

**Submittal Checklist  
For  
Water Infrastructure**  
(Revised 03/15/2022)

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**BASIS OF DESIGN & GENERAL REQUIREMENTS**

Yes	No	N/A	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drawing detailing the proposed water service area boundary, acreage, zoning, and location details
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drawing detailing pipe segments names, diameter and materials
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Report includes design period
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Estimated tributary population with justification
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Estimated fire flow requirement
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Design flows at specific points along the proposed water system
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Calculations in a tabular and easy to follow presentation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Maximum velocity for each segment during design flows
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pressure at design flows
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pressure during the max hourly or max daily demand

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**DETAILS OF DESIGN  
ALIGNMENTS AND PROFILES**

Yes	No	N/A	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All materials detail conform to City of Fort Smith Specifications
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Tracer wire boxes have been detailed at appropriate locations and distances on the plan set
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Corrosive soil environments have been considered and properly accounted for in the design
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Geotextile encapsulation added where required
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Special considerations have been given to areas where petroleum products or organic solvents may be present
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All thrust restraint calculations have been provided
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All water or sewer lines have been encased at appropriate locations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All water lines sizes have been appropriately designed.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Water system design avoids dead ends where possible.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Water line(s) have been designed to allow for easy flushing and disinfection of lines
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Water line bends have been limited where possible

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|--------------------------|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | All changes in pipe direction are accomplished with fittings or joints deflections. Longitudinal bending is allowed only for 4-inch lines in cul-de-sacs |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | No water line is deeper than 6 feet of finished grade  |

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**PROTECTION OF WATER SUPPLIES**

- | Yes                      | No                       | N/A                      |  |
|--------------------------|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | There is no physical connection between water or sewer systems                 |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | All requirements from CFS Ordinance 25-166 (Backflow Prevention) have been met |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Water and sewer lines have proper horizontal separation                        |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Water and sewer lines have proper vertical separation                          |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Water and storm lines have proper separation                                   |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Water and utility lines have proper separation                                 |

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**VALVES AND OTHER APPURTENANCES**

- | Yes                      | No                       | N/A                      |   |
|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | A sufficient number of valves must be provided on water mains to minimize inconvenience and sanitary hazards during repairs.            |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Valves not located at more than 500 foot intervals in commercial and industrial zones.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Valves not located at more than 800 foot intervals in non-commercial and non-industrial zones.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Valves have been located near street intersections where possible   |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Valve box or vault has been specified for each valve  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Air valves have been located at proper points on the proposed water line  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Water line flushing devices or fire hydrants have been properly located and sized to produce a velocity of 3 fps when used for scouring |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | All air valves and blow off devices located above 100-year flood elevation  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | All other water line appurtenances are located above the 100-year flood elevation when practical  |

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**WATER SERVICES**

<b>Yes</b>	<b>No</b>	<b>N/A</b>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Each building that is privately owned has separate water service
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Each property has a maximum of five domestic water service taps
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No unmetered bypass loops
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proper size conduits used for roadway crossings

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**FIRE PROTECTION**

<b>Yes</b>	<b>No</b>	<b>N/A</b>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fire hydrant locations meet spacing requirements
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fire hydrants meet all clearance requirements
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All fire service lines are designed to the public water lines standard

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**EASEMENTS**

<b>Yes</b>	<b>No</b>	<b>N/A</b>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All water lines and appurtenances are located in easements or ROW
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All lines are centered within easement when possible
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All water lines deeper than 6 feet have easement width or equivalent ROW coverage equal to 2.5 times the depth of line
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Landscaping is in accordance to the minimum design standards
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All easements have type and dimensions detailed. Existing easements being utilized have the recorded documentation notated (i.e. book & page)

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**PRIVATE DEVELOPMENTS**

<b>Yes</b>	<b>No</b>	<b>N/A</b>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All public water lines and appurtenances located in private developments are designed in accordance with the minimum design standards

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**PLANS AND SPECIFICATIONS**

<b>Yes</b>	<b>No</b>	<b>N/A</b>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All plans, specifications, and reports (including Basis of Design) have been prepared and sealed by a professional engineer
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All plans and specifications meet requirements set forth in the minimum design standards or have approved exceptions
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All plans and specifications conform to the City of Fort Smith Standard Specifications or have approved exceptions
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All utility (water and sewer) easements shall be notated with the recorded book and page number or the recorded plat number.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All connections and appurtenances have been coordinately located.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plan set included a project location map.