

ERM NC, PC

8000 Corporate Center Dr.  
Suite 200  
Charlotte, NC 28226  
(704) 541-8345  
(704) 541-8416 (fax)

December 6, 2010

NCDENR – Division of Water Quality  
Aquifer Protection Section  
585 Waughtown Street  
Winston-Salem, NC 27107  
Attn: Ms. Sherri Knight



Reference: Monitor Well Permit Application  
Edwards Road Landfill - Permit #34-05  
Rural Hall, Forsyth County  
R. J. Reynolds Tobacco Company

*Via Email & US Mail*

Dear Ms. Knight:

On behalf of R.J. Reynolds Tobacco Company (RJRT), ERM NC, PC (ERM) is submitting the enclosed *Application for Permit to Construct a Monitoring Well System* for installation of one groundwater monitoring well on a parcel adjacent to the inactive Edwards Road Landfill in Rural Hall, Forsyth County. Evaluation of groundwater and surface water quality in the vicinity of the Edwards Road Landfill is being conducted by RJRT in accordance with request by NCDENR's Division of Solid Waste.

One Type II monitor well will be installed on the adjacent parcel to the southeast owned by Mr. and Mrs. Kenneth Stewart to evaluate groundwater quality in the bedrock aquifer southeast and hydraulically side-gradient of the landfill. A map depicting the proposed well location in relation to the landfill and other nearby features is enclosed along with a diagram presenting the proposed well construction details. This well is scheduled to be installed on December 13, 2010.

ERM requests a permit for installation of this monitor well. Please contact me if you have any questions or require additional information.

Sincerely,



Alan Martin, P.G.  
Project Manager

Attachments

cc: Ken Stewart  
Jackie Drummond – NCDENR DWM Raleigh (electronic copy)  
Yong Yi, R.J. Reynolds

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES  
DIVISION OF WATER QUALITY - GROUNDWATER SECTION

**APPLICATION FOR PERMIT TO CONSTRUCT A MONITORING WELL SYSTEM**

(Please Type or Print Clearly)

Date: November 29, 2010 County Forsyth

In accordance with the provisions of Article 7, Chapter 87, General Statutes of North Carolina and regulations pursuant thereto, application is hereby made for a permit to construct monitoring wells.

- Name of Applicant: R.J. Reynolds Tobacco Co. (Telephone: 336-741-6932)  
Applicant's Mailing Address: P. O. Box 2959, Winston-Salem, NC 27102
- Name of Property Owner (if different from Well Owner): Ken & Joan Stewart  
Owner's Mailing Address: 1234 Highway 65 East, Rural Hall, NC 27045
- Contact Person: Ken Stewart - (property owner) (Telephone: 336-650-2408)
- Location of Property: 1234 Highway 65 East, Rural Hall, NC 27045
- Reason for Monitoring Well(s): Environmental assessment  
(ex: nondischarge permit requirements, suspected contamination, environmental assessment, etc.)
- Type of facility or site for which the monitoring well(s) is needed: Inactive Landfill - Permit # 34-05  
(ex: nondischarge facility, waste disposal site, landfill, underground storage tank, etc.)
- Type of contamination being monitored (if applicable): Manganese, Iron, Selenium & Sulfates  
(ex: nutrients, organics, heavy metals, etc.)
- Are any existing recovery wells associated with the monitoring well(s)? No If yes, how many? \_\_\_\_\_  
Recovery Well Construction Permit No. \_\_\_\_\_
- Distance to a known waste or pollution source: 625 feet
- Are any water supply wells located less than 500 feet from the proposed monitoring wells? No  
If yes, give distance: \_\_\_\_\_ feet
- Well Contractor: Geologic Exploration, Inc. / Air Drilling Company
- Well Contractor Certification #: Jerry Watkins - # 2452
- Well Contractor's Address: 176 Commerce Blvd. Statesville, NC 28625

**PROPOSED MONITORING WELL CONSTRUCTION INFORMATION**

- Total Number of Wells to be constructed: 1 ; (A) Number to be completed in bedrock? 1  
(B) Number to be completed in unconsolidated material? 0
- Estimated depth of well(s): 300 (TBD) feet
- Gravel or sand pack interval (if appropriate)  
TBD- Estimated From 260 feet To 300 feet
- Type of casing used: PVC - Sch 40  
(ex: PVC, stainless steel, galvanized steel, etc.)
- Diameter of casing: 2 inches

<b>FOR OFFICE USE ONLY</b>	
<input type="checkbox"/>	PERMITTED ACTIVITY
<input type="checkbox"/>	U.S.T. LEAK DETECTION
<input type="checkbox"/>	GROUNDWATER QUALITY STANDARDS VIOLATIONS SUSPECTED FROM UNPERMITTED ACTIVITIES
<input type="checkbox"/>	NOTICE OF NON-COMPLIANCE AT UNPERMITTED FACILITIES
PERMIT NO. _____	ISSUED _____ 19 _____
INCIDENT # _____	

6. Thickness of casing: 0.154 inches Sch 40
7. How will the well(s) be secured? Locking well monument - 4 inch square
8. Estimated beginning construction date: December 13, 2010
9. Estimated completion date: December 14, 2010

**ADDITIONAL INFORMATION**

1. ATTACH A SITE MAP SHOWING THE LOCATIONS OF THE FOLLOWING:
- 1 - PROPOSED MONITORING WELL(S)
  - 2 - ALL EXISTING MONITORING AND RECOVERY WELLS OR TEST BORINGS WITH THE PROPERTY BOUNDARY
  - 3 - ALL WATER SUPPLY WELLS WITHIN 500 FEET OF THE WASTE SOURCES
  - 4 - AT LEAST TWO REFERENCE POINTS (NUMBERED ROADS, INTERSECTIONS, STREAMS, ETC.)
2. PROVIDE A WELL CONSTRUCTION DIAGRAM OF EACH WELL SHOWING DIAMETER, ESTIMATED DEPTH, SCREEN INTERVALS, SAND/GRAVEL PACKS, TYPE OF CASING MATERIAL, CASING WALL THICKNESS, WELL HEAD COMPLETION DETAILS, ETC.)

The Applicant hereby agrees the proposed well(s) will be constructed in accordance with approved specifications and conditions of the Well Construction Permit as regulated under the Well Construction Standards (Title 15A North Carolina Administrative Code, Subchapter 2C) and accepts full responsibility for compliance with these rules.

**Alan Martin**  
Digitally signed by Alan Martin  
 DN: cn=Alan Martin, o=ERM NC, PC,  
 email=alan.martin@erm.com, c=US  
 Date: 2010.11.28 12:13:58 -05'00'

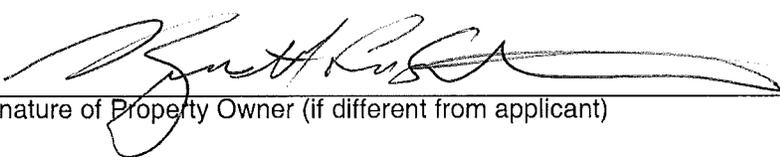
Signature of Applicant or Agent

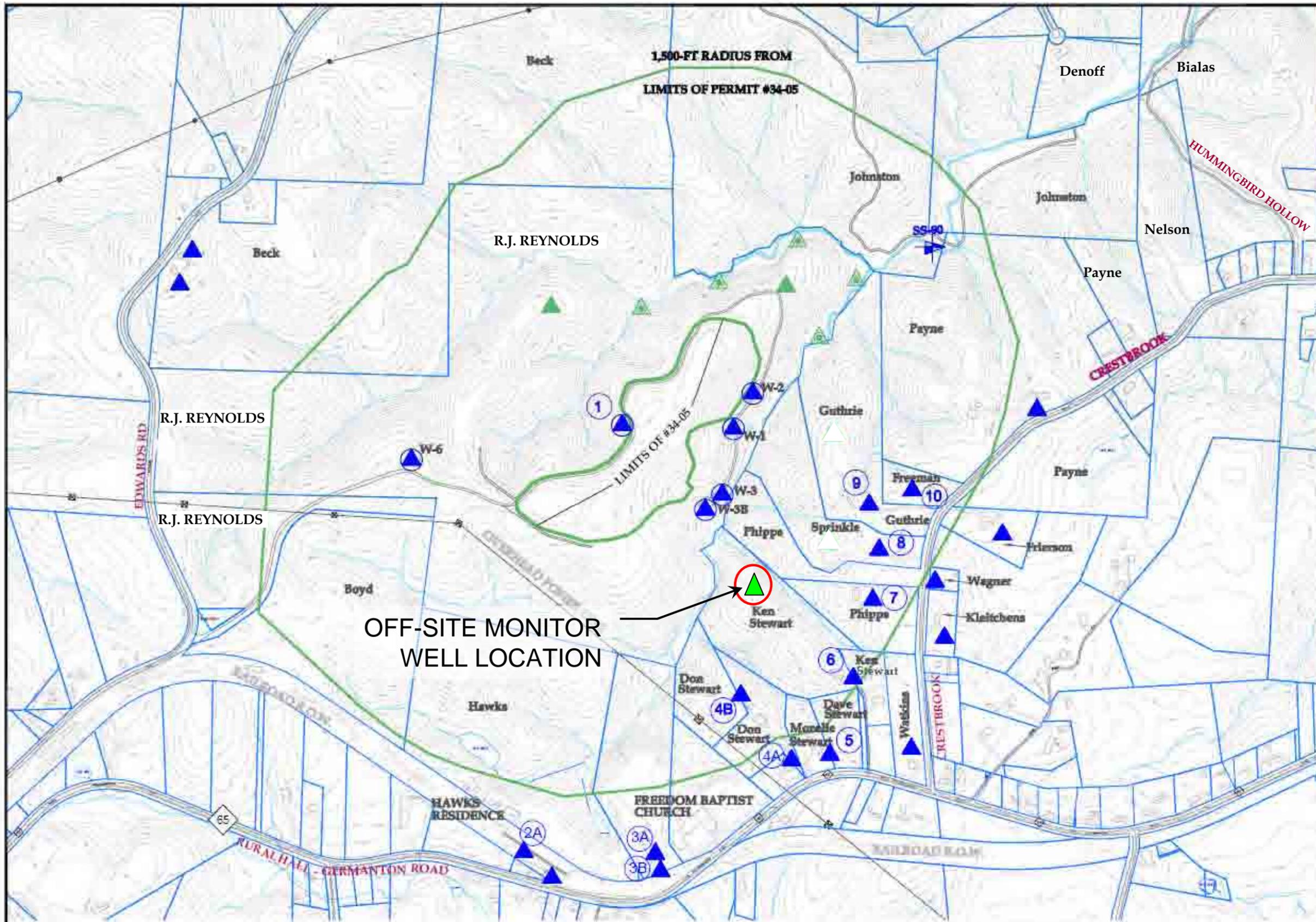
Environmental Consultant for  
 R.J. Reynolds Tobacco Company  
 ERM NC, PC

Project Manager - ERM, NC, PC  
 Title (if applicable)

8000 Corporate Center Drive,  
 Suite 200  
 Charlotte, NC 28226  
 704-541-8345

If the property is owned by someone other than the applicant, the property owner hereby consents to allow the applicant to construct monitoring wells as outlined in this application and that it shall be the responsibility of the applicant to ensure that these monitoring wells conform to the Well Construction Standards (Title 15A North Carolina Administrative Code, Subchapter 2C).

  
 Signature of Property Owner (if different from applicant)



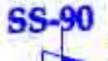
**NOTES:**

TOPOGRAPHIC INFORMATION SHOWN IS A COMPILATION OF NC FLOODPLAIN MAPPING PROGRAM 2008 AND FORSYTH COUNTY INFORMATION 2005.

CONTOUR INTERVAL IS 10-FT.

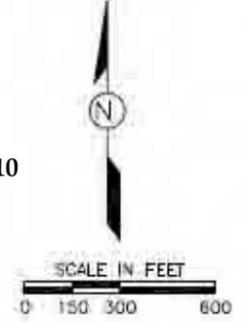
LIMITS OF LANDFILL ARE APPROXIMATE BASED ON AVAILABLE HISTORIC DATA.

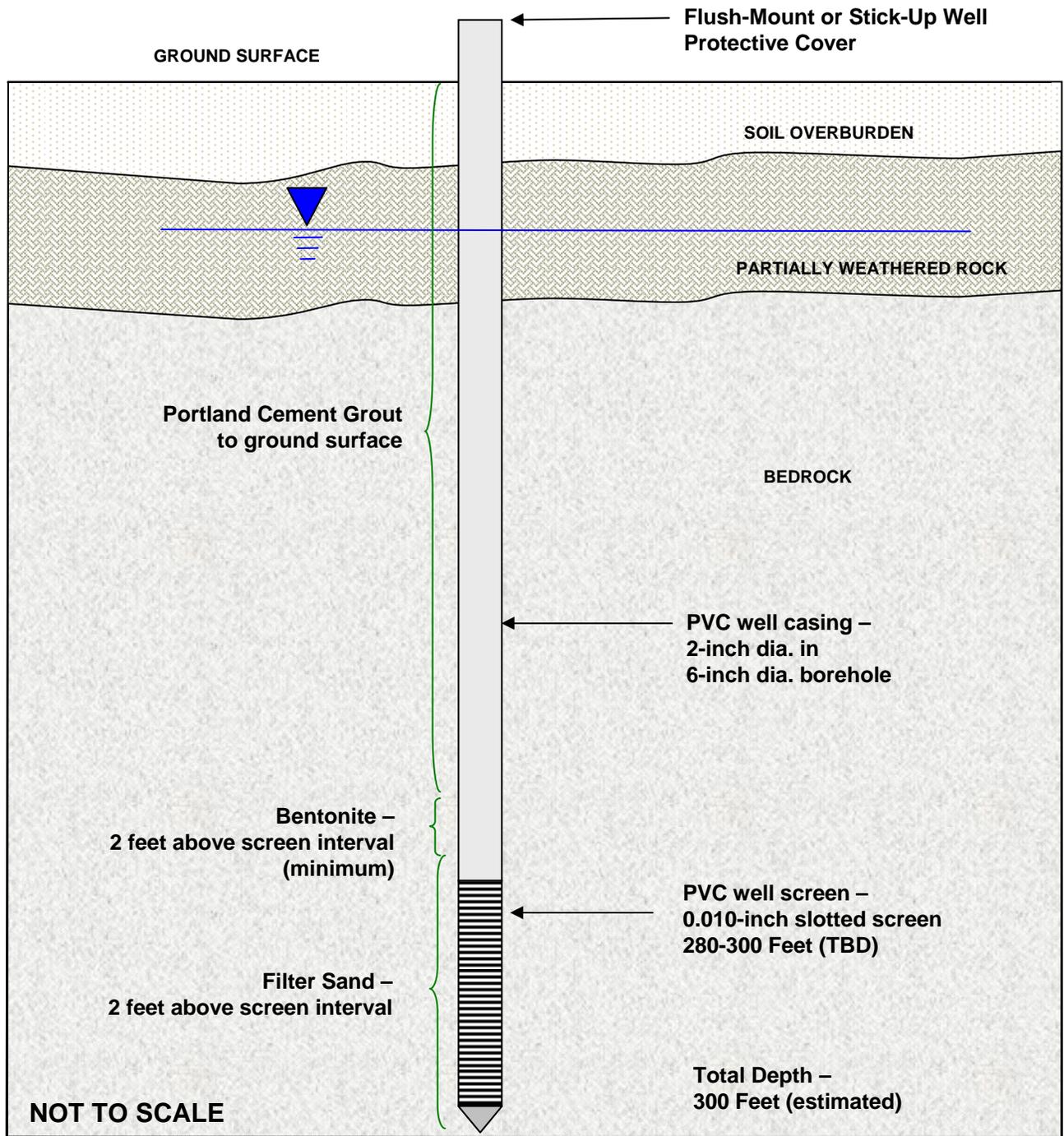
PARCEL BOUNDARY INFORMATION TAKEN FROM FORSYTH COUNTY GIS SYSTEM.

-  WELL ID ASSIGNED DURING SAMPLING
-  WELL ID CORRESPONDS TO TABLE 1
-  WATER SUPPLY WELL IDENTIFIED
-  PHASE II PROPOSED WELL LOCATIONS
-  PHASE II PROPOSED SURFACE WATER SAMPLING LOCATION
-  EXISTING MONITORING WELL
-  PROPOSED PIEZOMETER LOCATION

OFF-SITE MONITOR WELL LOCATION

UPDATED - NOVEMBER 29, 2010





**ERM NC, PC**

**PROPOSED CONSTRUCTION -  
 BEDROCK AQUIFER MONITORING WELL - K. STEWART PROPERTY  
 INACTIVE LANDFILL - PERMIT # 34-05  
 RURAL HALL, NORTH CAROLINA**