

INTRODUCTION

The purpose of this publication is to state:

1. the rules and regulations which govern the use of public water and sanitary sewerage facilities
2. the standards and specifications for the planning, construction and connection of all utilities used for residential, commercial and industrial purposes

These rules, regulations and construction standards, adopted by the Botetourt County Board of Supervisors in accordance with the code of Botetourt County, Virginia and the Code of Virginia of 1950, are applicable to all existing and future water and sanitary sewerage facilities under or which will be under the jurisdiction of Botetourt County.

For information and clarification of any item enclosed in this document please contact Botetourt County Public Facilities and Programs, 30 West Back Street, #4, Fincastle, VA 24090.

GENERAL RULES AND REGULATIONS

1.1 INTERPRETATION OF TERMS

Unless the context specifically indicates otherwise, the meaning of terms used herein shall be as follows:

- A. **County** shall mean Botetourt County and/or the Botetourt County Department of Public Facilities and Programs, or authorized representative.
- B. **Board** shall mean the Botetourt County Board of Supervisors
- C. **Facilities** shall mean any and all component and pertinent parts of the entire system of the water and sewer works under the jurisdiction of the County, now constructed, installed, operated or maintained by the County or any of which may be approved and accepted in the future as additions or extensions of the systems.
- D. **Person** shall mean any individual, firm, corporation, association, society , or group.
- E. **Potable Water** means fit for human consumption and use which is sanitary and normally free of minerals, organic substances and toxic agents in excess of reasonable amounts for domestic usage.

- F. **Sewerage Works** shall mean all facilities for collecting, pumping, treating and disposing of sewage, excluding septic systems.
- G. **Sanitary Sewage** shall mean wastewater that derives principally from dwellings, business buildings, institutions, and the like, exclusive of any stormwater or industrial wastewaters.
- H. **Sewer Lines** shall mean a pipe or conduit for carrying sanitary sewage.
- 1) **Lateral** – a sewer that typically has no other common sewer discharging into it (on rare occasion a common lateral may be used).
 - 2) **Sub-Main** – a sewer that receives sewage flow from one or more lateral sewers.
 - 3) **Main or trunk** – a sewer that receives sewage flow from one or more sub-main sewers.
 - 4) **Interceptor** – a sewer that receives sewage flow from a number of gravity mains, trunk sewers, or sewage force mains, etc.
- I. **Sewage Treatment Plant** shall mean any arrangement of devices and structures used for the treatment of sewage.
- J. **Industrial Wastes** shall mean the liquid wastes from the industrial processes as distinct from sanitary sewage.
- K. **Water Treatment Plant** shall mean any arrangement of devices and structures used for the treatment or production of potable water.
- L. **Water Line or Main** shall mean a pipe or conduit for transporting potable water.
- M. **Shall** is mandatory; **May** is permissive.
- N. **Contractor** shall be any person, firm, group, or affiliates charged with the responsibility of constructing the facilities herein described, and is subject to the provisions and regulations set forth herein.
- O. **Owner or Developer** shall mean any person having an interest, whether legal or equitable, sole or partial, in any premises which is or may be in the future, served by the facilities of the county and who is, or may be in the future, responsible for design and construction of facilities to be under the jurisdiction of the county and to become a part of the public works system of the county.
- P. **Soil Type**

Unsuitable Material – when material included ashes, cinders, refuse, organic material, or like material

Suitable Material – material that consists of loam, clay, sand, gravel, etc.

Select Material – native soil excavated from trench, free of rocks, foreign materials, and frozen earth

Solid Rock – rock that requires the use of explosives for removal and boulders larger than a cubic yard in volume

1.2 PURPOSE

The Health, Safety, and General Welfare of the Residents of Botetourt County demand that they be provided safe and adequate water and sewerage systems for domestic, commercial and industrial use. It is the policy of Botetourt County that all reasonable steps within legal bounds should be taken to assure safe and adequate systems.

1.3 AUTHORITY

Botetourt County is in the process of entering into a Memorandum of Understanding with the Virginia Department of Health (VDH) that gives the County the authority to create and implement a local plan review program, including County designed plans or “in-house” plans, under the guidance of VDH.

- A. In this memorandum, the County will review only water projects in which adequate permitted capacity exists to handle the project design flows.
- B. This memorandum does not cover those projects, which include pumps, storage facilities, booster stations, or water pipe in excess of 12 inches in diameter.
- C. The County alone can approve only plans and specifications for projects included in the Memorandum of Understanding. Plans and specifications, which also require the approval of the Virginia Department of Health and/or Department of Environmental Quality, are required to be submitted to these agencies in addition to the County for final approval. Prior to submitting plans to the State, the consulting engineer must first submit plans to the County and obtain its approval. Also, all plans within or affecting an existing or proposed highway right-of-way must obtain Virginia Department of Transportation approval.
- D. The County is required by the *Memorandum of Understanding* to have a Licensed Professional Engineer on the plan review committee.

1.4 VALIDITY

If decided any portion of these rules and regulations is held to be invalid, such decision shall not affect the validity of any remaining portion of the rules and regulations providing the invalid portions do not impact the valid portions.

No statement or regulation contained in this publication shall be construed to interfere with any requirements which may be imposed by the Virginia Department of Health or Department of Environmental Quality.

In the event of any deviation between the rules, regulations and specifications in this publication, and governing rules and regulations of the Virginia Department of Health or the Department of Environmental Quality, it shall be understood that the rules and regulations of said State agencies shall prevail providing the Sanitary Sewerage Works and Public Water Supply Facilities lie within the jurisdictional areas of these agencies.

1.5 POLICY

The County shall review and approve or reject prepared applications, plans and specifications for all projects for developing, extending or constructing water and sanitary sewer facilities and the construction of all pumping facilities, force mains, treatment works, water storage facilities, structures and accessories prior to any construction of such projects.

The approval of plans and specifications for water and sewerage facilities shall be contingent upon approval of these same plans by the Department of Health, the Department of Environmental Quality, and the Virginia Department of Transportation, when required.

Materials, workmanship and procedures used in the work shall be in accordance with the standards and specifications established or approved by the County.

During progress of the work, the employees of the County or its authorized representatives shall have access to the locations of construction for the purpose of establishing that the projects are being constructed to the County's requirements and in accordance with the approved plans and specifications. Written notification prior to the beginning of construction shall be given to the County so that a representative of the County can be available to inspect all water and sewer facilities during construction.

After completion of the facilities and upon request of the developer or owner responsible for the construction, the County shall make a final comprehensive inspection of the completed project and shall be satisfied that the project was constructed according to the approved plans and specifications before accepting the facilities into the County's system.

Any developer or owner who proposed to submit an application and/or plans and specifications to the County for review and approval for construction of facilities classified herein is strongly encouraged to obtain the most current set of approved water and sewer regulations. The County shall furnish this publication, by request, at a cost of twenty-five dollars (\$25.00) per set. The developer or owner shall acknowledge whether he has received or currently owns the most current copy of this publication prior to submitting his application. The developer or owner will be responsible for complying with the current published issue of this publication.

1.6 GENERAL CHARGE OF RESPONSIBILITIES

The County is hereby charged with the responsibility to enforce the following rules, regulations and standards as described, and to revise, update, and enforce all as deemed necessary by the County as the future public safety and general welfare may require.

The developer and/or property owner is hereby charged with the responsibility of employing reliable, qualified and licensed contractors and/or personnel to perform all work in an acceptable manner. Failure to do so may result in work stoppage, and/or refusal by the County to accept and/or provide service to the project.

The contractor and/or owner is hereby charged with the safe and proper construction of the facilities herein mentioned and any violation of the specifications and/or construction standards, set forth by the County will be corrected by and at the expense of the contractor. The acceptability of any facility, regardless of disputes between the contractor and/or developer relating to the actual construction of the facility, shall be the final decision of the County.

The County reserves the right to make adjustments regarding required types of materials and/or construction methods, should unforeseen and/or unfavorable conditions for any installation of the project utilities/facilities occur.

All water and sewer systems are subject to and shall meet these standards and regulations and shall be officially approved by the County.

1.7 LIABILITY

The County shall have no liability resulting from any cause whatsoever relating to the construction, installation, or testing of water or sewer facilities by private forces.

1.8 REGULATIONS AND ORDINANCES OF OTHER AGENCIES

All developers and builders should be familiar with all policies and laws that involve the Virginia Department of Health, Virginia Department of Environmental Quality and any State Building and Fire Codes. Specifically noted are rules governing cross connections and backflow prevention. All inquiries regarding the applicability of these rules should be directed to the County.

All developers and builders should be familiar with and shall comply with the codes and ordinances of Botetourt County, including the building and zoning requirements. Specifically noted are rules governing downspouts, roof drains, grease traps, foundation drains/sump pumps, and connections to sanitary sewers.

All developers, builders, property owners and contractors shall comply with the following rules and regulations in addition to those regulations included in this publication.

- A. Latest issue of the Commonwealth of Virginia, Department of Health Waterworks Regulations.
- B. EPA Water Regulations
- C. Commonwealth of Virginia, State Water Control Board, 9 VAC 25-790, Sewage Collection and Treatment Regulations, latest issue.
- D. The Code of Botetourt County – The General Ordinances.
- E. Local and State Building Codes and Ordinances.

1.9 APPLICATION FOR WATER AND SEWER SERVICES

Botetourt County Public Facilities and Programs require applications for water and sewer services. Generally, preliminary contact is made through the County's Development Services Coordinator, which in turn directs all inquiries for water and sewer services to Public Facilities and Programs. Once contact has been made the staff will review preliminary information and determine what will be required in the application package for review. An Application for Service form with the application requirements will be provided to the applicant. The applicant must provide a completed form with all requested information to the County. The County shall accept applications for water and/or sanitary sewer service to the premises, described in the application from any person, group, firm, corporation or association, who are owners of or legal representatives of the owners of the premises or who are tenants of the premises within Botetourt County. This application package, once submitted, will be used to evaluate and make a decision regarding the connection of the County water/sewer facilities to either existing or proposed water/sewer facilities described in the application.

A. Application Package Requirements

This section describes typical information, which may be requested for submittal as part of the application package. The listing is not comprehensive and the County reserves the right to require additional data, design and any other information as required to completely describe/document the project and project design.

1) Maps and Drawings – Maps, drawings and site plans should clearly establish the physical location of the premises requiring water/sewer services and the point where the proposed service connection is to be made.

2) Plans and Specifications

a. General Requirements

Four sets of detailed plans and specifications shall be signed, sealed, and dated by a professional engineer licensed in the Commonwealth of Virginia. Plans shall be in sufficient detail to accurately indicate all pertinent design and construction details for a comprehensive interpretation of the work to be performed for applications regarding:

Water and sewer lines – show the location of all water and sewer line appurtenances and accessories and accurate plan and profile design drawings for the proposed lines;

Water and sewerage facilities such as water storage tanks or pumping equipment, sewage treatment plants, sewage pumping stations, or other like equipment – provide detailed plans and specifications on design, equipment, materials, and construction of such facilities.

b. Specific Plan Sheet Requirements

1. Plan sheets shall measure no larger than 30 inches wide by 42 inches long but be of a sufficient size to accurately show all required

information. If possible, the top half of the drawings shall show the main line in plain view while the lower half shall show the profile of the main and ground surface.

2. The horizontal scale for the plan and profiles should be the same with a minimum scale of 1-inch equals 100 feet. The vertical scale shall be no smaller than 1-inch equals 10 feet.
3. All submittals must include a cover sheet. The front sheet shall include the project name, a vicinity map, all standard notes, and shall bear the date and original seal and signature of the licensed professional engineer. Following sheets shall also contain the names, addresses, and telephone numbers of the owner or developer and engineer.
4. The following General Water and Sewer Conditions shall be on the cover sheet of each set of plans, when applicable:
 - a) All work shall be subject to inspection by Botetourt County Utility Department. The contractor shall notify Botetourt County Utility Supervisor 48 hours prior to the start of the work.
 - b) All existing utilities adjacent to the proposed work are not necessarily shown on the plans and where shown, are only approximately located. The contractor shall, at his own expense and effort, locate all underground lines and structures as necessary.
 - c) All materials and construction shall comply with the most current version of the Water and Sewer Regulations of Botetourt County as adopted by the Botetourt County Board of Supervisors.
 - d) Provide elevations based upon National Geodetic Survey datum.
 - e) The contractor shall be responsible for notifying "Miss Utility" and comply with Virginia's underground utility damage prevention act.
 - f) All water and sewer pipes shall have a minimum of three (3.0) feet of cover measured from the top of pipe, over the centerline of pipe. This includes all fire hydrant lines, service laterals, and water lines, etc.
 - g) Permanent easements at a minimum of twenty-five (25) feet for sewer and water lines, centered on the pipeline and appurtenances, shall be dedicated to the County, except where the line is in a public road right-of-way or an access easement, in which case the access easement shall also be dedicated as a utility easement. Temporary easements should be sufficient width to allow contractor enough room to construct the utility while working safely and in compliance with OSHA Regulations.

- h) The width of permanent easements shall be dependant upon the depth of the water or sewer lines. See detail BC #G-03.
 - i) Combined water and sewer permanent easements shall be a minimum of thirty (30) feet. The water and sewer shall have a minimum separation of ten (10) feet. A combined easement will only be allowed when both the water and sewer is owned and maintained by Botetourt County.
 - j) Water and sewer easements shall be exclusive and shall not be combined with drainage easements, PUE's or any other utilities.
 - k) All water and sewer appurtenances shall be located outside of roadside ditches.
5. As a minimum, plan sheets shall include the following information where applicable: property lines; street; lots; both existing and proposed sanitary sewer and water line locations, lateral locations, service line locations, fittings and hydrant locations, manhole invert and top elevations, easement and property lines, all structures (underground or aboveground) in vicinity of proposed line, 100 year flood elevation, storm sewers and culverts, north arrow, and wetlands boundaries.
6. Extension Provisions: Provisions shall be made for logical future extensions to adjacent property lines at all proposed street connections and/or at locations deemed appropriate by the County.
- 3) Recorded Plats – The recorded plat(s) which designate easements specific for water and sewer services for the premises needing such services and which shall bear the approval of the Board of Supervisors shall be submitted in triplicate. Plats must be submitted prior to the project acceptance and as soon as they are recorded.
- 4) Hydraulic Calculations – Water line and sewer line extensions shall be accompanied by one set of hydraulic and capacity calculations respectively. Calculations should address such issues as available/required fireflow and domestic demand, pipe size and capacity, velocity, percent slope, etc.
- Water lines shall be developed to consider a) fireflow, b) estimated domestic demands, c) projected demands for surrounding developable area, d) any County level of service standards.
- Design calculations shall be submitted for other water/sewer facilities such as storage tanks, sewage pump stations, etc.
- All submitted calculations shall be signed, sealed, and dated by a professional engineer licensed in the Commonwealth of Virginia.

- 5) Industrial Pretreatment Application – The applicant for sanitary sewer services, which produce processed wastewater, to serve industrial establishments shall conform to the requirements of the County’s Industrial Pretreatment Program.

The Industrial Pretreatment Program Coordinator will contact the Developer/Owner when an industrial connection is to be made to determine if a processed waste is to be sent to wastewater treatment facilities. There is an application procedure for acceptance of processed waste and the Owner/Developer must comply with the County Industrial Pretreatment Program. Information regarding type of industry, raw and finished products, approximate volume of utility requirements, types of industrial wastes to be discharged, proposed facilities for pretreatment of industrial wastes and other data pertinent to the industry, shall accompany the application.

- 6) Cross-Connection Control Program Requirements – All applicants for water services to serve non-residential buildings must meet Cross-Connection Control Program requirements. Both residential and non-residential buildings which have sprinkler and/or irrigation systems must also meet the Cross-Connection Program requirements for these types of systems.

B. Application Review Process

The County will review and evaluate all data and information submitted with the application package. This application submittal is to include but is not limited to design calculations, plans and specifications.

1) Plan Review

- a. A total of four sets of plans and specifications, one set of hydraulic calculations, one copy of the subdivision or easement plat, one copy of the engineer’s cost estimate for water and/or sewer related items and a completed application must be submitted to the County for review. **Plans will not be reviewed without an application.** All plans will be logged in upon receipt and reviewed in the order of receipt. Plans must be submitted to the Development Services Office.
- b. A comment letter from the County Engineer or his designee will be sent to the Develop/Owner regarding deficiencies in the design of the project. The Developer/Owner has 60 days from the issuance of this letter to reply and or take positive action. If there is no reply and or action within 60 days, then the application package (plans and specifications, Etc.) will be placed in the Inactive Project file.
- c. After receiving the comment letter and submitted plans and/or specifications, the applicant shall prepare revised plans and/or specifications to conform with such revisions indicated by the County and submit four sets of the revised plans and/or specifications (each item with the date and a signed seal by a Professional Engineer licensed in Virginia)

to the County. Upon receipt of the revised plans and/or specifications, the County shall review them for conformity with the initially marked revisions.

- d. When the plans and specifications are approved for construction, they will be so indicated in writing, dated and stamped approved, with one copy returned to the applicant; the County will keep three copies. A copy of the stamped approved plans must be on the job site. **Any work performed using an unapproved set of drawings is subject to the work not being accepted by the County.**
 - e. Plans for projects that require a pretreatment process and/or cross-connection control device will be approved only when the Pretreatment Program and the Cross-Connection Control Program have been approved.
 - f. Approval of plans and specifications are valid for a period of twelve months from the approval date. If construction has not started in this time period or has been inactive for a period of six months the County will consider the project inactive and will notify the Developer/Owner of the inactive status. The Developer/Owner shall notify the County prior to restarting construction. Construction must comply with current standards at the time of restart.
 - g. Construction of any water or sewer facility, and all their appurtenances and accessories, shall be in strict conformance with the final approved set of plans and/or specifications. No work shall be undertaken without a set of approved plans on the job site. It shall be the contractor's responsibility to obtain a set of approved plans from the Developer/Owner.
 - h. In the event that an applicant desires to deviate from the plans and/or specifications which have been approved for construction by the County or to make any changes or revisions therein, the applicant shall make such request to the County in writing and state the reasons for the request. Revised plans, specifications and other substantiating data shall accompany the request in such manner, form and quantity as was required for the original application.
 - i. Some projects will require the review and approval of the VDH and/or the DEQ. In this case the Developer/Owner must submit plans to the County for review. Then the County has finished its review, the Developer/Owner will be notified and at that time must submit plans to the VDH and/or DEQ. Once these agencies have given written approval, the County will then write an approval letter to the Developer/Owner, with a copy sent to the County's Development Services Office. Please note that these agencies have specific requirements for their plan review procedures.
- 2) **Timeliness of Review** – The County's goal is to review the submitted application and/or plans and specifications **within 30 business days after receipt**. Any application and/or set of plans in review status in excess of 60

days, after comment has been made by the County, awaiting revisions and/or a positive action by consultants (regarding comments by the County) shall be filed in the inactive file. In such a case, a new submission of the application package shall be required. In reviewing the application, the County reserves the right to require such changes, including pipe size and material, as it may consider necessary to meet the requirements of its standards and/or to permit future extensions where circumstances so dictate.

C. Approval of Application Package (plans, specification, calculations, etc.)

Any water or sewer facility requiring approval of the County shall be designated and constructed in accordance with the following requirements and specifications. Permission will be granted by the County for the establishment of a water or sewer facility and work may be done in connection with a new facility or extension only when plans and specifications for such facilities and extensions are in accordance with the County's Water and Sewer Construction Standards and Specifications or approved revisions thereof, and meet the rules and regulations required of other agencies.

An application/plans approval letter will be sent to the Developer/Owner, with a copy to Development Services, after all of the requirements of the application/plans submittal have been fulfilled. Prior to the onset of any construction, the County will require a pre-construction conference in which the Developer, Contractor, County, and other appropriate regulatory agencies shall attend.

The following items shall be submitted to the County prior to scheduling the pre-construction meeting:

1. A plan review fee in the amount that equals \$150.00 plus \$0.25 per linear feet of water and/or sewer lines
2. A water and/or sewer surety bond in the amount of the approved engineer's cost estimate
3. Four (4) complete sets of shop drawings for all water and sanitary sewer structures and appurtenances for review and approval

After the pre-construction conference, it shall be the developer's responsibility to notify the County of the date for beginning construction and also provide notification 48 hours prior to the beginning of construction. Under no conditions shall work proceed without the County being notified of the beginning of work.

An approval for a project shall remain in effect for a period of twelve (12) months from the date of the approval letter. If construction has not started in this time period, the County may require a new complete submittal. The project shall be required to satisfy the current "Botetourt County Water and Sewer Constructions Standards and Specifications".

1.10 EASEMENTS

Permanent easements at a minimum of twenty-five (25) feet for sewer and water lines, centered on the pipeline and appurtenances, shall be dedicated to the County, except where the line is in a public road right-of-way or an access easement, in which case the access easement shall also be dedicated as a utility easement. Temporary easements should be sufficient width to allow contractor enough room to construct the utility while working safely and in compliance with OSHA Regulations.

Permanent easements shall be required for all water and sewer lines and appurtenances except where installed within the public right-of-way of the Virginia Department of Transportation. All easements shall have the right of ingress and egress fully provided for in the recorded deed. The County reserves the right to have easements extended to adjacent property for future extension of service. No structures shall be constructed within the easement including fences, trees, shrubs, buildings or obstacles that would render the easement inaccessible by equipment. The minimum easement width shall be twenty-five (25) feet for water and sewer lines up to twelve (12) feet in depth, centered on the pipeline. The easement width for water and sewer lines that are installed at a depth greater than twelve (12) feet shall be determined by the Detail BC #G-03, "Public Sanitary Sewer & Waterline Easements". Easements for property for facilities other than pipelines will be determined on a case-by-case basis. Joint easements combining both water and sewer mains, owned and maintained by Botetourt County, within a single easement shall be a minimum of thirty (30) feet in width; then (10) feet required from the centerline of each main to the easement boundary. Temporary easements should be sufficient width to allow the contractor enough room to construct the utility while working safely and in compliance with OSHA Regulations.

1.11 SUBMITTALS

Submittals for shop drawings, operation and maintenance manuals of all operating equipment, Certificates of Inspections, approvals, Warranties and Guarantees of Equipment, etc. will be required when applicable; applicability of submittals required will be determined on a case-by-case basis.

A. General

Submit the following to the County Engineer within 30 days of notice to proceed to demonstrate compliance with the construction standards:

- 1) A submittal register listing all of the requested submittals will be provided by the County Engineer for each project when appropriate (see Submittal Register form on Appendix).
- 2) All requested submittal information, i.e., product data, certificates, etc. Some of this information may be required after project completion. (Do not include extraneous information.)

- 3) All submittals must be submitted in an organized three ring binder for easy review.
- 4) Job will not be accepted without approval of submittals by the County Engineer or his designee.

B. Submittal Descriptions

Submit three copies of each required submittal. Submittal descriptions are described in the Appendix.

1.12 INSPECTIONS

A. Preliminary Construction Conference

Once the County has approved the application, plans, specifications and shop drawings, received the review fee and water and/or sewer surety bond, a Preliminary Construction Conference will be scheduled where the developer and contractor will meet the County Engineer and the Inspector assigned to the project. Also, representatives from DEQ and/or VDH may be requested to attend.

The Developer must notify the County at least 48 hours prior to the beginning of any construction. In no case shall construction be started without notification.

At the Preliminary Construction Conference a County Inspector will be assigned to the job site to perform inspections of work in progress and to assure that all materials used and all work is in accordance with the Construction Standards. The Inspector shall be present at all water and sewerage facility testing and may perform such tests as desired by the County. Copies of all test results shall be submitted to the County Engineer.

B. Substantial Completion

The County will issue a Letter of Substantial Completion at the request of the Developer/Owner when the following conditions have been met:

- 1) All approved materials have been installed per the County's requirements.
- 2) The completed work has been inspected by the County's Inspector and the system is in working order. The County shall submit a punch-list of remaining items to be completed to the Contractor and the Project Engineer.
- 3) The appropriate tests (pressure, leakage, bacteriological, compaction, etc.) have been successfully completed and results comply with test requirements for passing.

C. Final Inspections

At the completion of the water and/or sewer facilities project the Developer/Owner responsible for the construction shall notify the County, in writing, that the work has been completed and request a final inspection.

On receipt of the notification or completion, the County shall make a final comprehensive inspection of the constructed facilities, examining in detail for conformance of the work with approved plans and specifications, alignment of sewer lines, infiltration, leakage, workmanship, operation of equipment, and other factors to the satisfaction and best interest of the County.

The County will notify the Virginia Department of Health when a final inspection is scheduled on a project in which VDH review is required.

It shall be required that a responsible representative of the developer or owner accompany the County on the final inspection. The Developer/Owner shall furnish whatever labor is necessary for conducting the final inspection if so desired by the County.

Deficiencies which are found to exist during the final inspection shall be pointed out to the Developer/Owner representative by the County at that time. Subsequent to the final inspection the County shall furnish in writing, a summary of these deficiencies and the required corrections which are to be completed by the Developer/Owner.

On notification that all construction deficiencies have been completed, the County will re-inspect all such work. Upon correction of deficiencies and after project construction meets County approval, the Developer/Owner shall submit to the County one set of as-built plans along with the total project cost with size and footage of water and sewer line installed.

1.13 AS-BUILT PLANS

After final inspection and completion of construction of the water and/or sewer facilities from approved plans on any project previously classified, the developer or owner responsible for the construction shall prepare one set of reproducible as-built plans, based on accurate, field obtained information to show actual conditions of the finished construction. The as-built plans shall show all revised and permanent changes on the original tracings or mater sheets of the plans and/or specifications from which these changes were made and were approved by the County.

The as-built plans shall be submitted on reproducible media as well as AUTOCAD format and shall include all previous plan sheet requirements including the following.

A. Water Line Construction

- 1) Scale accurately and locate on the plan sheet, the line and all installed fittings, such as elbows, tees, crosses, and reducers, and all cradle, encasement service connections, or special construction.
- 2) Show exact measurements and location of all valve boxes, fire hydrants, meter boxes, blow-offs, blind and blank-flanged fittings and plugged terminal lines.

- 3) The measurements taken for these locations shall be taken from at least two reasonable adjacent and available, fixed and permanent objects such as fire hydrants, centers of sanitary or storm sewer manhole casting covers, corners of buildings, power poles, etc. (If a power pole is used, the owner and the I.D. Number shall be recorded on the as-built drawings.)

B. Sewer Line Construction

- 1) Scale accurately and locate all manhole invert and top casting elevations and notate numerically the exact elevations of the same as determined by field survey after construction.
- 2) Scale accurately the length and grade of all lines between manholes, and notate numerically the exact lengths and grades of all lines, as determined after construction.
- 3) Scale accurately and locate concrete cradles, encasements, or special construction.
- 4) Scale accurately and locate the sewer service laterals including invert elevation in reference to top of clean out.

C. Water Treatment Plants, Pumping Stations, and all other Comparable Construction and Building Structures

- 1) As-built plans and specifications shall accurately indicate all approved deviations and changes regarding changes in location, type of equipment used, and material used.
- 2) Accurate listings of the name of the manufacturer of all operating equipment installed, together with model or style numbers, ratings, capacities, and other pertinent information shall be provided as part of the as-built plans.
- 3) A minimum of three complete sets of shop drawings and operation and maintenance manuals of all operating equipment, and all Certificates of Inspections, Approvals, Warranties and Guarantees of Equipment. A listing of materials and installations, required by the approved project specifications , shall be provided as a part of the as-built plans on the project. See Section 1.11 on Submittals.

One digital copy of the as-built plans shall also be submitted in AutoCAD format.

1.14 DEDICATION

All utilities shall be dedicated to Botetourt County and said dedication shall be in writing (see Appendix).

1.15 WARRANTY

The developer will be responsible for any maintenance and repairs as a result of construction or material defects of said facilities for one year from the date of final acceptance by the County. During this one-year period, a bond may be required by the County. If a bond is held by the County, it will be released after one year if all involved parties are satisfied, and the County will assume maintenance of the facility.

1.16 ACCEPTANCE OF NEW CONSTRUCTION

A. Conditions of Final Acceptance

- 1) All requirements have been fulfilled in the opinion of the County.
- 2) All punch-list items have been corrected to the satisfaction of the County.
- 3) Any work that was accepted at substantial completion but later damaged has been repaired.
- 4) All matters relative to the specific contract between the developer or owner and the County are in order.
- 5) One set of reproducible as-built plans and a digital file of the as-built plans have been submitted to the County (see Section 1.13).
- 6) All permits, if any, have been released by the Virginia Department of Transportation.
- 7) All conditions of the Industrial Pretreatment Program and the Cross-Connection Program have been met.
- 8) A Professional Engineer for the project shall submit a letter upon completion of the project stating that work was completed in accordance with the approved plans and specifications.
- 9) A copy of the Virginia Department of Environmental Quality's Certificate to Operate (CTO), if required, has been submitted to the County.
- 10) A copy of the Virginia Department of Health's Operation Permit, if required, has been submitted to the County.
- 11) A final inspection has been performed by or in the presence of the County.
- 12) The Deed of Easement and property plat have both been submitted to and approved by the County and recorded in the County Clerk's Office, and a copy of the recorded receipt has been submitted to the County.
- 13) That payment has been made by the developer or owner for all fees relative to applications and inspections.

- 14) The letter of dedication has been submitted to and approved by the County.
- 15) That explicit understanding exists between developer or owner and the County that the developer or owner shall be responsible for and obliged to correct any deficiencies in construction or materials for a period of one year from the date of final acceptance of the facilities by the County. This condition shall be stipulated in the written form of acceptance issued by the County.

B. Agreement of Final Acceptance – Acceptance of the newly constructed facilities, when approved by the County, shall be made in writing to the Developer/Owner responsible for the construction.

The issuance of the written acceptance of any such facilities shall constitute an irrevocable agreement between the developer or owner responsible for construction of the facilities. The County and any of its officers, agents, servants, and employees shall be saved harmless by the developer or owner from liability and responsibility of any nature and kind for costs of, or payments on, labor, equipment, or material used in construction of the accepted facilities or on account of any patented or unpatented inventions, process, article or appliance manufactured for or used in construction of, or for the intended operation of the accepted facilities.

END OF GENERAL RULES AND REGULATIONS