

FULTON COUNTY CODE OF ORDINANCES AND CODE OF RESOLUTIONS

CHAPTER 34 - HEALTH AND SANITATION

ARTICLE IV – DRINKING WATER SUPPLY

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ARTICLE IV DRINKING WATER SUPPLY*

State law reference(s)- -Georgia Water Quality Control Act, O.C.G.A. § 12-5-20 et seq.

Sec. 34-111. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section except where this content clearly indicates a different meaning:

Abandoned well means a well or borehole of which the use has been discontinued.

Absorption field means a configuration of absorption trenches installed in a portion of land and used for the absorption and final treatment of sewage.

Annulus or *annular space* any artificially created void existing between a well casing or liner pipe and a borehole well.

Approval or *approved* means accepted or acceptable by DHR and the department in accordance with applicable specifications stated herein or with additional criteria accepted by DHR.

Aquifer means one or more, or parts, of geologic formations capable of containing water or yielding water to a well.

Back siphonage means the reverse flow of water caused by a partial vacuum in water supply lines. The partial vacuum may be caused by gravity, undersized piping, or a water pressure drop, which could occur when a water main breaks, or during a fire because of excessive usage.

Bacteriological means bacterial life and phenomena.

Bored well means any well excavated by an earth auger in which the casing extends from the ground surface into an aquifer.

Casing means an impervious, durable pipe placed in a well to prevent the borehole from caving and to prevent surface drainage or undesirable water, gas, or other fluids from entering the well.

Certified well contractor means any person who:

- (1) engages in the construction, repair, or alteration of individual onsite drinking water supply systems (private or semi-public);

Sec. 34-111. Definitions. (cont.)

- (2) is a state-licensed well contractor in accordance with the "Water Well Standards Act of 1985" (O.C.G.A. § 12-5-120 et seq.);
- (3) has passed an examination administered by the department demonstrating familiarity with this article;
- (4) consistently complies with this article; and
- (5) possesses a valid department certificate.

Commercial development means a development other than residential and shall include any structure used for retail, wholesale, office, industrial, church, and other similar developments.

Community water supply means any public water supply, which serves at least 15 service connections, used by year- round residents or which regularly serves at least 25 year- round residents.

Contamination means to make unfit for use by the introduction of unwholesome or undesirable elements.

Cross connection means any configuration whereby a potable water supply is connected with any water supply system, sewer, drain, conduit, pool, storage reservoir, plumbing fixture, or other device which contains (or may contain) contaminated water, sewage, or other unsafe waste or liquid which may be capable of contaminating the potable water supply.

Department means the Fulton County Department of Health and Wellness or its authorized representative(s).

DHR means the Georgia Department of Human Resources.

Disinfection means a process, which destroys pathogenic organisms.

DNR means the Georgia Department of Natural Resources.

Drilled well means any well, whether excavated by rotary or percussion hydraulic drilling, having a casing that extends from the ground surface through an impermeable formation to an aquifer where adequate capacity of water is obtained.

Easement means any portion of a parcel or lot legally dedicated for the exclusive use by a person, utility, governmental, or private entity, thereby precluding use of that area for the construction of or reserve area for an onsite sewage management system(s) or onsite water supply.

Sec. 34-111. Definitions. (cont.)

Flood plain means any area susceptible to being flooded or as designated by the 100-year flood plain area including Type A zone flood areas, as determined or established in flood studies. This term shall also include 100-year water levels in detention and retention ponds.

Lot a portion of a subdivision, or any other parcel of land intended as a unit for transfer of ownership or for development or both, and shall not include any part of the right-of-way of a street or road.

Maximum Contamination Level means the maximum permissible level of a contaminant in a potable water supply.

Minor plat means any subdivision of land administratively approved by the appropriate governmental jurisdiction and is exempted from prescribed subdivision platting procedures. The term shall include but not be limited to exception plat, administrative subdivision, private subdivision, etc., and other similar division of land, with the total number of lots not exceeding three (3).

Non-community water supply means any public water supply, which regularly serves at least 15 service connections or an average of 25 individuals for at least 60 days out of the year.

Non-drinking water supply means any water supply not specifically used, nor intended or designed to be used, as a potable water supply. The term shall include, but not be limited to water supplies for irrigation purposes, heating and cooling of structures, and similar other structures.

Nonsewered toilet system means any portable structure used for the collection, temporary storage and chemical treatment of human body wastes that is not connected to an onsite sewage management system or community sewerage system.

Onsite drinking water supply means an excavation or opening into the ground from which ground water is sought or obtained for consumption.

Onsite sewage management system means a sewage management system other than a public or community sewage treatment system serving one (1) or more buildings, mobile homes, recreational vehicles, residences, or other facilities designed or used for human occupancy or congregation. Such term shall include, without limitation, conventional and chamber system(s), privies, and experimental and alternative onsite management system(s) that may be approved by DHR, which are designed to be physically incapable of a surface discharge of effluent. Nonsewered toilet system is not included in this term.

Person means any individual, permit holder, owner, partnership, corporation, or association, and may extend and apply to bodies including governmental agencies.

Sec. 34. 111. Definitions. (cont.)

Physical development means construction including, but not limited to, any site preparation, grading, excavation for slabs or footings, erection of a structure(s), road construction, well construction or installation of an onsite sewage management system(s), and others similar projects.

Point of availability means the existing or pre-designed location at which a public or community water supply system terminates in relation to a proposed development. Water supply may be connected as determined by the appropriate governmental jurisdiction.

Pollutant means something that makes a substance physically impure or unclean.

Potable water supply means any water supply that is satisfactory for drinking, culinary and domestic purposes. Potable water must meet the current standards established by the Environmental Protection Division, Georgia Department of Natural Resources.

Premises means any place or building(s) where people live, work, or congregate.

Private water supply means any water supply consisting of a single well and serving no more than two (2) single residences on one lot.

Privy means a permanent waterless sanitary fixture meeting department requirements solely for disposal of human body wastes below the ground.

Public or community sewerage system means any sewage collection, treatment, and disposal system, including sewers, treatment plants, pumping stations, force mains, and all other elements owned, operated, or managed by a public entity (including agents thereof), and serving more than one (1) residential premises.

Reserve area means an area designated for the 100% replacement capacity of an onsite sewage management system(s) in accordance with Article XI, Sewage Disposal.

Residence means any building or structure intended for housing a single family.

Residential development/Subdivision means any subdivision of land subject to prescribed platting procedures of the appropriate governmental jurisdiction and shall include, but not be limited to developments with the total number of lots exceeding three (3).

Sanitary sewer means a pipe or system of pipes, manholes, and other similar piping systems constructed for the purpose of conveying sewage.

Semi-public water supply means any water supply other than a private water supply, which serves less than 15 service connections or 25 people on a daily basis at any time during the year.

Sec. 34. 111. Definitions. (cont.)

Septic tank means an approved watertight structure installed underground to receive sewage from a building sewer, effecting separation and organic decomposition of sewage solids and discharging effluent to an absorption field or another element of an onsite sewage management system.

Sewage means human excreta, all water-carried wastes, and/or liquid household waste including gray water from residences or similar wastes (by-products) from commercial and industrial establishments.

Special event means any activity attracting more than 50 persons that is sponsored, organized, promoted, managed, or financed by any person, where individuals congregate to participate in or observe an activity in outdoor or portable enclosed or semi-enclosed structures for more than two (2) consecutive hours.

Spring means a source of water supply, which naturally surfaces from rock or soil onto the land or into a body of water.

Subdivision means the division of a tract or parcel of land into two (2) or more lots, building sites, mobile home sites, or other land or property regardless of the existing or proposed use whether immediate or future, for the purpose of sale or legacy. This also includes resubdivision, and where appropriate to the context, relates to the process of subdividing or to the land or area subdivided.

Toilet means a sanitary fixture meeting the department and current applicable plumbing code requirements for receipt and conveyance of human body wastes to a public or community sewerage system or an onsite sewage management system.

Usable area means the total area in a lot that is determined by the department to be considered for installation of an onsite sewage management system including the reserve area. The area shall not include any bodies of water, flood plain, easements, buffers, and other similar areas, nor areas precluded for use by this article (see Table C, “Well Separation Distance Requirements”).

Water supply means the source from which the water is obtained and all structures, machinery, conduits, and appurtenances, by means of which the water is collected, treated, stored, protected, or delivered to the customer/consumer.

Well means an excavation or opening into the ground from which groundwater is sought or obtained.

(91-RC-157, § 30-2-1-1, 5-1-91)

Cross reference(s)--Definitions generally, § 1-2.

Sec. 34-112. Potable water supply required.

- (a) *General.* Owners of private homes and of all rented or leased premises shall furnish at least one (1) convenient outlet with the capacity to supply an adequate quantity of potable water for drinking and domestic purposes. The number, type, and location of the water system appurtenances shall meet applicable building and plumbing codes. Pressure and capacity shall be commensurate with occupancy and use levels and shall meet applicable codes.
- (b) *Special events.* Organizers shall provide free potable drinking water for consumers at all special events (see Table H, “Drinking Water Unit Requirements”). A special event is exempt from this requirement if it meets the following conditions, namely:
 - (1) It is sponsored by a political subdivision of this state or by an organization exempt from taxes under paragraph (1) of Subsection (a) of Code section 48-7-25 or under Section 501(d) or paragraphs (1) through (8) or paragraph (10) of section 501 (c) of the Internal Revenue Code, as that code is defined in Code Section 48-1-2; and
 - (2) Lasts 120 hours or less; and
 - (3) When sponsored by such an organization is authorized to be conducted pursuant to a permit issued by this municipality or county in which it is conducted. An organizer(s) of an exempt special event is encouraged to provide the free drinking water for the consumers. Recommendations for providing an adequate amount of potable water, based on the anticipated peak crowd, is available in the current department “Recommendations for Special Event Organizers - Non-Food Facilities Guidelines”.
- (c) *Connection to water supply.* Connection to a community water supply shall be required when such system is available for the following types of property/development:
 - (1) *Individual residential lot.* A community water supply shall be considered available if it is within 200 feet of the nearest property line, such distance being measured along the public rights-of-way. A private water supply may be utilized in lieu of connection to a community water supply at the discretion of the property owner if minimum area and separation distance requirements specified in this article are satisfied.
 - (2) *Minor plat.* A community water supply shall be considered available if it is within 200 feet of the nearest property line of the development, such distance being measured along the public rights-of-way.
 - (3) *Commercial development.* A community water supply shall be considered available if it is within a specified distance of the nearest property line, such distance being measured along the public rights-of-way and based on the maximum occupancy of the development (see Table A, “Mandatory Connection Criteria-Commercial Development”)

Sec. 34-112. Potable water supply required. (cont.)

and Table D, “Maximum Occupancy of Structure ” for determination).

- (4) *Residential development/Subdivision.* A community water supply shall be considered available if it is within a specified distance of the nearest property line at the time of application or will be available within a set time period, as determined by the appropriate governmental jurisdiction. The distance indicated in Table B, “Mandatory Connection Criteria -Residential Development”, shall be measured along the public rights-of-way and shall be based on the number of lots indicated on the preliminary plat. Table B, “Mandatory Connection Criteria -Residential Development”, includes conditions of approval for various types of residential developments, stipulating the construction determined to be necessary by the department in compliance with requirements of the appropriate governmental jurisdiction.

(A) Type “A” residential development shall be as follows:

1. *Service availability:* A community water supply is available as determined by the appropriate governmental jurisdiction at time of application in accordance with Table B “Mandatory Connection Criteria Residential - Residential Development”.
2. Conditions of approval:
 - i. For an individual lot area of less than or equal to two (2) acres, the owner/developer shall construct a distribution system from the point of availability and extend the system throughout the development.
 - ii. For an individual lot area of more than two (2) acres, the owner/developer is not required to connect the development to a community water supply.

(B). Type B residential development shall be as follows:

1. *Service availability:* A community water supply is determined to be unavailable by the appropriate governmental jurisdiction at the time of application in accordance with Table B, “Mandatory Connection Criteria - Residential Development”.

Sec. 34-112. Potable water supply required. (cont.)

2. *Conditions of approval:*

- i. For an individual lot area of less than one (1) acre, the owner/developer shall construct a distribution system from the point of availability and extend the system throughout the development only if lot areas are less than one (1) acre and utilization of onsite sewage management systems are also proposed.
- ii. For an individual lot area greater than or equal to one (1) acre, the owner/developer is not required to connect the development to a community water supply.

(91-RC-157, § 30-2-1-2, 5-1-91)

Sec. 34-113. Permits.

- (a) *Land disturbance.* No person shall begin physical improvement on a lot including clearing, grading, or excavation for footings (nor shall any building permit be issued) prior to receiving a permit from the department to construct a private or semi-public water supply.
- (b) *Construction permit.* No person shall construct a private or semi-public water supply without obtaining a Water Supply Construction Permit from the department. Occupancy/permanent power holds shall be placed on all new premises at time of permit issuance. No person shall use a private or semi-public water supply, nor shall occupancy/permanent power holds be released by appropriate governmental jurisdictions until construction approval is given by the department. The permit is valid for 12 months from date of issuance. A fee shall be charged for this service.
 - (1) *Ownership of property and system.* No construction permits for a semi-public or private water supply shall be issued unless fee-simple title of all property is under same ownership and the system exclusively serves the owner's facilities on that property.
 - (2) *Semi-public water supply.* Data requirements for construction plans and specifications shall comply with the current department "Data Requirements - Semi-Public Water Supply".
- (c) *Operating permit.* Operating permits are required as follows:
 - (1) *Semi-public/non-drinking water supply.* No person shall operate a semi-public or non-drinking water supply without a valid permit from the department.

Sec. 34- 113. Permits. (cont.)

- (2) *Community or non-community water supply.* No person shall operate a public community or non-community water supply without a valid permit from the Environmental Protection Division of DNR.
- (d) *Repair/modify permit.* No person shall alter, modify, enlarge, or repair (except repairs required for routine maintenance) any water supply without first submitting plans and specifications and receiving department approval of the plans and issuance of a repair permit.
- (e) *Unapproved water supplies.* The following shall apply to unapproved water supplies with the adoption of this article.
 - (1) *Existing water supplies.* Water supplies constructed prior to June 2, 1982, are exempt from the construction and separation distance requirements unless they are determined to be a public health hazard (see subsection (f) of this section).
 - (2) *Water supplies given site approval only.* Water supplies given site approval by the department, that were installed but not granted construction approval due to the following are not approved water supplies:
 - (A) unapproved/noncomplying construction (including for failure to submit contractor certification of below ground construction meeting this article);
 - (B) unsatisfactory bacteriological well water sample results; and/or
 - (C) denial of access for final inspection.
 - (3) *Disapproval.* Owners may be notified in writing of disapproval. The well will not be approved until all construction requirements are satisfied.
 - (4) *Spring.* A spring may not be developed as a water supply. An existing spring currently being used as a water supply must meet the following criteria:
 - (A) a protective concrete structure must be weather resistant, provided with walls extending to bedrock or deep enough to provide a proper foundation to prevent surface water seepage;
 - (B) diversion ditches must be provided to divert surface water;
 - (C) the area shall be fenced to prevent livestock entry or tampering by individuals;
 - (D) the spring box must be tightly covered and the overflow pipe located to prevent contamination; and

Sec. 34- 113. Permits. (cont.)

- (E) all construction must meet the approval of the Environmental Protection Division of DNR.
- (f) *Public health hazard.* Water supplies determined to be a present danger to the public health by the department, whether due to faulty (or improper) construction or a contaminated aquifer resulting in unsatisfactory bacteriological test results, and/or pollution of the aquifer, must be brought into compliance or be properly abandoned. If the owner fails to properly abandon a well declared to be a health hazard or the owner cannot be located, then the department may require the abandonment to be performed by the appropriate governmental entity in accordance with the O.C.G.A. §§ 44-1-14.
- (g) *Signs.* The department may post signs (or require signs to be posted) on a premise prohibiting use of a water supply where a public health hazard exists (i.e. improperly constructed wells polluting the aquifer, abandoned wells, etc.). Signs shall be removed only by authorized personnel of the department.
- (h) *Sabotage/contamination.* No person shall willingly destroy, defile, or contaminate any water supply.
- (i) *Undeveloped well.* The owner must properly fill, plug, and seal any undeveloped well within 30 days of the excavation, in accordance with this article.
- (j) *Other boreholes.* Boreholes used for engineering, soil evaluation, etc. shall be properly filled and plugged in accordance with the Georgia Safe Drinking Water Act of 1977(O.C.G.A. § 12-5-170 et seq., as amended).
- (k) *Waste disposal.* No well or borehole shall be used to dispose of any waste or pollutants.
- (l) *Confidentiality of records.* The identity and address of all permit holders who are authorized to maintain and use a private water supply are declared to be confidential and may not be disclosed to any person or entity in the absence of a court order requiring such disclosure. Notwithstanding the privilege and confidential nature of this information, the complete records pertaining to any such permit holders shall be disclosed where otherwise required by law or upon request to any state or federal entity or appropriate governmental jurisdiction which has jurisdiction over public health, welfare or environmental matters without the necessity of obtaining a court order.

(91-RC-157, § 30-2-1-3, 5-1-91)

Sec. 34-114. Water well contractor.

- (a) *State license.* No person may install or repair a well unless they are a state licensed well contractor in accordance with the Water Well Standards Act of 1985 (O.C.G.A. §§ 12-5-120 et seq.).
- (b) *Certification.* No person may install or repair a well, private or semi-public water supply, unless they are a state licensed well contractor in accordance with the Water Well Standards Act of 1985 (O.C.G.A. §§ 12-5-120 et seq.) and possesses a valid well contractor certificate from the department. The well contractor's certificate may be granted by the department to any person whose qualifications are confirmed through written examination. A fee shall be charged for this service.
- (c) *Suspension or revocation of certificate.* A well contractor's certificate may be suspended or revoked by the department upon violation of the Water Well Standards Act of 1985 (O.C.G.A. §§ 12-5-120 et seq.) and/or this article. Suspension and revocation of a well contractor's certificate shall be binding on the individual and the company by which a well contractor is employed or own. Contractors will be afforded the opportunity to have a hearing, if requested, before suspension or revocation is final. Suspension of a contractor's certificate shall be for a minimum of one (1) year. Two (2) suspensions within a five-year (5) period shall be grounds for revocation. Revocation of a well contractor's certificate shall be for a minimum of five (5) years. A well contractor with a suspended or revoked certificate will not be allowed to construct, repair, modify, or abandon any well in Fulton County. Contractors may reapply for certification after the revocation period ends.
- (d) *Article compliance.* State licensed well contractors are subject to compliance with the Water Well Standards Act of 1985 (O.C.G.A. § 12-5-120 et seq.) and this article. Any violations of this article shall be enforced with state requirements, and well contractors shall be held liable for any violations under both regulations.

(91-RC-157, § 30-2-1-4, 5-1-91)

Sec. 34-115. Area requirements.

- (a) *Individual residential lot.* If an onsite sewage management system is proposed, the minimum lot size required for approval of a private water supply serving a single residence shall be 43,560 square feet (one acre). If the residence is proposed to be connected to a public or community sewerage system, then no minimum lot size applies provided the criteria of Table C, "Well Separation Distance Requirements" is met.
- (c) *Minor plat.* If an onsite sewage management system(s) is proposed on a lot(s) under the exemption plat process, the minimum lot size required for approval of a private water supply(ies) shall be 43,560 square feet (one acre). If the development is to be connected to a public or community sewerage system, then no minimum lot size applies the criteria of Table C,

Sec. 34-115. Area requirements.(cont.)

"Well Separation Distance Requirements" is met.

- (c) *Residential development/Subdivision* . If an onsite sewage management system(s) is proposed on a lot(s) in a residential development, the minimum lot size required for approval of a private water supply(ies) shall be 43,560 square feet (one acre). If the development is to be connected to a public or community sewerage system, then no minimum lot size applies provided the criteria of Table C, "Well Separation Distance Requirements" is met.
- (d) *Commercial development*. No minimum lot size or area restriction applies to a commercial development provided the criteria of Table C, "Well Separation Distance Requirements" is met.

(91-RC-157, § 30-2-1-5, 5-1-91)

Sec. 34- 116. Construction criteria.

- (a) *Location*. Water supplies shall be protected from surface contamination through complying construction and adequate grading of the adjacent area. No surface runoff shall be allowed to cover, accumulate over, or pass within ten (10) feet of the wellhead. Wells shall be located at the maximum distance from potential sources of contamination, and in compliance as set forth in Table C, "Well Separation Distance Requirements". No water supply shall be located in a flood plain unless adequate provisions are made to prevent submergence of well casing, pumps, appurtenances, etc., as approved by the department. The top of the well casing shall be a minimum of two (2) feet above the highest flood level of record. Water supplies shall be located to be accessible for cleaning, testing, inspection, and maintenance.
- (b) *Materials*. All materials used in the construction (refer to diagrams of a bored and/or drilled well) of a water supply shall be capable of excluding groundwater, as applicable, for the expected life of the well. No materials shall be used which may be toxic or have an objectionable odor or taste. All materials, equipment, and appurtenances shall be required and installed in accordance with this article, applicable building and plumbing codes, the Georgia Safe Drinking Water Act of 1977 (O.C.G.A. § 12-5-170 et seq.) and other standards as determined by the department. The following requirements apply to construction of a new well:
 - (1) *Casing*. All permanent casing, liners, and other material must be new and adequate to protect the well against entrance of pollutants or contaminants during the expected life of the well. The casing material shall be of steel, plastic, or concrete and must meet nationally accepted standards and specifications for well casing. Authorities include, but are not limited to, American Society for Testing and Materials (ASTM); American Water Works Association, (AWWA); and National Sanitation Foundation, (NSF). No sewer pipe shall be used for private or semi-public water supply systems.

Sec. 34-116 Construction criteria. (cont.)

- (2) *Sealants.* Grout, when used as a sealant, shall consist of neat cement grout, bentonite clay, or concrete. Cement used in grout shall meet the requirements of the current "Standard Specification for Portland Cement" (ASTM) C150, types I (common construction cement), III (high early strength) and V (for high sulfate resistance, i.e., corrosive waters). Water used in sealant mixtures shall be potable. Materials used as additives in Portland cement mixtures shall meet the requirements of the current "Standard Specification for Chemical Admixtures for Concrete."
 - (A) Neat cement grout shall be composed of one (1) sack of Portland cement (94 pounds) to six (6) to seven (7) gallons of water, depending on the cement type and additives used.
 - (B) Concrete shall be class A (six (6) sacks of Portland cement per cubic yard) or class B (five (5) sacks per cubic yard). Aggregates shall meet the requirements of the current (ASTM) C33 "Standard Specification for Concrete Aggregates."
 - (C) Special quick-setting cement, retardants to setting, and other additives may be used. Hydrated lime (maximum 10% of the volume of cement) may be added to make the mix more fluid. Bentonite (maximum 5% of the volume of cement) may be added to make the mix more fluid and to reduce shrinkage.
- (3) *Well screen.* Multi-screened wells shall not connect aquifers, which have differences in water quality that would result in deterioration of the water quality in any aquifer or zone. The well screen, when used, shall:
 - (A) be of a standard design and manufactured specifically for the purpose of the well construction;
 - (B) be of a strength to satisfactorily withstand chemical and physical forces applied to it during and after installation;
 - (C) be designed to permit optimum development of the aquifer with minimum head loss consistent with the intended use of the well; and
 - (D) have openings designed to prevent clogging or jamming.
- (4) *Gravel.* Gravel shall consist of properly sized siliceous, well-rounded, smooth, uniform grain particles to prevent the formation material from entering the well.

Sec. 34-116 Construction criteria. (cont.)

- (c) *Construction.* Criteria for construction of new water supplies shall be in accordance with applicable building and plumbing codes, DNR regulations and other standards as determined by the department.
- (1) *Casing.* The casing shall meet the following criteria:
- (A) *Watertight.* In bored or driven wells and for the entire length of casing in drilled wells, the casing (and liner) pipe joints shall be watertight to the point of maximum drawdown.
 - (B) *Alignment.* The alignment shall be such that the installation and operation of the pump will not be impaired.
 - (C) *Material removal.* All drill cuttings and other materials, including drilling fluids and additives, shall be removed from the entire depth of the well, and the well shall be disinfected in accordance with this article
 - (D) *Sanitary seal.* The top of the well casing shall be protected by a sanitary seal or cover to exclude pollutants to the well.
 - (E) *Minimum depth.* The well casing shall extend at least 12 inches above the ground surface and to a minimum depth of 20 feet below the ground surface unless bedrock is encountered at a lesser depth.
 - (F) *Contamination.* During excavation or drilling, provisions shall be taken to prevent contamination to any aquifer.
 - (G) *Drilling process water.* Water for drilling purposes shall be obtained from a source and in a manner, which will not result in contamination of any aquifer.
- (2) *Grout.* The grout shall meet the following criteria:
- (A) *Thickness of the grout seal.* The thickness of the grout seal shall be at least two (2) inches, and not less than three (3) times the size of the largest coarse aggregate used in the sealing material.
 - (B) *Cleaning annular space.* All loose cuttings, drilling mud, or other obstructions shall be flushed from the annular space before placing the seal.
 - (C) *Optional packer.* A packer, or similar retaining device, or a small quantity of sealant may be placed and permitted to set at the bottom of the portion before grouting begins, to form a foundation for the seal.

Sec. 34-116 Construction criteria. (cont.)

- (D) *Minimum grout depth.* Unless otherwise approved by the department, grouting must be placed in a continuous fashion to a minimum depth of 20 feet or to the bedrock seal.
 - (E) *Grout placement.* When emplacing the grouting material, the tremie pipe shall be lowered to the bottom of the zone to be sealed and raised slowly as the grout is introduced.
 - (F) *Gravity installation.* Gravity installation of grout (i.e., without the aid of a tremie or grout pipe) will not be allowed unless the portion to be sealed is dry. In no case will it be allowed for a depth of more than 30 feet.
 - (G) *Time frame.* Grouting must take place within the five (5) days following completion of a well, except that for a bored well, it shall take place within 24 hours of completion of a well.
- (3) *Gravel.* All gravel placed in a well shall be clean, washed, free of organic matter disinfected prior to emplacement, or provisions must be made for disinfection in place.
 - (4) *Vent.* Well vents shall be protected with a screen and terminate downward at least 12 inches above the slab or adjacent ground surface.
 - (5) *Pumps and pumping equipment.* Pumps and pumping equipment must include the following criteria:
 - (A) *Pump capacity.* Pump capacity shall be consistent with the intended use and yield characteristics of the well.
 - (B) *Easy access.* The well pump and related equipment shall be conveniently located to permit easy access and removal for repair and maintenance.
 - (C) *Watertight seal.* The base plate of any pump placed directly over a well shall form a watertight seal with the well casing or pump foundation.
 - (D) *Annular space.* When the pump is not located directly over the well, the annular space between the casing and pump intake or discharge piping shall be closed with a watertight seal designed specifically for this purpose.
 - (E) *Vent.* Proper venting must be provided at the wellhead to allow for pressure changes within the well, except when a suction lift type pump is used.

Sec. 34-116 Construction criteria. (cont.)

- (F) *Hose bibb for sampling.* A hose bibb shall be installed at the pressure tank by the pump installer for obtaining water samples.
 - (G) *Priming tee.* For an offset-jet pump installations, a priming tee must be installed at the wellhead.
 - (H) *Drop piping/electrical wiring.* The drop piping and electrical wiring used in connection with the pump shall meet Underwriters Laboratories (UL) specifications acceptable to the department and current applicable local codes.
 - (I) *Pump priming/potable water.* Only potable water shall be used for priming pumps.
- (6) *Disinfection.* Wells must be disinfected after construction and repair as follows:
- (A) *Initial disinfection.* A well contractor constructing or repairing a well is responsible to ensure that the well is disinfected by properly chlorinating the water supply at the time construction is completed. Subsequent disinfection of any system shall be the owner's responsibility.
 - (B) *Procedure.* During an initial or subsequent disinfection of a water supply, the following criteria shall be adhered to:
 - 1. *Chlorine quantity.* Chlorine shall be placed in the well in sufficient quantities to produce a chlorine residual of at least 100 parts per million (ppm). A chlorine disinfecting solution may be prepared by adding a stock solution or compound containing chlorine in the proportion shown in Table E, "Chlorination".
 - 2. *Chlorine addition.* Chlorine solutions shall be placed in the well only after the pump is installed. The well casing and drop pipe shall be flushed with the well water and the chlorine solution. The pump shall be operated until the solution is detected at the sampling point (hose bibb) to ensure that all parts of the system are exposed to the disinfecting process.
 - 3. *Disinfecting system.* The well casing, pump column, and any other equipment above the water level in the well shall be thoroughly rinsed with the chlorine solution as a part of the disinfecting process.
 - 4. *Disinfecting time.* The chlorine solution shall remain undisturbed in the well for a period of at least 24 hours.

Sec. 34-116 Construction criteria. (cont.)

5. *Chlorine removal.* The well shall be operated until the discharge of water is free of the chlorine odor before the system is tested.
6. *Test sample/approval.* A bacteriological sample of the water shall be taken by the department. The sample shall be analyzed and determined to be free of E. coli bacteria and otherwise satisfactory for human consumption before final approval is granted.

(91-RC-157, § 30-2-1-6, 5-1-91)

Sec. 34-117. Proper abandonment of wells.

- (a) *Procedure for proper abandonment of wells.* Only certified well contractors, acting as agents of property owners, are allowed to abandon wells in accordance with the procedures in this section.
 - (1) *Temporarily abandoned well.* A water well shall be considered as temporarily abandoned when its use has been interrupted for a period of more than one (1) year, but not more than three (3) years. Such wells shall be sealed and maintained to prevent them from being or becoming a source or channel of pollution when not in service.
 - (2) *Permanently abandoned well.* A water well shall be considered as permanently abandoned when its service has been interrupted for three (3) years or it is determined by the department to be abandoned. Such wells shall be properly abandoned permanently by the owners.
 - (3) *Procedures for the temporary abandonment of wells.*
 - (A) *Casing.* A temporarily abandoned well shall be protected with a casing.
 - (B) *Watertight seal.* Upon temporary removal from service, the well shall be sealed with a watertight cap or seal compatible with the casing, and installed so that it cannot be easily removed.
 - (C) *Maintenance.* The well and immediate area shall be kept clear of debris and brush, inspected, and maintained by the owner so it is not a source or channel of contamination. The department may require the well to be suitably marked or placarded with a temporary abandonment warning.
 - (4) *Procedures for the permanent abandonment of wells.*
 - (A) *Casing removal.* The entire well casing and materials should be removed before

Sec. 34-117. Proper abandonment of wells.(cont.)

well closure if such removal will not contaminate the aquifer. Any casing not grouted in accordance with this article shall be removed or properly grouted. Prior to removing the casing, a neat cement plug shall also be added below the lower extremity of the casing. If the contractor is unsuccessful in removing the casing, then a portion of the casing shall be removed to a depth of at least three (3) feet below the ground surface, and a neat cement plug shall also be added at this portion of the casing.

- (B) *Sounding.* The entire well shall be sounded before sealing to ensure that obstructions will not interfere with sealing operations.
- (C) *Disinfection.* The well shall be thoroughly disinfected prior to sealing. (See section 34-116(6)(B)).
- (D) *Bored wells.* Bored wells (including hand dug) shall be completely filled with cement grout, dry clay, or material excavated during drilling of the well, then compacted in place.
- (E) *Wells in unconsolidated formations.* Wells other than bored wells constructed in unconsolidated formations, consisting of sand, sand and clay, or other similar formations, shall be completely filled with cement grout by introducing it through a pipe extending to the bottom of the which can be raised as the well is filled.
- (F) *Wells in consolidated formations.* Wells, constructed in consolidated formations (consisting of crystalline or metamorphic rock) which penetrate zones of consolidated rock, may be filled with cement, sand, gravel, or drill cuttings opposite the zones of consolidated rock. The top of the sand, gravel, or cutting fill shall be at least five (5) feet below the top of the consolidated rock. The remainder of the well shall be filled with cement grout only.
- (G) *Test wells not penetrating water table.* Test wells which do not penetrate the water table, shall be abandoned in such manner as to prevent the well from being a channel or source of contamination to the aquifer as approved by the department.
- (H) *Test wells penetrating water table.* Test wells or borings that penetrate the water table shall be sealed by completely filling with cement grout.

(91-RC-157, § 30-2-1-7, 5-1-91)

Sec. 34-118. Water samples.

(a) *Sampling technique.* The following sampling techniques shall be practiced.

(1) *Bacteriological sampling procedure.* A water sample must be taken by the department. Only the water to be analyzed shall come in contact with the inside of the bottle or the cap; the water sample must flow into the bottle without touching the hands or any other object while it is being filled. If the water is collected from a sample tap, turn on the tap and allow the water to flow for two (2) or three (3) minutes before collecting the sample. Do not rinse the sample bottle. The sample should be delivered to the laboratory as soon as possible and in no case more than 30 hours after its collection. During delivery, the sample should be kept as cool as possible, but not frozen. The frequency of bacteriological sampling for the various types of water supplies is as follows:

(A) *Private water supply.* The sample results must be satisfactory for new and existing wells to be approved for use.

1. *New well.* Sampling shall be required upon completion of construction and following the disinfection of the system. The sample results must be satisfactory before final construction can be approved. Disinfection and sampling must be continued until satisfactory results are obtained.
2. *Existing well.* Upon the request by the property owner, the department will sample the supply to determine the bacteriological quality, provided the well construction meets the article requirements. Sampling of unapproved or noncomplying wells shall be at the department's discretion. A fee shall be charged for this service.

(B) *Semi-public water supply.* The sample results must be satisfactory for new and existing wells to be approved for use.

1. *New well.* Sampling shall be required upon the completion of construction and following the disinfection of the system. The sample results must be satisfactory before final construction can be approved. Disinfection and sampling must be continued until satisfactory results are obtained.
2. *Existing well.* Existing wells shall be sampled on a quarterly basis (a minimum of four (4) times per year). Additional sampling may be required to ensure compliance with this article and permit requirements. A fee shall be charged for service.

(2) *Chemical sampling procedure.* A water sample for chemical analysis shall be collected after the well has been pumped long enough to remove standing water, residue, and

Sec. 34- 118. Water samples. (cont.)

disinfectant chemicals, and to ensure that water from the aquifer has entered the well. The water sample shall be collected in a chemically clean container, preferably one obtained from the laboratory that will perform the analysis. Prior to collecting the sample, the container shall be rinsed several times with the water to be sampled. The laboratory performing the analysis shall provide instructions regarding the quantity of sample required and whether preservatives are needed. In all cases the temperature of the water should be determined (measured) immediately upon collection of the sample. Owners and laboratories must report to this department all sample results including those not meeting the standards in this article. The frequency of chemical sampling for the types of water supplies is as follows:

- (A) *Private water supply.* No chemical analysis shall be required unless deemed necessary by the department.
- (B) *Semi-public water supply.* The sample results must be satisfactory for new or existing wells to be approved for use.
 - 1. *New well.* Samples shall be required upon the completion of the construction and following disinfection of the system. The sample results must be satisfactory before final construction can be approved. Disinfection and sampling must be continued until satisfactory results are obtained.
 - 2. *Existing well.* Samples to measure physical quality may be required at the department's discretion as necessary and/or when the supply is suspected of unfitness due to odor, color, turbidity or other concerns about possible contamination.

(3) *Physical sampling procedure.* A water sample for physical analysis shall be collected after the well has been pumped long enough to remove standing water, development and disinfectant chemicals, and water from the aquifer has entered the well. The water sample shall be collected in a clean container, preferably one obtained from the laboratory that will perform the analysis. The container shall be rinsed several times with the water to be sampled. The laboratory performing the analysis shall provide instructions regarding the quantity of sample required and whether preservatives are needed. In all cases the temperature of the water should be determined (measured) immediately upon collection of the sample. Owners and laboratories must report to this department all sample results, including those not meeting the standards in this article. The frequency of physical analysis for the types of water supplies is as follows:

- (A) *Private water supply.* No physical analysis shall be required unless deemed necessary by the department.

Sec. 34- 118. Water samples. (cont.)

(B) *Semi-public water supply.* The sample results must be satisfactory for new and existing wells to be approved for use.

1. *New well.* Sampling shall be required upon the completion of the construction and following disinfection of the system. The sample results must be satisfactory before final construction can be approved. Decontamination and sampling must be continued until satisfactory results are obtained.

2. *Existing well.* Samples to measure physical quality may be required at the department's discretion as necessary and/or when the supply is suspected of unfitness due to odor, color, or turbidity.

(b) *Bacteriological limits.* Presence of coliform bacteria in water is presumptive evidence of sewage or animal pollution and the possible presence of disease-producing bacteria. No definite conclusions regarding the safety of a water supply can be drawn from a single bacteriological examination. If a water supply is developed and maintained to exclude contamination at all times, a sample demonstrating a coliform concentration below the standard gives reasonable assurance of a safe water supply. A sample is considered satisfactory and meeting the minimum bacteriological quality limits of this article if one (1) or less coliform bacterium per 100 milliliters of sample is present.

(c) *Chemical limits.* The presence of the following inorganic chemicals, in excess of the maximum contaminant levels listed, shall constitute grounds for rejection and non-approval of the water supply (see Table F, "Chemical Limits").

(d) *Physical limits.* The water shall contain no impurity which would cause offense to the sense of sight, taste, or smell. The limits listed in Table G, "Physical Limits" shall not be exceeded.

(e) *Other sampling requirements.* The frequency and manner of additional sampling, whether for other chemicals and/or for additional or more specific bacteriological analyses, shall be as determined by the

department. If there is presumption of unfitness because of the presence of undesirable elements, compounds, or materials, periodic determinations for the suspected toxicant or material shall be made more frequently, and a sanitary survey shall also be made to determine the source. Where the concentration of a substance is not expected to increase in processing and distribution, available and acceptable source water analyses performed in accordance with standard methods may be used as evidence of compliance with this article.

(91-RC-157, § 30-2-1-8, 5-1-91)

Sec. 34-119. Cross connection and back siphonage.

- (a) *Cross connection.* No person shall allow a public, private, or semi-public water supply to be connected, directly or indirectly, with any other water supply, sewer, drain, conduit, pool, storage reservoir, plumbing fixture, or other device which contains or may contain contaminated water, liquid, gas, sewage (or other waste of unknown or unsafe quality) capable of contaminating the water system. No backflow or potential backflow will be allowed due to configuration bypass arrangement, jumper connections, removable section, swivel or changeover device, or other temporary, permanent, or potential connection.

- (b) *Back siphonage.* No outlet from a water supply shall be installed or maintained so that back siphonage is possible. Approved backflow preventer devices shall be required on all outlets to prevent contamination of the water supply and aquifer. The current procedure for backflow and back siphonage prevention and cross connection control shall conform to those recommended by the American Water Works Association (AWWA), "Manual 14", and the U.S. Environmental Protection Agency (EPA), "Cross Connection Manual".

(91-RC-157, § 30-2-1-9, 5-1-91)

Sec. 34-120. Tables.

TABLE A
MANDATORY CONNECTION CRITERIA
COMMERCIAL DEVELOPMENT

Maximum Occupancy	Distance to Community Water Supply (feet)
$x < 30$	500
$30 < x < 60$	1,000
$60 < x < 100$	1,500
$x > 100$	2,000

TABLE B
MANDATORY CONNECTION CRITERIA
RESIDENTIAL /SUBDIVISION DEVELOPMENT

Number of Lots	Distance to Community Water Supply (feet)
$4 \geq x \leq 25$	1,000
$25 > x \leq 50$	1,500
$X > 50$	2,000

Sec. 34-120 Tables (cont.)

TABLE C
WELL SEPARATION DISTANCE REQUIREMENTS

Reference Item	Minimum Separation (feet)
Septic tank	50*
Absorption field	100*
Reserve area	100
Sanitary sewer	10
Sanitary landfill including hazardous and/or radioactive wastes	1,000
Abandoned well (properly abandoned)	50
Property line (site with onsite sewage management system)	50
Property line (site with public or community sewerage system)	10
Building foundation	50
Absorption pit, seepage pit, cesspool	150
Animal or fowl enclosure	100
Lakes, streams, bodies of water	50

* Minimum separation distances from the septic tank and absorption field to abandoned wells may be reduced to 25 feet if the abandoned well is filled and compacted in three (3) foot layers maximum with clay material approved by the department.

Sec. 34-120 Tables (cont.)

TABLE D
MAXIMUM OCCUPANCY
OF STRUCTURE

Type of Establishment (square feet)	Persons/Floor Area
Assembly halls	No ratio, if - fixed seating, is - stated on plans (approved by fire department) or -1/15 movable-seating
*Churches, not including assembly halls, day care centers, kindergartens, etc.	No ratio, if -fixed seating, is stated - on-plans (approved by fire department) or 1/7, movable seating
Church classrooms	1/20
Day care centers/kindergartens	No ratio, if number of children and employees, stated on plans (approved by DHR, Day Care Licensing Division) or 1/35, not including employees
*Food service establishments	No ratio, if fixed seating ,is stated on plans (approved by fire department) or 1/15 movable seating
Office	1/100 ratio
Retail service	1/1000 -employees, 1/30 - customers (1st floor /groundfloor), 1/60 - customers (remaining floors)
Warehouse/storage	1/300

Maximum occupancies not listed in this table shall be determined in accordance with the Fulton County Fire Department regulations. *Does not include employees to be identified in the letter of intent and calculated based on the remaining total gross floor area (not deducted in Table D) at a ratio of 1:100.

Sec. 34- 120 Tables. (cont.)

TABLE E
CHLORINATION

Gallons Water	5¼% Bleach	10% Sodium Hypochlorite	70% Calcium Hypochlorite
50	13 oz.	7 oz.	1 oz.
100	26 oz.	14 oz.	2 oz.
500	127 oz.	66 oz.	10 oz.
1,000	254 oz.	134 oz.	20oz.

Example for calculating the total amount of chlorine compound needed: Use about two (2) ounces of 70% calcium hypochlorite per 100 gallons of water for 100 ppm residual. A six (6) - inch diameter well has a volume of about 1.5 gallons per foot. If the well has 200 feet of water, then at least six (6) ounces of calcium hypochlorite will be required i.e. 1.5 gallons/foot X 200 feet X (2) ounces solutions/100 gallons = 6 ounces (or 0.36 pounds) of calcium hypochlorite. Note: There are 16 ounces/pound and 32 fluid ounces/quart.

TABLE F
CHEMICAL LIMITS

Contaminant	Maximum Contaminant Level (milligrams per liter)
Arsenic	0.05
Barium	1.00
Cadmium	0.01
Chromium	0.05
Lead	0.05
Mercury	0.002
Nitrate (as N)	10.00
Selenium	0.01
Silver	0.05

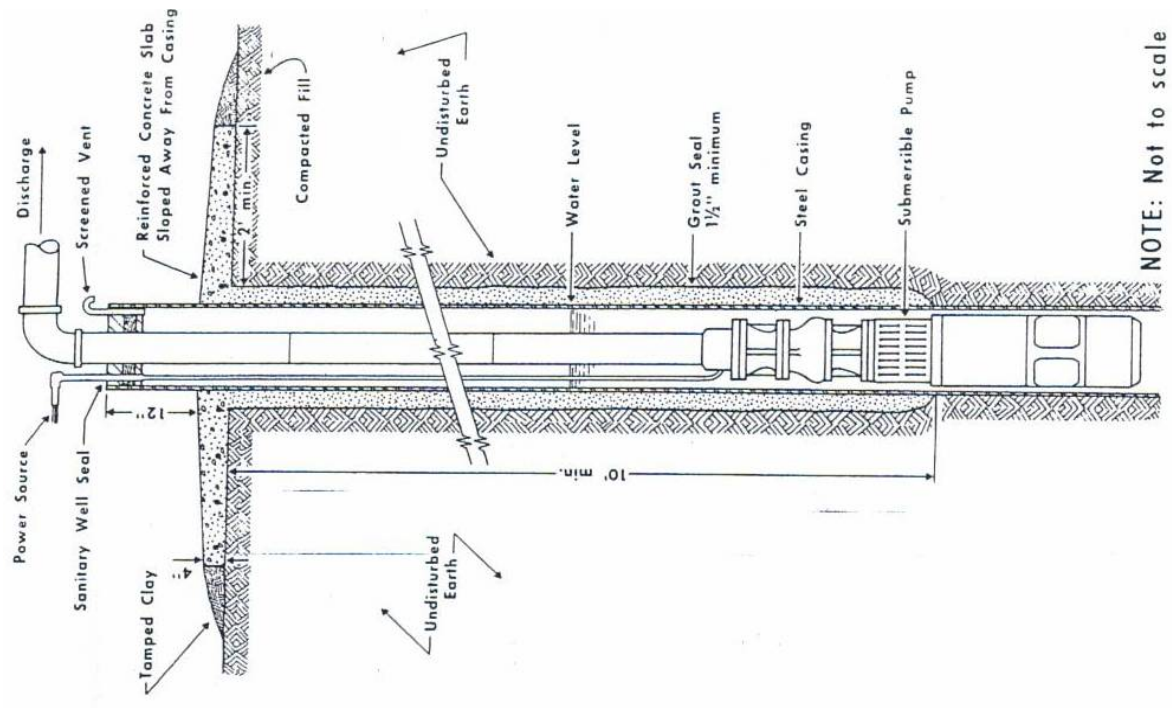
Sec. 34- 120 Tables. (cont.)

TABLE G
PHYSICAL LIMITS

Turbidity	5 units
Color	15 units
Threshold odor number	3 units

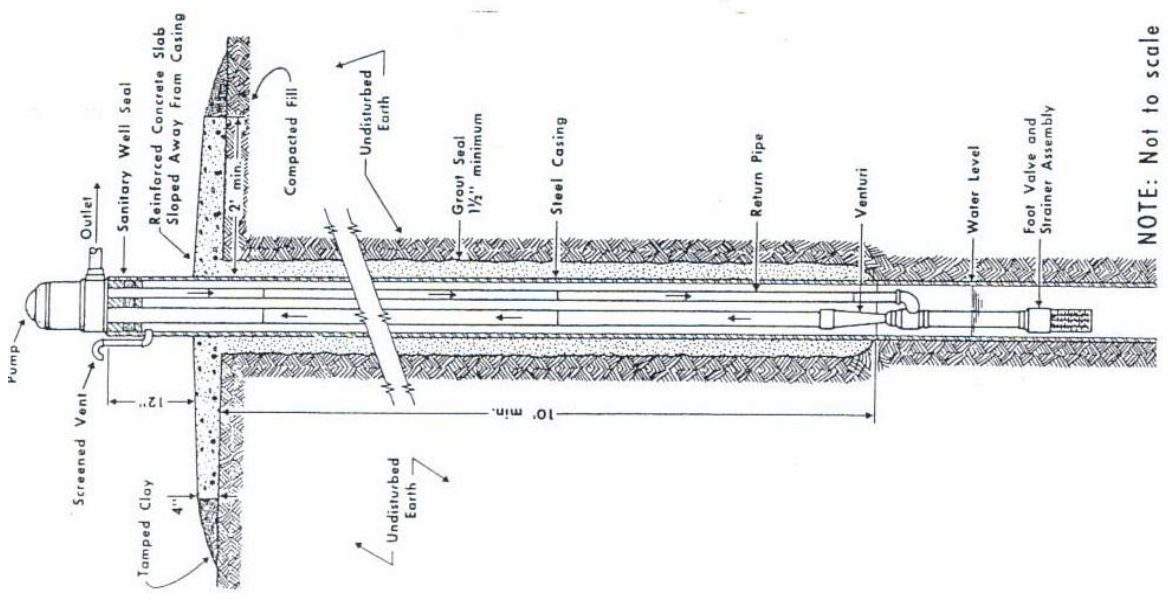
TABLE H
DRINKING WATER UNITS REQUIREMENTS

Fountains/Outlets	One (1) water supply is required for 1,500 people.
Anticipated daily peak crowd calculation	Number of people divided by 1,500 = outlets required.
A minimum 30 gallon container is required	This container must be completely enclosed and secured with a locking lid.
Cooler capacity calculations	One-half ($\frac{1}{2}$) gallon of water per person per day serviced every hour.



NOTE: Not to scale

Drilled Wells Submersible Pump



NOTE: Not to scale

Drilled Wells