# As-Built Submittal Checklist

Texas Commission on Environmental Quality
Water Supply Division
Plan Review Team MC-159
P.O. Box 13087 Austin, Texas 78711-3087

Public Water System I.D. No._____
TCEQ Log No. P-_____

This checklist is applicable to:

- Public water systems (PWSs) that have received a citation for the requirement to submit plans and obtain approval (the PWS does not have a plan approval letter for all or a particular part of their system) under 30 TAC §290.39 or not having as-built drawings required by §290.46(n)(1).
- Newly discovered PWSs that have been operating and were not a PWS but meet the definition of a PWS and are trying to come into compliance with regulations.
- Systems that did not meet the definition of a PWS when started but have now grown to meet the definition of a PWS and must now be in compliance with the rules.

A licensed PE in the state of Texas must sign and seal all submitted information that is required. §290.39(d)(1) states that plans, specifications, and related documents will not be considered unless they have been prepared under the direction of a licensed professional engineer. All engineering documents must have engineering seals, signatures, and dates affixed in accordance with the rules of the Texas Board of Professional Engineers.

Pre-construction information required by a rule that cannot be verified (e.g., leakage rate checks, bac-Ts on constructed lines, 50 mg/l chlorine content of gravel pack, six-hour well disinfection, etc.) will not be required to be proved up on by the PWS.

# Required Plan Submittal Information:

The as-built information and plans must include the following in order to be evaluated:

1. ☐ **An engineering report** signed and sealed by a PE that includes:
   a. ☐ Copy of any citations by the Region;
   b. ☐ Description of system including history, capacities, service area, location of facilities, and all water sources;
   c. ☐ Narrative of all water plant infrastructures that address all applicable rule citations. For example, for storage tanks, the engineering report should address point by point the requirements in 30 TAC 290.43 (a) through (e) for the as-built storage tank with narrative and then supply photographs showing each point;
   d. ☐ Photographs of all equipment (clarifiers, filters, tanks, pumps, chemical systems, etc.), equipment apparatus (e.g., air compressors, meters, gauges, piping, valves, name plates, and secondary containment) and installation conditions (buildings, slopes, fences, and surroundings). Photos need to be in color, as large as possible and in focus. Photo should be shot at a good angle to reflect information being conveyed. Photo needs to be labeled and annotated to described conveyed information;
   e. ☐ **If needed to verify information**, any and all equipment documentation available (e.g., purchase receipts, a copy of the Operations and Maintenance

manual, pump charts, hydropneumatic tanks certifications, receipts, equipment manuals, etc.);

f. ☐ Specific Information for each type of facilities (see below).

2. ☐ **As-Built or record drawings** signed and sealed by a PE. The drawings shall include:
   a. ☐ As-built engineering site plan (including appropriate scale and north direction arrow) of the PWS that shows the well(s) (plan and profile), wellhead, pump(s), treatment systems, storage tanks, pressure tank(s), chemical facilities and chemical injection points.
   b. ☐ As-built component drawings including layout, details, size, quantity and type for tanks, pumps, chemical feed systems and chemical storage.

***Please note that:** Photographs with narratives addressing each applicable regulation may replace the need of as-built or recorded drawings for things such as storage tanks, pumps, pressure tanks, disinfections systems. The photographs must include any name plates and all appurtenance of each system component, **but a general as-built layout (schematic) of plant will be needed.**

# Specific Information required for each type of facility:

## Wells:

1. ☐ State of Texas Well Report (well driller's log). The engineer may also do a search of the TWDB or TDLR databases. If the well report or driller's log is unavailable or does not contain all required information, then an exception request must be submitted and granted (prior to and included in the As-Built submittal) for:
   - Pressure cementation
   - Well casing material
2. ☐ Cementation report if available.
3. ☐ Detailed map or plat (including appropriate scale and north direction arrow) identifying:
   a. Property boundaries of property owned by the PWS. Must match property deed;
   b. Location of the PWS and well(s) with well coordinates;
   **c.** The area within a 500-foot, 300-foot, 150-foot and 50-foot radius around the well(s) must be marked and labeled. Only include the 500 and 300 –foot if hazards are present. **Map scale should be as large and readable as possible (11 by 17 inches minimum);**
   d. All possible sources of contaminations (See No. 8) of the well;
   e. All proposed and existing water and wastewater lines;
   f. Intruder resistant fences and access roads;
   g. Dedicated road easements, and
   h. All properties lines with property owner's names not owned by the PWS within a 150- foot radius surrounding the well(s).
4. ☐ Related PWS /ownership information **such as property deeds and recorded easements**. Please submit the following:
   a. Property deeds in the system's ownership name.
   b. Recorded sanitary control easements for all property not owned by the system.
      - Please note for example: If John Kerry owns the property and the PWS owner is John Kerry, LLC, the PWS would still need a sanitary control easement from John Kerry to John Kerry LLC.

c. If the property has a dedicated Right-of-Way (ROW) easement, the PWS needs a sanitary control easement from the ROW owner (county, city, etc.).

***Please note: the recorded easements must state the purpose, restrictions and uses of the easement. See TCEQ form 20698 for wording.**

5. ☐ 36-hour Pump Test. Shorter pump test periods can be accepted for large capacity wells (>50 gpm) producing from areas of known groundwater production and quality so as to prevent wasting of water.
6. ☐ Three consecutive days of bacteriological raw water sampling collected within the last 3 months. These samples must be taken prior to any addition of disinfectant. The residual disinfectant concentration must be noted for each analysis;
7. ☐ A raw water chemical analysis (see checklist Public Well Completion Data Checklist for Approval to Use (Step 2) Item No. 7) will be required. The engineer can use available records in Drinking Water Watch (DWW) information but must be representative for the specific well that requires approval.

***Please note that if the analysis from DWW is from an entry point, the entry point must only represent the as-built well and not be combined with other wells or sources.**

8. ☐ Hazard Pollution Survey for each well. A statement signed and sealed by a PE confirming the presence and location, or absence, of the following hazards (if present must be included on the required map in No. 3- an exception is required if any of these hazards are present):
   a. Any of the following within 50 feet of the well (absolutely nothing allowed within 10 feet of well):
      - Sanitary or storm sewer
      - Tile and concrete not allowed, must be pressure rated at 150 pounds per square inch (psi)
      - If pipe type is unknown than an exception is required
      - Septic tank
      - Cemetery
      - Livestock in pastures
   b. Any of the following within 150 feet of the well:
      - Septic tank disposal area
      - Improperly constructed water well*
      - Underground or aboveground petroleum or chemical storage tank or liquid transmission pipeline
      - Area where sewage plant or septic tank sludge or effluent is applied
      - Any other potential hazards or contamination sources

***Improperly constructed wells include all wells not constructed to public water well standards (e.g. residential wells, irrigation wells).**

   c. Any of the following within 150 feet of the well:
      - Sewage wet well
      - Sewage pumping station
      - Drainage ditch containing industrial or municipal waste discharges
      - Wastes from sewage treatment systems
   d. Any of the following within 500 feet of the well:
      - Sewage treatment plant
      - Animal feed lots
      - Solid waste disposal sites Lands on which sewage plant or septic tank sludge is applied
      - Lands irrigated by sewage plant effluent
   e. 1/4-mile radius of the well
      - Landfill and dump sites
      - Animal feedlots
      - Military and industrial facilities
      - Abandoned and inoperative wells
      - Liquid petroleum and petrochemical production, storage or transmission facilities

- Wood treatment facilities
- Class 1, 2, 3, or 4 injection wells
- Pesticide storage or mixing facilities
- Any other existing or potential pollution hazards

9. ☐ Copies of sanitary control easements for the applicable wells that have been recorded in the county deed of records or copies of the granted exceptions to the sanitary control easement requirements for these wells.

# Tanks (pressure, ground and elevated):

1. ☐ Any information on coating system particularly for the tank interior. Information about last paint contractor, pictures of leftover paint, and photos during painting. Galvanized is okay.
2. ☐ Particular information such as size, dimensions, materials of construction, and documentation of construction.
3. ☐ Photographs of name plates, vents, openings, access panels, vent screens, ladders, handrails, and inside walls.
4. ☐ **If needed to document facility information**, yearly inspection records (five-year retention required by §290.46(f)(3)(D)(ii)) - **§290.46(m)(1)** requires "Each of the system's ground, elevated, and pressure tanks shall be inspected annually by water system personnel or a contracted inspection service". If system does not have any inspection records, they must have their tanks inspected per §290.46(m)(1) before approval. Any repairs required as determined by the inspection shall be a conditional of any approval.
5. ☐ **Any storage tanks that do not meet American Water Works Association (AWWA) standards or hydropneumatic tanks greater than 1,000 gallons that do not meet American Society of Mechanical Engineers (ASME) certification must request and receive an exception.**

# Pumps

1. ☐ Photographs of motor label and of the pump label. Please make sure they are legible.
2. ☐ Manufacture specifications for the pump and the pump curve with duty point indicated.
3. ☐ Certification that the pump meets NSF 61 requirements or EPA's low lead requirement for wetted components.

# Chemical feed Systems

1. ☐ Material Safety and Data Sheet (MSDS) of chemicals and certification that they meet NSF 60 requirements.
2. ☐ Size of pumps;
3. ☐ Size of day tanks;
4. ☐ Size of bulk tanks;
5. ☐ Injection points;
6. ☐ Sample points;
7. ☐ Monitoring plan;
8. ☐ If using chloramine, NAP;
9. ☐ Photos to verify all items and sizes; and
10. ☐ Engineer calculations for sizes of pumps and tanks.

# Distribution (includes yard piping)

1. ☐ Any distribution maps available.
2. ☐ Hydrant pressure and flushing records
3. ☐ Repair records, purchase orders and photographs for pipes, valves, and appurtenances.

4. ☐ Any subsurface utility engineering (SUE) records (potholing may be required to determine pipe type and burial depth).
5. ☐ Operator interviews on type and condition of pipes.

# Available Resources

The engineer can get information from:

1. Drinking Water Watch: https://www.tceq.texas.gov/goto/dww
2. TDLR Drilling reports: https://texaswellreports.twdb.state.tx.us/drillers-new/index.asp
3. TWDB Ground water Database:https://www3.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer

   If you find the well and click on it, a blue link in the description that pops up opens a window. Click on scan. Sometimes you find the well report and chemical testing.

4. Central Records Search. Sometimes you can find 60's health survey that tells the well information.
5. NSF Certifications:
   http://info.nsf.org/Certified/PwsChemicals/
   http://info.nsf.org/Certified/PwsComponents/
6. For pump curves – Conduct a web search for the maker of pump and pump model from pump tag.