

Minnesota Department of Health  
Well Management Section  
625 North Robert Street  
P.O. Box 64975  
St. Paul, Minnesota 55164-0975  
651-201-4600 or 800-383-9808  
[www.health.state.mn.us/divs/eh/wells](http://www.health.state.mn.us/divs/eh/wells)



*Protecting, maintaining and improving the health of all Minnesotans*

## MEMORANDUM

**TO:** Licensed Well Contractors

**FROM:** Mark E. Hoffman, Hydrologist  
Well Management Section  
P.O. Box 64975  
St. Paul, Minnesota 55164-0975

**PHONE:** 651-201-4589

**SUBJECT:** Completing the Groundwater Thermal Exchange Device Application Form

Enclosed is an application form you requested to apply for a permit to operate a groundwater thermal exchange device.

Please send the completed application form along with the \$235 fee and required documentation to:

Well Management Section  
Environmental Health Division  
Minnesota Department of Health  
P.O. Box 64502  
St. Paul, Minnesota 55164-0502

If there are any questions, please contact me at 651-201-4589.

MEH:fal  
Enclosure



MINNESOTA DEPARTMENT OF HEALTH  
 Well Management Section  
 P.O. Box 64502  
 St. Paul, Minnesota 55164-0502  
 651-201-4600 or 800-383-9808  
 Fax No. 651-201-4599  
 Deaf and hard-of-hearing: TTY 651-201-5797

<b>MDH USE ONLY</b>	
Date Received	_____
Amount Received	_____
Application No.	_____
\$235 Application Fee	_____
	(4888) – Heat Pump
Schematic of Plumbing Design	
Received	_____ Approved _____
Site Plan Showing Isolation Distances	
Received	_____ Approved _____
Logs of the Wells, if Existing	_____

**Application for permit to operate a groundwater thermal exchange device with reinjection to the aquifer pursuant to Minnesota Statutes, Chapter 103I and rules adopted thereunder.**

(NOTE: Make check payable to: Minnesota Department of Health)

**General Project Data** to be completed by all applicants (please print or type all information provided).

Name of Certified Representative \_\_\_\_\_ Certified Representative No. \_\_\_\_\_

Company Name \_\_\_\_\_ Company License No. \_\_\_\_\_

Telephone No. (including area code) \_\_\_\_\_

Street Address \_\_\_\_\_

City, State, and ZIP Code \_\_\_\_\_

applies for a permit to operate a groundwater thermal exchange device with reinjection to the aquifer as hereinafter set forth or as disclosed by the attached supporting data.

**1. A. Legal Description of Groundwater Thermal Exchange Device.**

County	Township Name	Township No.	Range No.	Section No.	Quarter(s) Smallest → Largest			
					1/4	1/4	1/4	1/4

**B. Groundwater Thermal Exchange Device Location Site Address.**

Address		
City	State	ZIP Code

**2. Groundwater Thermal Exchange Device Owner Mailing Address.**

Name		
Address		
City	State	ZIP Code

**3. Property Owner Address (if different than the Groundwater Thermal Exchange Device Owner Mailing Address).**

Name		
Address		
City	State	ZIP Code

4. **Description of the Groundwater Thermal Exchange Device – Construction Detail.** Please supply the following information where appropriate. Write "unknown" where the information is not available. If the wells are not yet constructed, write in estimated depths, sizes, and dates which can be obtained from the licensed well contractor.

	Existing Wells		Proposed Wells	
	Supply Well*	Reinjection Well*		
Minnesota Unique Well No. (Available from Licensed Well Contractor)				
Well Depth				
Diameter of Hole				
Diameter of Casing				
Depth of Casing				
Well Construction Date				
Well Pump Installation Date				
Type of Well Pump				

\*If the Well and Boring Record is available, please submit a copy of the record along with this form.

Attach schematic and specifications for proposed well design.

5. **General Water Withdrawal Information.**

Indicate Usage Purpose <input type="checkbox"/> Heating <input type="checkbox"/> Cooling <input type="checkbox"/> Both	Total Amount of Water to be Rejected into the Aquifer _____ (gallons per year)
For a proposed pumping schedule, provide:	
Rates _____ (gallons per minute)	
Times _____ (Example – October-May)	
Duration _____ / _____ / _____ (hours per day)                      (days per month)                      (months per year)	

6. **Location of Wells.**

The wells must be located and constructed in accordance with the provisions of the Minnesota Rules, Chapter 4725, Wells and Borings.

Indicate the location of the wells on an attached site plan, showing isolation distances from any contamination sources specified in Minnesota Rules, part 4725.4450 and distances from gas pipes, liquid propane tanks, electric lines, buildings, and other wells.

7. **Description of the Heat Pump Unit.**

Name of Manufacturer	Model No.	Maximum Flow Rate _____ gpm
Name of Installer		
Installation Date (Actual or Proposed)		

Attach schematic and specifications for piping design.

The diagram of the piping system should indicate:

- ▶ Fifteen-psi pressure valve at discharge well.
- ▶ Solenoid valve on discharge side of heat pump unit.
- ▶ Pressure gauge in line between pressure valve and solenoid valve.
- ▶ Device(s) to provide automatic shutdown of system if discharge line pressure is below 15 psi.
- ▶ In-line thermometer in heat pump inlet and outlet lines.
- ▶ Check valve in line from supply well.
- ▶ Taps (unthreaded) for draining and sampling in supply and discharge lines.
- ▶ Shutoff valves in supply and discharge lines.
- ▶ Filter in discharge line from heat pump.
- ▶ Flow control valve and flow meter in supply line.
- ▶ Any other provisions or devices to be installed, such as pressure tank or isolation valves for servicing of the heat pump.
- ▶ Air release valves.

Specifications should indicate:

- ▶ Materials used for piping.
- ▶ Flow control valve setting.
- ▶ Provision for pressure testing for system.
- ▶ Provision for disinfection of completed system.

**NOTE:** Pipe installations must comply with the provisions of the Minnesota Plumbing Code (Minnesota Rules, Chapter 4715) including materials and joint methods.

As a condition of this permit, I agree to construct this groundwater thermal exchange device under the provisions of Minnesota Statutes, Chapter 103I and Minnesota Rules, Chapter 4725.

Signature \_\_\_\_\_ Date \_\_\_\_\_  
(Certified Representative) (mm/dd/yyyy)

As a condition of this permit, I agree to operate and maintain this groundwater thermal exchange device under the provisions of Minnesota Statutes, Chapter 103I and Minnesota Rules, Chapter 4725 and to allow inspection by the commissioner or his/her agent during regular work hours.

Signature \_\_\_\_\_ Date \_\_\_\_\_  
(Owner of Property) (mm/dd/yyyy)

## Sample Piping Diagram For Groundwater Thermal Exchange Systems

