**Siting a Private Well Downslope from a Source of Contamination**

**12VAC5-630-380. Well Location.**

B. Downslope siting of wells from potential sources of pollution. Special precaution shall be taken when locating a well within a 60 degree arc directly downslope from any part of any existing or intended onsite sewage disposal system or other known source of pollution, including, but not limited to, **buildings subject to termite or vermin treatment, or used to store polluting substances or storage tanks or storage areas for petroleum products or other deleterious substances**. The minimum separation distance shall be: (i) increased by 25 feet for every 5.0% of slope; or (ii) an increase shall be made to the minimum depth of grout and casing in the amount of five feet for every 5.0% of slope. [Emphasis added.]

|  |  |  |
| --- | --- | --- |
| **Slope** | **Increase Separation** | **Increase Depth of casing & grout**For every 5% of slope:1. Increase separation distance 25’

**OR** (see note on reverse side)2. Increase depth of casing & grout 5’ |
| 0 to <5% | None | None |
| 5% to <10% | 25’ | 5’ |
| 10% to <15% | 50’ | 10’ |
| 15% to <20% | 75’ | 15’ |
| 20% to <25% | 100’ | 20’ |



**Determining a 60o arc**

To determine a 60o arc, use imaginary lines running downslope, perpendicular to contour, from each side of the source of contamination. Swing a 30o arc out from each side.

The diagram to the right shows measurements to delineate a 30o arc; see the reverse side for further explanation.

Slope





**NOTES**

1. “OR” in the regulation is interpreted as “and/or”, allowing a combination of increased separation distance and increased depth of casing and grout to provide special protection for downslope wells. The **Form, Style and Procedure Manual for Publication of Virginia Regulations** discourages the use of the term “and/or” in the Virginia Administrative Code in §3.25 and 3.48 below.

**§ 3.25. Use of “and/or.”**

The term “and/or” should be avoided if possible. In general, the term “and” means to add something to what has already been said. The term “or” means in the alternative. In most cases, the word “or” is proper to convey the thought of “one, or the other, or any of them.” If emphasis is needed, use terms such as “any of the following,” “all of the following,” “either of the following,” or “or both.”…

**§ 3.48. Commonly used words with their plain language translations.**

1. Listed in this section are commonly used words and phrases. The use of the words in the right column is preferred.

|  |  |
| --- | --- |
| **AVOID** | **USE** |
| and/or | “A” or “B” or both |

(From the **Form, Style and Procedure Manual for Publication of Virginia Regulations**; <http://register.dls.virginia.gov/documents/agency_resources/stylemanual.pdf> )

1. To derive the measurements to determine a 30o arc, use trigonometry:



SOHCAHTOA

sin = opp

 hyp

cos = adj

 hyp

tan opp

 adj

hyp = hypotenuse

opp = opposite side

adj = adjacent side

