

Options for Communications and Land Use Management in Proximity to Transmission Pipelines

This appendix contains concepts on how to foster greater communication and consultation when making decisions regarding land use in proximity to transmission pipelines. This appendix also includes sample language for a Consultation Process ordinance and examples of other city ordinances addressing land use and pipeline safety.

These ideas arose from workshops with local government officials and pipeline operators. When adapted for use by local governments, one or more of these concepts can encourage land use practices that foster safe pipelines and protect public safety and health.

As noted in the report, the types of activities in close proximity to the pipeline that require consultation are generally those that can threaten geologic stability or cause excess water runoff/erosion. Activities include:

- Land subdivision
- Commercial developments
- Water impoundments
- Public works projects such as roads & sewers
- Industrial activities such as quarrying, mining, and blasting.

Local governments should also be concerned about land uses that may be vulnerable or essential in the event of a pipeline incident. For instance, a local jurisdiction may decide to discourage construction of nursing homes and hospitals in proximity to a transmission pipeline because it may be difficult to evacuate or may be a necessary facility in the event of an incident. While such decisions do not necessarily require the consultation of the pipeline operator, the input of pipeline operator can provide local governments with an understanding of the likely consequences of an incident and the size of the area concerned.

1. Consultation in the Comprehensive Planning Process

Twenty-nine counties are either required to fully plan under the Growth Management Act (GMA) or have chosen to do so. These counties make up about 95 percent of the state's population. The remaining 10 counties must only plan for critical areas and natural resource lands. The 29 GMA full plan counties account for approximately 75 percent of the gas transmission pipeline miles and 80 percent of the hazardous liquid pipeline miles.

City and county comprehensive planning activities are critical opportunities for consultation among pipeline stakeholders. Good communication among affected parties can minimize the impact of development, reduce costs for all involved and enhance public safety. Local authorities that are amending comprehensive plans or land use regulations should involve any pipeline operators with facilities running through or near their jurisdictions.

2. Adding Presence of Pipelines to the SEPA Checklist

Information provided during the State Environmental Policy Act (SEPA) review process helps agency decision-makers, applicants, and the public understand how a proposal will affect the environment. This information can be used to change a proposal to reduce likely impacts, or to condition or deny a proposal when adverse environmental impacts are identified. The SEPA checklist also can provide a means for ensuring pipeline safety is considered.

SEPA environmental review starts when:

- Someone submits an application to an agency for a permit to construct a private project, such as an office building, a grocery store, or an apartment building;
- An agency is considering construction of a public project, such as a new school, a highway, or a water pipeline; or
- An agency is developing a regulation, policy, or plan, such as a county or city comprehensive plan, a critical area ordinance, or a state water quality regulation.

Pipeline operators should be included in the consultation during a SEPA review. A key element of the SEPA review is the Environmental Checklist. The checklist is based on a standard form provided by the Department of Ecology which each jurisdiction can adapt to their needs. The checklist can be a vehicle for consultation on land uses in proximity to transmission pipelines.

Unfortunately, pipelines are only broadly referenced in the standard Environmental Checklist:

“7. Environmental Health

Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? if so, describe.

1) Describe special emergency services that might be required?

2) Proposed measures to reduce or control environmental health hazards, if any”

However, at the 2005 workshops, several local planners recommended that local jurisdictions amend their SEPA checklists to include specific reference to gas and hazardous liquid transmission pipelines to increase the likelihood of consultation when planning in proximity to transmission pipelines.

3. Establishing Zones for Consultation, Zoning & Setbacks

Whether fostering consultation or pursuing other strategies described in more detail below, there is a need to determine the size and shape of the area around the pipeline that should be included in a pipeline safety planning and permitting emphasis. This decision involves variables such as:

- Size and operating pressure of pipeline

- Product in pipeline
- Type of hazard (e.g. toxic, explosive, fire, environmental)
- Topography
- Soils and geology
- Population density
- Built environment
- Type of human activity
- The requirement or policy that would be imposed in that area

In the 2005 workshop draft guidelines and discussions, we proposed a consultation process which would require landowners and developers operating within 660 feet from each side of the centerline of a transmission pipeline to communicate with the pipeline owner prior to receiving a local building permit.

We selected 660 feet because that distance has been used in other pipeline policies¹. However, the discussions at the workshops made it clear that a uniform distance would run afoul of the variables listed above as well as with the culture and politics of the individual local governments.

Local governments wishing to incorporate pipeline safety into their land use planning and permitting will have to balance their need for efficiency and practicality with the level of risk posed by the pipeline. In the absence of any definitive studies recommending a specific distance, no single uniform distance can be applied. We recommend that local governments consider the variables above and make a decision which best reflects their community's interests.

The Consultation zone concept was described in the Canadian Standards Association's (CSA) guidelines concerning land use planning for pipeline guidelines. The CSA guideline suggests that the consultation zone extend a minimum of 200 meters (660 feet) on either side of the centerline of a pipeline. The 200 meters distance is based on the class location criteria found in the Canadian Standards covering oil and gas pipelines in Canada. 660 feet is also the number used in defining class locations in the US Office of Pipeline Safety gas pipeline regulations.

The Transportation Research Board produced a 2004 report² which affirmed that land use decisions can reduce the risk associated with transmission pipelines and recommended that the federal Office of Pipeline Safety develop "risk-informed land use guidelines." Those guidelines, when developed, should be of value to local governments.

¹ Federal pipeline safety regulations suggest 660 feet on either side of pipeline for purposes of conducting mass mailings and education programs. Also, Whatcom County Code 21.04.170, printed in full in Section 5 of this appendix, uses 660 feet.

² "Transmission Pipelines and Land Use: A Risk-Informed Approach," Committee for Pipelines and Public Safety: Scoping Study on the feasibility of Developing Risk Informed Land use Guidance near Existing and Future Transmission Pipelines, Transportation Research Board of the National Academies, 2004.

A. Emergency Response Zones

Local authorities can consider requiring that developers work with local emergency responders to create site specific emergency response plans. This requirement can be done in tandem with other measures, or as a stand alone requirement. The area included within the emergency response zone could be the same as the consultation zone, and should include those areas where a significant pipeline incident will likely cause an injury or fatality. Plan requirements could include a risk assessment, access and evacuation plans, training, resource use, auditing, plan testing, administration and other aspects of emergency preparedness and response.

B. Controlled Activity Areas

As stated earlier, a local government can require that certain activities be conducted only after informing the nearby pipeline operator. For instance, controlled activity areas can be established by specifying a distance on either side of a pipeline in which anyone planning to conduct a ground disturbance, subject to exceptions, such as for normal farming activities, must:

- a) Determine whether a pipeline exists;
- b) Notify the pipeline company of the nature and schedule of the ground disturbance; and
- c) Conduct the ground disturbance in a manner acceptable to both the pipeline operator and the local government.

C. Setbacks

Setback requirements can be helpful in managing land use and protecting a pipeline from encroachment. However, they should not be considered a substitute for stakeholder consultation on land use issues. More importantly, compared to other safety measures available to local governments, establishing setbacks represent a complex regulatory approach.

Setbacks are areas beyond the defined pipeline easement or right of way boundary in which buildings or particular uses are limited or even prohibited. Setbacks are sometimes mistakenly perceived as a buffer or safe distance beyond a pipeline right of way. That is not the case in most situations as those who are at risk can be situated far downhill from the site of a hazardous liquid pipeline rupture. The ignition of gas escaping from a natural gas transmission pipeline during a catastrophic rupture can impact structures and people even if they are hundreds of feet from the site of the rupture. There are no broad empirical studies that provide a sufficient basis for quantifying the risks of various land uses or building types within specified distances of transmission pipelines.

Section 7 of the Appendix includes City of Redmond ordinances that specify setbacks around hazardous liquid pipelines.

D. Use of the One-Call System

Another option that local jurisdictions should consider is tying the local permit application process to the existing One Call system and its database (PRISM). Permit desks could either require that developers have their one-call ticket numbers before applying for a permit, or work out a direct communication process with the one-call system. This notification of a pending project would trigger a review by the pipeline operator, making it more likely that pipeline hazard concerns are addressed before the permit is issued.

4. Sample Permit Language Establishing a Consultation Process

The following language can serve as a model for a local consultation process ordinance. This sample language uses 660 feet from the pipeline for the consultation zone.

A model ordinance, developed by the MRSC, is included in this Section 7 (page C11).

A. Consultation Zone Notification

Whenever any individual applies for a development permit of any type within the consultation zone established for transmission pipelines, the staff at the permit counter shall notify the individual that they are within the consultation zone, explain the relevant application procedures, and provide contact information for the applicable pipeline operator(s). This same procedure shall be followed whenever an individual inquires about development regulations or zoning restrictions for property within the consultation zone.

Section 7 of the Appendix includes Whatcom County land regulations that require disclosure that a property is located within 660' of a significant oil/natural gas pipeline.

B. Application Procedure

Before issuing any permit that involves grade modification, excavation, or additional loading of the soil on property where a transmission pipeline easement is located, or if a transmission pipeline easement is within the designated consultation zone (e.g. six hundred and sixty (660) feet), the permit applicant must submit a detailed description of the proposed activity, including a map, diagram or depiction indicating the location of the proposed development activity and all transmission pipeline easements (or rights-of-way).

A complete application for any development permit within the consultation zone must include written verification from the applicant that:

- (1) The applicant has contacted the pipeline operator and has provided the pipeline operator with documentation detailing the proposed activity; and
- (2) The pipeline operator has reviewed the documents describing the proposed activity for compatibility with safe operation of the pipeline.

Note: The intent of the above application procedure is to require a permit applicant to develop clear plans showing the location of proposed activity and the location of any transmission pipeline easement.

The procedure also requires that the permit applicant review the proposed activity with the pipeline operator. The “written verification” could be in any form acceptable to the local government so long as there is documentation that the pipeline operator has been made aware of the proposed activity.

5. Additional Sample Permit Process Provisions

A. Construction/Excavation Buffer Zone

When significant construction or excavation activity is conducted pursuant to a permit issued by [*insert name of city or county*], all construction activity, including temporary storage of materials or vehicles, must be kept at least ten (10) feet from any transmission pipeline easement.

The buffer zone must be marked by a temporary construction fence or clearly flagged every ten (10) feet prior to the commencement of any work. The fencing or flagging is to be maintained until completion of all work.

B. Mapping Procedure

Every map prepared by the planning or engineering staff that contains data concerning the location of roads or other infrastructure must also contain data indicating the location of transmission pipeline easements.

C. Permit Center Procedure

Every informational brochure or permit issued by [*insert name of city or county*] concerning an activity that involves potential excavation must contain clear, concise information regarding the state “one call” requirements. This would include, for example, any brochures or permits involving fence regulations or the installation of irrigation systems, since those activities may involve digging deeper than 12 inches.

6. Consider Clustering Development Away from Transmission Pipelines

Local governments should consider adopting regulations that allow the clustering of development when proposed plats, planned unit developments, or binding site plans are crossed by, or adjoin, transmission pipeline easements. The intent is to provide flexibility when siting buildings, so that there can be a buffer area between the pipeline easement and the structures.

7. Examples of Existing City/County Regulations/Ordinances

A. Whatcom County

Whatcom County Development Standards -

<http://www.co.whatcom.wa.us/publicworks/engineering/documents/ch4landdivision.pdf>

Section 411. Right to Farm, to Practice Forestry, Mineral Resource, Land, Pipeline, and Airport Disclosure Notes.

D. Pipeline Disclosure

All short plats, long plats and binding site plans for land within 660' of a pipeline shown on Map 12, Chapter 5 of the Whatcom County Comprehensive Plan shall contain a notice of disclosure as follows:

The subject property is located within 660' of a significant oil/natural gas pipeline. This disclosure is pursuant to WCC 21.04.170/WCC 21.06.070/WCC 21.08.070 and is for notification purposes only. By approving this land division, Whatcom County assumes no responsibility for the safety, maintenance, or nuisance potential that may arise due to the proximity of the pipeline to this property.

Whatcom County Title 21 - Land Division Regulations -

<http://www.mrsc.org/mc/whatcom/whatco21/whatco21.html>

Chapter 21.04 - Short Subdivisions

Chapter 21.06 - Final Long Subdivisions

Chapter 21.08 - General and Specific Binding Site Plans

170 Disclosures and notes.

The following disclosures and notes, if applicable, shall be recorded in the county auditor's office and a statement identifying the subject and the auditor's file number for each such instrument shall be on the final short plat map under surveyor's notes prior to final approval by the county:

- Right to farm, right to practice forestry, mineral resource disclosures.
- Critical area notes.
- Boundary discrepancies.
- Protective covenants, conditions and restrictions.
- Drainage maintenance agreement block.
- Road maintenance agreement block (private roads only).
- Latecomers' agreements.
- Significant pipeline in vicinity disclosure when the subject property is within 660 feet of a pipeline shown on Map 12, Chapter 5 of the Whatcom County Comprehensive Plan.**

B. City of Redmond Ordinances No. 2137 (10/10/2002)**20D.55 Hazardous Liquid Pipelines –**

<http://www.ci.redmond.wa.us/insidcityhall/documentlibrary/pdfs/ORD2137.pdf>

20D.55.10 Purpose

The purpose of this section is to help prevent and minimize unnecessary risk to the public health, safety, and welfare due to hazardous liquid pipelines. Recognizing it is impossible to eliminate risk entirely, this section is intended to:

- (1) Minimize the likelihood of accidental damage to hazardous liquid pipelines due to external forces, such as construction equipment.
- (2) Avoid exposing land uses with high on-site populations that are difficult to evacuate and land uses that serve emergency functions to risk of injury or damage in the event of a pipeline failure.
- (3) Help reduce adverse impacts in the event of a pipeline failure.
- (4) Supplement existing federal and state regulations related to hazardous liquid pipeline corridor management.

The provisions of this section are intended to protect the health, safety and welfare of the general public and are not intended to protect any particular individual, class of individuals, or organization.

20D.55.20 Development Application Submittal Requirements

- (1) Applicants shall show the hazardous liquid pipeline corridor and applicable setbacks on site plans and subdivision plats when proposed development is located within 150 feet of the pipeline corridor. Minor modifications to existing structures that do not involve significant land disturbance on-site or changes to off-site improvements are exempt from this requirement.
- (2) The City shall require evidence that applicants and designees for private and public development have notified utilities through the one-call locator service before issuing development permits for land disturbance or other significant work on sites contiguous to the pipeline corridor.
- (3) All other applicable development application submittal requirements apply, see RCDG 20F, Administration and Procedures.

20D.55.30 Setback Requirements

- (1) Hazardous Liquid Pipeline Corridor. No significant land disturbance or construction or expansion of structures are allowed within the hazardous liquid pipeline corridor.
- (2) Areas Along the Hazardous Liquid Pipeline Corridor:
 - (A) Construction or expansion of structures or other activities involving significant land disturbance shall be setback a minimum of 25 feet from the edge of the hazardous liquid pipeline corridor.
 - (B) The Code Administrator may measure the setback from a hazardous liquid pipeline when measurement from the corridor is not appropriate due to site-specific conditions, such as an open easement.

- (C) The Code Administrator may expand the setback when necessary to meet the purpose of this section due to site-specific conditions, such as extraordinary land disturbance.
- (D) The Code Administrator may reduce the setback due to site-specific conditions and an applicant's demonstration that the purpose of this section will be met. Factors that may be considered include but are not limited to:
 - (i) Pipeline location as determined using normal locating procedures.
 - (ii) Type of construction proposed.
- (E) If the Code Administrator reduces the setback or measures it from a hazardous liquid pipeline, the following applies:
 - (i) The setback shall be a minimum of 30 feet from the nearest hazardous liquid pipeline and shall comply with 20D.55.30(1).
 - (ii) The setback shall be measured from the nearest edge of the hazardous liquid pipeline.
 - (iii) Applicants shall show the location of the hazardous liquid pipeline and setback on site plans and subdivision plats.
- (3) Exemptions. Streets, utilities, trails and similar uses shall be exempt from RCDG 20D.55.30(1) and (2).
- (4) Setback Protection. Setbacks shall be identified and protected during construction by placement of a temporary barricade and on-site notices. Barricades and on-site notices are subject to review by the Code Administrator.
- (5) Reasonable Use Provision.
 - (A) The required setback from the hazardous liquid pipeline corridor shall not deny all reasonable economic use of property. If an applicant demonstrates to the satisfaction of the Hearing Examiner that strict application of the required setback would deny all reasonable economic use of the property, the setback may be lessened subject to appropriate conditions.
 - (B) An applicant for relief from strict application of the required setback shall demonstrate the following:
 - (i) No reasonable economic use of the applicant's property can be made if the required setback is strictly applied; and
 - (ii) The proposed setback is the minimum necessary to provide the applicant with a reasonable economic use of the property; and
 - (iii) All reasonable mitigation measures have or will be implemented or assured; and
 - (iv) The inability to derive any reasonable economic use is not the result of the applicant's actions or those of the applicant's predecessors in title; and
 - (v) The pipeline location has been definitively determined.

- (C) As a condition of any relief granted under this section, the applicant shall be required to record an instrument against the title of the property notifying all subsequent purchasers of the fact that a lesser setback from the pipeline has been approved and of any and all conditions placed on the grant of relief.

20D.55.40 Requirements for Land Use Compatibility

(1) High Consequence Land Uses.

- (A) New high consequence land uses proposed for location within 500 feet of a hazardous liquid pipeline corridor are prohibited.
- (B) Proposed expansions to existing high consequence land uses located within 500 feet of a hazardous liquid pipeline corridor shall at a minimum be designed to avoid increasing the level of risk in the event of a pipeline failure, and where feasible, reduce the risk compared to the existing development. Potential techniques to minimize or reduce risk include but are not limited to:
- (i) Site design features, such as maintaining or increasing the distance between occupied structures, or structures that provide critical lifeline functions, and the hazardous liquid pipelines and anticipated flow paths for leaking hazardous materials.
 - (ii) Building features, such as design to avoid a significant increase in on-site population or to expedite evacuation.
 - (iii) Technological features, such as accelerated notice of a pipeline failure to the high consequence land use to facilitate evacuation or features that help to avoid damage in the event of a pipeline failure.
 - (iv) Operational features, such as emergency plans and education programs for occupants and employees concerning pipeline safety, developed in accordance with the procedures in 20D.55.40(2)(B)(ii).

Minor modifications to existing buildings are exempt from this requirement.

(2) Other Development.

- (A) Applicants for the following types of new or expanded development in the Willows/Rose Hill or Grass Lawn Neighborhoods shall use appropriate mitigation measures to help reduce adverse impacts in the event of a pipeline failure:
- (i) Commercial or industrial.
 - (ii) Multi-family.
 - (iii) Religious facilities.
 - (iv) High consequence land uses proposed for locations not covered by RCDG 20D.55.40(1).
 - (v) Other developments as required by the Code Administrator that, because of proximity to a hazardous liquid pipeline corridor, pose a safety concern due to characteristics of the occupants, development, or site.
- (B) Mitigation measures intended to reduce risk and minimize impact in the event of a pipeline failure include but are not limited to:
- (i) Site and building design techniques such as maximizing the distance between new or expanded development and anticipated flow paths for leaking hazardous materials and controlling ignition sources.

- (ii) Emergency procedures such as emergency plans and guides, employee training and drills, and education programs for occupants and employees concerning pipeline safety, such as what to be aware of and how to respond in the event of a problem.
 - (a) Applicants shall consult with the Fire Marshal regarding the level of emergency planning and procedures appropriate for the proposed development. Based on the nature, occupancy, or location of a proposed development, the Redmond Fire Chief may require emergency plans and procedures for any occupancy classifications.
 - (b) Emergency plans and procedures shall be consistent with the Redmond Fire Code and shall be approved by the Redmond Fire Chief.

C. Consultation Zone Model Ordinance - MRSC

ORDINANCE NO. _____

AN ORDINANCE ESTABLISHING A CONSULTATION ZONE FOR PERMITS FOR DESIGNATED ACTIVITIES WITHIN 660 FEET OF HAZARDOUS LIQUID OR NATURAL GAS TRANSMISSION PIPELINES

Whereas, hazardous liquid and natural gas transmission pipelines are a crucial part of our energy infrastructure; and

Whereas, transmission pipelines need to be protected from activities that may impact the integrity of the pipelines; and

Whereas, the best way to balance the interests of property owners, developers, and transmission pipeline operators is to make sure that the permitting agency and all relevant parties are aware of the plans, concerns and interests of the other parties; and

Whereas, early communication between the interested parties will assist with prudent land use permitting decisions;

NOW, THEREFORE, THE CITY [COUNTY] OF _____ DOES ORDAIN:

Section 1. Definitions.

(1) "Transmission Pipeline" means natural gas pipelines as defined in RCW 81.88.010 and all hazardous liquid pipelines.

(2) "Development Permit", for purposes of this consultation zone requirement, means any permit for activity that involves construction, grade modification, excavation, blasting, land clearing, or the deposit of earth, rocks or other materials that places an additional load upon the soil. Construction that involves work totally within an existing building footprint, such as residential remodeling projects, are specifically exempted from these consultation zone requirements.

Section 2. Consultation Zone Distance.

The consultation requirement applies to development permits involving any parcel that is within 660 feet of the centerline of a transmission pipeline easement. The 660 foot consultation zone distance may be lessened for certain development activities if the distance changes are first reviewed with the pipeline operator(s) and found to be consistent with prudent pipeline operation given the local conditions, such as terrain, soil types, etc. There must be written documentation from the pipeline operator(s) showing their agreement to any lessening of the consultation zone distance for certain types of development permits. The intent of this section is to provide flexibility and to avoid unnecessary paperwork and delays in the permitting process while also

making sure that all activities that may impact the integrity of a transmission pipeline are thoroughly reviewed.

Section 3. Consultation Zone Notification

Whenever any individual applies for a development permit within the consultation zone established for transmission pipelines, the staff at the permit counter shall notify the individual that they are within the consultation zone, explain the relevant application procedures, and provide contact information for the applicable pipeline operator(s). This same procedure shall be followed whenever an individual inquires about development regulations or zoning restrictions for property within the consultation zone.

Section 4. Complete Application for Development Permit within Consultation Zone.

A complete application for any development permit within the designated consultation zone must include written verification from the applicant that:

1. The applicant has contacted the pipeline operator(s) and has provided the pipeline operator(s) with documentation detailing the proposed development activity and where the activity is to take place; and
2. The pipeline operator(s) has reviewed the documents for compatibility with continued safe operation of the transmission pipeline(s).
3. The written verification required by this section can be in any form acceptable to the city [county], including electronic communications, so long as it is clear that the pipeline operator(s) has received and reviewed documentation showing the proposed activity and its location.

Section 5. SEPA Checklist.

A SEPA checklist submitted by an applicant for a development permit involving any parcel that is within 660 feet of the centerline of a transmission pipeline easement must reference the transmission pipeline(s) and provide information concerning any impact the activity will have upon the integrity of the transmission pipeline(s).

Section 6. Effective Date.

[Insert appropriate wording.]

PASSED/ADOPTED this ____ day of _____, 20__.

SIGNATURE LINE:

ATTEST:

APPROVED AS TO FORM:

PUBLISHED