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|  | Utility Permit or Franchise Application  Control Zone  Variance Request Justification |

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| Permit/Franchise #: Amendment #: | | Date: |
| SR: | MP Limits: | |
| Applicant: | | |
| Installation Description: | | |

**INSTRUCTIONS:** **Answer each question thoroughly, providing detailed answers.** Unanswered questions or vague, incomplete justifications will delay the review of your utility Permit or Franchise Application. (Section 4, Regional Considerations, is for Department use, and is attached as information only.)

**SECTION 1 – REASON FOR VARIANCE REQUEST** (to be completed by applicant)

Check those that apply:

The state-owned operating highway right of way is not adequate to accommodate utility objects outside the Control Zone.

Due to terrain or other features, segments of the utility facility do not warrant being located beyond the Control Zone boundary (include photos, plans, or other information supporting this claim).

**SECTION 2 – VARIANCE JUSTIFICATION** (to be completed by applicant)

1. Reason(s) the utility cannot be located as a Location III Object:

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| 1. What makes installation of the facility outside the Control Zone limits difficult or impossible? |

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| 1. If cost is a factor in making installation outside the Control Zone limits unreasonable, explain why. Provide sufficient information to support justification request based on a cost impact, such as cost analyses or cost comparisons for the alternative options: |

1. Describe the alternate routes, construction methods, and alternatives considered but rejected in favor of the current proposal:

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| 1. What alternative countermeasures were considered? |

Provide the following items to substantiate your justification request:

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| Photos of area of installation.  Roadway cross sections (from right of way to right of way, where feasible), slope areas, and terrain features. | |
| Illustrations of the alternative designs or routes considered. |  | |
| To illustrate efforts made to obtain easements outside of the highway right of way, include letter(s) of offer and rejection for any easement requests. | | |

**SECTION 3 – CONTROL ZONE CALCULATIONS** (to be completed by applicant)

Consideration of this Variance will take place after calculations for all impacted objects have been provided. Include complete calculations showing the limits of the Control Zone and the location of each aboveground utility object within the operating highway right of way. These calculations are to be based on actual field measurements at each proposed aboveground utility location.

**Basis for Control Zone Calculations**

The Control Zone distance is the distance found in the Clear Zone Distance Table (see [Figure 1](#Figure1)). The Control Zone distance varies according to three factors: (1) the posted speed, (2) traffic volumes expressed as Average Daily Traffic (ADT) volumes, and (3) the highway sideslope ratio. Control Zone distance is measured in feet normal or perpendicular to the highway centerline, beginning at the edge of the traveled way (fog line) and extending outward from the highway.

**Traveled Way**

The portion of the roadway intended for the movement of vehicles, exclusive of shoulders and lanes for parking, turning, and storage for turning. The beginning point for measuring the Control Zone, the traveled way does not include shoulders, parking lanes, turning lanes, storage for turning lanes, bike lanes, or adjacent pedestrian paths. It is generally described as the area between the outer edge stripes (also known as fog lines).

**Control Zone Conditions**

The Control Zone distance is determined by using the Clear Zone Distance Table (see [Figure 1](#Figure1)) and/or the conditions (4 for cut sections and 2 for fill sections of the roadway) in the area of the aboveground utility object. For linear utility installations, the Control Zone distance may vary if any of the three factors (speed, volume, or slope) change. If so, multiple Control Zone distance calculations may be required.

**Cut section with no ditch or fill section:**

**Condition 1: No ditch – Backslopes of 3H:1V or flatter**

**Condition 5: Sideslope is 4H:1V or flatter – Slope averaging, when slope varies**

**Condition 6: Sideslope is 3H:1V or steeper\***

The Control Zone Distance is read directly from the Clear Zone Distance Table, based on the posted speed and ADT. Use the 10H:1V column when no slope is apparent at the aboveground utility object location.

**Condition 2: Ditch foreslopes of 4H:1V or flatter – For all backslopes, use 10H:1V cut section in calculations**

The Control Zone distance is the greater of:

* The Control Zone distance for a 10H:1V cut section based on speed and ADT.
* Five feet horizontally beyond the bottom of ditch.

When a backslope steeper than 3H:1V continues for a horizontal distance of 5 feet beyond the beginning of the backslope, it is not necessary to use the 10H:1V cut slope criteria.

**Condition 3: Ditch foreslope is steeper than 4H:1V – Ditch backslope is steeper than 3H:lV**

The Control Zone distance is 10 feet horizontally beyond the bottom of ditch.

**Condition 4: Ditch foreslope is steeper than 4H:1V, but not steeper than 3H:1V\* – Ditch backslope is 3H:1V or flatter**

The Control Zone distance is established using the Recovery Area Formula (see [Figure 2](#Figure2)).

\*Note: The Recovery Area Formula normally applies to slopes steeper than 4H:1V, but not steeper than 3H:1V. For steeper slopes, the Recovery Area Formula may be used as a guide if the embankment height is 10 feet or less.

**Clear Zone Distances for State Highways Outside Incorporated Cities\***

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Posted  Speed (mph)** | **Average Daily Traffic** | **Cut Section (Backslope)**  **(H:V)** | | | | | |  | **Fill Section**  **(H:V)** | | | | | |
| 3:1 | 4:1 | 5:1 | 6:1 | 8:1 | 10:1 | 3:1 | 4:1 | 5:1 | 6:1 | 8:1 | 10:1 |
| 35 mph or less – Control Zone distance = 10 feet | | | | | | | | | | | | | | |
| 40 | Under 250 | 10 | 10 | 10 | 10 | 10 | 10 |  | \*\*\* | 13 | 12 | 11 | 11 | 10 |
| 251-800 | 11 | 11 | 11 | 11 | 11 | 11 | \*\*\* | 14 | 14 | 13 | 12 | 11 |
| 801-2000 | 12 | 12 | 12 | 12 | 12 | 12 | \*\*\* | 16 | 15 | 14 | 13 | 12 |
| 2001-6000 | 14 | 14 | 14 | 14 | 14 | 14 | \*\*\* | 17 | 17 | 16 | 15 | 14 |
| Over 6000 | 15 | 15 | 15 | 15 | 15 | 15 | \*\*\* | 19 | 18 | 17 | 16 | 15 |
| 45 | Under 250 | 11 | 11 | 11 | 11 | 11 | 11 | \*\*\* | 16 | 14 | 13 | 12 | 11 |
| 251-800 | 12 | 12 | 13 | 13 | 13 | 13 | \*\*\* | 18 | 16 | 14 | 14 | 13 |
| 801-2000 | 13 | 13 | 14 | 14 | 14 | 14 | \*\*\* | 20 | 17 | 16 | 15 | 14 |
| 2001-6000 | 15 | 15 | 16 | 16 | 16 | 16 | \*\*\* | 22 | 19 | 17 | 17 | 16 |
| Over 6000 | 16 | 16 | 17 | 17 | 17 | 17 | \*\*\* | 24 | 21 | 19 | 18 | 17 |
| 50 | Under 250 | 11 | 12 | 13 | 13 | 13 | 13 | \*\*\* | 19 | 16 | 15 | 13 | 13 |
| 251-800 | 13 | 14 | 14 | 15 | 15 | 15 | \*\*\* | 22 | 18 | 17 | 15 | 15 |
| 801-2000 | 14 | 15 | 16 | 17 | 17 | 17 | \*\*\* | 24 | 20 | 18 | 17 | 17 |
| 2001-6000 | 16 | 17 | 17 | 18 | 18 | 18 | \*\*\* | 27 | 22 | 20 | 18 | 18 |
| Over 6000 | 17 | 18 | 19 | 20 | 20 | 20 | \*\*\* | 29 | 24 | 22 | 20 | 20 |
| 55 | Under 250 | 12 | 14 | 15 | 16 | 16 | 17 | \*\*\* | 25 | 21 | 19 | 17 | 17 |
| 251-800 | 14 | 16 | 17 | 18 | 18 | 19 | \*\*\* | 28 | 23 | 21 | 20 | 19 |
| 801-2000 | 15 | 17 | 19 | 20 | 20 | 21 | \*\*\* | 31 | 26 | 23 | 22 | 21 |
| 2001-6000 | 17 | 19 | 21 | 22 | 22 | 23 | \*\*\* | 34 | 29 | 26 | 24 | 23 |
| Over 6000 | 18 | 21 | 23 | 24 | 24 | 25 | \*\*\* | 37 | 31 | 28 | 26 | 25 |
| 60 | Under 250 | 13 | 16 | 17 | 18 | 19 | 19 | \*\*\* | 30 | 25 | 23 | 21 | 20 |
| 251-800 | 15 | 18 | 20 | 20 | 21 | 22 | \*\*\* | 34 | 28 | 26 | 23 | 23 |
| 801-2000 | 17 | 20 | 22 | 22 | 23 | 24 | \*\*\* | 37 | 31 | 28 | 26 | 25 |
| 2001-6000 | 18 | 22 | 24 | 25 | 26 | 27 | \*\*\* | 41 | 34 | 31 | 29 | 28 |
| Over 6000 | 20 | 24 | 26 | 27 | 28 | 29 | \*\*\* | 45 | 37 | 34 | 31 | 30 |
| 65 | Under 250 | 15 | 18 | 19 | 20 | 21 | 21 | \*\*\* | 33 | 27 | 25 | 23 | 22 |
| 251-800 | 17 | 20 | 22 | 22 | 24 | 24 | \*\*\* | 38 | 31 | 29 | 26 | 25 |
| 801-2000 | 19 | 22 | 24 | 25 | 26 | 27 | \*\*\* | 41 | 34 | 31 | 29 | 28 |
| 2001-6000 | 20 | 25 | 27 | 27 | 29 | 30 | \*\*\* | 46 | 37 | 35 | 32 | 31 |
| Over 6000 | 22 | 27 | 29 | 30 | 31 | 32 | \*\*\* | 50 | 41 | 38 | 34 | 33 |
| 70 | Under 250 | 16 | 19 | 21 | 21 | 23 | 23 | \*\*\* | 36 | 29 | 27 | 25 | 24 |
| 251-800 | 18 | 22 | 23 | 24 | 26 | 26 | \*\*\* | 41 | 33 | 31 | 28 | 27 |
| 801-2000 | 20 | 24 | 26 | 27 | 28 | 29 | \*\*\* | 45 | 37 | 34 | 31 | 30 |
| 2001-6000 | 22 | 27 | 29 | 29 | 31 | 32 | \*\*\* | 50 | 40 | 38 | 34 | 33 |
| Over 6000 | 24 | 29 | 31 | 32 | 34 | 35 | \*\*\* | 54 | 44 | 41 | 37 | 36 |

(In feet, from edge of traveled way\*\*)

\*This figure also applies to limited access state highways in cities and median areas on managed access state highways in cities. (See the [*Design Manual*](http://www.wsdot.wa.gov/Publications/Manuals/M22-01.htm) for guidance on managed access state highways within incorporated cities.)

**\*\***Traveled way: The portion of the roadway intended for the movement of vehicles, exclusive of shoulders and lanes for parking, turning, and storage for turning.

\*\*\*When the fill section slope is steeper than 4H:1V, but not steeper than 3H:1V, the Control Zone distance is modified by the

Recovery Area Formula and is referred to as the recovery area. The basic philosophy behind the Recovery Area Formula is that a vehicle can traverse these slopes but cannot recover (control steering); therefore, the horizontal distance of these slopes is

added to the Control Zone distance to form the recovery area.

**Clear Zone Distance Table**

**Figure 1**

**Recovery Area Formula**

The Recovery Area Formula accounts for variable factors in the area adjacent to the traveled way, including shoulder width, ditch and fill slopes, speed, and traffic volumes. Use the following formula to determine the errant vehicle recovery area as defined in [Section 3](#Section3), Control Zone Calculations.

**Recovery Area** = (shoulder width) + (horizontal distance) + (Control Zone distance – shoulder width)

Where:

S = shoulder width

SD = horizontal slope distance

CZ = Control Zone distance from Control Zone Distance Table (see [Figure 1](#Figure1))

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**Recovery Area Elements**

**Figure 2**

**Applicant Certification and Signature**

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| --- | --- | --- | --- |
| To the best of my knowledge, the information provided herein by me, employees under my supervision, or consultants hired by me is complete and accurate and factually represents all aspects of the proposed utility installation. | | | |
|  |  |  | |
| Signature |  | Date |  |
|  |  |  |  |
| Print name |  |  |  |
|  |  |  |  |
| Title |  |  |  |

# SECTION 4 – REGIONAL CONSIDERATIONS (to be completed by WSDOT)

## Variance Assessment

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| Justification denied  Justification considered for approval |
| If alternatives were **not** provided and the Region is considering approval of the request, clearly document any reasons for not requiring alternative investigations and file with the application. |

## Background

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| If this is an Amendment, is the parent Franchise current (not expired)? | Yes | No |
| If it is not current, has the utility been advised that the Franchise will need to be renewed?  What is the renewal timeframe and mitigation plan, if required? | Yes | No |

## Administrative Assessment and Coordination

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| If a Notice of Filing is necessary, explain why: |  |
|  | | |
| Are the proposed location, installation methods, and embankment materials adequate to meet Department requirements? | | | |
| If this utility installation will impact future design or construction of any currently programmed projects, list the projects and explain the effects of the proposed utility installation: | | |
| If there is a probability of this installation affecting currently programmed projects, (1) have appropriate design and construction offices been given an opportunity to review and comment on the proposed installation, and (2) what steps will be taken to coordinate the utility installation with affected projects? | | |
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## Region Utility Office Recommendation

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| --- | --- |
| What is the region’s recommendation regarding approval of this application? | Application Approved  Application Denied |
| Explain the reason(s) for approval or denial: | |