

# **BOTETOURT COUNTY WATER AND SEWER CONSTRUCTION STANDARDS AND SPECIFICATIONS**

## **APPENDIX**

1. Application For Service
2. Application and Plan Review Procedure
3. VDOH Water Scope and Detail Checklist
4. DEQ Sewerage Scope and Detail Checklist
5. Submittal Register
6. Submittal Description Sheet
7. Owner/Developer Notification of Completion Form
8. Letter of Dedication Form
9. Hydrant Flow Test Form
10. Request for Waiver, Modification or Field Change

## **APPLICATION FOR SERVICE WATER AND/OR SEWER SYSTEM**

1. Applicant must meet with County Engineering/Utilities staff to determine what materials need to be submitted with application.
2. County Engineering/Utilities staff will review preliminary information and determine what will be required in the application package for review. An application for service form with application requirements will be provided to the applicant.
3. The applicant must provide a completed application form with all requested information to the County. **PLANS AND SPECIFICATIONS SUBMITTED WITHOUT AN APPLICATION will NOT BE REVIEWED.**
4. You are required by the County to furnish Fire-flow calculations. It is the responsibility of the Developer to obtain the required fire-flow. The developer is responsible for submitting a final set of calculations based on the final set of plans to the County for review.
5. Applicant must submit a transmittal letter requesting service, three sets of plans, one set of hydraulic calculations based on final construction plans, and specifications and any other material which was required as indicated on the application. All material must bear the stamp, signature and date of a professional engineer licensed in the state of Virginia.
6. Plans will be reviewed in accordance with the latest revision of the Botetourt County Water and Sewer Construction Standards and Specifications. The County **strongly** suggests that all developers and engineers acquire a set of the most current Standards and Specifications. These are available for \$25.00.
7. 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.

Information regarding the County's plan review process, construction administration, acceptance of construction and as-built (record drawing) requirements is included in the Water and Sewer Construction Standards and Specifications manual.

**BOTETOURT COUNTY APPLICATION AND PLAN REVIEW PROCEDURE**

Contact Development Services Office for application package

Receive application package. Review materials required for submittal  
With Engineering/Utilities Staff

Submit application & required  
Materials (plans, etc.)

Fire Marshall provides  
Fire-flow requirements

County reviews  
Application and plans

Approves plans for  
fire-flows > 500 gpm

County staff makes comments on plans, etc.

Developer submits revised plans, etc. Addressing County comments

County Approves plans and sends stamped approved copy to Developer/Owner

Cross Connection Approved Preconstruction Conference held with Pretreatment  
County Staff Approved

Construction begins, County inspects work County inspector present during all line  
testing

Developer/Owner submits Notification of Completion and Requests Final Inspection

Final Inspection Performed by County in Presence of Owner/Developer

County Notes Deficiencies and Provides a Punch-list of Items to be completed

County reinspects Work/Approves Work

Developer's Engineer Submits As-builts and Owner Submits Letter of Dedication

County Accepts Facility

**DRINKING WATER  
SCOPE AND DETAIL CHECKLIST (WSE-12 REVISED)  
IN ACCORDANCE WITH THE WATERWORKS REGULATIONS**

PROJECT: \_\_\_\_\_ DATE RECEIVED: \_\_\_\_/\_\_\_\_/\_\_\_\_  
 CITY/COUNTY: \_\_\_\_\_ S & D DATE: \_\_\_\_/\_\_\_\_/\_\_\_\_  
 DESIGN FIRM: \_\_\_\_\_ VDH ENGINEER: \_\_\_\_\_  
 VDH PROJECT NO.: \_\_\_\_\_

Minimum Items Required to Initiate Plan Review

	DATE	YES	NO	N/A
<b>I. PRELIMINARIES</b>				
A. Application for permit on file?	_____	_____	_____	xxxxxx
B. Preliminary Engineering Conference held?	_____	_____	_____	xxxxxx
C. Preliminary Engineering Report approved? (not needed for line extensions, except for interconnections and transmission mains: Field Director's written discretion)	_____	_____	_____	_____
<b>II. PERMISSIONS</b>				
A. Local government approval or acknowledgement (Section 15.1 of Code of Virginia)	_____	_____	_____	_____
B. DEQ groundwater withdrawal permit	_____	_____	_____	_____
C. DEQ/COE 401 & 404 permission granted for surface withdrawal	_____	_____	_____	_____
D. VPDES application pending	_____	_____	_____	_____
<b>III. DESIGN CRITERIA</b> (with design notes and hydraulic calculations for proposed construction and its effect on the existing waterworks)	_____	_____	_____	xxxxxx
<b>IV. WELL LOT</b> (N/A if the developer will turn ownership over to local government who will in turn record prior to receiving the operation permit)	[ ] Yes, developer will build, government will own.			
A. Recorded Plat Plan	_____	_____	_____	_____
B. Recorded dedication document	_____	_____	_____	_____
<b>V. QUANTITY</b>				
A. Safe yield documentation	_____	_____	_____	_____
B. Well completion report	_____	_____	_____	_____
<b>VI. QUALITY</b>				
A. Chemical	_____	_____	_____	xxxxxx
B. Bacteriological	_____	_____	_____	_____
C. Radiological	_____	_____	_____	_____
<b>VII. PLANS AND SPECIFICATIONS</b>				
A. Title Page/Cover Sheet				
1. Owner & Engineer name and address	_____	_____	_____	xxxxxx
2. Original PE seal and signature and dated	_____	_____	_____	xxxxxx
B. Plan pages – general (VDH will microfilm)				
1. Legible	_____	_____	_____	xxxxxx
2. Adequate size	_____	_____	_____	xxxxxx
3. Facsimile PE seal with signature and dated	_____	_____	_____	xxxxxx

THIS SUBMITTAL (IS/IS NOT) SUFFICIENTLY COMPLETE TO INITIATE A FULL REVIEW

\_\_\_\_\_  
DISTRICT ENGINEER

\_\_\_\_\_  
DATE

Additional Comments: Use reverse side if more room is needed.





**NOTIFICATION OF COMPLETION  
REQUEST FOR FINAL INSPECTION**

I \_\_\_\_\_ hereby notify Botetourt County  
(Developer/Owner's Name)

the \_\_\_\_\_ water/sewer facility located at  
(Project Name)

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(Location of Facility)

is complete and constructed in accordance with the approved plans and specifications  
titled \_\_\_\_\_

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(Plans Title)

\_\_\_\_\_ and dated \_\_\_\_\_ and

designed by \_\_\_\_\_ on this day \_\_\_\_\_ of \_\_\_\_\_  
(Engineering Design Firm's Name) (Month)

in the year \_\_\_\_\_. This is a request for a final inspection. The total cost of this project  
was \$ \_\_\_\_\_ (water: \$ \_\_\_\_\_ & sewer: \$ \_\_\_\_\_ ) and

there was:

<u>Water</u>		<u>Sewer</u>	
<u>Feet</u>	<u>Pipe Size</u>	<u>Feet</u>	<u>Pipe Size</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

installed.

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(Signature of Owner/Developer)

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(Date)



**Botetourt County, Virginia**  
 Department of Public Works - Engineering  
 5 West Main Street, Suite 202  
 Fincastle, Virginia 24090  
 Ph: (540) 473-8139 Fax: (540) 473-8207

**LETTER OF DEDICATION**

The \_\_\_\_\_ hereby dedicates the  
 (Developer/Owner Name)

\_\_\_\_\_ water/sewer facility located at  
 (Facility Name)

\_\_\_\_\_  
 (Location of Facility)

\_\_\_\_\_ described on plans and/or specifications titled  
 \_\_\_\_\_  
 (Plans Title)

\_\_\_\_\_ and dated \_\_\_\_\_ and  
 designed by \_\_\_\_\_ to Botetourt County  
 (Engineering Firm)

on this day \_\_\_\_\_ of \_\_\_\_\_ in the year \_\_\_\_\_.  
 (month)

I understand that I will be responsible for (cost of) repairs and maintenance as a result of construction or material defects for one year from the date of final acceptance.

\_\_\_\_\_  
 Signature of Owner/Developer

\_\_\_\_\_  
 Date

\_\_\_\_\_  
 Notary Public

\_\_\_\_\_  
 Date

Notary Seal

# HYDRANT FLOW TEST FORM

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Water System \_\_\_\_\_

Residual Hydrant Location \_\_\_\_\_

Number: \_\_\_\_\_ Size of Main: \_\_\_\_\_ Static Pressure: \_\_\_\_\_

Residual Pressure: \_\_\_\_\_

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Test Hydrant No.: \_\_\_\_\_ Nozzle Size: \_\_\_\_\_ Pitot (PSI): \_\_\_\_\_

Location: \_\_\_\_\_

Number: \_\_\_\_\_ Size of Main: \_\_\_\_\_

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Test Hydrant No.: \_\_\_\_\_ Nozzle Size: \_\_\_\_\_ Pitot (PSI): \_\_\_\_\_

Location: \_\_\_\_\_

Number: \_\_\_\_\_ Size of Main: \_\_\_\_\_

---

Test Hydrant No.: \_\_\_\_\_ Nozzle Size: \_\_\_\_\_ Pitot (PSI): \_\_\_\_\_

Location: \_\_\_\_\_

Number: \_\_\_\_\_ Size of Main: \_\_\_\_\_

---

Tank Name: \_\_\_\_\_ Date: \_\_\_\_\_

Tank Water Level: \_\_\_\_\_ Time: \_\_\_\_\_

Performed By: \_\_\_\_\_

# HYDRANT FLOW CALCULATION FORM

$$Q_R = Q_F \times \frac{(H_R)^{0.54}}{(H_f)^{0.54}}$$

- $Q_R$  = GPM AT SPECIFIED RESIDUAL PRESSURE
- $Q_F$  = GPM (TOTAL MEASURED DURING TEST)
- $H_R$  = STATIC PRESSURE MINUS SPECIFIED RESIDUAL (20 PSI)
- $H_f$  = STATIC PRESSURE MINUS RESIDUAL MEASURED DURING TEST

Static Pressure  $P_s$  = \_\_\_\_\_ Residual Pressure  $P_R$  = \_\_\_\_\_

$H_R = P_s - 20$  = \_\_\_\_\_  $H_f = P_s - P_R$  = \_\_\_\_\_

$(H_R)^{0.54} =$

$(H_f)^{0.54} =$

TEST HYDRANT	GPM	(A) Total GPM = $Q_R$
_____	_____	_____
_____	_____	_____
_____	_____	_____

$$Q_R = A \times \frac{B}{C} = \text{[ ]} \times \frac{\text{[ ]}}{\text{[ ]}} = \text{[ ]}$$

AVERAGE FLOW AT 20 PSI RESIDUAL PRESSURE = \_\_\_\_\_ GPM

**REQUEST FOR WAIVER, MODIFICATION, OR FIELD CHANGE  
BOTETOURT COUNTY WATER AND SEWER REGULATIONS**

Item/Standard: \_\_\_\_\_

Water and Sewer Regulation Section Number: \_\_\_\_\_

Project: \_\_\_\_\_

Station: \_\_\_\_\_

\_\_\_\_\_  
Inspector/Engineer for Project

**Person Making Request:**

\_\_\_\_\_  
Name & Title

\_\_\_\_\_  
Telephone Number

**Justification/Reason for Request:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Botetourt County Engineer Comments:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Botetourt County Utility Department Comments:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ **APPROVED**

\_\_\_\_\_ **DISAPPROVED**

\_\_\_\_\_  
Botetourt County Utility Supervisor