**North Carolina Department of Environmental Quality – Division of Water Resources**

### APPLICATION FOR A PERMIT TO CONSTRUCT OR OPERATE INJECTION WELL(S)

In Accordance With the Provisions of [15A NCAC 02C .0224](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0224.html)

### GEOTHERMAL HEATING/COOLING WATER RETURN WELL(S)

These well(s) inject groundwater directly into the subsurface as part of a geothermal heating and cooling system

CHECK ONE OF THE FOLLOWING:

\_\_\_\_\_New Application \_\_\_\_\_\_Renewal\* \_\_\_\_\_Modification \_\_\_\_\_Permit Rescission Request\*

\*For Permit Renewals or Rescission Request, complete Sections A thru E, and M (signature page) only

*Print or Type Information and Mail to the Address on the Last Page. Illegible Applications Will Be Returned As Incomplete.*

**DATE**: , **20**\_\_\_\_\_\_ **PERMIT NO.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (leave blank if New Application)

A. CURRENT WELL USE & OWNERSHIP STATUS (Leave Blank if New Well/Permit Application)

1. Current Use of Well
2. I wish to continue to use the well as [ ]  Geothermal Well [ ]  Drinking Water Supply Well

 [ ]  Other Water Supply Use- Indicate use (i.e., irrigation, etc.)

1. Terminate Use: If the well is no longer being used as a geothermal injection well and you wish to rescind the permit, check the box below. If abandoned, attach a copy of the Well Abandonment Record (GW-30).

[ ]  Yes, I wish to rescind the permit

1. Current Ownership Status

Has there been a change of ownership since permit last issued? [ ]  YES [ ]  NO

If yes, indicate New Owner’s contact information:

Name(s)

Mailing Address:

City: State:\_\_\_\_\_Zip Code: County:

Day Tele No.: Email Address.:

**B. STATUS OF APPLICANT (choose one)**

Non-Government: Individual Residence \_\_\_\_ Business/Organization \_\_\_\_

Government: State \_\_\_\_ Municipal \_\_\_\_ County \_\_\_\_ Federal \_\_\_\_

**C. WELL OWNER(S)/PERMIT APPLICANT –** For single family residences, list all persons listed on the property deed. For all others, list name of business/agency and name of person and title with delegated authority to sign:

Mailing Address:

City: State: \_\_\_\_ Zip Code: County:

Day Tele No.: Cell No.:

EMAIL Address: Fax No.:

**D. WELL OPERATOR (if different from well owner) –** For single family residences, list all persons listed on the property deed. For all others, list name business/agency and name of person and title with delegated authority to sign: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Mailing Address:

City: State: \_\_\_\_ Zip Code: County:

Day Tele No.: Email Address.:

**E. PHYSICAL LOCATION OF WELL(S) SITE**

(1) Parcel Identification Number (PIN) of well site: County:

(2) Physical Address (if different than mailing address):

City: County Zip Code:

**F WELL DRILLER INFORMATION**

Well Drilling Contractor’s Name:

NC Well Drilling Contractor Certification No.:

Company Name:

Contact Person: EMAIL Address:

Address:

City: Zip Code: State: County:

Office Tele No.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Cell No.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Fax No.:

**G. HVAC CONTRACTOR INFORMATION (**if different than driller**)**

HVAC Contractor’s Name:

NC HVAC Contractor License No.:

Company Name:

Contact Person: EMAIL Address:

Address:

City: Zip Code: State: County:

Office Tele No.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Cell No.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Fax No.:

H. WELL USE Will the injection well(s) also be used as the supply well(s) for the following?

 (1) The injection operation? YES NO

 (2) Personal consumption? YES NO

**I. WELL CONSTRUCTION REQUIREMENTS –** As specified in [15A NCAC 02C .0224(d)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0224.html):

 (1) The water supply well shall be constructed in accordance with the water supply well requirements of [15A NCAC 02C .0107](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0107.html).
 (2) If a separate well is used to inject the heat pump effluent, then the injection well shall be constructed in accordance with the water supply well requirements of [15A NCAC 02C .0107](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0107.html), except that:

 (a) For screen and gravel-packed wells, the entire length of casing shall be grouted from the top of the gravel pack to land surface;

 (b) For open-end wells without screen, the casing shall be grouted from the bottom of the casing to land surface.

 (3) A sampling tap or other approved collection equipment shall provide a functional source of water during system operation for the collection of water samples immediately after water emerges from the supply well and immediately prior to injection.

**J. WELL CONSTRUCTION SPECIFICATIONS**

 (1) Specify the number and type of wells to be used for the geothermal heating/cooling system:

 \*EXISTING WELLS PROPOSED WELLS

 \**For existing wells, please attach a copy of the Well Construction Record (Form GW-1) if available*.

 (2) Attach a schematic diagram of each water supply and injection well serving the geothermal heating/cooling system. A single diagram can be used for wells having the same construction specifications as long as the diagram clearly identifies or distinguishes each well from one another.

 Each diagram shall demonstrate compliance with the well construction requirements specified in Part H above and shall include, at a minimum, the following well construction specifications:

 (a) Depth of each boring below land surface

 (b) Well casing and screen type, thickness, and diameter

 (c) Casing depth below land surface

 (d) Casing height “stickup” above land surface

 (e) Grout material(s) surrounding casing and depth below land surface
 *Note: bentonite grouts are prohibited for sealing water-bearing zones with 1500 mg/L chloride or greater per* [*15A NCAC 02C .0107(f)(8)*](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0107.html)

 (f) Length of well screen or open borehole and depth below land surface

 (g) Length of sand or gravel packing around well screen and depth below land surface

K. OPERATING DATA

 (1) Injection Rate: Average (daily) \_\_\_\_\_\_gallons per minute (gpm).

 (2) Injection Volume: Average (daily) \_\_\_\_\_\_ gallons per day (gpd).

 (3) Injection Pressure: Average (daily) \_\_\_\_\_\_ pounds/square inch (psi).

 (4) Injection Temperature: Average (January) \_\_\_\_\_\_° F, Average (July) \_\_\_\_ ° F.

**L. SITE MAP –** As specified in [15A NCAC 02C .0224(b)(4)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0224.html), attach a site-specific map that is scaled or otherwise accurately indicates distances and orientations of the specified features from the injection well(s). The site map shall include the following:

 (1) All water supply wells, surface water bodies, and septic systems including drainfield, waste application area, and repair area located within 250 feet of the injection well(s).

 (2) Any other potential sources of contamination listed in [15A NCAC 02C .0107(a)(2)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0107.html) located within 250 feet of the proposed injection well(s).

 (3) Property boundaries located within 250 feet of the parcel on which the proposed injection well(s) are to be located.

 (4) An arrow orienting the site to one of the cardinal directions (north, south, west, or east)

***NOTE: In most cases an aerial photograph of the property parcel showing property lines and structures can be obtained and downloaded from the applicable county GIS website. Typically, the property can be searched by owner name or address. The location of the wells in relation to property boundaries, houses, septic tanks, other wells, etc. can then be drawn in by hand. Also, a ‘layer’ can be selected showing topographic contours or elevation data***

***.***

**M. CERTIFICATION** (to be signed as required below or by that person’s authorized agent)

[15A NCAC 02C .0211(e)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0211.html) requires that all permit applications shall be signed as follows:

1. for a corporation: by a responsible corporate officer;
2. for a partnership or sole proprietorship: by a general partner or the proprietor, respectively;
3. for a municipality or a state, federal, or other public agency: by either a principal executive officer or ranking publicly elected official;
4. for all others: by all the person(s) listed on the property deed.

**If an authorized agent is signing on behalf of the applicant, then supply a letter signed by the applicant that names and authorizes their agent to sign this application on their behalf.**

“I hereby certify, under penalty of law, that I have personally examined and am familiar with the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining said information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties, including the possibility of fines and imprisonment, for submitting false information. I agree to construct, operate, maintain, repair, and if applicable, abandon the injection well and all related appurtenances in accordance with the approved specifications and conditions of the Permit.”

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature of Property Owner/Applicant

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Print or Type Full Name and Title

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Signature of Property Owner/Applicant

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Print or Type Full Name and Title

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Signature of Authorized Agent, if any

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Print or Type Full Name and Title

Submit **two** copies of the completed application package to the address below (also attach an electronic version on CD or USB Flash Drive):

**Division of Water Resources**

**UIC Program**

**1636 Mail Service Center**

#### Raleigh, NC 27699-1636

**Telephone (919) 707-9000**

 **Open-Hole Well Design Screened Well Design**

 **[ ]**  Proposed **[ ]**  Existing **[ ]**  Proposed **[ ]**  Existing

 **[ ]**  Injection; **[ ]**  Supply; **[ ]**  Injection; **[ ]**  Supply;

 **[ ]**  Dual Purpose **[ ]**  Dual Purpose

(Ft.)

(Ft.)

Land Surface

**Record Depths Below Land Surface (BLS) on Lines Provided**

**Record Depths Below Land Surface (BLS) on Lines Provided**

Return or Supply Line

Casing

Grout

**WELL DETAILS**

Casing Material:

Casing Diameter (in.):

Grout Type:

Grout Depth (BLS):

Top of Bentonite Seal (if present):

Bottom of Bentonite Seal

Screen Material:

Screen Slot Size (in.):

Sand/Gravel Pack

Material Type:

Bedrock

Open Hole

Screen

Sand/Gravel Pack

Bentonite Seal

*(if present)*

Bottom of casing (Ft. BLS)

(Ft. BLS)

(Ft. BLS)

Bottom of casing (Ft. BLS)

(Total Depth Ft. BLS)

Total Depth (Ft. BLS)