



MIKE CAUSEY, INSURANCE COMMISSIONER & STATE FIRE MARSHAL
BRIAN TAYLOR, CHIEF STATE FIRE MARSHAL

April 25, 2023

Mr. Kevin Somersett
Brunswick County Code Administration
P.O Box 249
Bolivia, NC 28422

RE: 2018 NCRC Section P2903.9.1 Service valve

Mr. Somersett:

This letter is in response to your request for formal interpretation to the Office of State Fire Marshal ("OSFM") dated February 24, 2023, which NCDOI received by email on 2/27/23. I am addressing your requests below in the order in which they are posed.

Your letter states in relevant part:

"The Residential Code definition for water service pipe states "Water service pipe shall terminate 5 feet outside the foundation wall".

P2903.9.1 states the location of the main shutoff valve must be near the "entrance" of the water service.

Should "entrance" be removed since the service piping cannot "enter" the home, it must transition to distribution piping 5 feet outside the foundation wall.

If a material from Table P2906.5 is used, can the water "supply" enter the home and have the main shutoff valve located within the home, such as in the garage by the water heater? The only valves located would be within the home and at the street meter.

If this is acceptable, can the water piping travel under the home and still be considered "outside" the home since it is located under slab, similar to NEC 230.6? Could limitations in length be placed? This would allow the water service to enter the home from underneath and a valve be located, e.g., in the center of a home in a closet and be consistent with NC Plumbing Code 605.3 amendment effective 1/1/19? (at or before the full-open valve located at the entrance to the structure) The entrance to the structure being from the slab below.

These questions stem from contractors wanting to run their water piping from the meter directly into the home and placing the main shutoff valve within the home, and not outside the home foundation. The complaint is the landscaping backfilling the valve box and usually not being able to locate after the home is occupied a short time. They are adding an extra stop valve outside the home to meet code that is, in most cases, never used (or found) again."

Remarks:

Attachment A is comprised of the request for formal interpretation as well as all supporting information submitted with the request.

Code Analysis: A water service pipe shall terminate 5 feet outside the foundation wall, by definition. Each dwelling unit shall be provided with an accessible main shutoff valve near the entrance of the water service. By reference from 2018 NCRC P2601.1, the prescriptive and more descriptive code requirement of 2018 NCPC 606.1 is applicable to the location of the service valve.

2018 NC Residential Code

Chapter 2 Definitions

[RP] WATER PIPE.

Riser. A water supply pipe that extends one full story or more to convey water to *branches* or to a group of fixtures.

Water distribution pipe. A pipe within the structure or on the premises that conveys water from the water service pipe, or from the meter when the meter is at the structure, to the points of utilization.

Water service pipe. The pipe from the water main or other source of potable water supply, or from the meter when the meter is at the public right of way, to the water distribution system of the building served. Water service pipe shall terminate 5 feet (1524 mm) outside the foundation wall.

....

2018 NC Residential Code

P2903.9.1 Service Valve. Each *dwelling unit* shall be provided with an accessible main shutoff valve near the entrance of the water service. The valve shall be of a full-open type having nominal restriction to flow, with provision for drainage such as a bleed orifice or installation of a separate drain valve.

....

2018 NC Residential Code

P2601.1 (301.1) Scope. The provisions of this chapter shall govern the installation of plumbing not specifically covered in other chapters applicable to plumbing systems. The installation of plumbing, *appliances, equipment* and systems not addressed by this code shall comply with the applicable provisions of the *International Plumbing Code*.

....

2018 NC Plumbing Code

606.1 Location of Full-Open Valves. Full-open valves shall be installed in the following locations:

1. Deleted.
2. A full-open valve shall be located either outside the building within 5 feet (1524 mm) of the foundation wall in a readily accessible valve box, in the crawl space within 3 feet (914 mm) of

the crawl space access door or within the building in a location where it may be accessed without the use of a ladder or a tool for each individual tenant space occupancy or address.

3. Deleted.
4. On the base of every water riser pipe in occupancies other than multiple-family residential *occupancies* that are two stories or less in height and in one- and two-family residential *occupancies*.
5. On the top of every water down-feed pipe in *occupancies* other than one- and two-family residential *occupancies*.
6. On the entrance to every water supply pipe to a dwelling unit, except where supplying a single fixture equipped with individual stops.
7. On the water supply pipe to a gravity or pressurized water tank.
8. On the water supply pipe to every water heater.

Conclusions:

The term “service” in 2018 NCRC P2903.9.1 does not refer to the defined term of “water service pipe” but is a general term for the main water supplied to the dwelling unit as the water service pipe shall terminate 5 feet outside the dwelling unit. The service valve can be installed in either the water service pipe or the water distribution pipe so long as the dwelling unit can be isolated in the event of a leak. The service valve shall be located either outside the building within 5 feet of the foundation wall in a readily accessible valve box, in the crawl space within 3 feet (914 mm) of the crawl space access door or within the building in a location where it may be accessed without the use of a ladder or a tool, depending on the type of foundation of the dwelling unit. To avoid long runs of water distribution piping under slab-on-grade construction, the service valve shall be located outside the footprint of the slab, but within 5 feet of the edge of the slab or indoors at a point near the entrance of the water distribution pipe.

Sincerely,



David B. Rittlinger, PE, LEED AP
Chief Code Consultant
NCDOI-OSFM Engineering & Codes Division

cc: Bridget Herring, Chair – BCC
Mark Matheny, Vice-Chair – BCC
Gary Embler, Chair, Residential Super Committee - BCC
Nathan Childs, Esq., NCDOJ, counsel for NC Building Code Council, nchilds@ncdoj.gov

ATTACHMENT A



APPENDIX E APPEALS NORTH CAROLINA BUILDING CODE COUNCIL

325 North Salisbury Street, Room 5_44
Raleigh, North Carolina 27603
(919) 647-0019

APPEAL TO NCDOI/NCBCC

Hearing Date ____/____/____

GS 153A-374, GS 160A-434

Formal Interpretation by NCDOI _____

Appeal of Local Decision to NCDOI _____

GS 143-140, GS 143-141

Appeal of Local Decision to NCBCC _____

Appeal of NCDOI Decision to NCBCC _____

APPELLANT Kevin Somersett PHONE (910) 253 - 2048 _____

REPRESENTING Brunswick County Code Administration

ADDRESS 75 Court House DR

CITY Supply STATE NC ZIP 28462

E-MAIL kevin.somerset@brunswickcountync.gov FAX () _____ - _____

North Carolina State Building Code, Volume Plumbing - Section P2903.9.1

REQUEST ONE: Formal Interpretation by NCDOI Appeal of Local Decision to NCBCC
 Appeal of Local Decision to NCDOI Appeal of NCDOI Decision to NCBCC

Type or print. Include all background information as required by the referenced General Statutes and the attached policies. Attach additional supporting information.

The Residential Code definition for water service pipe states "Water service pipe shall terminate 5 feet outside the foundation wall".
 P2903.9.1 states the location of the main shutoff valve must be near the "entrance" of the water service.
 Should "entrance" be removed since the service piping cannot "enter" the home, it must transition to distribution piping 5 feet outside the foundation wall.
 If a material from Table P2906.5 is used, can the water "supply" enter the home and have the main shutoff valve located within the home, such as in the garage by the water heater? The only valves located would be within the home and at the street meter.
 If this is acceptable, can the water piping travel under the home and still be considered "outside" the home since it is located under slab, similar to NEC 230.6? Could limitations in length be placed? This would allow the water service to enter the home from underneath and a valve be located, e.g., in the center of a home in a closet and be consistent with NC Plumbing Code 605.3 amendment effective 1/1/19? (at or before the full-open valve located at the entrance to the structure) The entrance to the structure being from the slab below.

REASON:

These questions stem from contractors wanting to run their water piping from the meter directly into the home and placing the main shutoff valve within the home, and not outside the home foundation. The complaint is the landscaping backfilling the valve box and usually not being able to locate after the home is occupied a short time. They are adding an extra stop valve outside the home to meet code that is, in most cases, never used (or found) again.

Signature *Kevin Somersett* DATE: 2/24/23 APPEAL TO NCDOI/NCBC FORM 3/14/17

RE: [External] Formal Interpretation Plumbing

Rittlinger, David B
To: Kevin Somersett
Cc: Burns, Mark

Reply Reply All Forward

Mon 2/27/2023 4:12 PM

Kevin,
Good afternoon.
I am receipt of your request for formal interpretation.
Our office will provide a formal interpretation letter to you as soon as possible.
Thank you.

David B. Rittlinger, PE, LEED AP
Code Interpretations Supervisor
Chief Code Consultant
Chief Mechanical & Fuel Gas Code Consultant
Engineering Division

 N.C. Department of Insurance
Office of State Fire Marshal
1202 Mail Service Center
Raleigh, NC 27699-1202
919.447.2000

david.rittlinger@ncdoi.gov

Link to free view of 2018 NC Codes
<https://codes.iccsafe.org/codes/north-carolina>

From: Kevin Somersett <Kevin.Somersett@brunswickcountync.gov>
Sent: Friday, February 24, 2023 4:29 PM
To: Burns, Mark <mark_burns@ncdoi.gov>
Cc: Michael Slate <michael.slate@brunswickcountync.gov>
Subject: [External] Formal Interpretation Plumbing

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to Report Spam.

RE: [External] Formal Interpretation Plumbing

Burns, Mark
To: Rittlinger, David B
Cc: Dittman, Daniel E; Martin, Carl; McLaughlin, Curtis; Yip, Pak; Roegner, Rob

You replied to this message on 2/27/2023 4:11 PM.

Formal Plumbing Interpretation from 2018 NC Admin Code.pdf
486 KB

Reply Reply All Forward

Mon 2/27/2023 9:08 AM

David,
Attached is a formal interpretation request which, as I understand, you handle. However, this is an issue that the 2024 Ad Hoc Committee discussed at length. We DO NOT want water lines under slabs to be run without a full-way valve installed 5 foot outside or 5 foot inside the foundation wall. NO WAY do we want the main shut-off valve 60 to 80 feet away at the water heater, run under slab with no means to shut down the system. Also, if anyone says they can shut the water off at the meter, that is illegal (even though it is commonplace).

Nobody is allowed to operate that meter valve except the water purveyor.
Please allow me some input about this issue.

Thanks,
Mark S. Burns
Chief Plumbing Code Consultant
Engineering Division

 N.C. Department of Insurance
Office of State Fire Marshal
1202 Mail Service Center
Raleigh, NC 27699-1202
919.447.2000
mark_burns@ncdoi.gov

The Office of State Fire Marshal, which includes the Engineering division staff to the Board, vacated the 325 N. Salisbury Street, Albemarle Building on December 22, 2022. The physical address of the new location will be 1429 Rock Quarry Road, Raleigh, NC. Our e-mails and phone numbers will be unchanged. Mail should still be sent to the 1202 Mail Service Center location as always. There will be a time period where employees will be working remotely during the transition time between office move out and the move into the tenant space at 1429 Rock Quarry Road. Upgrades are required at the new location to accommodate the staff.

Codes may be viewed for free at: <https://codes.iccsafe.org/codes/north-carolina>
Approved Amendments to these codes: <https://www.ncdoim.gov/codes/codes-current-and-past>
NCDOI Web Interpretations: <https://www.ncofm.gov/interpretations>

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