ORDINANCE NO. 94-12

AN ORDINANCE REGULATING THE INSTALLATION, CONSTRUCTION, AND MAINTENANCE OF WELLS, PUMPS AND GEOTHERMAL HEAT PUMP SYSTEMS, FIXING FEES AND PENALTIES FOR VIOLATIONS THEREOF, AND FIXING A TIME WHEN THE SAME SHALL TAKE EFFECT, AS AUTHORIZED BY IC 36-1-4-11.

Be it ordained and enacted by the Board of Commissioners of Boone County, State of Indiana that the provisions of this ordinance are effective within Boone County and that the Boone County Board of Health is hereby empowered to enforce the provisions of this ordinance.

ARTICLE I

DEFINITIONS

Unless the context specifically indicates otherwise, the meaning of terms used in this ordinance shall be as follows:

Par. 101: "AQUIFER" means a water-bearing formation or stratum.

Par. 102: "BENTONITE" means clay material containing at least eighty- five percent (85%) of the mineral montmorillonite (predom inantly sodium montmorillonite) which meets American Petroleum Institute specifications standard 13-A (1985).

Par. 103: "BENTONITE SLURRY" means a mixture, made according to man ufacturer specifications, of water and commercial grouting or plugging bentonite which contains high concentration of solids.

Par. 104: "CASING" is steel or wrought iron pipe, approved plastic, or other material approved by the Health Officer, to exclude unwanted solids or liquids from the interior of the well.

Par. 105: "CEMENT GROUT" means a thorough mixture consisting of one bag of neat Portland cement (94 lbs.) with five (5) or six (6) gallons of clean water. When such mixture cannot be placed effectively, additives with not more than five percent (5%) by weight of bentonite may be used provided shrinkage is held to a minimum and the mixture will form a water tight seal throughout the entire depth required to prevent objectionable waters from entering the hole.

Par. 106: "FLUSHING" means the act of causing a rapid flow of water fr,om a well by pumping, bailing or similar operation.

Par. 107: "GROUND WATER?? is any water in natural state below the surface of the ground.

Par. 108: "HEALTH OFFICER" shall mean the health officer of Boone County, Indiana, or his authorized representative.

Par. 109: "NON-RESIDENTIAL WELL" shall mean any well drilled for more than two (2) residential units or for use other than residential use or for wells drilled for a combination of use involving residential and non-residential use.

Par. 110: "PERSON" shall mean any individual, firm, corporation or partnership.

Par. 111: "POLLUTION" means such contamination or other alteration of the physical, chemical or biological properties of water as to render such water harmful or detrimental or injurious to public health or safety.

Par. 112: "POTABLE WATER" is water suitable for drinking or culinary purposes.

Par. 113: "PRIVATE WATER SUPPLY" means one or more sources of ground water, including facilities for conveyance thereof, such as wells, springs, and pumps, other than those serving a municipality or those operating as public utility under the rules of the Indiana Public Service Commission.

Par. 114: "PUMP INSTALLER" is any individual, partnership, firm, or corporation that installs a pump in a well or opens the well to service a pump.

Par. 115: "RESIDENTIAL WELL" shall mean any well drilled for the use of one or two (2) dwelling units.

Par. 116: "STUFFING BOX" means an approved receptacle in which packing may be compressed to form a watertight or air tight junction between two objects.

Par. 117: "THERMOPLASTIC PIPE" means plastic well pipe made of A.B.S. (acrylonitrile butadiene styrene), P.V.C. (polyvinyl chloride) or S.R. (rubber-modified polystyrene) with standards listed in A.S.T.M. (American Society of Testing Materials)

Par. 118: "TUBING" is metal, fiber or plastic pipe, used to withdraw water from a well. A jet type pump may require two (2) strings or tubing.

Par. 119: "WATER TABLE" is the top surface, or upper limit, of the ground water zone.

Par. 120: "A WELL" is any excavation, whether drilled, bored, driven, jetted, or dug for the purpose of obtaining water from the ground or returning water to the ground or for the purpose of testing the quantity or quality of such water.

Par. 121: "A WELL DRILLER" is any individual, partnership, firm or corporation that produces, or contracts to construct a well. All well drillers shall be licensed as a Water Well Driller by the Indiana Department of Natural Resources and shall have paid the annual licensing fee.

Par. 122: "WELL DRILLING" is any operation which produces a well.

Par. 123: "A WELL OWNER" is the legal owner of the real estate containing the well site.

Par. 124: "WELL SEAL" means an approved removable apparatus or device used to close the well opening by maintaining a watertight closure between the upper casing of a well and the piping or equipment installed therein, in an attempt to prevent water or other contamination material, from entering the well at the upper terminal.

Par. 125: "WELL VENT" means an opening or outlet at the upper end of the well casing that allows equalization of pressure in the well with atmospheric pressure.

Par. 126: "YIELD" means the quantity of water per unit of time, which may flow or be pumped from a well, when the water level has remained stabilized for one hour or longer.

ARTICLE II

LICENSING, PERI4ITS AND INSPECTION

Par. 201: Licensing of Installer. After the effective date of this Ordinance, no person shall offer or contract to install any portion of a private water well or pump without first having obtained a license from the Health Officer.

a) Application for License. Application for the license shall be on the form prescribed by the Health Officer and shall be accompa nied by a fee as set forth in the Boone County Health Department Fee Ordinance.

b) Issuance of License. Such license shall be valid for a period of one year from the date of issuance and shall be renewable each year thereafter. An application for renewal shall be filed no later than five (5) working days before the expiration date. The license shall bear the name and address of the licensee, the date of issuance, and the expiration date of the license. A license issued under the provisions of this Par. shall be nontransferable.

c) Revocation of License. The Health Officer shall have the authority to revoke a license issued under the provisions of this Par. for repeated failure to observe the standards established by this Ordinance or on conviction of a violation of the Ordinance.

Par. 202: Before commencement of construction of a well or geothermal heat pump system, the owner or agent shall obtain a written permit signed by the Health Officer and the permit shall be posted in a conspicuous place on the premises prior to the commencement of work thereafter. No person shall perform any work on such project until such permit is obtained and posted on the premises. The application for such permit shall be made on a form provided by the Health Officer of Boone County, Indiana, which applicant shall supplement by any plans, specifications and other information as deemed necessary by the Health Officer. Such permit shall be void in the installation is not completed in one year.

a) In emergency situations, the well driller may drill the well prior to obtaining his permit but the water from such well shall not be used for human consumption until the application for the permit has been filed, permit secured, and well inspected and approved. In such emergency situations, the applicant for the well permit shall notify the Health Officer by telephone of the pending well installation prior to such installation. The well permit shall be obtained within twenty-four (24) hours of the regular scheduled work day after the start of the emergency installation.

Par. 203: A permit and inspection fee as set forth in the Boone County Health Department Fee Ordinance shall be paid to the Boone County Health Department at such time as an owner or agent shall apply for a well permit, pursuant to Par. 202 above.

Par. 204: Before the installation of any pump or facilities to convey water from a well, including pitless adaptors, well seal, well houses, or connection piping constructed as part of a private water supply built under the provisions of this ordinance, the owner or agent shall obtain a written permit signed by the Health Officer. No person shall perform any work on such project until such permit is obtained. The application for such permit shall be made on a form provided by the Health Officer of Boone County, Indiana, which the applicant shall supplement by any plan specifications and other information as are deemed necessary by the Health Officer. Such permits shall be void if the installation is not completed in one year. These requirements shall apply to the repair of a well, pump, or accessory lines thereto when it is necessary to uncover the buried upper terminal of the well.

a) In emergency situations, a pump installer may install a pump prior to the owner obtaining a pump permit but the Health Officer shall be notified by telephone, by the pump installer, of the pending pump installation. In such emergency installations, the application for the permit shall explain the emergency and the reason why the pump was installed, prior to obtaining the permit. The pump permit shall be obtained within twenty-four (24) hours of the regular scheduled work day of the Boone County Health Department, r the start of the merg installation.

Par. 205: A permit inspection fee as set forth in the Boone County Health Department Fee Ordinance shall be paid to the Boone County Health Department at such time as application is made for the installation of any well pump or facilities to convey water, pursuant to the regulation set forth in Par. 204 above

Par. 206: The Health Officer shall be allo/'o inspect the well installation at any stage of construction and in any event, the applicant for the permit shall notify the Health Officer when the work is completed or of his intention to abandon the well all in compliance with this ordinance. The inspection shall be made within forty-eight (48) hours of the receipt of notice by the Health Officer. Days not considered regular working days shall not be considered part of the forty-eight (48) hours notice.

Par. 207: The Health Officer shall be allowed to inspect the pump installation at any stage of construction and in any event the applicant for the permit shall notify the Health Officer when the work will be ready for final inspection.

Par. 208: A separate permit will be required for the installation of closed loop geothermal heat pump systems.

Par. 209: A permit inspection fee as set forth in the Boone County Health Department Fee Ordinance shall be paid to the Boone County Health Department as such time as application is made for the installation of a closed loop geothermal heat pump system.

ARTICLE III

LOCATION

Par. 301: Private water supply wells shall be located in keeping with the following principles:

a) At the highest point on the premises consistent with the general layout and surroundings, but in any case protected against surface drainage and flooding. The finished well casing or pitless adaptor shall extend at least one foot above the ground level, or two (2) feet above the maximum flood level in the vicinity, whichever is higher.

b) As far removed from any known or probable source of con tamination as the general layout of the premises and surroundings permit.

Par. 302: Private water supply wells and closed loop geothermal heat pump systems serving a residence consisting of no more than two (2) dwellings shall maintain the following minimum separation distances from sources of contamination:

Cast iron sewers with approved joints and
plastic schedule 40 with glued joints.....10 feet
Sewers and drains..... 50 feet
Privies..... 50 feet
Septic tanks and absorption fields..... 50 feet
Sewage pits and dry wells..... 100 feet
Stables, livestock runs, manure piles, etc..... 50 feet
Streams, lakes, ponds, ditches..... 25 feet
Property lines..... 10 feet

The Health Officer may waive, by written documentation, the requirements set forth above when he considers that it will not endanger public health.

Par. 303: Private water supply wells and closed loop geothermal heat pump systems serving other than a residence consisting of not more than two (2) dwelling units shall maintain the following minimum separation distances from sources of contamination:

Extra heavy cast iron sewers with approved joints
and plastic schedule 40 with glued joints..... 30 feet
Sewers and drains .....100 feet
Septic tanks, absorption fields, filters .....100 feet
Privies .....100 feet
Streams, lakes, ponds, ditches..... .50 feet
Property lines .....10 feet

The Health Officer may waive, by written documentation the requirements set forth above when he considers that it will not endanger public health.

Par. 304: Relationship to buildings. The location of wells with respect to buildings shall be as follows:

a) Every well shall be located so that it will be reasonable accessible with proper equipment for cleaning, treatment, testing, inspection, and for such other attention as may be necessary. It should be at least five (5) feet outside of any existing building overhang.

b) No well shall be located so that the top of the well will be within the basement of any building nor under a building having no basement.

c) Well heads and well casing openings shall not be located in any pit, room or space extending below the established ground surface, except as under such conditions and construction requirements as pre scribed by the Department of Natural Resources.

ARTICLE IV

CONSTRUCTION OF WELLS

Par. 401: All wells and geothermal heat pump wells shall meet the requirements of the Department of Natural Resources 310 IAC 16 and
16.5. Construction of geothermal open-loop heating and/or cooling systems within the boundaries of Boone County is prohibited, as stated in Ordinance 90-7.

Par. 402: All wells shall be cased to a depth of twenty—five (25) feet or more below the ground surface.

Par. 403: For a well less than twenty-five (25) feet deep, casing shall be placed in accordance with specifications approved by the Department of Natural Resources, Water Division.

Par. 404: Casing Diameter. The minimum casing diameter shall be preferably four (4) inches but not less than two (2) inches inside diameter for a well to be used as a source of potable water. Casing size for return wells must comply with the Indiana State Department of Health Bulletin PWS-5 or the current Indiana State Department of Health standard.

Par. 405: Casing shall be constructed of a steel or thermoplastic material or a casing specified in Par. 408 and shall be of sufficient thickness and quality to protect the well against structural deficien cies during construction, and against contamination by surface water or other undesirable materials during the expected life of the well. Ferrous casing shall be new, first class material which meets the American Society of Testing Materials (A.S.T.M.) standards A-120 (1984) or A-53 (1987) or American Petroleum Institute (A.P.I.) standards A.P.I.-5A or A.P.I.-5L (1987). Thermoplastic pipe shall comply with the A.S.T.M. standards F-480 (1981).

Par. 406: Casing used under this section must be new. Casing which is salvaged within thirty (30) days of the installation of a well shall be considered new, if the casing is still in new condition.

Par. 407: Steel, thermoplastic pipe or concrete tile shall be used in bucket wells. This casing shall be new material.

Par. 408: Casing Material. The casing material of the well shall meet the Indiana State Department of Health Bulletin PWS-2 or current Bulletin.

Par. 409: Temporary Capping. Temporary capping of a well or open loop return well until the pump equipment is installed shall be such that no contamination can enter the well. A properly fitted watertight closure is the minimum acceptable.

Par. 410: Well Yield. Wells constructed as a source of water for a residence of not more than two (2) dwelling units shall have a stabilized yield of at least 300 gallons per hour and all other wells shall have a stabilized yield adequate for their intended use unless the water bearing formation is such that after proper construction of the well a lesser amount is the maximum amount obtainable: Additional storage may be required when the well cannot produce the stated yield.

Par. 411: Yield Test. Before being put into use, every well shall be tested for yield and drawdown by pumping or bailing. The test pump shall be used when necessary to clean the well and shall have a capacity at least equal to the pumping rate which it is expected the well will be pumped during its usage. The test pump shall be installed

to operate continuously until the water level has stabilized and, at this point, the yield and drawdown determined.

Par. 412: Each drilled well should be tested for plumbness and alignment. The bore of the hole shall be sufficiently plumb and straight to receive the casing without binding. The casing shall be sufficiently plumb and straight so it will not interfere with instal lation and operation of the pump.

Par. 413: Upper Terminal Wall. In connection with a well, the casing pipe of any drilled well shall project not less than twelve (12) inches above the pumphouse floor or above the established ground surface, and at least twenty-four (24) inches above the highest flood level. Any vent opening, observation ports and air line equipment shall extend from the upper terminal of the well by watertight piping to a point no less than twelve (12) inches above the pumphouse floor or above the established ground surface. The terminals of these facilities shall be shielded or sealed so as to prevent entrance of foreign matter.

Par. 414: Pitless Adaptor. There shall be no opening in the casing wall below its top except by the use of a properly installed pitless adaptor designed to, and fabricated of such materials that will keep soil and water from entering the well during the life of the casing. The pitless adaptor shall be of such design that the tubing or drop pipe cannot be dropped into the well by misalignment in assembling the internal parts. The covered top of the pitless adaptor shall project not less than twelve (12) inches above ground surface and at least twenty-four (24) inches above the highest flood level. There shall be no openings through the walls of the well or adopted casing for vents, wire, airlines, etc.

Par. 415: sealing. This section governs grouting materials and the installation of grouting materials for new wells.

a) Grouting materials shall consist of:
   1) neat cement with no more than five percent (5%) by weight of bentonite additive;
   2) bentonite slurry (which can include polymers designed to retard swelling);
   3) pelletized, granular, medium or coarse grade crushed bentonite; or
   4) other materials approved by the Department of Natural Resources.

b) Where required, neat cement or a bentonite slurry shall be pumped into place from the bottom of the annular space upward in a continuous operation with a grout pipe using the positive displacement
method of introduction.

c) Grouting material, other than neat cement or bentonite slurry, shall be introduced in a manner to prevent the bridging of the annulus between the outside of the well casing and the borehole.

Par. 416: An adequate screen shall be provided where necessary, and installed in a manner that will permit removal and replacement without adverse effect on the watertight construction of the well.

Par. 417: Sec. 1 Rotary or augered wells.

a) A well shall be drilled and equipped with a casing having a minimum of two (2) inches inside diameter installed in an open hole having a diameter of at least two (2) inches greater than the outside diameter of the casing.

b) All wells shall be cased to a minimum depth of twenty-five (25) feet below the ground surface, unless otherwise approved by the Department of Natural Resources.

c) All wells shall have a minimum of twenty—five (25) feet of the borehole annulus pressure grouted with neat cement or a bentonite slurry, unless otherwise approved by the Department of Natural Resources.

d) A well penetrating bedrock shall have the borehole annulus pressure grouted with neat cement or a bentonite slurry from the bottom of the well casing to at least twenty-five (25) feet above the bottom of the casing. The remaining borehole annulus shall be filled with natural earth materials obtained during the drilling process, neat cement, bentonite slurry, pelletized, medium or coarse grade crushed bentonite to the ground surface (or to four (4) feet below the ground surface if a pitless adaptor is installed)

e) A well constructed in an unconsolidated aquifer shall have the borehole annulus pressure grouted with neat cement or a bentonite slurry from the top of the natural or above the top of the gravel pack. The gravel pack shall not extend more than ten (10) feet above the well screen, unless otherwise approved by the Department of Natural Resources. The remaining borehole annulus shall be filled with natural earth materials obtained during the drilling process, neat cement, bentonite slurry, pelletized, medium or coarse grade crushed bentonite to the ground surface (or to four (4) feet below the ground surface if a pitless adaptor is installed).

f) Wells constructed in locations where contaminated or non- potable ground water is known to exist shall have the entire borehole annulus pressure grouted with neat cement or a bentonite slurry to prevent the movement of contaminated or non-potable ground water into an aquifer containing potable water.

Sec. 2 Bucket wells

a) Bucket wells installed as buried slab construction.

(1) Bucket wells installed as buried slab construction shall have the well casing terminated not less than ten (10) feet below the ground surface. The casing shall meet the requirements contained in 310 IAC 16-4-1 and must be firmly embedded in or connected to a pipe, a minimum of two (2) inches inside diameter, cast in a reinforced buried concrete slab.

(2) The annular opening between the wall casing and the well bore shall be filled with washed graded gravel from the bottom of the well to the concrete slab. The annular space between the pipe and borehole shall be sealed with concrete or granular, pelletized, medium or coarse grade crushed bentonite at least six (6) inches thick. The remainder of the borehole shall be filled with clean earth and thoroughly tamped to minimize settling.

b) Bucket wells installed not using buried slab construction.

(1) For other than buried slab construction, a well shall have a borehole with an inside diameter at least two (2) inches larger than the outside diameter of the lining or well casing.

(2) The well shall have a continuous watertight lining of steel casing or concrete extending at least five (5) feet below the ground surface. The casing shall meet the requirements contained in
310 IAC 16—4—1.

(3) The annulus between the inside diameter of the borehole and the outside diameter of the well casing shall be filled with washed graded gravel from the bottom of the well to a depth at least five (5) feet below the ground surface. The remaining annulus shall be sealed with neat cement, bentonite slurry, granular, pelletized, medium or coarse grade crushed bentonite from ground level to at least five (5) feet below ground level.

(4) A reinforced cover slab at least four (4) inches thick with a diameter larger than the casing shall be provided, vents or pump piping which exit through the slab shall have the pipe sleeves cast in place. The top of the slab shall be sloped to drain to all sides and watertight joint made where the slab rests on the well lining using a watertight sealing compound. If a manhole is installed, the manhole shall have a metal curb cast in the concrete slab and extending four (4) inches above the slab. The manhole shall have a watertight cover with the sides to overhang the curb at least two (2) inches. A vent shall be installed and shall consist of a metal pipe extending above the slab with the open end turned down and at least six (6) inches above the slab. The open end shall be covered with sixteen (16) mesh or finer screen made of durable material.

(5) A hole drilled in the casing for a below ground dis charge line shall be sealed on the inside and outside of the well casing with concrete or a mastic compound.

(6) In a bucket well where casing is used with an inside diameter of less than twelve (12) inches that extends the entire depth of the borehole, the graded gravel filling the annular space between the inside of the borehole and outside of the casing shall terminate not less than ten (10) feet below ground surface. The borehole annulus shall be filled with granular, pelletized, medium or coarse grade crushed bentonite a minimum of six (6) inches thick and the remainder of the borehole shall be filled with clean earth and thoroughly tamped to minimize settling.

Sec. 3 Cable tool or jetted wells

a) A well installed by cable tool or jetting shall be equipped with casing having a minimum of two (2) inches inside diameter and be cased a minimum of twenty-five (25) feet below ground surface.

b) If well casing is driven or jetted, a borehole with an inside diameter at least two (2) inches greater than the outside diameter of the casing to be driven shall be dug at least three (3) feet below ground surface. The casing shall be centered in the larger diameter borehole. A bentonite slurry or granular bentonite shall be maintained in the annulus during the installation of the well casing.

c) If a cable tool well is installed to allow a gravel pack to be placed around the well screen, or if larger diameter temporary casing is used to install a smaller diameter permanent well casing, the well shall be grouted under 310 IAC 16-6-1.

ARTICLE V

PUMP INSTALLATION

Par. 501: Hand Pumps. All hand pumps, stands, or similar devices shall be installed so that no unprotected opening connecting with the interior of the pump exists. The pump spout shall be of the closed downward-directed type. All hand pumps shall be bolted to a mount flange securely fastened to the well casing. The top of the casing shall extend at least one inch above the face of the flange.

Par. 502: Power-Driven Pumps. All power-driven pumps located over wells shall be mounted on the well casing, a pump foundation, or a pump stand, so as to provide an effective well seal at the top of the well. Extension of the casing at least one inch into the pump base will be considered an effective seal provided the pump is mounted on a base plate or foundation, in such a manner to exclude dust and insects, and the top of the well casing is at an elevation at least two (2) feet above any known flood water level. Where the pump unit is not located over the well and the pump delivery or suction pipe emerges from the top thereof, a watertight seal shall be provided at the terminal of a conduit containing a cable for a submersible pump. All submersible pumps should have one check valve located on the discharge line above the pump and inside the casing. If the discharge pipe is at least twelve (12) inches above the ground and slopes to drain into the well, the check valve may be located in the house.

Par. 503: Pump Bearing Lubrication. Bearings of power pumps shall be lubricated with water or oil of a bacterial quality equal to that of the water being pumped.

a) Water Lubricated Pumps. If a pump delivering a potable water is provided with a water lubrication tank, the tank shall be so designed and installed as to prevent contamination of the water therein.

b) Oil Lubricated Pumps. The reservoir of an oil lubricated submersible pump shall be designed to protect the oil and the well water from contamination. The oil shall not contain substances which will cause contamination, odor or taste in the water being pumped. Oil lubricated line shaft turbine pumps shall not be permitted in potable water installations.

Par. 504: Pumphouses. Unless the power-driven pump installation is of weatherproof and frost proof construction, a structure housing the pump shall be constructed permitting access to the pump for maintenance and repair work. The pumphouse floor shall be constructed of impervious material and shall slope away in all directions from the well or suction pipe.

Par. 505: Protection Against Freezing. Discharge lines and vacuum lines from the well to the foundation of heated buildings shall be protected against freezing.

Par. 506: Well Vents. All well vent openings shall be piped water tight to a point not less than twenty-four (24) inches above any known flood water level, and in any event, to the top of the well casing. Such vent opening and piping shall be of sufficient size to prevent clogging by hoarfrost and in no case less than one-quarter inch in diameter. The terminals of vent pipes shall be shielded and screened to prevent the entrance of foreign matter and preferably turned down. If toxic or inflammable gases are vented from the well, the vent shall extend to the outside atmosphere at a point where the gases will not produce a hazard. Openings in pump bases shall be sealed watertight.

Par. 507: Sampling Faucets. In all pressure water systems, provision shall be made for collection of water samples by installation of a faucet on the discharge side of and as close as possible to the pump. The sampling faucet shall have a smooth turned down nozzle. A hose bib shall not be used.

Par. 508: Suction or Non-Pressure Lines. All buried suction pipe, or non-pressure lines shall be enclosed in a pipe conduit having a minimum wall thickness equivalent to a casing of same size, and shall be located from sources of pollution in accordance with the distances specified in Par. 303. Suction pipes with annular space between pipe and encasement under pressure may be installed within the specified distances but in no case within ten (10) feet. Sewers of cast iron pipe with leaded joints, clear water drains, and cisterns, shall not be located within ten (10) feet of a suction line. No suction line shall be beneath a sewer. An exposed suction pipe, as in a basement room, shall be eighteen (18) inches, or greater practicable distance above the floor. Any pipe connecting a pump and well shall be protected against freezing.

Par. 509: Materials Prohibited. No material will be used in the well and pump installation that will result in the delivered water being toxic or having an objectionable taste or odor. All metallic and non metallic materials shall have sufficient structural strength and other properties to accomplish the purpose for which installed. Flexible or non-rigid plastic pipe shall not be used for suspending submersible pumps, unless having the physical properties to withstand the torque and load to which it is subjected. Plastic pipe shall not be used unless bearing the approval of the National Sanitation Foundation and unless having the physical properties to withstand the torque and load to which it is submerged.

Par. 510: Offset Pumps, Pressure Tanks and Sampling Faucets They shall be located where they are readily accessible. They shall not be located in a crawl space unless the crawl space is drained to the ground surface beyond the crawl space either by gravity or by means of a suinp pump, and a minimum of four (4) feet or .clear working space is provided between the floor of the crawl space and the floor joist in the pump within five (5) feet of the point of entry. The access opening should be at least two (2) feet high and two (2) feet wide. Any part or accessory to the water system, which requires routine maintenance shall not be installed in a crawl space unless that crawl space meets the requirements of the provisions of this ordinance.

Par. 511: Pressure Tanks or approved substitutes used as part of the water system shall be on such size as to prevent excessive wear on the pump due to frequency of starting or stopping.

ARTICLE VI

USE OF WELLS FOR DRAINAGE PURPOSES

Par. 601: The use of a well for disposal of sewage or other material which may pollute the potable underground water is prohibited.

Par. 602: If a well is used for the purpose of returning uncontaminated water to the ground, the plans for the well to be used, must be submitted to and be approved by the Health Officer and the Indiana Stream Pollution Control Board.

ARTICLE VII

DISINFECTION, SAMPLES AND REPORTS

Par. 701: Disinfection. When the drilling is completed the well must be disinfected with a solution of chlorine bleach and water at a concentration of at least 100 parts per million. The solution shall be poured into the well to ensure the casing walls are wetted before the cover, cap, or seal is installed. If there is a lapse of time before the pump is installed or reinstalled, such treatment shall be performed again. If there is no significant lapse of time between the two (2) operations, only one application disinfection will be required.

Par. 702: Water Samples. After pumping the well to remove all the disinfectant, water samples shall be collected from the house plumbing and shall be analyzed by an approved laboratory. The analysis shall indicate the water to be satisfactory before such installation shall be placed in service and water samples shall be collected by the owner or agent of the owner. A copy of the satisfactory laboratory analysis must be submitted to the Boone County Health Department.

Par. 703: Well Record. The well driller shall supply the Health Officer and Department of Natural Resources with an accurate record of the construction details of the well within thirty (30) days after drilling the well. Including a log of the soil formations and deeper material in which the hole is drilled, results of pumping tests and such other information that may be requested. The driller shall furnish the owner a duplicate copy of this information.

ARTICLE VIII

ABANDONING WELLS OR OPEN LOOP RETURN WELLS

Par. 801: Temporary Abandonment. A well which has not been used for more than three (3) months, but which fhe owner intends to equip and use at some future time must be sealed at or above the ground surface by a welded, threaded or mechanically attached watertight cap. The well shall be maintain so that the well does not become a source or channel of groundwater contamination.

Par. 802: Permanent Abandonment

a) A well drilled before January 1, 1988 that is abandoned must be sealed at or above the ground surface by a welded, threaded or mechanically attached watertight cap. This well shall be maintained so the well dose not become a source or channel at ground water contamination.

b) A well drilled and abandoned after December 31, 1987 shall be plugged with an impervious grouting material to prevent the migration of materials or fluids in the well and the loss of pressure in a confined aquifer.

c) A well drilled after December 31, 1987 and not equipped with casing must be plugged within seventy-two (72) hours after completion.

d) This subsection applies to a cased or uncased well drilled and abandoned after December 31, 1987.

(1) The plugging material must consist of the following:

(A) Neat cement with not more than five percent (5%) by weight of bentonite additive;

(B) Bentonite slurry (which can include polymers designed to retard swelling;

(C) Pelletized, medium or coarse grade crushed bentonite; or

(D) Other materials approved by the Department of Natural Resources.

(2) The following methods apply:

(A) Cement and bentonite slurries shall be pumped into place in a continuous operation with a grout pipe introducing the plugging material at the bottom of the well and moving the pipe progressively upward as the well is filled.

(B) Plugging materials other than neat cement or bentonite slurry shall be installed in a manner to prevent bridging of the well or borehole. The well or borehole shall be measured periodically throughout the plugging process to ensure that bridging does not occur.

(3) The following procedures apply:

(A) An abandoned well shall be disconnected from the water system. Any substance which may interfere with plugging shall be removed, if practicable.

(B) A well, other than a monitoring well or an uncased borehole, shall be chlorinated before abandonment as provided in Par. 701 and 702.

(4) Cased wells shall be plugged as follows:

(A) A cased well shall be plugged with neat cement, bentonite slurry, coarse grade crushed or pelletized bentonite from the bottom of the well to within two (2) feet below the ground surface, unless otherwise provided by the department.

(B) The well casing shall be severed at least two (2) feet below the ground surface and a cement plug larger in diameter than the well bore shall be constructed over the well bore and covered with natural clay material to the ground surface.

(5) An uncased well, other than a borehole drilled by a bucket rig, shall be filled with natural earth materi als, neat cement, bentonite slurry, coarse grade crushed or pelletized bentonite from the bottom of the uncased well to a depth no less than twenty-five (25) feet below ground surface. The borehole shall be filled with neat cement, coarse grade crushed or pelletized bentonite from a depth no less than twenty- five (25) feet below ground surface to within two (2) feet below ground surface. The remaining hole shall be filled with natural clay material to ground surface.

(6) A cased or uncased monitoring well shall be plugged from the bottom of the well or borehole to the ground surface with a bentonite slurry or pelletized or coarse grade crushed bentonite.

(7) Bucket wells shall be plugged as follows:

(A) A bucket well installed as buried slab construction shall be filled with gravel from the bottom of the well to within ten (10) feet below the ground surface. Neat cement, bentonite slurry, pelletized or coarse grade crushed bentonite shall be installed in the casing or well pipe from no less than ten (10) feet below the ground surface to within two (2) feet below the ground surface. The well pipe shall be severed at least two (2) feet below the ground surface and covered with a cement plug larger in. diameter than the well pipe. The remaining hole shall be filled with natural clay material to the ground surface.

(B) Bucket well construction using casing with an inside diameter of less than twelve (12) inches extending the entire length of the borehole and equipped with a well screen shall be abandoned under subdivision (d) (4) (A).

(C) An uncased borehole drilled by a bucket rig shall be filled with natural earth material from the bottom of the hole to ground surface. The earth material shall be thoroughly tamped to minimize settling.

(D) The Department of Natural Resources shall be notified in writing of a well abandonment within thirty (30) days after plugging is completed.

ARTICLE IX

CLOSED LOOP GEOTHERMAL HEAT PUMP SYSTEMS

Par. 901: Closed loop geothermal heat pump systems must be installed in accordance with the Department of Natural Resources.

ARTICLE X

POWERS FOR INSPECTION-ENFORCEMENT-SERVICE OF NOTICES

HEARINGS

Par. 1001: The Health Officer, bearing proper credentials and iden tification, shall be permitted to enter upon all properties at proper times for the purpose of inspection, observation, measurement, sam pling, and testing necessary to carry out the provisions of this ordinance.

Par. 1002: Whenever the Health Officer determines that there are reasonable grounds to believe that there has been a violation of any provision of this ordinance, he shall give notice of such alleged violation to the person or persons responsible therefore, and to any known agent of such person, as hereinafter provided.

Such notice shall:

a) Be put in writing;

b) Include a statement of reasons why it is being issued;

c) Allow a reasonable time for the performance of any act it requires;

d) Be served upon the owner or his agent, or the occupant, as the case may require; provided that such notice shall be deemed to be properly served upon such owner or agent, or upon such occupant, if a copy thereof is sent by certified mail to his last known address, or if a copy thereof is posted in a conspicuous place in or about the dwelling affected by the notice, or if he is served with such notice by any other method authorized or required under the laws of this state;

e) Such notice must contain an outline of remedial action, which, if taken, will effect compliance with the pro visions of this ordinance.

Par. 1003: Any person affected by any such notice may request and shall be granted a hearing on the matter before the Health Officer or his designated representative provided that such person shall file in the office of the Health Officer within ten (10) days after service of the notice, a written petition requesting such hearing and setting forth a brief statement of the grounds therefore. Upon receipt of such petition the Health Officer shall arrange a time and place for such hearing and shall give the petitioner written notice thereof. Such hearing shall be held as soon as practicable after the receipt of request therefore. At such hearing the petitioner shall be given an opportunity to be heard and to show cause why such notice should not be complied with.

Par. 1004: After such hearing, the Health Officer or his designated representative shall sustain, modify or withdraw the notice, depending upon his findings as to whether the provisions of this ordinance have been complied with. If the Health Officer or his designated representative shall sustain or modify such notice, it shall be deemed to be an order. A notice served pursuant to Par. 1002 of this ordinance shall automatically become an order if a written petition for a hearing is not filed in the office of the Health Officer within the ten (10) days after such notice is served. After a hearing in the case of any notice suspending any permit required by this ordinance, when such notice has been sustained by the Health Officer, or his designated representative, the permit shall be deemed to have been revoked. Any such permit which has been suspended by a notice shall be deemed to be automatically revoked if a petition for hearing is not filed in the office of the Health Officer within ten (10) days after such notice is served.

Par. 1005: Whenever the Health Officer finds that an emergency exists which requires immediate action to protect the public health he may, without notice or hearing, issue an order reciting the existence of such an emergency and requiring that such action be taken as he deems necessary to meet the emergency. Notwithstanding the other provisions of this ordinance, such order shall be effective immediately but upon petition to the Health Officershall be afforded a hearing as soon as possible, in the manner provided in Par. 1003. After such hearing, depending upon the findings as to whether the provisions of this ordinance have been complied with, the Health Officer shall continue such order in effect, or modify it, or revoke it.

ARTICLE XI

PENALTIES

Par. 1101: Any person found to be violating any provision of this ordinance, shall be served by the Health Officer with a written order stating the nature of the violation and providing a time limit for

satisfactory correction therewith. The Health Officer shall personally deliver or serve the order to the person in violation, or shall send the same by certified IJ.S. mail with return receipt requested.

Par. 1102: Any person who shall continue any violation of this ordinance beyond the time limit provided for in Par. 1101 of this ordinance shall be guilty of an Ordinance Violation. On conviction, the violator shall be punished for the first offense by a penalty of not more than Five Hundred Dollars ($500.00); for the second offense by a penalty of not more than One Thousand Dollars ($1,000.00). Each day after the expiration of the time limit for abating the violation shall constitute a distinct and separate offense.

Par. 1103: Any person violating any provisions of this Ordinance shall become liable to Boone County Department of Health for any expense, loss, or damage occasioned it by reason of such violation.

ARTICLE XII

ENFORCEMENT INTERPRETATION

Par. 1201: The Health Officer may adopt such rules and regulations as he deems necessary for the proper enforcement and to carry out the purpose and intent of this ordinance.

ARTICLE XIII

VALIDITY

Par. 1301: All ordinances or parts of ordinances in conflict herewith are hereby repealed.

ARTICLE XIV

ORDINANCE IN FORCE

Par. 1401: This ordinance shall be in full force and effect on and after its passage, approval by the Commissioners, and publication as required by law.

Passed and adopted by the Commissioners of Boone County, State of Indiana on this ____19TH_____ day of ____September_____ , 19 94

BOARD OF COMMISSIONERS OF BOONE COUNTY

BY_____
Thelma Theobald

BY_____
Robert Guernsey

BY_____
Larry Frye

ATTEST:

_____
Connie Lamar, County Auditor