

CLEAR CREEK COUNTY Public and Environmental Health	<b>Guidelines for Distance Reductions</b>	<b>Appendix D</b>
---	---	-----------------------

For this Appendix, the following terms and definitions shall apply:

**“Affected well”** means a water well that will be located less than 200 feet, but more than 100 feet from any STA, existing or proposed that receives TL1 or TL2 treatment level effluent.

**“Annular space”** means the void between the outside of the well casing and the walls of the well bore hole.

**“Grout”** means any material, approved by the State Board of Examiners of Water Well Construction and Pump Installation Contractors, that is used to form a permanent impermeable seal in the annulus between the casing and the borehole wall or between two strings of casing, or that is used in plugging, sealing, and abandoning boreholes or wells.

### **1. General Requirements**

- A. A site-specific surface and subsurface geological report is required in support of a request for a minimum separation between wells and STA receiving TL1 or TL2 treatment level effluent that is less than 200 feet but more than 100 feet.
- B. A minimum of one (1), eight (8) foot deep excavation is required within or immediately adjacent to the proposed STA. All excavations shall remain open for inspection by the health officer unless previously arranged and shall be suitably protected to prevent unauthorized entry. Excavations are not required when the reductions is for an off-site, existing STA.

### **2. Reduction Based on Suitable Soil Conditions**

- A. If the onsite investigation documents the presence of eight (8) feet of suitable soil as defined by these Regulations, a distance separation of not less than 100 feet between wells and STA receiving TL1 or TL2 treatment level effluent shall be permitted.
- B. Blasting to install the system shall not be permitted.

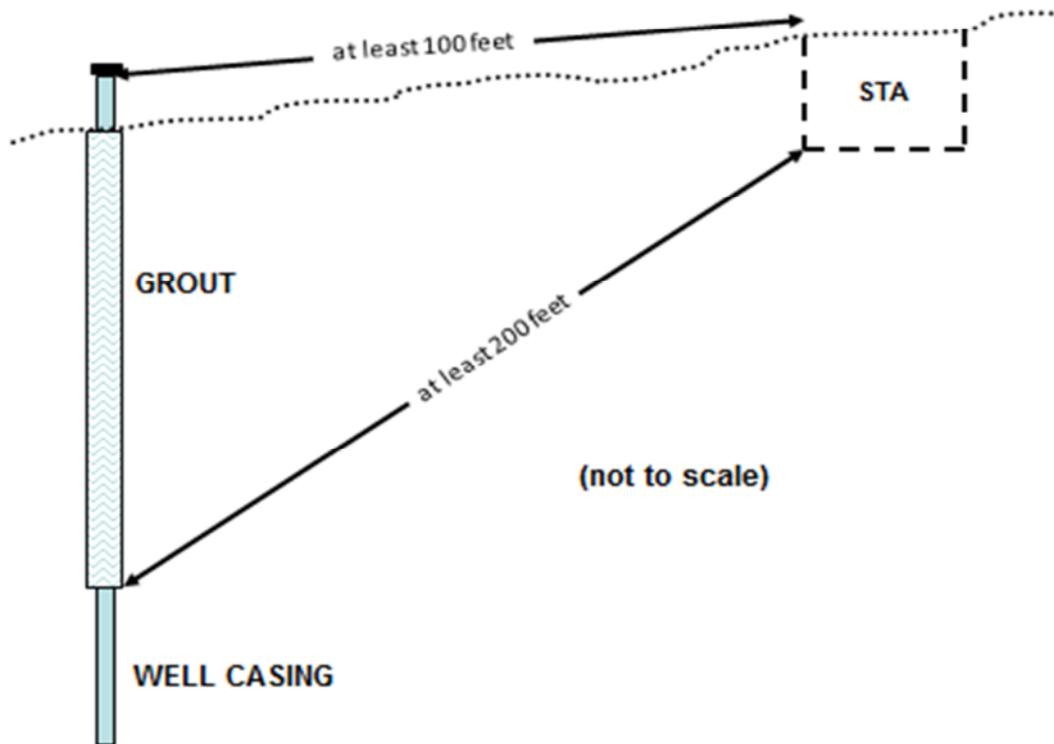
### **3. Reduction Based on Impermeable Bedrock Conditions**

- A. If the onsite investigation documents the presence of less than eight (8) feet of suitable soil as defined in Regulations, but the soil layer is underlain by impermeable, un-fractured bedrock with no visible conduits for effluent flow, a distance separation of not less than 100 feet between wells and STA receiving TL1 or TL2 treatment level effluent shall be permitted.
- B. Blasting to install the system shall not be permitted.

#### 4. Reduction Based on Well Grouting

- A. If the onsite investigation fails to document any of the soil or geological conditions in Section 2 and 3 of this Appendix, a minimum separation distance between a well and STA receiving TL1 or TL2 treatment level effluent of not less than 100 feet shall be permitted provided that an impervious grout is placed within the annular space of the affected well sufficient to maintain a 200 foot diagonal separation distance between the bottom of the grout and the STA as shown in Figure 1.

Figure 1 - Determination of 200-Foot Minimum Separation Distance



Between Deep-Grouted Well and STA

- B. In support of such a request, the design engineer shall:
1. Provide a scaled drawing showing the depth to which the grouting shall extend to assure the required 200 foot diagonal separation;
  2. Specify the type of grouting materials to be used;
  3. Specify the manner in which the grout will be introduced into the annular space; and

## Appendix D Guidelines for Distance Reductions

4. Determine the volume of the grout required to fill the annular space.
- C. The health officer may require the design engineer to certify that the grouting has been done in accordance with their proposal.
- D. Such a reduction will not be allowed where a higher level treatment system can be installed to meet the required minimum setback. However, if the onsite well will be grouted to allow a distance of less than 200 feet to an off-site onsite wastewater treatment system, the grouting may also be used in support of a request for a reduced setback to the onsite well.

### **5. Written Report Requirements**

- A. A written report in support of the proposed distance reduction shall be prepared by or under the supervision of a professional geologist or professional engineer and submitted to the Department at the time of application for a permit to install an OWTS.
- B. The report shall detail all site-specific surface and subsurface geologic information and relate such information to regional geology and hydrology. This information shall include, at a minimum:
  1. A description of the thickness and characteristics of surficial deposits; and
  2. A scaled geologic log of the highest wall of the open excavation, showing surficial and bedrock units, weathering zones and fracture or joint sets.

### **6. Other Methods for Allowing Distance Reductions**

- A. The Board may consider the use of other methods for determining the suitability of distance reductions as a variance from the requirements of these Regulations.