Water Resources
Environmental Quality

ROY COOPER
Governor
MICHAEL S. REGAN
Secretary
S. JAY ZIMMERMAN
Director

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Subject: State-Wide Well Construction Variance
North Carolina Well Construction Standards
Rule 15A NCAC 02C .0107
Standards of Construction: Water Supply Wells

To Whom It May Concern:

North Carolina Administrative Code (NCAC) Title 15A Subchapter 02C .0107(a)(2)(D) and (E) require that a water supply well must have a minimum horizontal separation distance of 50 feet or 100 feet from a sewage or liquid waste collection or transfer facility, depending upon if the 'facility' is constructed to water main standards as issued by the American Water Works Association (AWWA).

In addition to onsite wastewater systems, collection systems lines, pump stations, and other infrastructure typically owned and operated by a municipality, public/private utility, or Home Owners Association, the setback requirement has been interpreted to also apply to the sewer lateral line that runs from a structure to the structure's wastewater disposal system or collection system (i.e., an on-site wastewater treatment system or a sewer main). As result, the setback requirement of 100 feet to the lateral can be problematic as many lots are only 100 feet or less wide, especially on smaller lots found along the coast in Eastern North Carolina.

After (1) reviewing the standards as stated in AWWA C600/C605 and C900, and (2) conducting research with various county and city water and sewer public utilities, building code enforcement personnel (including plumbing inspectors), and the On-Site Water Protection Branch-Private Drinking Water Wells Program of NC Department of Health and Human Services (DHHS); it has been determined by the Division of Water Resources (DWR) that typical residential sewer laterals may not meet the applicable AWWA standards.

For sewer lines to meet water main standards as stated in AWWA C600/C605, the lines must undergo hydrostatic testing with a minimum pressure of 150 pounds per square inch (psi). A residential sewer lateral is typically PVC pipe, and only undergoes water tightness testing when installed by a plumber contractor of approximately 3-5 psi for approximately 2-5 minutes. Therefore, it is highly unlikely that a residential sewer lateral meets AWWA standards for water main standards as currently stated in the rule.

Potential risk to the water supply has also been considered in evaluating minimum setback distance for sewer laterals. Generally, sewer laterals pose a reduced risk to the water supply than a sewer main due to their comparatively lower flows and pressures. Specifically, the following characteristics of sewer laterals support a decreased risk compared to sewer mains, and a possible decrease in setback distance:

- Sewer laterals usually have low flow volumes and rates.
- Failures are typically found quickly, as they will more likely back up into the house or be noticed as wet areas in a yard.
- Repairs are generally smaller in scope and more easily completed in a timely manner.

Considering the information presented above, the Division of Water Resources (DWR) is establishing a state-wide variance applicable to the construction of new water supply wells in relation to existing sewer laterals. The setback shall be as follows:

- The minimum horizontal separation between a water supply well intended for a residence or other non-public water system, and a water-tight gravity sewer lateral which exists at the time the well is constructed, shall be 25 feet.
- The minimum horizontal separation between a water supply well intended for a residence or other non-public water system, and a water-tight pressure sewer lateral with a pump station which exists at the time the well is constructed, shall be 25 feet.
- The minimum horizontal separation between a water supply well, and a pump station which exists at the time the well is constructed, remains at 50 feet per 15A NCAC 02C.

This variance shall in no way relieve the well contractor, owner, or agent from the other requirements of the North Carolina Well Construction Standards, or other applicable law, rule or regulation that may be administered by other agencies. If you have any questions regarding this variance, please contact your local DWR-WQROS Regional Office or the WQROS Central Office at (919) 707-9129.

Sincerely,

Jon Risgaard – Section Chief
Water Quality Regional Operations Section
Department of Environmental Quality

cc: DWR Regional Office Supervisors
NC Well Contractors Certification Commission
DHHS – On-Site Water Protection Branch-Private Drinking Water Wells Program