
- (2) The written notice under subsection (1)
- (a) must contain the information specified in clauses (a), (b), (c), (e), (g) and (h) of Schedule 1, and any information available under clause (d), (f) and (i) of Schedule 1, unless otherwise specified in writing by the Director; and
- (b) authorizes an owner to carry out works in accordance with this Code of Practice for the period of time specified in the notice.
- (3) Where a written notice under subsection (1) did not contain all

the information required under clause (d), (f) or (i) of Schedule 1, that information must be available at least 14 days before any works are carried out, and must be provided to the Director by the owner, if requested under section 12 (4).

Amended 2001/03/16 and in force 2001/04/01 s 1 (i)

Notice where the works are not completed within time period

- 4(1) Where notice is provided in accordance with section 4(1) of the *Water (Ministerial) Regulation* and section 3, and the works have not been commenced or completed within the time period specified in the notice, the notice is no longer valid, and an owner must provide a new notice prior to carrying out the works.
- (2) The new notice under subsection (1) must provide
  - (a) the new date for the commencement or continuation of the works,
  - (b) the anticipated duration of time that activities related to the works will occur in a water body, in accordance with clause (h) of Schedule 1,
  - (c) any information that has changed from the information provided in the original notice, and
  - (d) in cases where the works has commenced but has not been completed by the time period stated in the original notice, the new expected completion date of the works.

Emergency

- 5(1) Where there is an emergency and it is not possible for an owner to provide notice in accordance with section 3, an owner may take appropriate measures to deal with the emergency and must notify the Director of the emergency within 24 hours of becoming aware of the emergency.
- (2) Notice under subsection (1) must contain the information specified in clauses (a), (b), (d) and (e) of Schedule 1, the legal description of the land on which the pipeline crossing or telecommunication line crossing is located, and any other information regarding the nature of the emergency that is

available to the owner at the time.

- (3) Within 30 days of completion of the works required to deal with the emergency, the owner must provide to the Director the following information:
  - (a) information specified under clause (c) in Schedule 1,
  - (b) a description of the construction methods and conditions as described in section 8 and Schedule 3, if applicable, that were used in carrying out the works,
  - (c) a description of measures taken to meet the appropriate requirements of Part 1 of Schedule 2, section 8 and Schedule 3, including a statement whether the works incorporated the specifications and recommendations of a qualified aquatic environment specialist.

#### Plans

- 6(1) At least 14 days before a works is carried out, an owner must prepare a plan for the works that
  - (a) meets the design and construction standards specified in Part 1 of Schedule 2; and
  - (b) contains or incorporates the following:
    - (i) for a pipeline crossing, except for the removal of all or part of a pipeline crossing, the written information and specifications specified in Part 2 of Schedule 2 that have been prepared by a professional engineer, and that contain the certification and stamp and signature of the professional engineer as required under section 10(2);
    - (ii) for a telecommunication line crossing, or the removal of all or part of a pipeline crossing or telecommunication line crossing, the written information and specifications specified in Part 2 of Schedule 2 that have been prepared by the owner, and that contain the certification of the owner as required under section 10(3);
    - (iii) in addition to the requirements specified under clause (a) and (b)(i) and (ii), for a pipeline crossing or telecommunication line crossing,

- (A) the construction methods and conditions, including any written specifications and recommendations of a qualified aquatic environment specialist, to be used in carrying out the works as determined in accordance with section 8 and 9 and Schedule 3;
- (B) an outline of the contingency measures to be taken in the event of potential problems resulting from adverse conditions or crossing method failures, and that take into account any restricted activity periods; and
- (C) in addition to any monitoring measures contained in the written specifications and recommendations of a professional engineer, owner or qualified aquatic environment specialist,
  - (1) specification of the monitoring measures that will, during the anticipated life of the pipeline crossing or telecommunication line crossing, meet the requirements of this Code of Practice; and
  - (2) specification of frac-out monitoring measures, where applicable.

Amended 2001/03/16 and in force 2001/04/01 s 1 (ii)

- (2) An owner and a person who carries out a works must comply with the plan prepared for the works under subsection (1), except where measures must be taken to deal with an emergency.
- (3) Notwithstanding subsection (1), after notice to the Director has been provided in accordance with section 3(1), an owner may change a plan as long as the change complies with this Code of Practice and notice of the change is provided to the Director in accordance with section 3 and Schedule 1.
- (4) Where a change is made to a plan under subsection (3), all of the provisions of this Code of Practice apply to the change as if the change had been included in the original plan under

subsection (1).

#### Maps and class of water bodies

- 7(1) A map that is listed in Schedule 6 forms part of this Code of Practice and
- (a) designates the class of a mapped water body as Class A, B, C or D,
  - (b) specifies the restricted activity period for classes of water bodies,
  - (c) provides the location of Class A and B water bodies, and
  - (d) specifies special conditions for some water bodies, for the purposes of this Code of Practice.
- (2) The class of a mapped water body is the class that is designated by a class symbol on a map.
- (3) The class of an uncoded water body is as follows:
- (a) Class D, unless otherwise specified in clause (b);
  - (b) where an uncoded water body enters a mapped water body that is a Class A, B or C water body, the portion of the uncoded water body for a distance of 2 kilometres upstream from the mouth of the uncoded water body is the same class as the mapped water body that is entered.
- (4) The class of an unmapped water body is as follows:
- (a) where an unmapped water body enters a mapped Class A water body, the unmapped water body
    - (i) is Class A for the portion of the unmapped water body for a distance of 2 kilometres upstream from the mouth of the unmapped water body, including where the unmapped water body is dry or frozen to the bottom at the time of the works; and
    - (ii) is Class B for any other portion of the unmapped water body;
  - (b) where an unmapped water body enters a mapped Class B water body, the unmapped water body
    - (i) is Class B for the portion of the unmapped water body for a distance of 2 kilometres upstream from the mouth of the unmapped water body, including



- no larger diameter than existed before;
- (b) for works that take place or will take place in or under a Class B water body, the construction methods and conditions for carrying out the works that must be used, in order of preference, are as follows:
    - (i) the trenchless method, carried out in accordance with Part 2 of Schedule 3, including where the water body is dry or frozen to the bottom at the time of the works, with or without the written specifications and recommendations of a qualified aquatic environment specialist;
    - (ii) the isolation method carried out in accordance with Part 3 of Schedule 3 and in accordance with the written specifications and recommendations of a qualified aquatic environment specialist, only if
      - (A) the trenchless method under clause (i) cannot be met, or
      - (B) the isolation method will meet the requirements of clause (a) in Part 1 of Schedule 2,as determined in accordance with subsection (3);  
or
    - (iii) the open cut method, carried out in accordance with Part 4 of Schedule 3 and in accordance with the written specifications and recommendations of a qualified aquatic environment specialist, only if
      - (A) the isolation method under clause (ii) cannot be met, or
      - (B) the open cut method will meet the requirements of clause (a) in Part 1 of Schedule 2,as determined in accordance with subsection (3);
  - (c) for works that take place or will take place in or under a Class C water body, the construction methods and conditions for carrying out the works that must be used, in order of preference, are as follows:
    - (i) the isolation method carried out in accordance with Part 3 of Schedule 3, with or without the written specifications and recommendations of a qualified aquatic environment specialist if the work is

- carried out in accordance with the requirements for restricted activity periods under section 9;
- (ii) the open cut method
    - (A) carried out in accordance with Part 4 of Schedule 3 and in accordance with the written specifications and recommendations of a qualified aquatic environment specialist, if the isolation method under clause (i) cannot be met, or the open cut method will meet the requirements of clause (a) in Part 1 of Schedule 2, as determined in accordance with subsection (3), or
    - (B) if the water body is dry or frozen to the bottom at the time of the works, carried out in accordance with Part 4 of Schedule 3, with or without the written specifications and recommendations of a qualified aquatic environment specialist;
  - (d) for works that take place or will take place in or under a Class D water body, the construction methods and conditions that may be used are the isolation method or the open cut method carried out in accordance with Part 3 and Part 4 of Schedule 3, respectively, with neither method requiring the written specifications and recommendations of a qualified aquatic environment specialist.

Amended 2001/03/16 and in force 2001/04/01 s 1 (iii)

- (2) Notwithstanding any other provision in this section or Schedule 3, the trenchless crossing method may be used in place of other construction methods and conditions described in this section for any class of water body, with or without the written specifications and recommendations of a qualified aquatic environment specialist.
- (3) For the purposes of subsection (1)(b) and (c),
  - (a) a professional engineer or other qualified person must determine whether a construction method and condition cannot be met, taking into account the technical or

- environmental feasibility of the construction method or condition;
- (b) a qualified aquatic environment specialist must determine whether a construction method and condition will meet the requirements of clause (a) in Part 1 of Schedule 2.

#### Restricted activity periods

- 9(1) Unless otherwise authorized under this section, works must not be carried out within any applicable restricted activity period.
- (2) Subject to subsections (3), (4), (5) and (6), works
  - (a) must be carried out for mapped Class A water bodies, within the time period recommended by a qualified aquatic environment specialist;
  - (b) must be carried out for the isolation or open cut method in mapped Class B and C water bodies, outside the restricted activity period specified on the applicable map, unless a qualified aquatic environment specialist determines that the works can be carried out within the restricted activity period and still meet clause (a) in Part 1 of Schedule 2;
  - (c) may be carried out within the restricted activity periods for Class C water bodies that are dry or frozen at the time of the works, with or without the written specifications and recommendations of a qualified aquatic environment specialist;
  - (d) may be carried out for Class D water bodies, at any time.

Amended 2001/03/16 and in force 2001/04/01 s 1 (iv)

- (3) Where an unmapped water body enters a mapped Class A water body,
  - (a) the works must be carried out within the period recommended by a qualified aquatic environment specialist for the portion of the unmapped water body for a distance of 2 kilometres upstream from the mouth of the unmapped water body;

- (b) for any other portion of the unmapped water body than that specified in clause (a),
    - (i) the unmapped water body has the restricted activity period of the nearest mapped Class B or C water body entering the mapped Class A water body, or
    - (ii) if there is no mapped water body entering the mapped Class A water body, has the restricted activity period for the mapped Class B or C water body that is immediately downstream of the mapped Class A water body;
- (4) Where an unmapped water body enters a mapped Class B water body, the restricted activity period is the restricted activity period for the mapped Class B water body.
- (5) Where an unmapped water body enters a mapped Class C water body,
  - (a) the restricted activity period for the portion of the unmapped water body for a distance of 2 kilometres upstream from the mouth of the unmapped water body, is the restricted activity period for the mapped Class C water body, and
  - (b) for any other portion of the unmapped water body than that specified in clause (a),
    - (i) where there is no documented evidence of fish presence in the unmapped water body, there is no restricted activity period, or
    - (ii) where there is documented evidence of fish presence in the unmapped water body, the restricted activity period is the restricted activity period of the nearest mapped water body that enters the mapped Class C water body.
- (6) Where an unmapped water body enters a fish bearing lake, whether or not the fish bearing lake appears on a map, the restricted activity period for the unmapped water body,
  - (a) is the same as that specified for the nearest mapped water body entering the fish bearing lake,
  - (b) if there is no mapped water body entering the fish

bearing lake, is the same as that specified for the mapped outlet water body of the fish bearing lake, or  
(c) if there is no mapped outlet water body of the fish bearing lake, is the same as that specified for the nearest mapped water body that is designated as a mapped Class C water body.

- (7) A qualified aquatic environment specialist must consider any restricted activity period and must meet the requirements of Schedule 4 in preparing any written specifications and recommendations.

#### Certification

- 10(1) Where a qualified aquatic environment specialist has prepared specifications and recommendations in a plan under section 6(1)(b) for a works, the qualified aquatic environment specialist must certify in writing that the written specifications and recommendations prepared by the specialist meet the requirements of clause (a) in Part 1 of Schedule 2.
- (2) For works associated with a pipeline crossing, a professional engineer must certify in writing that the written specifications prepared by the engineer for a plan under section 6(1)(b) meet the design and construction standards specified in clauses (b), (c) and (d) in Part 1 of Schedule 2, and the design drawings must include the stamp and signature of the professional engineer.
- (3) For works associated with a telecommunication line crossing, or the removal of all or part of a pipeline or telecommunication line crossing, an owner must certify in writing that the information and written specifications included in the plan under section 6(1)(b) meet the design and construction standards specified in Part 1 of Schedule 2.
- (4) All certifications referred to under subsection (1), (2) and (3) must be prepared prior to the provision of notice under section 3.

- (5) After the works has been completed, an owner must within one year of the date of completion of the works, certify in writing that
  - (a) the plan prepared under section 6 was followed in carrying out the works, and
  - (b) the design and construction standards of Part 1 of Schedule 2 have been met,and retain the certification.

#### Reporting

- 11(1) A person involved in carrying out a works must, within 24 hours, report by telephone, facsimile or e-mail to the Director and an owner, any contravention of this Code of Practice including possible environmental impacts resulting from the contravention and initial actions taken to mitigate the contravention.
- (2) An owner must, within 7 calendar days of receiving a report of a contravention under subsection (1), or within another time period specified in writing by the Director, provide to the Director a written report that contains the following information:
  - (a) a description of the contravention;
  - (b) an explanation as to why the contravention occurred;
  - (c) a summary of all preventative measures and actions that were taken prior to the contravention;
  - (d) a summary of all measures that were taken to mitigate the initial damage and proposed measures to address any remaining problems related to the contravention;
  - (e) the names, addresses, phone numbers and responsibilities of all persons responsible for carrying out the works at the time that the contravention occurred; and
  - (f) proposed preventative measures designed to prevent future contraventions.

#### Record keeping and information availability

- 12(1) An owner must compile and retain the following records

within the time period specified in subsection (2);

- (a) the names, addresses and phone numbers of the owners of the pipeline crossing or telecommunication line crossing;
- (b) a copy of the plan prepared for the pipeline crossing or telecommunication line crossing;
- (c) any as built plans or as constructed plans, if such as built or as constructed plans were prepared;
- (d) the time period over which the carrying out of the works occurred, including:
  - (i) the start and completion dates, and
  - (ii) the duration of time each day that the work occurred in the water body;
- (e) all photographs or video-recordings taken of the pipeline crossing or telecommunication line crossing before and after the carrying out of the works;
- (f) where written specifications and recommendations of a qualified aquatic environment specialist have been included in the plan, the curriculum vitae and relevant experience of the qualified aquatic environment specialist; and
- (g) a copy of all certifications referred to in section 10.

(2) An owner must meet the following time requirements for the preparation or compilation of the records specified in subsection (1), unless otherwise specified in writing by the Director:

- (a) a plan under section 6 must be prepared prior to providing notice to the Director under section 3;
- (b) the curriculum vitae and relevant experience of the qualified aquatic environment specialist must be compiled prior to providing notice to the Director under section 3;
- (c) for records referred to in subsection (1)(a), (c), (d) and (e), records must be compiled within 3 months of completion of the works or within another time period specified by the Director;
- (d) for certifications referred to in subsection (1)(g), records must be compiled within the time periods specified in section 10.

- (3) An owner must retain all records referred to in subsection (1) for one year after the abandonment or completion of the removal from the pipeline crossing or the telecommunication line crossing of:
  - (a) all pipes for the transmission of any substance; and
  - (b) all pipes or cables or arrangements of lines of wire or other conductors by which telephone or other kinds of communications are or have been transmitted and received.
- (4) An owner must, within the time period specified in writing by the Director, provide to the Director any requested information or records retained under subsection (1).

#### Monitoring of works

- 13(1) The owner must monitor a pipeline crossing or telecommunication line crossing in accordance with the plan prepared under section 6 to ensure that the requirements of this Code of Practice are met over the operational life span of the crossing.
- (2) The owner must, for water bodies that are designated as Class A, B or C water bodies, take photographs or video-recordings of the water body at the pipeline crossing or telecommunication line crossing site before the works are commenced as follows:
  - (a) one or more photographs or video-recordings upstream from the crossing site;
  - (b) one or more photographs or video-recordings downstream from the crossing site; and
  - (c) two or more photographs or video-recordings at the crossing site, one of each bank taken from the opposite bank.

Amended 2001/03/16 and in force 2001/04/01 s 1 (v)

### Guidelines

- 14 The Department may publish Guidelines to assist in the interpretation and implementation of this Code of Practice, however such Guidelines do not form part of this Code of Practice.

### Effective date

- 15 This Code of Practice comes into force on April 1, 2000.

### Code of Practice review and amendment

- 16 Alberta Environment may institute a review and amendment of this Code of Practice at any time, however this Code of Practice will be reviewed by April 1, 2003.

## SCHEDULE 1

### Notice to the Director

#### (Section 3)

Information that must be contained in a notice for the purposes of section 3:

- (a) the name, address and phone number of at least one owner of the pipeline crossing or telecommunication line crossing;
- (b) the name and phone number of the contact person;
- (c) a map, diagram, or air photo that shows the pipeline crossing or telecommunication line crossing location in relation to the boundaries of the quarter section that the crossing is located in, including the legal description of the land and the name of the water body (if named) that is crossed, and the UTM coordinates, if available, on which the pipeline crossing or telecommunication line crossing is located;
- (d) the diameter (in millimetres of the pipe, conduit or cable or arrangement of lines or other conductors) to be constructed at the pipeline crossing or telecommunication line crossing;
- (e) where the works are for a pipeline crossing, the substances to be carried by the pipe;
- (f) the construction methods and conditions determined in accordance with section 8, 9 and Schedule 3 that will be used in carrying out the works, including, where applicable, the rationale for not using the preferred construction method referred to in sections 8(1)(b)(i) and (ii) and 8(1)(c)(i);
- (g) whether the works to be carried out will incorporate the specifications and recommendations prepared by a qualified aquatic environment specialist, and if so, the name of the qualified aquatic environment specialist, and consulting company name, if applicable;
- (h) the expected commencement and completion dates of the works, including the estimated duration of time that the works will be carried out in a water body;
- (i) whether physical or other measures will be required to meet clause (a) in Part 1 of Schedule 2.

## SCHEDULE 2

### Plans (Section 6)

#### PART 1 DESIGN AND CONSTRUCTION STANDARDS

Design and construction standards that must be met for the purposes of this Code of Practice:

- (a) Upon completion of the works, the quantity and productive capacity of the aquatic environment, including fish habitat, at and adjacent to the pipeline crossing or telecommunication line crossing site must be equivalent to or exceed that which existed prior to commencing the works;
- (b) Upon completion of the works, the hydraulic, hydrologic or hydrogeological characteristics must be restored to a condition that is similar to the condition that existed prior to commencing the works;
- (c) All pipes for pipeline crossings must be installed at an elevation that is below the one in fifty year bed scour depth of the water body except for pipes under clause (d);
- (d) All pipes for pipeline crossings that will carry a substance that causes or may cause an adverse effect on the aquatic environment, including fish habitat, must be installed at an elevation that is below the one in one hundred year bed scour depth of the water body;
- (e) Measures must be implemented to avoid harm to or destruction of fish and fish eggs, and the harmful alteration, disruption or destruction of fish habitat;
- (f) Upstream and downstream fish migrations must not be impeded over the life span of the pipeline crossing or telecommunication line crossing, following completion of the works;
- (g) The flow of the water body must be maintained at the pipeline crossing or telecommunication line crossing site at all times through or around the crossing;
- (h) Measures must be implemented to minimize the duration and amount of disturbance of the bed and banks of the water

body;

- (i) Measures must be implemented to prevent the deposition into the water body of deleterious substances and materials that are toxic to fish and other aquatic organisms;
- (j) Measures must be implemented to prevent the transfer of biota that is not indigenous to the environment at the pipeline crossing or telecommunication line crossing site;
- (k) Measures must be implemented to minimize erosion and sedimentation into the water body;
- (l) Measures must be implemented to permanently stabilize all disturbed areas on the pipeline crossing or telecommunication line crossing site sloping to the water body within one full growing season;
- (m) Debris disposal, cleanup and initial stabilization must be carried out as part of the works.

PART 2  
REQUIREMENTS FOR INFORMATION AND WRITTEN  
SPECIFICATIONS FOR PLANS OF WORKS, FROM OWNER  
OR PROFESSIONAL ENGINEER

Written specifications that must be provided under section 6(1)  
must

- (a) meet the design and construction standards specified in Part 1 of this Schedule;
- (b) incorporate any written specifications and recommendations prepared by a qualified aquatic environment specialist for the works; and
- (c) include the design specifications of the works and other information related to the works, as follows:
  - (i) information on a page which is a minimum size of 21 centimetres by 27 centimetres, a minimum scale of 1:15000 and that includes:
    - (A) a map, diagram, or air photo that shows the location of the works in relation to the boundaries of the quarter section that the pipeline crossing or telecommunication line crossing will be located in, the legal description of the land, and the UTM coordinates, if available, on which the pipeline crossing or telecommunication line crossing is located;
    - (B) the name of the water body that is crossed, if named;
    - (C) the substances carried by or to be carried by the pipe for a pipeline crossing;
    - (D) the type of cable, conduit or arrangement of lines or other conductors for a telecommunication line crossing;
    - (E) the diameter of the pipe for a pipeline crossing and the diameter of the cable, conduit or arrangement of lines or other conductors for a telecommunication line crossing;
    - (F) the burial depth of the pipe for a pipeline crossing, and of the cable, conduit or arrangement of lines or other conductors for a telecommunication line

- crossing, shown through the width of the active floodplain of the water body;
- (G) the setback distance to the pipe, cable or conduit sag bends on each side of the water body;
  - (H) all surveyed and unsurveyed profile and cross-sectional drawings required for the design;
- (ii) for a pipeline crossing, an explanation of rationale and the calculations for the design of scour depth at the pipeline crossing;
  - (iii) any hydraulic, hydrologic, or hydrogeologic analysis performed for the design of the works; and
  - (iv) a description of any other specifications for the works that were not provided on the plan or that the owner or professional engineer considers appropriate.

## SCHEDULE 3

### Construction Conditions (Section 8)

#### PART 1 CLASS A WATER BODIES

Where a map or section 7 of this Code of Practice designates the water body under which the proposed pipeline crossing or telecommunication line crossing is or will be located as a Class A water body, the construction methods and conditions specified in section 8 and 9 of this Code of Practice must be met.

#### PART 2 CLASS B WATER BODIES

Where a map or section 7 of this Code of Practice designates the water body under which the proposed pipeline crossing or telecommunication line crossing is or will be located as a Class B water body, and where as part of the trenchless method, pressurized drilling fluids are used, in addition to the requirements under section 8 and 9 of this Code of Practice, the following requirements must be met:

- (a) measures must be taken to prevent the drilling fluids and additives from entering any water body;
- (b) the water body must be monitored for introduction of drilling fluid into the water body;
- (c) contingency measures and frac-out monitoring measures, as specified in the plan under section 6, must be on-site in the possession of the person responsible for carrying out the works;
- (d) where seepage into the water body of drilling fluids occurs or is detected as possibly occurring:
  - (i) the drilling operation must be ceased until the frac-out contingency measures specified in the plan are implemented,
  - (ii) the Director must be notified immediately in accordance with section 11 of this Code of Practice, as if there were

- a contravention; and
- (e) drilling wastes must be disposed of according to the requirements of the Alberta Energy and Utilities Board Guide G-50 and Interim Directive ID 99-05.

### PART 3 CLASS C WATER BODIES

Where a map or section 7 of this Code of Practice designates the water body under which the proposed pipeline crossing or telecommunication line crossing is or will be located as a Class C water body, in addition to the requirements under section 8 and 9 of this Code of Practice, the following requirements must be met:

- (a) where an isolation method is used,
  - (i) the isolation method must be carried out in a manner that isolates the instream construction site and eliminates the flow of surface water through the area of the trench that has or will be excavated in the water body;
  - (ii) the water diverted around the crossing site must be returned to the water body downstream of the crossing site;
  - (iii) where ice is present on the water body, the diverted water must be returned to the water body downstream of the crossing site, under the ice;
  - (iv) the trench must be backfilled:
    - (A) with material of the same quality that was removed; and
    - (B) with a minimum thickness of 0.5 metres of clean granular material at the top of the finished trench, where in the excavation of the trench, granular material is encountered;
- (b) during the carrying out of the works, any fish that are found within the isolated portion of the crossing site are to be removed, without harm or destruction, to an area of the water body outside the construction site that is located immediately adjacent to the pipeline crossing or telecommunication line crossing;
- (c) during those periods of time within a restricted activity period, when fish are spawning or migrating, an isolation

method must not be used for longer than three consecutive days, unless upstream and downstream fish migration is accommodated;

- (d) during any period of time outside a restricted activity period, an isolation method must not be in place for longer than 14 consecutive days unless upstream and downstream fish migration is accommodated and all structures associated with the method must be completely removed after completion of the works;
- (e) any water entering an intake of a bypass pumping system must pass through a screen with openings that are no larger than 2.54 millimetres and at a velocity that does not result in the entrainment and entrapment of fish or fish fry;
- (f) any accumulations of silt and sediment within the isolation area resulting from the works in the trench must be removed to a location where the materials will not enter a water body;
- (g) special conditions must be met for the Beaver, Vermilion and Battle rivers, as specified on the appropriate maps.

#### PART 4

#### CLASS D WATER BODIES (Uncoded water bodies)

Where a map or section 7 of this Code of Practice designates a water body under which the proposed pipeline crossing or telecommunication line crossing is or will be located as a Class D water body, and where an open cut method is used, in addition to section 8 and 9 of this Code of Practice, the following requirements must be met:

- (a) the trench must be backfilled with material of the same quality and gradation that was removed;
- (b) where the width of the crossing measured between the banks of the water body is less than 15 metres, all material excavated from the bed or banks of the water body must be removed and stored at a location out of the water body until the materials can be backfilled into the trench;
- (c) where the width of the crossing measured between the banks of the water body is equal to or greater than 15 metres, and it is necessary to stockpile the material excavated from the bed in the water body, the material must be stockpiled in the

- water in a manner that avoids areas of highest water velocity, and does not windrow the material across the channel perpendicular to the flow of water;
- (d) if the water body is flowing, the channel must not be constricted by more than two thirds ( $2/3$ ) of its width during completion of the works.

## SCHEDULE 4

### Qualified Aquatic Environment Specialist's Written Specifications and Recommendations

- 1(1) The written specifications and recommendations of a qualified aquatic environment specialist referred to under this Code of Practice must include:
- (a) specifications and recommendations on any measures required to meet the requirements of clause (a) in Part 1 of Schedule 2 of this Code of Practice;
  - (b) a copy of information gathered and assessments made by the qualified aquatic environment specialist regarding the aquatic environment, including fish populations and habitat, in preparing the specifications and recommendations, including but not limited to
    - (i) a list of all existing information, published and unpublished reports reviewed,
    - (ii) any new information gathered through field assessments, and
    - (iii) any reports prepared by the qualified aquatic environment specialist;
  - (c) the crossing location, including the legal description, and the UTM coordinates;
  - (d) a summary of physical and biological data pertaining to the water body at the pipeline or telecommunication line crossing location including,
    - (i) all fish species that are present or could be present at any time during the year,
    - (ii) aquatic species of special concern, including rare, endangered, threatened or vulnerable species,
    - (iii) a description of existing aquatic and riparian fish habitat,
    - (iv) a description of the hydrological characteristics of the water body, and
    - (v) any other relevant information regarding the aquatic environment, including fish populations and habitat;
  - (e) a description of any field assessment study sites, the

- methods used during field assessments and dates and times of field assessments;
  - (f) a description of the anticipated effects of the works on the water body and aquatic environment;
  - (g) the name and signature of the qualified aquatic environment specialist and of the persons responsible for the field assessments;
- (2) A field assessment for pipeline crossings and telecommunication line crossings must be conducted
- (a) where in the opinion of the qualified aquatic environment specialist, the required information does not exist to prepare the written specifications and recommendations in order to meet the requirements of clause (a) in Part 1 of Schedule 2, including where
    - (i) an alternative crossing method to that specified as a preferred method in section 8 of this Code of Practice is used, and
    - (ii) when works occur or are anticipated to occur in a water body during a period of fish spawning, egg incubation, fry emergence and early fry development; and
  - (b) when repair or maintenance of an existing pipeline crossing or telecommunication line crossing is carried out in or under a Class A water body.

## SCHEDULE 5

### PART 1 DIRECTORS FOR THIS CODE OF PRACTICE

<u>DIRECTOR and REGION</u>		<u>FAX</u>	<u>TELEPHONE</u>
Regional Water Manager, Northwest Boreal Region <u>Management Areas:</u> Peace River, Grande Prairie and High Prairie	Alberta Environment Natural Resources Service Northwest Boreal Region Bag 900-5, Provincial Building 9621 - 96 Avenue Peace River, AB, T8S 1T4	780 624-6335	780 624-6167
<u>Manager, Regional Support,</u> Northeast Boreal Region <u>Management Areas:</u> Fort McMurray, Lac La Biche, and St. Paul	Alberta Environment Natural Resources Service Northeast Boreal Region 7 <sup>th</sup> Floor, Oxbridge Place 9820 -106 Street Edmonton, AB, T5K 2J6	780 422-0528	780 427-5296
<u>Manager, Regional Support,</u> Northern East Slopes Region <u>Management Areas:</u> Edson and Stony Plain	Alberta Environment Natural Resources Service Northern East Slopes Region 52322 Golf Course Road Stony Plain, AB, T7Z 2K9	780 963 4651	780 963 6131

<u>Manager, Regional Support,</u> Parkland Region <u>Management Areas:</u> Camrose, Red Deer and Rocky Mountain House	Alberta Environment Natural Resources Service Parkland Region 501, Provincial Building 4920 - 51 Street Red Deer, AB, T4N 6K8	403 340-7662	403 340-7654
<u>Regional Water Manager,</u> Bow Region <u>Management Areas:</u> Calgary, Canmore and Brooks	Alberta Environment Natural Resources Service Bow Region 2nd Floor, 3115 - 12 Street NE Calgary, AB, T2E 7J2	403 297-2749	403 297-6582
<u>Regional Water Manager,</u> Prairie Region <u>Management Areas:</u> Pincher Creek, Lethbridge and Medicine Hat	Alberta Environment Natural Resources Service Prairie Region Provincial Building 293, 200 - 5 Avenue, S. Lethbridge, AB, T1J 4C7	403 381-5337	403 382-4254

PART 2  
REGIONAL BOUNDARIES MAP



## SCHEDULE 6

### Maps

1. Peace River Management Area #
2. Grande Prairie Management Area #
3. High Prairie Management Area \* #
4. Edson Management Area \* #
5. Stony Plain Management Area #
6. Pincher Creek Management Area \* #
7. Lethbridge Management Area \* #
8. Medicine Hat Management Area #
9. Fort McMurray Management Area \* #
10. Lac La Biche Management Area \* #
11. St. Paul Management Area \*\* #
12. Camrose Management Area \* #
13. Red Deer Management Area #
14. Rocky Mountain House Management Area \* #
15. Calgary Management Area \* #
16. Canmore Management Area \* #
17. Brooks Management Area #

\* Amended 2001/03/16 and in force 2001/04/01 s 2

\*\* Amended 2003/07/29 and in force 2003/07/29 s 1

# Amended 2006/12/01 and in force 2007/02/15