

**TOWNSHIP OF FRANKLIN
YORK COUNTY, PENNSYLVANIA
ORDINANCE NO. 2011- 1**

AN ORDINANCE PROVIDING FOR THE REGISTRATION, REGULATION AND CONTROL OF GEOTHERMAL WELLS IN FRANKLIN TOWNSHIP, YORK COUNTY, PENNSYLVANIA.

NOW, THEREFORE, BE IT ORDAINED AND ENACTED by the Supervisors of Franklin Township, York County, Pennsylvania, that Ordinances of the Township of Franklin be amended to add a well ordinance as indicated below.

It is the intention of the Board that the provisions of this Ordinance shall become and be made a part of the Ordinances of the Township of Franklin.

WELL ORDINANCE

SECTION 101. - SHORT TITLE

This shall be known and may be cited as the "Geothermal Well Ordinance."

SECTION 102. - PURPOSE

The intention of this Ordinance is to ensure and protect the quality of our underground water resource and its suitability as a domestic water supply. This shall be accomplished through separation from potential sources from contamination of all types.

SECTION 103. - PERMITS

1. No construction, drilling, digging, reconstruction, major repair or other change of or for any geothermal well shall commence unless the property owner, or his/her duly authorized agent, shall apply for and receive a permit for such construction activity from the Township of Franklin. Emergency repairs may be made to existing facilities in which case a permit shall be applied for within seventy two (72) hours of completion of the repair.
2. Application for a geothermal well permit shall be made upon a form supplied by the Township of Franklin and shall be submitted to the Township Inspection Officer or designated Township Employee for review and approval.
3. The application shall set forth the following:
 - A. Name(s) of property owners
 - B. Address or location of property

C. Scale/sketch of premises showing actual or proposed location of geothermal wells, water supply, buildings, and all potential conflicts including septic or holding tanks, drain fields, boundary lines, storm drains, sanitary sewers, sewage disposal fields, sewage seepage pits, cesspools, privies, fuel tanks, stormwater easements, driveways, and waterways.

D. Name and license number of well driller.

SECTION 104. - APPLICATION

1. This Ordinance shall apply to all geothermal wells which have not been started, or which are not in operation or in an inoperable condition at the time of passage of this Ordinance.
2. This Ordinance shall further apply to the reconstruction or re-drilling of geothermal wells.

SECTION 105. - DESIGN STANDARDS

1. GEOTHERMAL WELLS - Geothermal Heat Pump Systems (GHPS)

A. DEFINITIONS

- (1) Closed-Loop - a geothermal heat exchanger that circulates a nontoxic antifreeze heat transfer fluid through a loop or multiple loops of polyethylene piping installed below the ground surface or within a surface water body.
- (2) Open-Loop - a geothermal heat exchanger that withdraws groundwater from a supply well, passes the groundwater through a heat pump, and discharges the temperature-altered water back to the ground in a discharge (return) well. **Surface or streambed discharge of water is strictly prohibited.**
- (3) Direct Exchange - a type of closed-loop heat exchanger that uses loops of copper tubing installed in pits, trenches or vertical borings in the earth, through which a refrigerant is circulated.
- (4) Heat Exchange Well- a well used for the purpose of utilizing the geothermal properties of earth formations for heating or air conditioning.

B. "CLOSED-LOOP" GEOTHERMAL SYSTEMS

(1) BOREHOLE LOCATIONS

- (a) The following minimum isolation distances to existing or potential sources of pollution are as follows:

Isolation Distances

Minimum Distance

WATER RELATED

Delineated wetlands, flood plains, lakes, ponds or other surface waters. 50 feet

Stormwater pits. 25 feet

Storm drains, retention basins stormwater stabilization ponds. 25 feet

Potable Water Well

Hand Dug Well 50 feet

Drilled/Cased Well 25 feet

SEWAGE RELATED

Subsurface sewage absorption areas, elevated sandmounds, cesspools, sewage seepage pits. 100 feet

Spray irrigation site perimeter, sewage sludge, and seepage disposal site. 100 feet

Septic tanks, aerobic tanks, sewage pump tanks, holding tanks. 50 feet

Private Sewer Drains 50 feet

Public sewer laterals. 10 feet

CHEMICAL RELATED

(May be as Regulated by PA DEP)

Preparation area or storage area of hazardous spray materials, fertilizers or chemicals, salt piles. (If borehole is cased and grouted inside and out) 300 feet (150 feet)

Surface or subsurface containers or tanks greater than 1000 gal. used for storage of materials that cannot be properly renovated by passage through soil. This includes, but not limited to, gasoline and all other petroleum products. (If borehole is cased and grouted inside and out) 300 feet (150 feet)

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| Surface or subsurface containers or tanks of 1000 gal. or less used for storage of materials which cannot be properly renovated by passage through soil. This includes, but not limited to, gasoline and all other petroleum products. For example, the type of tanks frequently used in homes using oil for heating purposes. | 50 feet |
| Identified NPL site (Superfund Sites) plume area. | 300 feet (or as regulated by PA DEP) |

MISCELLANEOUS

| | |
|------------------------------------------------------|--------------|
| Property lines, all right-of-ways, easements. | 10 feet |
| Driveways. | 10 feet |
| Dwellings and structures. | 20 feet |
| Farm structures (silos, barnyards, manure pit, etc.) | 100 feet |
| Any other source of pollution. | As approved* |

* "As approved" shall be interpreted as reviewed and accepted by the Township Board of Supervisors.

(b) Any proposed deviation from the isolation distances must be approved in writing by the Township, or its designee, with reasons stated for such deviation. In the event that a deviation from isolation distances is authorized, the applicant shall provide an indemnification to the Township on a document provided by the Township Solicitor.

(2) CONSTRUCTION

(a) Closed-Loop Geothermal Boreholes shall be located, drilled and finished in a manner that will protect the borehole structure from damage from surface activities or other natural occurrences so that the quality of the local groundwater can not be affected.

- (b) The Inspection Officer or designated Township employee shall inspect to determine that the borehole is drilled in the permitted location.

Deviation from the permitted Location must receive prior written approval from the Township. The well contractor shall be responsible for drilling the borehole and the final backfilling after the pipe loop has been installed.

- (c) Casings are not required. Casings may be necessary to hold the borehole open during the drilling process. Casings may be left in the borehole at the discretion of the well contractor. When a casing is used grouting the annular space is required.

The pipe loop is to be installed by a contractor who is certified in the proper method of heat fusion specified by the pipe manufacturer. The well contractor shall be responsible for insuring that the pipe loop is installed in accordance with the specifications of the ground source heat pump system manufacturer, the pipe manufacturer, the International Ground Source Heat Pump Association (IGSHP A) and the National Ground Water Association.

- (d) Backfilling shall be according to the specifications of the IGSHPA and the ground source heat pump equipment manufacturer. When sand is the specified backfill material, the borehole shall be constructed in the same manner as a water supply well. A casing is required to be used and the annular space is required to be grouted.

- (e) If the closed-loop borehole penetrates bedrock it must be grouted from a depth of fifteen feet (15') into the bedrock to the top of the borehole.

- (f) The backfilling material for these boreholes shall be bentonite or its performance equivalent.

- (g) Pressure testing is required with water at one hundred (100) psi for thirty (30) minutes with no Leaks observed. Evidence of testing from the installer must be provided to the Township.

- (h) Boreholes for the installation of a vertical closed-loop may extend several hundred feet in depth. Since vertical closed loops and direct exchange loops may penetrate drinking water aquifers, it is critical that loop boreholes be properly grouted to protect drinking water. Sealing the space between the vertical loop piping and borehole from the bottom up to the ground surface with an appropriate low permeability grout, as recommended by the GHPS manufacturer and consistent with the state well code, is required.

- (i) The location of trenches and boreholes for GBPS closed-loops should be well documented and recorded.

(3) PERMITTING

- (a) Each borehole must be permitted using a single application. A fee will be charged for each borehole.

C. "OPEN-LOOP" GEOTHERMAL SYSTEMS

- (1) "OPEN-LOOP" GEOTHERMAL SYSTEMS ARE PROHIBITED WITHIN THE TOWNSHIP.

SECTION 106. - INSPECTION

Upon receipt of an application for a well permit, the Township, through its duly authorized Inspection Officer, shall within seven (7) business days, perform an inspection of the premises on which the well is to be constructed. The inspection shall be conducted in accordance with the provisions of this Ordinance and the provisions of the Township Code of Ordinances.

Upon completion of the inspection, the Inspection Officer shall either (a) issue a permit to the applicant indicating the approved location for the well and special instructions for construction, if any, or (b) refuse to issue the permit, and, in such event, shall provide the applicant with written reasons for such refusal.

SECTION 107. - PERMITS

All permits shall be issued on a form provided by the Township of Franklin, which shall be executed by the duly authorized Inspection Officer. All permits shall be issued to the property owners or their duly authorized representative/well driller.

SECTION 108. - WATER SUPPLY INSPECTION

A CERTIFICATE OF OCCUPANCY "WILL NOT" BE ACCEPTED AND/OR APPROVED IN THE ABSENCE OF AN "APPROVAL OF OPERATION" ISSUED UNDER THE TERMS AND CONDITIONS OF THIS ORDINANCE.

SECTION 109. - FEES

All applications for a well permit shall be accompanied by a fee payable to the Township of Franklin in accordance with a schedule of fees established/revised from time to time by Resolution of the Township Board of Supervisors.

The applicant shall be responsible for costs associated with inspection of work under this ordinance. The cost shall be commensurate with the hourly rate cost for services as established on the consultant fee schedule approved by the Township.

SECTION 110. - EFFECTIVE DATE OF PERMIT

1. All permits shall be in effect as of the date of issuance, and shall remain in effect for a period of one (1) year or as is consistent with a Township Building Permit. In the event that the geothermal well construction under the permit has not been completed at the expiration of one (1) year from the date of issuance, the permit shall expire and the validity of the permit shall cease and terminate.
2. A request for a one(1)-time extension to a permit must be submitted to the Township in writing, ten (10) days before the expiration date of the permit. Extensions are limited to thirty (30) days. Subsequent requests must be accompanied by an application for a new permit with appropriate fee.
3. In the event a permit expires and construction has not begun, an application for a new permit must be submitted with appropriate fee.

SECTION 111. - VIOLATIONS

1. The Board of Supervisors, the Township inspection officer, or any other authorized officer or employee of Franklin Township, is hereby authorized to give notice by personal service or by United States Mail to any person in violation of this Ordinance, setting forth the violation of the Ordinance, and directing said person to conform to the requirements of this Ordinance within fifteen (15) days after the date of issuance of such notice.
2. In case any person, firm, or corporation should neglect, fail, or refuse to comply with such notice within the period of time stated therein, the Board of Supervisors may order the completion of any work necessary to comply with the Ordinance, and the costs thereof, together with a penalty of ten percent (10%) of the costs thereof, shall be collected by Franklin Township from such person, firm, or corporation in the manner provided by law, including but not limited to, liening the property for said amount.
3. Any person, firm or corporation who shall violate any provision of this Ordinance, upon conviction thereof in action brought before a District Justice in the manner provided for enforcement of summary offenses under the Pennsylvania Rules of Criminal Procedure, shall be sentenced to pay a fine of not more than one thousand dollars (\$1,000.00) plus costs, and, in default of payment of said fines and cost, to a term of imprisonment not to exceed ninety (90) days.

SECTION 112. - SEVERABILITY CLAUSE

The provisions of this Ordinance shall be severable, and if any of its provisions shall be held to be unconstitutional, illegal, or invalid, such unconstitutionality, illegality or invalidity shall not affect the validity of any of the remaining provisions of this Ordinance.

SECTION 113. - LIABILITY

No responsibility or liability for the construction of any well/water supply shall be deemed to be placed upon the Township of Franklin or its officers, agents, or employees by virtue of the terms of this Ordinance or otherwise.

SECTION 114. - REPEALER

All other Ordinances or parts of Ordinances inconsistent herewith be and the same are hereby repealed.

SECTION 115. - EFFECTIVE DATE

This Ordinance shall take effect five days after adoption, by the Board of Supervisors of Franklin Township, County of York, and Commonwealth of Pennsylvania.

Enacted and Ordained this 13 Day of April, 2011

Attest:

Nancy Zentgraf

By:

Board of Supervisors
Franklin Township
York County, PA

Donald J. Lewis
Naomi R. Decker
[Signature]
[Signature]
[Signature]