

Review of and Recommendations for Wake County Well Regulations

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Wake County Well Permitting Program

- Covers new private drinking water wells & irrigation wells in unincorporated areas, County-wide
- Operates under Human Services Board Rules
- Permitting private wells since 1987
- All new wells inspected, ~400 new wells permitted annually
- Existing wells inspected by request
- Rules last revised and adopted July 24, 2003
- Well permitting integrated into building permit & onsite wastewater permit process

Current Well Program Requirements

- Siting and construction requirements
- Grout inspections
- Bacteria and inorganics testing requirement
- Additional testing required based on site-specific review
- Certificate of Occupancy dependent upon approved compliance samples

Rule Revision Goals

- Correctly reference current state regulations
- Ensure consistency in interpretation and application of rules
- Improve compliance sampling requirements to protect public health and ensure efficient permitting
- Consider other concerns raised by stakeholders

Review Subcommittee

Name	Affiliation at the time of subcommittee meeting
Dr. Barbara Ann Hughes	Wake County Public Health Committee
Brenda Elliot	Wake County Public Health Committee*
David Markwood, PE	Wake County Public Health Committee*
Margaret Ann Raynor	Wake County Human Services Board
George Mathis	Wake County Water Partnership; Well Owner
Suzanne Harris	Wake County Water Partnership; HBA of Raleigh- Wake County
Dr. Laura Taylor	Wake County Water Partnership; NCSU Economist*
John Boyette, CWC	Boyette Well & Septic; Past NCGWA President
Kevin Letchworth, CWC	N.W. Poole Well & Pump
Dr. Joseph Threadcraft, PE	WCES Director
Michael Orbon, PE	WCES – Water Quality Director
Wilson Mize, REHS	WCES - Groundwater Manager*
Evan Kane, PG	WCES – Groundwater Manager

* - no longer serving

Additional Input

- Wake County Public Health Committee
- Wake County Human Services Board
- Wake County Water Partnership
- NC Department of Health & Human Services
- NC Department of Environmental Quality
- BOC GLUE Committee

Proposed Revisions – Major Categories

1. Revisions to reflect updated state rules
2. Updated well testing requirements for new wells
3. General cleanup of rule text

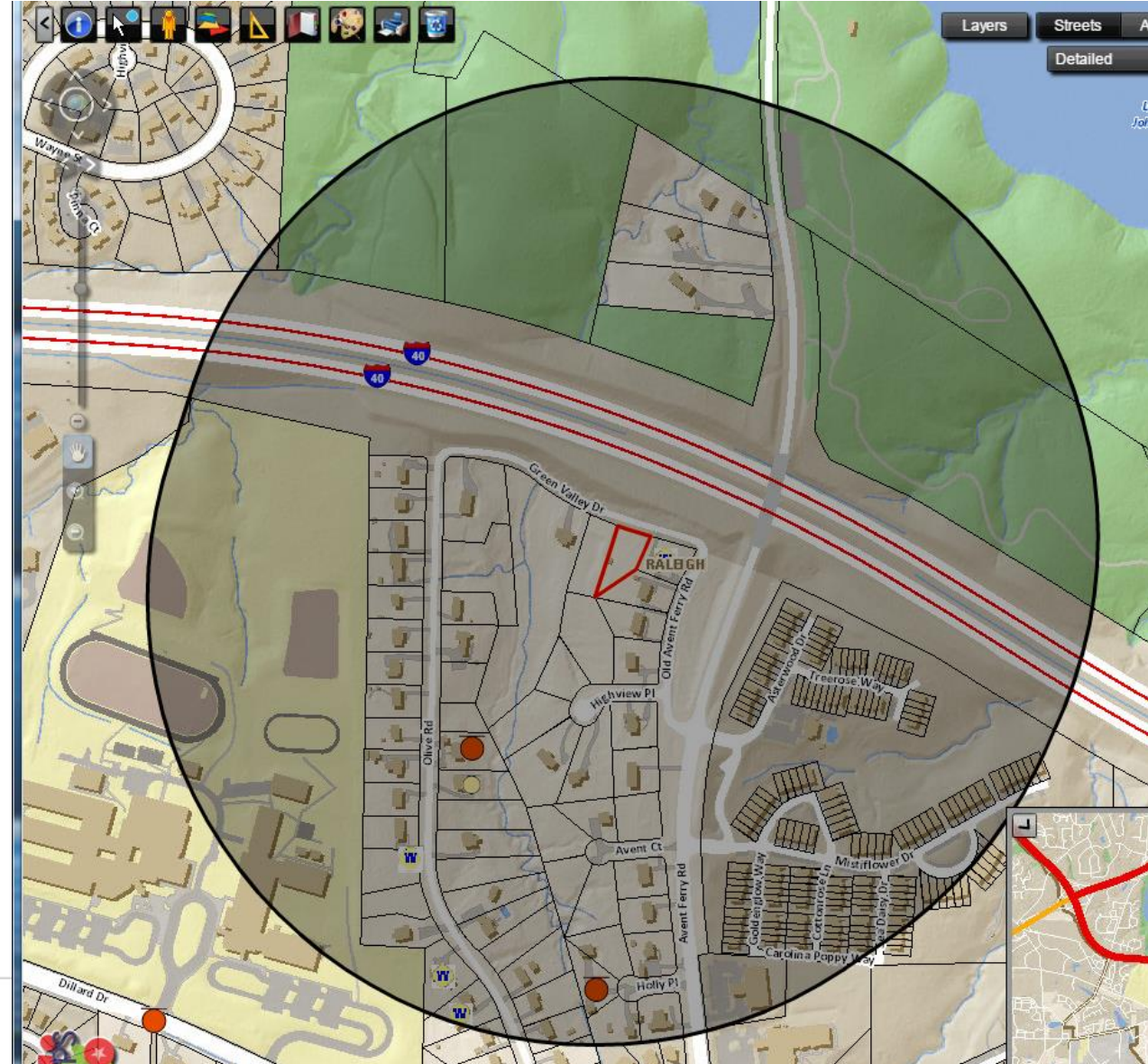
1. Updated State Rules

- Adopt by reference:
 - NC Well Construction Standards - revised 2008
 - Permitting and Inspection of Private Drinking Water Wells - new in 2008
 - Private Drinking Water Well Sampling rules – new in 2008
- Contractor bonding & registration
 - Bonding requirement retained per GLUE Committee & Manager's office recommendation
 - Align contractor registration deadline with state certification deadlines

2. Improved Well Testing Requirements

For man-made contaminants:

- Clearly define conditions requiring additional testing
- Anticipate state requirements for notice about known contamination sites
- Add pesticide testing near mid-20th century buildings



Radionuclides most common chemical health threat

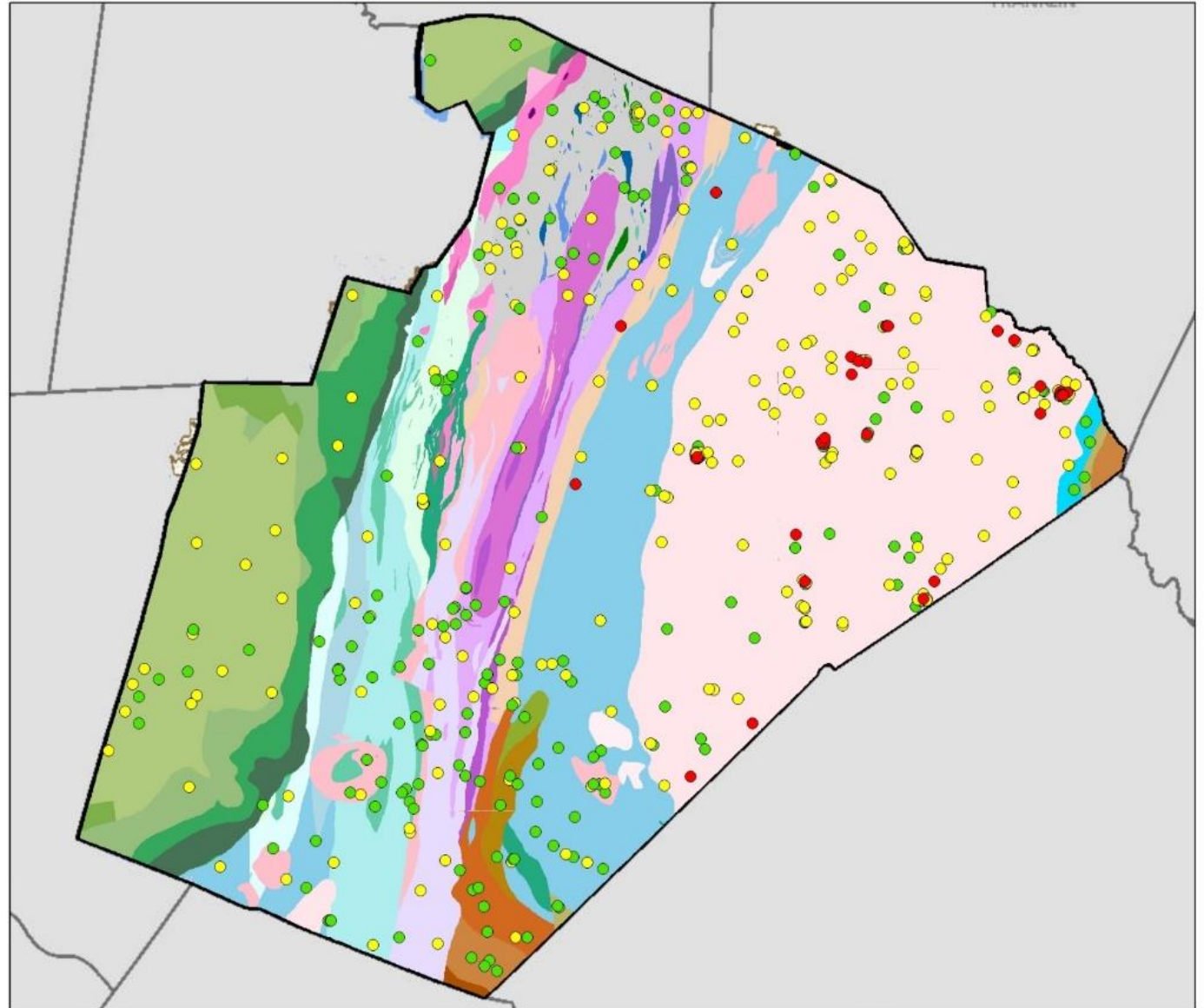
Radionuclides are the most common chemical health threat in Wake County wells

Contaminant Group	Contaminant	Number of Initial Tests	Percentage Exceeding EPA Drinking Water Standards
Radionuclides	Uranium	441	11%
	Gross Alpha (screening test for uranium & radium)	213	19%
Pesticides	Dieldrin	610	1%
Inorganics	Nitrate	5,062	1%
	Fluoride	5,031	0.4%
Volatile Organics	TCE	806	0.5%

Period of record varies by contaminant but includes all initial samples ever collected by WCES through June 30, 2018.

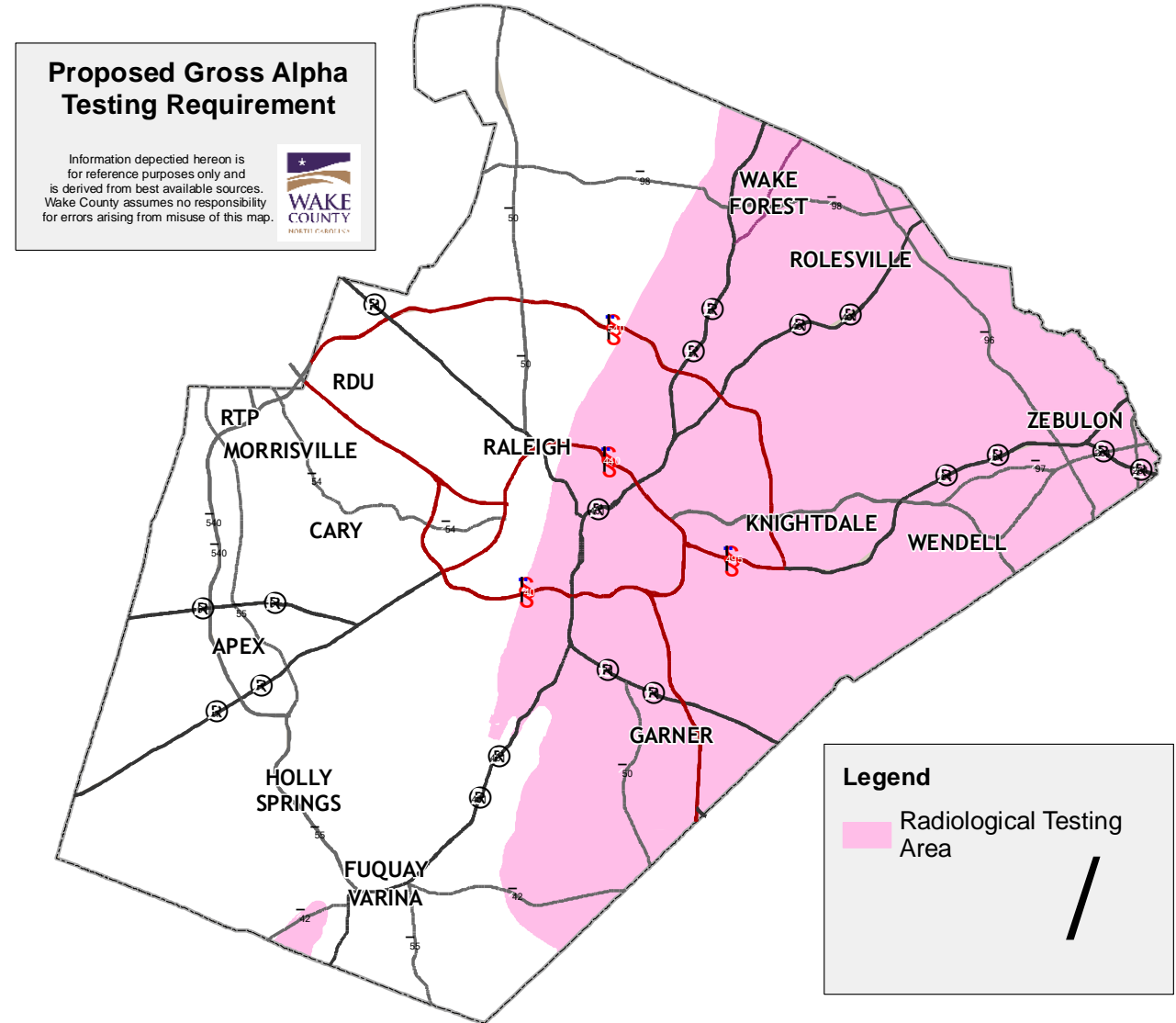
2. Improved Well Testing Requirements

- Source is naturally-occurring uranium in granitic rocks
- Current rules do not require radiological testing for approval of new wells



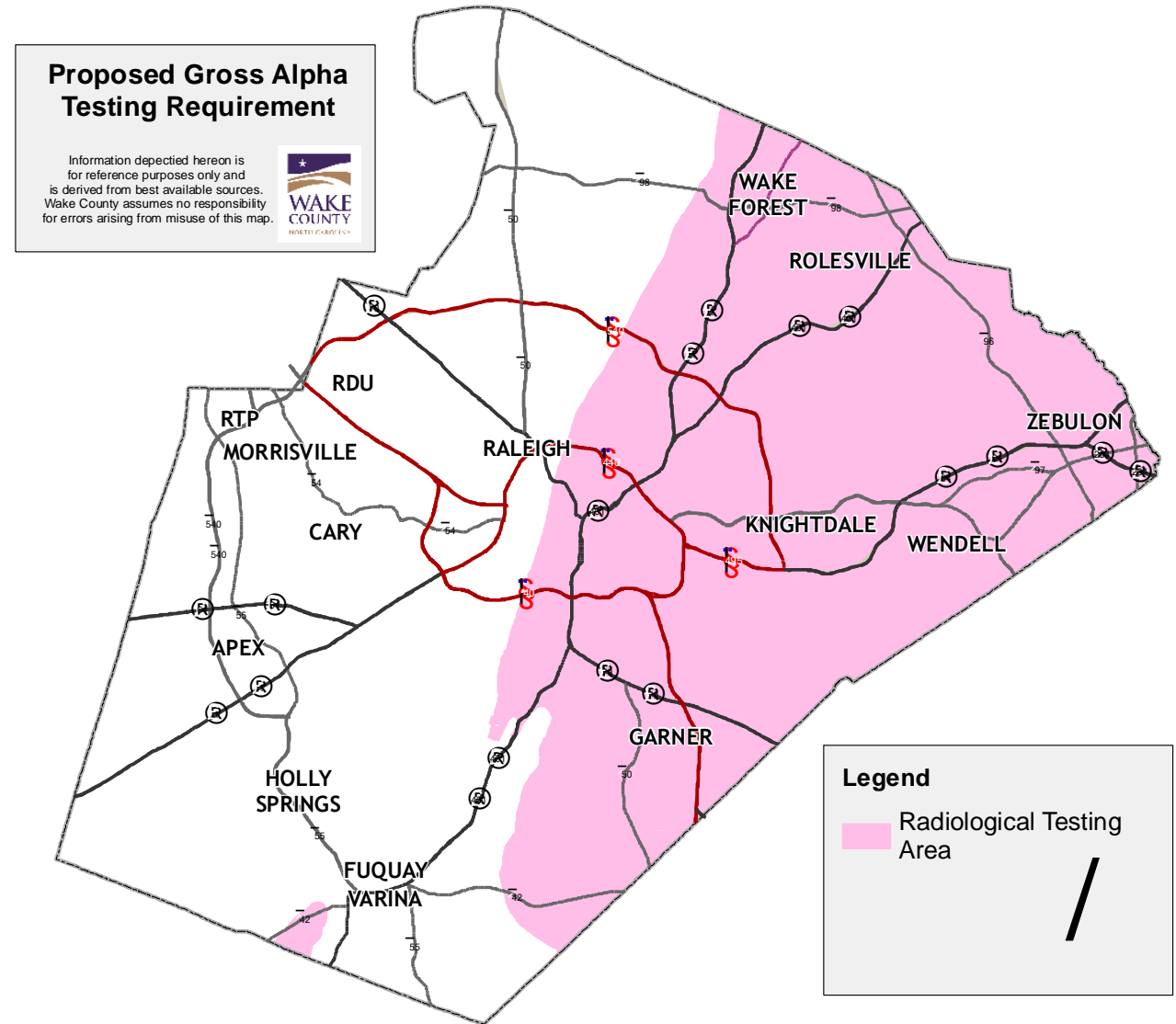
Proposed Revision: Add Radiological Testing for New Wells

- Proposed revision: Add radiological testing requirement in half of county
 - Test to screen for uranium & radium
 - Radon test not required
- Extensive discussion with Home Builders Association of Raleigh-Wake
- Anticipate 10% of new wells (40 wells annually) will require treatment before granting CO



Existing Wells and Outreach

- Estimated 4,000-6,000 existing wells have problems with radionuclides
- Already established as Priority #1 for outreach to users of existing wells
- Continue recommending “Rads Package” for voluntary testing of existing wells in same area
- Continue targeted outreach around known contaminated wells



3. General cleanup

- Wordiness
- Removal of unused terms

Industry Financial Impact

- Primary impact is to homebuilders from additional radiological testing and mitigation
- Countywide, annual impact estimate:

\$10,000	in additional testing fees (\$50 x 200 wells)
\$190,000	well mitigation costs (\$4,750 x 40 wells)
<u>\$2,000</u>	confirmation testing fees for mitigated wells (\$50 x 40 wells)
\$202,000	total estimated annual cost to homebuilding sector

Take Aways

- Rules developed with input from multiple stakeholders
- Updated well rules will conform to current state requirements
- Improved required testing will provide better health protection to Wake County residents
- Proposed revisions have foreseeable and manageable impacts on industry

Next Steps

- Your comments and feedback
- Public Notice and Comment
- Adoption by Human Services Board – Fall 2018

Discussion