



**City of Phoenix  
Water Services Department**

## **As-built Record Drawing Requirements for Capital Improvement Projects**

The city project manager or city representative must provide the following items for plans to be considered complete and accepted as-built record drawings by the Water Services Department. One set of acceptable blackline prints are required. If all requested information (as outlined in this Policy or as requested by engineering staff) is not provided, final pay request on Capital Improvement Projects may be delayed.

### **Cover Sheet Information**

1. Benchmark(s) locations(s) and elevation(s) must be shown on the cover sheet. Only City datum is acceptable.
2. The as-built record drawing must include all department approvals including the Maricopa County Environmental Services Department.
3. The cover sheet must show the name, address phone number and seal of the Design Engineer and the engineer that certifies the as-built record drawing with the following statement:

“I hereby certify that the as-built record drawing measurements shown here were made under my supervision or as noted and are correct to the best of my knowledge and belief.”

Registered Professional Engineer (Civil)	Reg No.	Date
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**Note:** Each additional plan sheet must contain the signature and seal of an Arizona registrant.

4. The following must be shown on the cover sheet by the City of Phoenix department responsible for construction inspection.
  - Name of the contractor
  - Date of final acceptance by City of Phoenix inspector or representative
  - Name of City of Phoenix inspector or representative who witnessed the construction

### **General Information**

5. A complete list of all materials installed and abandoned must be shown on the cover sheet. The specific size and material type of each pipeline installed must be shown at every construction reference to that pipe. Any changes to the as-built record drawing must be reflected on the quantities materials list.
6. Easement and right-of-way shown on the drawings must be shown on a recorded plat or map of dedication. Easements dedicated by separate instruments and described by metes and bounds must be recorded. The Water

Services Department must receive a copy that has been approved by City Council before the City accepts the main for service.

7. Prints must be blacklines on white background, having dark, clean, crisp, clear line work, symbols, and annotation. These items must be sufficient boldness and size and be free from background obscuring, to be legible and easily read. No shading or tinting is acceptable.
8. Minimum acceptable height for all as-built record drawing lettering is 1/8 inch. Larger lettering is preferred, especially for dimensioning, stationing, size, material, slope, and elevation callouts. Standard bold block lettering is required.
9. All items changed or unchanged must have a bold (AB) lettered next to them. Required minor as-built changes to the approved plans must be shown clearly by boldly striking through the item changed and placing the as-built information next to or as near as possible to it. All as-built annotation changes must be larger and bolder than the original and free from background obscuring.

**Note:** This includes abandoned pipe. Abandoned pipe must be notated that it is slurry filled, crushed, remained in place, or physically removed.

10. On phased projects, the phase lines must be clearly shown on the key map and on the plan and profile sheets and their locations clearly identifiable. Actual pipe end locations relative to phasing lines must be shown by dimensioning or stationing.

## **Water Information**

11. The as-built record drawing must indicate the locations of the beginning(s) and end(s) of the construction and all valves, fire hydrants, pipe fittings and service connections. Their locations must be shown by stationing and dimensioning from appropriate monument lines or in their absence appropriate lot lines, property lines or easement line references. No dimensioning from points of curvature or tangency is acceptable for as-built record drawing purposes. The drawings must clearly indicate the specific points of reference.

**Note:** In all cases where the pipeline is constructed within or parallel, in proximity, with the right-of-way, all stationing and dimensioning must be from the nearest appropriate monument line and monument line intersection.

12. The water service stationing shown must be the locations of the taps at the main. Their locations must be measured perpendicular or radial relative to the appropriate right-of-way monument line, easement centerline, or property line intersection. Service tap locations must be indicated by using the following method throughout the plan set.

- Stationing in the same general direction along a straight or curvilinear pipe run starting with the nearest appropriate monument line or monument line intersection, or in their absence, appropriate easement line references as noted in item 5, being designated as Station 0+00. The relative stationing

of all monument line intersections occurs along the pipe runs must also be shown. When a monument line intersection occurs along the pipe run, the service tap stationing should again begin with Station 0+00 at the intersection and the process repeated to the end of the pipe run. Do not locate 0+00 at the closed end of a cul-de-sac or similar type street.

**Note:** When water services are not installed perpendicular to the water main, both the location of the tap at the main and the distance of the meter set from the nearest side property line of the lot must be shown.

### **Sewer Information**


13. For purposes of the as-built record drawing, every manhole, cleanout, pipe plug and building connection tap must be located by stationing based upon the nearest downstream manhole always being designated as Station 0+00. Cumulative stationing along the length of the pipe run is not acceptable. In addition, the building connection station must give the location of the tap at the mainline measured perpendicular or radial to the sewer main centerline. Where the building connection service line is not constructed perpendicular to the sewer main, both the tap station and the distance of the service line from the nearest side lot line of the lot (or area) it serves must be given.
14. New manholes built on existing lines require showing its station from the nearest existing downstream manhole and its distance to the nearest existing upstream manhole.
15. Where construction begins with removal of an existing pipe plug or cleanout, 0+00 stationing always begins at the nearest existing downstream manhole. Pipe length measurement and stationing is always from the centerline of the downstream manhole to the centerline of the upstream manhole or cleanout. Do not give partial pipe lengths in plan or profile at match lines. Always indicate the distance between manholes or to cleanouts or pipe ends.
16. All as-built adjustments to manhole, cleanout and pipe information must be shown in both plan and profile and repeated on every sheet in every instance that refers to the same information.

### **Cathodic Protection**

17. Cathodic protection features may appear on either Water or Sewer plans. These features include conduit lines, test stations, anodes, and rectifiers. Cathodic protection stationing is the same as water stationing when they appear on a water plan and the same as sewer stationing when they appear on a sewer plan as described above.
18. Asset Management Coordination

Water Services Department requires a coordinate location based on the AZ State Plane 'X' (Easting) and 'Y' (Northing) values which represent the As-Built

location of certain asset types. For the water system, these asset types are fire hydrants, valves, and service lines. For sanitary system, these asset types are manholes, cleanouts, and tap laterals. The depth distance from grade to top of the assets are also required for valves, service lines, and tap laterals. The Water Services Department project manager will provide an asset management coordination spreadsheet during the design phase (stage) that will be used to capture the asset coordinate locations as part of the asset management coordination process.

  
Troy Hayes (Aug 15, 2023 14:17 PDT)

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Troy Hayes  
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