

FAUQUIER COUNTY WATER AND SANITATION AUTHORITY  
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## UTILITY STANDARDS MANUAL AMENDMENT FORM

The Authority's Utility Standards Manual is hereby amended as follows:

### **Section Being Amended: 1.07 Engineer's Completion Statement & As-Built Drawings**

**From:** After completion of construction of the facilities from the approved plans and/or specifications, but prior to requesting a Final Inspection, the Developer or Owner responsible for construction shall submit an Engineer's Completion Statement and as-built drawings.

The Engineer's Completion Statement shall be prepared, signed and sealed by a professional engineer registered to practice in the Commonwealth of Virginia. The statement shall conform to the requirements contained in the Commonwealth of Virginia State Water Control Board Sewage Treatment and Collection Regulations and the Virginia Department of Health Waterworks Regulations.

The as-built drawings shall accurately depict the actual locations and elevations of all water and sewer facilities constructed as part of the approved plans. They shall be based on a field survey and the red-line drawings maintained by the Owner or his contractor during the construction process. The as-built drawings shall clearly indicate areas where construction substantially deviated from the approved plans. The as-built drawings, and all subsequent revisions to the drawings, shall be properly sealed and signed by a Professional Engineer registered in the Commonwealth of Virginia. One complete copy of the Owner/contractor's red-line construction drawings and three paper sets of as-built drawings shall be submitted to the Authority's Developer Services Representative, along with a CD-ROM containing AutoCad 2002 (or compatible) files of all as-built plan and profile information. Individual plot files with borders are not required so long as all information for both plan views (In NAD 83 coordinate system) and profiles can be adequately derived from model space using

the files submitted. The as-built drawings shall show, but are not limited to the following:

A. Water Main Construction

- (1) Plans and profiles corrected to accurately depict the location of all water lines and fittings.
- (2) Exact measurements showing the positive locations of all valve boxes, blind or blank-flanged fittings and plugged terminals of mains.

The measurements taken for these positive locations shall be taken from at least two reasonably adjacent and available fixed and permanent objects or reference points, such as fire hydrants, centers of sanitary or storm sewer manhole casting covers, corners or extended lines of buildings, power or telephone poles etc.

B. Sewer Construction

- (1) Plans and profiles corrected to accurately depict the locations of all manholes, with inverts and top elevations and numerical notations of the exact elevations of same.
- (2) Indications of lengths and grades of lines between manholes and numerical notations of the exact lengths and grades.
- (3) Locations of all cradles, encasements or special construction.

The measurements taken for these positive locations shall be taken from at least two reasonably adjacent and available fixed and permanent objects or reference points, such as fire hydrants, centers of sanitary or storm sewer manhole casting covers, corners or extended lines of buildings, power or telephone poles etc.

C. Water Pump Stations, Sewage Lift Stations and Building Structures

- (1) As-built drawings and specifications shall accurately indicate all approved deviations from, or changes in, location, and/or types of equipment installed, or materials used from the approved plans and/or specifications.
- (2) Complete listings of the name of the manufacturer of all operating equipment installed, together with model or style numbers, ratings,

pump curve capacities and other pertinent information shall be provided as part of the as-built plans for the project.

- (3) At least three complete sets of shop drawings, operations and maintenance manuals of all operating equipment, all Certificates of Inspections, Approvals, Warranties and Guaranties of Equipment, Materials and Installations thereof, required by the plans and specifications approved by the Authority, shall be provided as a part of the as-built plans for the project.

~~To: After completion of construction of the facilities from the approved plans and/or specifications, but prior to requesting a Final Inspection, the Developer or Owner responsible for construction shall submit an Engineer's Completion Statement and as-built drawings.~~

~~The Engineer's Completion Statement shall be prepared, signed and sealed by a professional engineer registered to practice in the Commonwealth of Virginia. The statement shall conform to the requirements contained in the Commonwealth of Virginia State Water Control Board Sewage Treatment and Collection Regulations and the Virginia Department of Health Waterworks Regulations.~~

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~~The measurements taken for these positive locations shall be taken from at least two reasonably adjacent and available fixed and permanent objects or reference points, such as fire hydrants, centers of sanitary or storm sewer manhole casting covers, corners or extended lines of buildings, power or telephone poles etc.~~

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- ~~(1) Plans and profiles corrected to accurately depict the locations of all manholes, with inverts and top elevations and numerical notations of the exact elevations of same.~~
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**To ensure consistency and quality of as-built surveys and record drawings, the Authority has engaged one or more firms to conduct this work, under the direction of the Authority's Engineering Department. A fee for this service is**

collected from the applicant, and must be paid prior to the work receiving the status of Beneficial Use.

In addition to the fee, the applicant shall provide the following information in order to adequately prepare the as-built drawings:

- 1) After completion of construction of the facilities from the approved plans and/or specifications, the Developer or Owner responsible for construction shall submit an Engineer's Completion Statement. The Engineer's Completion Statement shall be prepared, signed and sealed by a professional engineer registered to practice in the Commonwealth of Virginia. The statement shall conform to the requirements contained in the Commonwealth of Virginia State Water Control Board Sewage Treatment and Collection Regulations and the Virginia Department of Health Waterworks Regulations.
- 2) A scanned digital copy in pdf format of the contractor's marked up record drawings clearly indicating areas where construction substantially deviated from the approved plans.
- 3) Information that cannot be easily obtained by a field run survey shall also be provided. This includes providing sufficient spot elevations along the water main or pressure pipes to verify depth requirements have been met. Elevations shall be shown to the nearest tenth of a foot for top of pipe for water mains and pressure pipes at vertical deflection points and every 200 feet along straight runs. The survey points shall be certified by a Professional Land Surveyor registered in the Commonwealth of Virginia.
- 4) AutoCAD electronic files of all relevant sheets of the approved construction plan. AutoCAD "etransmit" command shall be used to bind all .dwg files to insure that no xref files, text files, or plot styles are lost in the submittal. The deliverable .dwg files shall include but not limited to the following sheets: cover sheet, overall site and/or utility layout, site plans, water plans & profiles, and sewer plans & profiles. The AutoCAD files shall be transmitted with no authenticating mark (seals or signatures) affixed to the approved construction plans by the professional engineer.

The abovementioned program is not employed for treatment, pumping or storage facilities at community systems. For these facilities, the developer's

**engineer will prepare the as-built drawings and operation and maintenance (O&M) manual subject to the review and approval by the Authority.**

**A. Water Pump Stations, Sewage Lift Stations and Building Structures**

- (1) **As-built drawings and specifications shall accurately indicate all approved deviations from, or changes in, location, and/or types of equipment installed, or materials used from the approved plans and/or specifications. As-built drawings shall include control panel wiring diagrams.**
- (2) **Complete listings of the name of the manufacturer of all operating equipment installed, together with model or style numbers, ratings, pump curve capacities and other pertinent information shall be provided as part of the as-built plans for the project.**
- (3) **Instructions for start-up/shut-down as well as for calibration and adjustment of all installed equipment and each major component.**
- (4) **Recommended maintenance plan, including preventative and predictive maintenance, for all installed equipment and each major component.**
- (5) **At least three complete sets of shop drawings, operations and maintenance manuals of all operating equipment, all Certificates of Inspections, Approvals, Warranties and Guaranties of Equipment, Materials and Installations thereof, required by the plans and specifications approved by the Authority, shall be provided as a part of the as-built plans for the project.**

Approved:

  
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Phillip "Butch" Farley  
General Manager

6-2-2017  
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Date