

LAND USE

230 Attachment 16

Township of Delaware

**Appendix VII
Observation Well Requirements – Well Testing**

1. The number of observation wells required per aquifer test will depend on the proposed number of new lots or dwelling units and/or proposed nonresidential or nonexempt agricultural water demand. New and existing observation wells may be located such that they can be used as future water supply wells, but they shall be located in such a manner that they will yield the most accurate information concerning the aquifer.
2. Observation wells shall be completed to similar depths as the pumping well.
3. During all three phases of the aquifer test, water must not be withdrawn from an observation well. Observation wells cannot be pumped during the aquifer test. Therefore, if an existing well is to be used as an observation well to satisfy the requirements listed below, the pump in the well must remain off during all three phases of testing.
4. Observation wells must be located parallel and perpendicular to strike of the primary regional fractures and those intersected by the tested well. Additional observation wells should be located to evaluate potential secondary fractures and impacts to adjacent properties.
5. A fracture trace analysis showing the location and orientation of fracture lineaments must be included with the **Aquifer Test Plan**. This same analysis with additional information regarding septic system locations must be included in the **Final Hydrogeologic Report**. The fracture trace analysis must be used to identify all observation wells on the lot in question and to identify neighboring property owner's wells to be monitored during the test.
6. All wells must be located in accordance with the minimum distances required by N.J.A.C. 7:10-12.12.
7. One observation well shall be located within 200 feet of the test well and at least one observation well shall be located along a fracture trace or preferential fracture direction between 200 and 500 feet from the pumping well.
8. For residential developments of two or more new lots or dwelling units, the number of observation wells shall be as shown in **Table VI-1**. Although water levels will be measured and recorded in the pumping well, and these data must be submitted with the hydrogeologic report, the pumping well shall not serve as one of the observation wells required below.

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Table VI-1: Observation Well Requirements for Residential Developments

Number of Proposed New Lots or Dwelling Units	Number of Observation Wells
2 to 5	2 (minimum of 1 new well within lot in question)
6 to 25	3 (minimum of 2 new wells within lot in question)
26 to 49	5 (minimum of 4 new wells within lot in question)
50 or more	Test proposal submitted to Board for review and approval

9. For nonresidential developments or expansions thereof leading to a total anticipated daily demand exceeding 800 gallons per day on the lot in question, or for nonexempt agricultural uses, the number of observation wells shall be as shown in Table VI-2. Although water levels will be measured and recorded in the pumping well, and these data must be submitted with the hydrogeologic report, the pumping well shall not serve as one of the observation wells required below.

Table VI-2: Observation Well Requirements for Nonresidential and Nonexempt Agricultural Uses

Average Demand (gallons per day)	Number of Observation Wells
800 to 1,999	2 (minimum of 1 new well within lot in question)
2,000 to 9,999	3 (minimum of 2 new wells within lot in question)
10,000 to 99,999	5 (minimum of 2 new wells within lot in question)
100,000 or more	Obtain NJDEP Water Allocation Permit or Water Usage Certification. All aquifer testing plans to be submitted to both NJDEP and the Board for review and approval.

10. The observation wells and the pumping well must have a geologic log describing the depth and types of soils and rocks encountered and the depth and yields of all water-bearing fracture zones. The logs must include static water level measurements and total yield estimates for each well.
11. Pursuant to N.J.S.A. 58:4A, all observation wells installed as part of the aquifer testing shall be properly abandoned. A certified and licensed well driller shall abandon the wells in accordance with the requirements of N.J.A.C. 7:9D-3.1 et seq. The well abandonment forms shall be completed and submitted to the New Jersey Department of Environmental Protection, Bureau of Water Allocation (call 609-984-6831 for forms and information).