

## 642. WATER WELL DESIGN AND CONSTRUCTION DATA REQUIREMENTS

The following items must be addressed in the design folder for a water well. The following information shall be included:

- (1) Table of Contents
- (2) Operation and Maintenance Plan
- (3) Construction Specifications
- (4) Engineering Drawings
- (5) Erosion and Sediment Control Plan
- (6) Quality Assurance Plan

Listed below are specific items that are required in the design:

### Table of Contents

This organizes the design folder.

### Operation and Maintenance Plan

Provide the landowner with information on protecting the quality of the well water.

### Construction Specifications

Enclose Specification PA642 and other applicable specifications (e.g. PA342, PA362).

Include the projected water use (type of use, daily volume, and gpm) and any other "additional conditions" or items that are site specific or must be defined to supplement the standard specification. (See instructions for use of Specification PA642.)

Add any special or "by-others" specifications.

### Engineering Drawings

#### GENERAL

On each drawing sheet, the title block should show the farm operator's name,

county and the persons involved in drawing and designing the water well.

A water well design prepared by NRCS or a cooperating agency requires approval by an Engineer with NRCS Engineering job approval authority for Water wells.

Include any standard drawings made by NRCS or designed by others and concurred in by NRCS that are needed, and include them in the drawing index on the cover sheet.

The design should **not** include the exact location for the well. Rather, it should show the areas that are available for the well. The well driller should have expertise in selecting the well location, based on the information provided in the design.

Listed are items that should be included:

#### PLAN VIEW SHEET

- North arrow
- Bench mark
- Scale
- Legend
- Property lines
- Utilities & PA One-Call information
- Roads and farm lanes
- Existing structures
- Potential contaminant sources & setback requirements
- Existing well, spring, & sinkhole location(s)
- Water courses
- 100 year floodplain boundary or elevation

#### SEQUENCING STATEMENT WITH:

- E&S control
- Construction sequence
- Special considerations
  - Special equipment or site concerns

- Surface water diversion requirements
- Vegetative requirements
- Safety considerations
- One-Call numbers & statement

### **Erosion and Sediment Control Plan**

See DEP's Erosion and Sediment Pollution Control Program requirements for water well drilling and aquifer testing.

### **Quality Assurance Plan**

Who will do the actual inspection?  
What specific items need inspection and when?

Include:

- setback requirements
- materials
- casing height above ground
- grouting
- wellhead protection
- completion report to include:
  - Location of water well by Global Positioning System (GPS) coordinates or in a sufficiently detailed narrative description to readily locate the well
  - Type of casing material or schedule, and whether new or used
  - Date of completion of the water well
  - Name, title, and address of person responsible for the water well
  - Total depth of the water well
  - Length of casing and screening
  - Inside diameter of well bore or casing
  - Height of casing extending above ground surface
  - Static water level measured from top edge of casing or from ground surface

- Notification of whether aquifer is artesian or non-artesian. If well is flowing artesian, provide flow rate and pressure
- Well development method(s) used
- Results of pump test including length of test, stability of water level, pumping rate, and specific capacity after water level had stabilized, if needed.
- Driller's log
- If water quality was tested, record the parameters and test results, date of sampling, name of person who took sample, and name of laboratory that conducted tests.

- As-built drawings to include:
  - actual location
  - casing and sealing configuration
  - screen and filter configuration