

Control Zone Variance Request Justification Questionnaire

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 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:
- 2. What makes installation of the facility outside the Control Zone limits difficult or impossible?
- 3. 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:
- 4. Describe the alternate routes, construction methods, and alternatives considered but rejected in favor of the current proposal:
- 5. What alternative countermeasures were considered?

Alternative Measures include:

- Locating on private easement outside the highway right of way. Documentation that a good faith effort
 was made to obtain property rights outside of highway right of way is required. At a minimum, such
 documentation must include proof that an offer was made to the adjoining property owner based on
 fair market value, and that the offer was not accepted. Specific documentation for this purpose may
 vary depending on the nature of the proposal and at the discretion of the region utilities engineer.
- Putting utility line underground.
- Reducing the number of utility objects through joint use, increasing span lengths, and/or placing utility
 objects on only one side of the road.
- Increasing the lateral offset of utility objects from the edge of the traveled way.

- Mitigating utility objects by locating to an inaccessible area such as toward the top or on the top of cut slopes; installing protective devices such as berms, guardrails, traffic barriers, or impact attenuators; or using a breakaway design
- Other identified location-specific measures

Provide the following items to substantiate your justification request:

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 in obtaining 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). 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) 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 ditch 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:IV

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).

*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.

Posted Speed	Average Daily		Cut Section (Backslope) (H:V)				Fill Section (H:V)							
(mph) Traffic		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														
	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
40	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
	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
45	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
	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
50	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
	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
55	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
	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
60	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
	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
65	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
	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
70	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

Clear Zone Distances for State Highways Outside Incorporated Cities*

(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* 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, 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)



Figure 2

Applicant Certification and Signature

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 (for Department use, informational only.)

Variance Assessment

Justification denied	Justification considered for approval
If alternatives were not provided and the Region is con	sidering approval of the request, clearly
document any reasons for not requiring alternative inve	estigations and file with the application.

Background

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?	🗌 Yes	🗌 No	
What is the renewal timeframe and mitigation plan, if required?			

Administrative Assessment and Coordination

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?

Region Utility Office Recommendation

What is the region's recommendation regarding approval of this Permit/Franchise Application?

Application Approved
 Application Denied

Explain the reason(s) for approval or denial: