



Washington County Service Authority

WCSA General Requirements for Developer Installed Water Lines and Appurtenances

- 1.1. **Summary of Work** - The work to be performed shall be as defined by the WCSA approved contract documents as detailed below:
 - 1.1.1. WCSA approved technical specifications,
 - 1.1.2. WCSA approved drawings,
 - 1.1.3. WCSA approved changes to the contract documents made in the form of:
 - 1.1.3.1. addenda,
 - 1.1.3.2. change orders,
 - 1.1.3.3. field orders.
 - 1.1.4. Additional clarifications and definitions of the work to be performed as may be included in written correspondence from WCSA including but not limited to:
 - 1.1.4.1. these general requirements,
 - 1.1.4.2. project approval letter,
 - 1.1.4.3. punch lists,
 - 1.1.4.4. other written directives.
 - 1.1.5. WCSA will not review and has not standing with respect to contents of or compliance with the bidding documents and contracting requirements.
- 1.2. **Submittals**
 - 1.2.1. Application – An application shall be submitted to WCSA describing the proposed project. Information to be submitted shall include:
 - 1.2.1.1. Location of desired water line extension,
 - 1.2.1.2. Elevation of highest floor in development to be served,
 - 1.2.1.3. Elevation of lowest meter connection to be served,
 - 1.2.1.4. Type and number of structures to be served,
 - 1.2.1.5. Proposed phasing of the project,
 - 1.2.1.6. Fire flow quantity required (if any) at elevation at which required
 - 1.2.1.7. Pressure required under fire flow conditions if fire flow is requirement
 - 1.2.1.8. General description of how wastewater disposal will be accomplished.
 - 1.2.1.9. Name and license number of Virginia registered professional engineer who will prepare plans specifications and design notes..
 - 1.2.1.10. WCSA will review the application and respond to the applicant with the following information:
 - 1.2.1.10.1. Hydraulic capability of system to provide desired pressure and flow at point of new system connection to existing WCSA system.
 - 1.2.1.10.2. Requirement for regulatory approval (Virginia Department of Health) is scope of project is less than 15 residential connections.
 - 1.2.1.10.3. Additional specific considerations which must be addressed by plans, specifications and design notes

- 1.2.1.10.4. WCSA intent to accept ownership of improvements and serve connections proposed
- 1.2.2. Plans, specifications, and design notes
 - 1.2.2.1. Scope and detail provided on plans, specifications and design notes must generally comply with the requirements for the same as contained in the Commonwealth of Virginia Waterworks Regulations
 - 1.2.2.2. Plans – in compliance with the scope and detail and design standards required by the Waterworks Regulations. Plans must show the show the following;
 - 1.2.2.2.1. Proposed location of meters,
 - 1.2.2.2.2. Proposed location of fire line connections (if any),
 - 1.2.2.2.3. Proposed location of stream crossings for the project
 - 1.2.2.2.4. Owners of and parcel numbers for properties from whom easements will be obtained,
 - 1.2.2.2.5. Location of all storm and sanitary sewers, in plan and elevation which will cross or be located within 10 feet of proposed water line,
 - 1.2.2.2.6. Location of other utilities within the easements for the proposed water line,
 - 1.2.2.2.7. Phasing of project,
 - 1.2.2.2.8. Proposed water line material
 - 1.2.2.2.9. Statement that project will be constructed in accordance with all requirements of WCSA,
 - 1.2.2.3. Statement that technical specifications which apply to the project will be the “WCSA Technical Specifications for the Water Line Construction” unless otherwise stated in notes on the plan sheets which bear the approval stamp of WCSA. Specifications – specifications necessary to supplementing the WCSA Technical Specifications may be include as notes on the plan sheets themselves (recommended where feasible) or in an attached document with an appropriate title, date and the professional engineer’s stamp and dated signature,
 - 1.2.2.4. Design Notes – the design notes shall address as a minimum the following issues,
 - 1.2.2.4.1. Hydraulic information – utilizing the existing system information provided by WCSA subsequent to review of the application provide the following, and demonstrating by calculation or hydraulic model,
 - 1.2.2.4.1.1. – Maximum possible pressure at the lowest meter assuming maximum pressure conditions in the existing WCSA system.
 - 1.2.2.4.1.2. - Minimum pressure at highest meter under the following conditions;
 - 1.2.2.4.1.2.1. Peak hourly domestic demand within the development, assuming simultaneous normal minimum pressures within the WCSA system,
 - 1.2.2.4.1.2.2. Fire flow at the critical location within the development, assuming a simultaneous domestic demand of two times average daily flow within the existing WCSA system.
 - 1.2.2.4.1.2.3. Domestic demand within the proposed development equivalent to 2 times average daily flow with a simultaneous fire flow at the critical hydrant within the existing WCSA system.
 - 1.2.2.4.2. Evidence of acceptance of proposed fire flow within the development as evidenced by

- 1.2.2.4.2.1. Copy of letter addressed to local fire fighting authority (generally local fire department) requesting concurrence with proposed fire flow, with copies sent to the following officials within Washington County:
 - 1.2.2.4.2.1.1. Building Official
 - 1.2.2.4.2.1.2. Administrator
 - 1.2.2.4.2.1.3. Emergency Services Coordinator
 - 1.2.2.4.2.1.4. WCSA General Manager
 - 1.2.2.4.2.1.5. WCSA Chief Engineer
- 1.2.2.4.2.2. Copy of response from local fire fighting authority indicating;
 - 1.2.2.4.2.2.1. Understanding of information presented in letter,
 - 1.2.2.4.2.2.2. Concurrence with proposed fire flow,
 - 1.2.2.4.2.2.3. Willingness to comply with maximum flow available,
 - 1.2.2.4.2.2.4. Any other recommendations made
- 1.2.2.4.2.3. Copies of other letters received in response to letter sent to local fire fighting authority.
- 1.2.2.4.3. Identification of locations where “unusual conditions” for separation of water and sewer lines (as defined by the WCSA Technical Specifications) are proposed and justification for the proposal.
- 1.2.2.4.4. Other design notes as may be pertinent to the specific project or requested by WCSA
- 1.2.2.5. Upon review of the plans, supplemental specifications as may be required, design notes, WCSA will issue an approval letter, indicating intent to accept system subsequent to successful construction and detailing any conditions of the approval. At this time a preconstruction conference will be requested by WCSA, with the attendance of the Developer, and his designated agents such as the Contractor, inspector and other personnel as may be deemed appropriate.
- 1.2.3. Shop drawings –
 - 1.2.3.1. Shop Drawings detailing materials proposed for the project must be submitted to WCSA by the Engineer or Record for review and approval.
 - 1.2.3.2. Any deviations from the requirements of the specifications for the project must be proposed and justification submitted with the submittal,
 - 1.2.3.3. WCSA strongly recommends that no materials be purchased until approval of the shop drawings, in writing, has been received from WCSA.
- 1.2.4. Addenda, Change Orders and Field Orders
 - 1.2.4.1. All addenda, change orders and other written changes or clarifications to the technical aspects of the project must be submitted to WCSA with plenty of time to allow for evaluation and approval by WCSA prior to any work being accomplished that will be affected by the change.
- 1.2.5. All testing reports required to document construction procedures as may be required the Technical Specifications shall be reviewed by the Engineer of Record and submitted with his written conclusions to WCSA.
- 1.2.6. Completion
 - 1.2.6.1. Statements of Completion
 - 1.2.6.1.1. Upon completion of construction, testing and disinfection the Engineer of Record shall submit a statement of completion to WCSA accompanied by testing reports, including pressure test and bacteriological sampling results and other written documentation as deemed appropriated by the Engineer of Record to verify completion of

the project in accordance with approved plans, specifications and design notes.

- 1.2.6.1.2. The developer shall submit written evidence of acceptance of the construction by all utilities or other infrastructure impacted by the construction of the water line.
- 1.2.6.1.3. The developer shall submit written evidence or acceptance of the construction or statements of compliance with permits from all regulatory agencies having jurisdiction.
- 1.2.6.2. Record drawings –
 - 1.2.6.2.1. As-built drawings specifically indicating deviations from approved plans for underground structures shall be submitted by the Engineer of Record.
 - 1.2.6.2.2. The Developer shall facilitate the location of above ground structures on the WCSA GIS system by cooperating with WCSA GIS department in this effort.
 - 1.2.6.2.3. WCSA may require, at its prerogative surveys, by a Virginia licensed land surveyor of those structures which are critical with respect to elevation, proximity to other structures or property lines, and other issues of importance to WCSA. These surveys shall be submitted to WCSA by the Engineer of Record following his review and evaluation.
 - 1.2.6.2.4. Results of flow tests required by the developer to document compliance of the constructed system with the hydraulic design parameters may be submitted to WCSA for its evaluation. Results of flow tests performed by WCSA for the same purposes may be requested by the Engineer of Record or the Developer.
- 1.2.7. Disclaimer of WCSA Responsibility
 - 1.2.7.1. Review and approval of submittals by WCSA shall not be interpreted or construed as a implied or stated guarantee or warranty that the proposed system has been designed, constructed as designed, or will serve its intended purpose. Assumption of these responsibilities is the role of the Developer and his designated agents, which may include but are not necessarily limited to his Engineer, Contractor, material suppliers, etc.
 - 1.2.7.2. Review and approval of plans, specifications etc., shall not be interpreted as a statement of concurrence concerning the presence, absence or location of above ground or underground structures which may impact or be impacted by water line construction .
- 1.2.8. Warranties and Bonds
 - 1.2.8.1. Upon acceptance by WCSA of the improvements, a one year warranty of the system will take effect.
 - 1.2.8.2. During the warranty period, the developer shall be responsible for reimbursing WCSA for all repairs or other corrective actions performed by the WCSA for the project. On water line projects WCSA will perform all corrective and remedial maintenance.
 - 1.2.8.3. Extended Warranties and Performance Bond–
 - 1.2.8.3.1. Based on work progress, general quality of work performed, inspection practices and documentation, reliability of design and/or the equipment and materials employed by the Developer and Engineer of Record, WCSA may require at project completion, the duration of the warranty to extend beyond the standard one year. The decision to require an extended warranty shall be solely the prerogative of WCSA.

- 1.2.8.3.2. Based on the considerations listed in the previous section, WCSA at its prerogative may also require a performance bond to insure monetary resources are available to maintain or replace infrastructure or components. The amount and duration of such bonds shall be solely at the discretion of WCSA.

1.3. Work Sequence

- 1.3.1. All existing infrastructure owned and operated by WCSA shall remain in operation during the construction period,
- 1.3.2. It is strictly forbidden to operate or otherwise interfere with existing WCSA valves, lines, pumps, and associated structures and appurtenances,
- 1.3.3. All connections to existing WCSA facilities will be made by WCSA by WCSA personnel and the developer will be responsible for reimbursing WCSA for the labor, equipment usage and materials expended by WCSA in accomplishing these connections.
- 1.3.4. Accordingly work shall be planned and carried out as necessary to comply with the above requirements.
- 1.3.5. WCSA may offer recommendations on sequencing the work, to facilitate main line connections and the provision of water for testing, flushing and disinfection.
 - 1.3.5.1. While WCSA will attempt to provide water to the developer when requested for testing, flushing and disinfection, WCSA cannot guarantee water on demand as overall system status and transitory local problems may prohibit this.

1.4. Regulatory Requirements

- 1.4.1. General - It shall be the responsibility of the developer to familiarize himself fully regarding the detailed requirements of any and all regulatory agencies having jurisdiction over the work completed.
- 1.4.2. Responsibility – WCSA assumes no responsibility for compliance with safety, environmental and other regulatory requirements.
- 1.4.3. Interacting Agencies - As these general specifications generally pertain to the construction of drinking water systems and appurtenances the following agencies, codes and standards shall specifically be addressed.
 - 1.4.3.1. – Virginia Department of Health (VDH)
 - 1.4.3.1.1. Applicable Regulations – “Waterworks Regulations”
 - 1.4.3.1.2. Permit Required – Construction
 - 1.4.3.1.3. Work on water lines or appurtenances shall not proceed until all required permits have been obtained from VDH. Permits are required when the water line will serve 15 or more connections or when WCSA has determined that said line has the potential to serve 15 or more connections in the future. Failure to adhere to this requirement will result in non-acceptance of the improvements by WCSA.
 - 1.4.3.1.4. WCSA will not accept ownership of the improvements or provide service until concurrence with the statement of completion by the engineer of record is given in writing by VDH.
 - 1.4.3.2. – Virginia Department of Transportation (VDOT)
 - 1.4.3.2.1. Applicable Regulations – “Road and Bridge Specifications” latest revision
 - 1.4.3.2.2. Permit Required – A VDOT permit is required whenever work is to be accomplished within the VDOT right of way.

- 1.4.3.2.3. Work on the VDOT right of way shall not proceed until all required permits have been obtained from VDOT. Failure to adhere to this requirement will result in non-acceptance of the improvements by WCSA.
- 1.4.3.2.4. WCSA will not accept ownership of water lines or appurtenances located in part or in whole on the VDOT right of way until written acknowledgement is received that the completed work has been approved VDOT.
- 1.4.3.3. – Washington County Building Official
 - 1.4.3.3.1. Applicable Regulations – Virginia Erosion and Sediment Control Handbook
 - 1.4.3.3.2. Approval Required – Approval of a project specific erosion and sediment control plan by the Washington County Building Official.
 - 1.4.3.3.3. Work on water line and appurtenance construction shall not proceed until an Erosion and Sediment Control Plan for the project is on file with the Washington County Building Official.
 - 1.4.3.3.4. Evidence of non-compliance with the Erosion and Sediment Control Plan will result in non-acceptance of the water line and appurtenances by WCSA. Acceptance will not occur until all non-compliance issues have been resolved with the Washington County Building Official.
- 1.4.3.4. – Other regulatory and environmental agencies may be involved with project due specific project characteristics. Examples may include the following which should not be construed as a complete list. :
 - 1.4.3.4.1. Potential Impact to Town Streets -
 - 1.4.3.4.1.1. Authority – Town Managers Office
 - 1.4.3.4.2. Impacts or Proximity to onsite or collecting sewer systems,
 - 1.4.3.4.2.1. Authority – Owner of sewer system
 - 1.4.3.4.2.2. Regulatory agencies – Department of Environmental Quality (DEQ)
 - 1.4.3.4.3. Water lines crossing surface water courses,
 - 1.4.3.4.3.1. Regulatory Agencies
 - 1.4.3.4.3.1.1. Department of Conservation and Recreation (DCR)
 - 1.4.3.4.3.1.2. U.S. Army Corps of Engineers (ACOE)
 - 1.4.3.4.3.1.3. Department of Game and Inland Fisheries (DGIF)
 - 1.4.3.4.3.1.4. Department of Environmental Quality (DEQ)
 - 1.4.3.4.4. Water lines traversing wetlands
 - 1.4.3.4.4.1. Regulatory Agencies
 - 1.4.3.4.4.1.1. Department of Conservation and Recreation (DCR)
 - 1.4.3.4.4.1.2. U.S. Army Corps of Engineers (ACOE)
 - 1.4.3.4.4.1.3. Department of Game and Inland Fisheries (DGIF)
 - 1.4.3.4.4.1.4. Department of Environmental Quality (DEQ)
 - 1.4.3.4.5. It is sole responsibility of the developer to comply with the regulatory and permitting requirements of all agencies having jurisdiction over construction of water lines within the purview of their programs.
 - 1.4.3.4.6. WCSA reserves the right to not accept ownership of improvements and serve the project until it has satisfied itself that the construction of water lines and appurtenances has been completed in compliance with all applicable regulations and permits.

- 1.5. **Safety** – It is the sole responsibility of the developer to maintain safe working conditions and to comply with all occupational safety and health regulations.
- 1.6. **Easements** – Prior to acceptance of water lines and appurtenances, easements shall be provided for future maintenance and operation purposes to WCSA.
 - 1.6.1. The responsibility for obtaining the necessary easements shall be the sole responsibility of the developer,
 - 1.6.2. Easements shall be 20 feet in width, lesser widths are generally not acceptable but will be reviewed on a case by case basis by WCSA,
 - 1.6.3. The easement format shall be acceptable to WCSA and may generally take one of two forms;
 - 1.6.3.1. A written prescriptive easement in a format acceptable to WCSA;
 - 1.6.3.1.1. WCSA can provide an appropriate example which may be followed in preparing the easements.
 - 1.6.3.1.2. The written easement signed by the property owner and duly notarized by a Virginia registered notary public shall be provided to WCSA,
 - 1.6.3.1.3. WCSA will have the easement recorded with the Clerk of the Court
 - 1.6.3.2. Shown on a plat plan
 - 1.6.3.2.1. Plat plan shall be approved by WCSA,
 - 1.6.3.2.2. Evidence that the plat plan has been recorded with the Clerk of the Court shall be provided to WCSA.

1.7. Conflicts with other Utilities

- 1.7.1. The co-location of other utilities (electrical transmission, gas, communication cables, storm and sanitary sewers, etc.) with water or sewer lines and appurtenances on easements dedicated to WCSA for water or sewer lines and appurtenances is generally not acceptable. However, such situations will be considered on a case by case basis by WCSA. Safety issues will be of prime importance when considering maintenance and operational activities which must occur within the easement.
- 1.7.2. Sanitary sewers – “Normal” separation between water and sanitary sewer lines as defined by the “WCSA Technical Specifications for the Water Line Construction” should generally be considered the rule. The use of the “Unusual Conditions” criteria, also defined by the WCSA specifications, will only be considered on a case by case basis, and must be justified by local conditions. Economic consideration must not be the sole criteria which justifies the use of “Unusual Conditions” for separation criteria.
- 1.7.3. The use of water line or water line appurtenances for the purpose of grounding electrical service or components is strictly prohibited.

1.8. Inspection – This section pertains to the inspection, supervision and general direction of ongoing water line and appurtenance construction, testing, and disinfection.

- 1.8.1. WCSA, Developer and Engineer of Record Responsibilities
 - 1.8.1.1. – WCSA – WCSA will generally **not** provide full time inspection on construction projects. *The purpose of construction inspections by WCSA will generally be to insure WCSA interests are being protected as they relate to the construction of the project.*
 - 1.8.1.2. – Developer - It is the responsibility of the Developer, or his designated agent to provide inspection services commensurate with his need to insure that his interests are being protected.

- 1.8.1.3. – Engineer - It is the responsibility of the Engineer of Record to provide the level of inspection necessary to allow him to insure the project is being constructed in accordance with contract documents approved by WCSA and approvals or permits issued by regulatory agencies having authority and other affected entities. Also it should be noted that licensure of professional engineers are governed by Virginia Registration Law, and the actions of professional engineers are further codified in the other documents such as the Professional Engineers Code of Ethics.
 - 1.8.1.3.1. Failure to provide adequate inspection and/or representation by the Engineer of Record at the worksite may result in the WCSA requiring any or all of the following
 - 1.8.1.3.1.1. Extended project warranties,
 - 1.8.1.3.1.2. Performance or warranty bond from the Developer covering future repairs or replacement of infrastructure,
 - 1.8.1.3.1.3. Uncovering underground construction to allow verification by WCSA that proper construction has occurred
 - 1.8.1.3.1.3.1. In the event that WCSA determines that uncovered work was properly constructed, WCSA will reimburse the Contractor for time and material expended at the prevailing hourly rate which WCSA pays its own forces (not including benefits)
 - 1.8.1.3.1.3.2. In the event that WCSA determines that uncovered work was not properly constructed, costs for uncovering and reconstruction shall be borne by the Developer.
- 1.8.2. Mandatory presence of WCSA inspectors – Mandatory attendance by WCSA inspectors at the following event is required. As such it is the responsibility of the Developer to schedule a minimum of 48 hours in advance the following activities.
 - 1.8.2.1. Initiation and completion of road crossings,
 - 1.8.2.2. Initiation and completion of stream crossings,
 - 1.8.2.3. Connection of existing WCSA system to new water lines,
 - 1.8.2.4. Operation of any valves or appurtenances on the existing WCSA water distribution system which are used to fill new water lines,
 - 1.8.2.5. Operation of valves and other appurtenances on the existing WCSA system by contractors or personnel other than authorized WCSA personnel is strictly prohibited
 - 1.8.2.6. Pressure and leakage testing of water lines,
 - 1.8.2.7. Initiation and completion of the water line disinfection procedure and flushing water lines of the disinfecting solution.
- 1.8.3. Availability of Testing Results to Developer and Engineer or Record - IUpon request by the Developer or Engineer, WCSA will provide results of testing.
 - 1.8.3.1. The provision of these results shall not be construed as a guarantee of the accuracy of the tests, nor a guarantee that the tests were conducted in accordance with the requirements of the specifications,
- 1.8.4. Construction Work Schedules - As WCSA inspectors are responsible for observing and documenting construction procedures throughout the County, the contractor shall keep the WCSA inspector informed as to his intended work schedule. Failure to keep the WCSA inspector apprised of work schedules may result in WCSA requiring installed infrastructure to be removed so that proper construction techniques can be verified.

- 1.8.5. Reimbursement for Repeat Inspections of the Same Work – WCSA will not subsidize the costs of haphazard planning, poor construction techniques, or careless construction.
 - 1.8.5.1. WCSA will at its own discretion make a judgment as to when time expended by inspectors on a project are excessive,
 - 1.8.5.2. Upon making this determination, WCSA will inform the Developer and the Engineer of Record immediately that it intends to bill for this excessive demand on WCSA inspection services.
 - 1.8.5.3. Billing will be by the hour for the inspection time spent at the construction site and for travel time from his last station of duty and to his next station of duty. The hourly rate will be the current unburdened wage rate (gross hourly pay rate – benefits not included).