

HTE# 07-5-18774R

Harnett County Department of Public Health 24145

Improvement Permit

A building permit cannot be issued with only an Improvement Permit

ISSUED TO: R.L. Properties PROPERTY LOCATION: Pope Lake Rd.
 NEW REPAIR EXPANSION SUBDIVISION: Pope's Lake LOT # 2
 Type of Structure: SFD 30x60 Site Improvements required prior to Construction Authorization Issuance:
 Proposed Wastewater System Type: Accepted System
 Projected Daily Flow: 480 GPD
 Number of bedrooms: 4 Number of Occupants: 8 max
 Basement Yes No
 Pump Required: Yes No May be required based on final location and elevations of facilities
 Type of Water Supply: Community Public Well Distance from well _____ feet Permit valid for: Five years
 Permit conditions: _____ No expiration

Authorized State Agent: [Signature] Date: 12/11/2007 SEE ATTACHED SITE SKETCH
 The issuance of this permit by the Health Department in no way guarantees the issuance of other permits. The permit holder is responsible for checking with appropriate governing bodies in meeting their requirements. This site is subject to revocation if the site plan, plat, or the intended use changes. The Improvement Permit shall not be affected by a change in ownership of the site. This permit is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to conditions of this permit.

Construction Authorization

(Required for Building Permit)

The construction and installation requirements of Rules .1950, .1952, .1954, .1955, .1956, .1957, .1958, and .1959 are incorporated by references into this permit and shall be met. Systems shall be installed in accordance with the attached system layout.

ISSUED TO: R.L. Properties PROPERTY LOCATION: Pope Lake
 SUBDIVISION: Pope's Lake LOT # 2
 Facility Type: SFD 30x60 New Expansion Repair
 Basement? Yes No Basement Fixtures? Yes No
 Type of Wastewater System** Accepted System (Initial) Wastewater Flow: 480 GPD
 (See note below, if applicable) Accepted Systems (Repair)

Installation Requirements/Conditions

Septic Tank Size 1000 gallons Exact length of each trench 6 X 70 feet Trench Spacing: 9 Feet on Center
 Pump Tank Size _____ gallons Trenches shall be installed on contour at a Soil Cover: 6-16 inches
 Maximum Trench Depth of: 18-28 inches (Maximum soil cover shall not exceed 36" above the trench bottom)
 (Trench bottoms shall be level to +/- 1/4" in all directions)
 Pump Requirements: _____ ft. TDH vs. _____ GPM _____ inches below pipe
 Aggregate Depth: _____ inches above pipe
 Conditions: Existing well to be properly abandoned. Drain liner to be 80ft. from well next door. Start drain liner at 28 ft run to 18 _____ inches total

**If applicable: I understand the system type specified is different from the type specified on the application. I accept the specifications of this permit.

Owner/Legal Representative Signature: _____ Date: _____

This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes. The Construction Authorization shall not be transferred when there is a change in ownership of the site. This Construction Authorization is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to the conditions of this permit.

Authorized State Agent: [Signature] Date: 12/11/2007 SEE ATTACHED SITE SKETCH
 Construction Authorization Expiration Date: 12/11/2012

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Permit # 24145

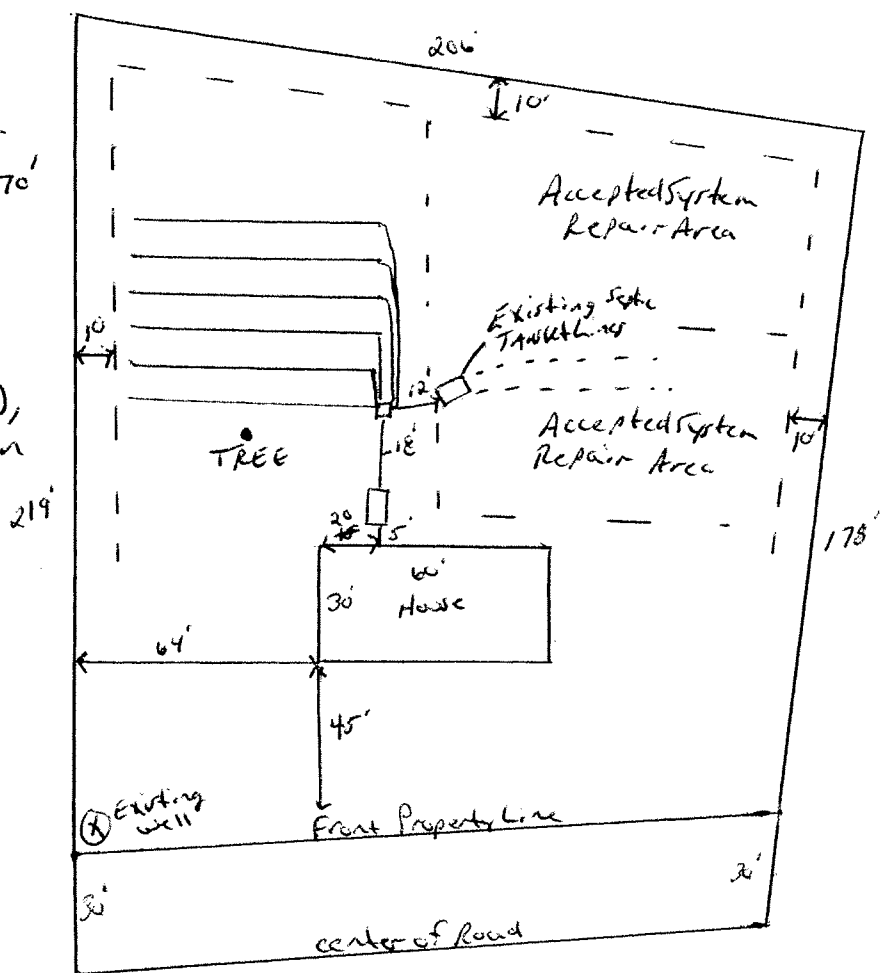
Harnett County Department of Public Health Site Sketch

ISSUED TO: R. L. Properties PROPERTY LOCATOR: Popo Lake Rd.
SUBDIVISION: Popo's Lake LOT # 2

Authorized State Agent: [Signature] Date: 12/11/2007

* System Area has been flagged 50'x70' w/ blue flags

* Existing Septic tank must be pumped (if needed), crushed & filled in



Questions/Contact Information

If you have any questions about abandoning your well, please call the Aquifer Protection Section Regional Office for your area.

The following is a list of Regional Offices:

Asheville Regional Office
2090 U.S. Highway 70
Swannona, NC 28778 • Phone: (828) 296-4500

Fayetteville Regional Office
225 Green Street, Suite 714
Fayetteville, NC 28301 • Phone: (910) 433-3300

Mooreville Regional Office
610 East Center Ave.
Suite 301
Mooreville, NC 28115 • Phone: (704) 663-1699

Raleigh Regional Office
3800 Barrett Drive, Suite 101
Raleigh, NC 27609 • Phone: (919) 791-4200

Washington Regional Office
943 Washington Square Mall
Washington, NC 27889 • Phone: (252) 946-6481

Wilmington Regional Office
127 Cardinal Drive Extension
Wilmington, NC 28405 • Phone: (910)-796-7215

Winston-Salem Regional Office
585 Wroughton Street
Winston-Salem, NC 27107 • Phone: (336) 771-5000

Water well abandonment procedures are outlined in Title 15A North Carolina Administrative Code, Chapter 2C, Section 2113. The information in this pamphlet is a summary of those requirements. To get complete copies of these rules you may download them from our web page at www.ncwater-quality.org or contact us at the following address:

DWQ, Aquifer Protection Section
1636 Mail Service Center
Raleigh, NC 27699-1636

Phone (919)733-3221 • Fax (919)715-0588
www.ncwaterquality.org



North Carolina

WELL

ABANDONMENT

Know the rules to protect your well and our groundwater.

NC DENR
Division of Water Quality

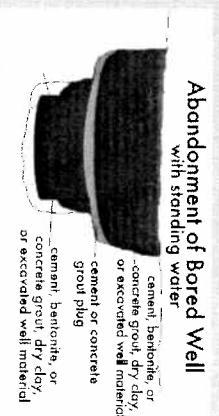
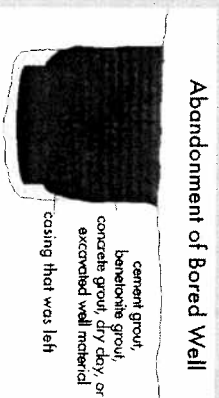
Responsibility for Well Abandonment

A well must be permanently abandoned or repaired if it acts as a source or channel of contamination. The well owner is responsible for having the well permanently abandoned if it is required except in the following situations:

- (a) the Certified Well Contractor must abandon the well if they have not installed the casing in the well or have removed the casing from the well;
- (b) the Certified Well Contractor must abandon the well if it is required because the driller improperly located, constructed, repaired or completed the well; or
- (c) the person who installed, removed or repaired the pump must have the well abandoned if it is required due to improper pump installation, removal, or repair. (15A NCAC 2C .0113 (c) (2))

Any person abandoning a well must submit a record of abandonment (form GW-30) to the Division of Water Quality within 30 days after completion. The procedures for abandonment apply regardless of the age of the well or length of time the well has been used. A certified well contractor must be used to abandon all wells in North Carolina. However, the well owners may abandon their own well if done in accordance with 15A NCAC 2C .0100.

There are two major categories of wells: **Drilled Wells** are usually 2-10 inches in diameter, have steel or thermoplastic casing and are typically "punched" or drilled into unconsolidated sediments or consolidated bedrock. **Bored Wells** are usually 18-36 inches in diameter, have clay or concrete casings and usually are hand dug, or bored with a large diameter power auger into unconsolidated sediments or weathered bedrock. The requirements for well abandonment are different for these two well types.



Bored Well Abandonment

For bored wells that do not have standing water in them at any time during the year:

- (a) remove all plumbing or piping, along with any obstructions in the well;
- (b) remove as much of the well casing as possible; then
- (c) fill the entire well up to land surface with cement grout, bentonite grout, concrete grout, dry clay, or material excavated during construction of the well and then compacted in place.

For bored wells that do have standing water in them during any part of the year:

- (a) remove all plumbing, piping or obstructions;
- (b) disinfect the well using a solution made from calcium hypochlorite containing 65%-75% available chlorine and following the requirements of Title 15A NCAC 2C .0111;
- (c) remove as much of the well casing as possible, but no less than 3 feet below land surface;
- (d) remove all soil or other subsurface material present down to the top of the remaining well casing and extending to a width of at least 12 inches outside of the well casing;
- (e) fill the well to the top of the remaining casing with cement grout, concrete grout, bentonite grout, dry clay, or material excavated during construction of the well and then compact in place;

- (f) pour a 1 foot cement or concrete grout plug that fills the entire excavated area above the top of the casing, including the area extending on all sides of the casing out to a width of at least 12 inches on all sides; then
- (g) complete the abandonment process by filling the remainder of the well above the plug with additional concrete grout, cement grout or soil.

Drilled Well Abandonment

Any casing not grouted must be removed or properly grouted. Casing that is grouted can be removed if such removal does not contribute to contamination of the groundwater.

The entire depth of the well has to be sound- ed to ensure freedom from obstructions that may interfere with sealing operations.

The well should be disinfected using a solution made from calcium hypochlorite containing 65% - 75% available chlorine, such as HTH. Do not use calcium hypochlorite products containing fungicides, algaecides, or other disinfectants. Do not use a common household bleach, as it is too weak. A complete description of disinfection procedures can be found in Title 15A NCAC 2C .0111

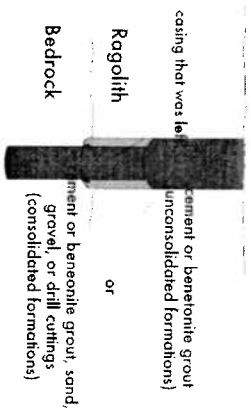
If the well is gravel-packed and the casing and screen have not been removed, near cement or bentonite grout must be injected into the well, completely filling it from the bottom of the casing to the top of the well.

Wells constructed in unconsolidated formations shall be completely filled with cement

grout or bentonite grout by introducing it through a pipe extending to the bottom of the well. The pipe is then raised as the well is filled (commonly called a remmie pipe).

Wells constructed in consolidated formations may be filled with cement grout, bentonite grout, sand, gravel, or drilling cuttings up to 10 feet below the top of consolidated rock or 5 feet below the bottom of the casing. The remaining well void space must be filled with cement or bentonite grout to the top of the well or land surface.

Abandonment of Drilled



Other Wells

This pamphlet has summarized the abandonment procedures for water wells. However, there are many other types of wells in North Carolina that must be abandoned properly.

For Injection Well abandonment procedures, refer to the Title 15A NCAC 2C .0200 rules: Criteria and Standards Applicable to Injection Wells. For monitoring wells and other miscellaneous wells, refer to Title 15A NCAC 2C .0100: Criteria and Standards Applicable to Water Supply and Certain Other Wells.

Well Disinfection Tip

The following table can be used to determine how much chlorine compound is needed to dose 100 feet of a water filled well to at least 100mg/L.

Borehole or Casing Diameter (inches)	Gallons of Water per 100 ft of Water Filled Well	Amount of Calcium Hypochlorite (65%-70% available chlorine)
2	16.3	0.5 oz.
4	65.3	2 oz.
6	146.9	4.4 oz.
8	261.1	7.8 oz.
10	408	12.2 oz.
12	567	1 lb. 2 oz.
18	1321	2 lb. 8 oz.
20	1632	3 lbs. 1 oz.
24	2350	4 lbs. 7 oz.
30	3672	6 lbs. 14 oz.
36	5287	9 lbs. 15 oz.

If you have additional questions, please contact the Regional Office in your area for more information on well disinfection.

