AS-BUILT REQUIREMENTS
November 2016

AS-BUILT SURVEYS:

As-built surveys are required for all newly constructed facilities to be accepted by the White House Utility District for ownership and/or operation. As-built surveys shall be prepared by a Professional Surveyor licensed in the State of Tennessee. Each page of the as-built survey shall include the name, original signature, date, and seal of the Professional Surveyor. The signature shall certify that the as-built survey reflects the true as-built conditions as located under direct supervision of the Professional Surveyor. Record drawings are not an acceptable substitution for an as-built survey but may be submitted in addition to the as-built survey.

GENERAL INFORMATION:

1. Initial digital As-built drawings should be submitted via email to whudengineering@whud.org. Paper copies are no longer required. The digital files should include the following:

    A. Overview of Water in AutoCAD (.dwg) with all survey points in the file that is spatially referenced for use in our GIS department. A separate file should be sent for Sewer if the project has WHUD sewer.

    B. An AutoCAD (.dwg) file for Water that matches, sheet by sheet, the construction plans approved by WHUD with each sheet labeled “Asbuilt” in 1” high, block printed letters and formatted for printing on 24” x 36” paper. A separate file should be sent for Sewer if the project has WHUD sewer.

    C. A .pdf file for Water that matches, sheet by sheet, the construction plans approved by WHUD with each sheet labeled “Asbuilt” in 1” high, block printed letters and formatted for printing on 24” x 36” paper. A separate file should be sent for Sewer if the project has WHUD sewer.

    D. As-built surveys shall be prepared at the same scale as the approved construction plans.

    E. A vicinity map and street names shall be shown for all streets and right-of-ways.

    F. The project name in full, lot and block numbers, and street names.

    G. Elevation information, where required, shall be referenced to the North American Vertical Datum of 1988 (NAVD 88). A complete description, including material, location, and elevation of at least one benchmark shall be shown on the as-built plans. The horizontal survey information shall be

referenced to the State Plane Coordinate System, Tennessee, North American Datum of 1983 (NAD 83). A description of the control points upon which the as-built survey is based shall be included with the plans.

H. The following items are to be stationed and located using GPS with XYZ coordinate technology to integrate with the WHUD GIS mapping system:

Water and Sewer Force Main	Gravity Sewer
Valve Box	Manhole
Fire Hydrant	Wye/Tee
Flushing Assembly	End of Service Lateral Stub-outs
Bends or Sleeves	Service Lateral Vertical Bends
Air Release Valve	Begin/End of Casing Pipe
Meter Box Locations	Cleanouts
Begin/End of Casing Pipe	

These should shall at minimum, include the following information:

Position/Column	**Description**
1	Point Reference Number
2	X Coordinate (Easting)
3	Y Coordinate (Northing)
4	Z Coordinate (Utility Elevation)
5	Point Type (Manhole, Valve, Meter, Cleanout, Sewer Lateral Plug, Bend, Fire Hydrant, Etc.)
6	Point Description

I. At least two (2) ties to all valves, air release valves, and fire hydrants from permanent points (manholes, power poles, phone pedestals, electrical boxes, catch basins, headwalls, etc.). Ties shall be taken by range finder or tape measure. Ties recorded with a measuring wheel, GPS, or step-off method will not be accepted.

J. Location of mains from property or easement lines and alignment distance from centerline of road at 300 ft intervals.

K. Size, length, and type of material used to construct each main segment.

L. Distance of mains from buildings or structures within 20’ of the main.

M. Special detail drawings where installations are not as shown on the contract drawings due to the field conditions or where required for clarity.

N. Right-of-way, easements, lot lines, and pertinent easement information, showing official record book and page number.

O. Show actual location, size, and type of material of all sleeves and casing pipes.

P. Elevation and horizontal location of all storm sewers, gravity sewers, gravity sewers including laterals, force mains, water mains, etc. which are crossed; including clearance dimension at all conflicts or crossings.

Q. Top of pipe elevation and horizontal location of all water and force main stub-outs.

R. Horizontal location of all services at the termination point.

WATER MAIN

1. The location of all valves, fittings, fire hydrants, casings and points of connection to the existing system shall be referenced in two perpendicular directions. Horizontal dimensions shall be to the nearest tenth of a foot and vertical dimensions shall be to the nearest hundredth of a foot.

2. Horizontal locations will be required perpendicular to the right-of-way at 100' intervals.

3. Elevations on the main and finished grade will also be required at all pipe dead ends, intersections, size changes, points of connection to existing system, at fittings, at intersections of pipe, at 100' intervals, and where the depth of cover is less than 36" or greater than 60".

4. Clearance dimension at all conflicts or crossings of the water main.

5. Distance from fire hydrant to hydrant valve.

GRAVITY SEWER

1. The location of all piping, wyes, tees, manholes, cleanouts and points of connection to the existing system shall be referenced in two perpendicular directions (upstream manhole to downstream manhole). Horizontal dimensions shall be to the nearest tenth of a foot and vertical dimensions shall be to the nearest hundredth of a foot. Runs of gravity sewers shall be identified (e.g., 300' of 8" PVC SDR 26 at S=.004). Elevations shall be given for the north rim of the top of all manhole covers and all manhole inverts.

2. Elevations on the service piping and finished grade will be required at the end of service stub-out. Location of the end of sewer services shall be given to the plug and be located from the side property line(s).

3. Manhole types and numbering shall be identified.

4. Elevation of manhole top rim and invert of each line shall be listed.

5. Show length distances from center of manhole, tee, or wye to end of stub-outs and elevation of stub-outs.

Example: Lot 35
1 – Tee
200’ - Upstream
100’ – Downstream
25’ – 6” pipe
805 – Finished Grade Elev.
799 – Invert Elev.

FORCE MAIN

1. The location of all valves, fittings, casings and points of connection to the existing system shall be referenced in two perpendicular directions. Horizontal dimensions shall be to the nearest tenth of a foot and vertical dimensions shall be to the nearest hundredth of a foot.

2. Horizontal locations will be required perpendicular to the right-of-way at 100’ intervals.

3. Elevations on the main and finished grade will also be required at all pipe dead ends, intersections, size changes, points of connection to existing system, at fittings, at intersections of pipe, at 100’ intervals, and where the depth of cover is less than 36” or greater than 60”.

4. Clearance dimension at all conflicts or crossings of the water main.