

Rules of the South Florida Water Management District  
WATER WELLS  
Chapter 40E-3

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### **40E-3.011 Policy and Purpose.**

(1) The purpose of Chapter 40E-3, F.A.C., is to implement the duties and responsibilities of the South Florida Water Management District (District) under Part III, Chapter 373, F.S., and those responsibilities and duties delegated to the District by the Department of Environmental Protection (Department) to regulate the location, construction, repair, or abandonment of water wells and the licensing of water well contractors. It is the policy of the Governing Board that these rules are reasonably necessary to insure the protection and management of water resources and the health, safety, and general welfare of the people of this District.

(2) Additional District rules relating to water wells are found in Chapters 40E-5, F.A.C. (Artificial Recharge), 40E-2, F.A.C. (Consumptive Use), and 40E-30, F.A.C. (General Permits for Wells).

Specific Authority 373.044, 373.113, 373.171, F.S.

Law Implemented 373.103(1), 373.306, 373.308, 373.309, 373.313, 373.314, 373.316, 373.319, 373.323(2), 373.326, 373.329, 373.333, 373.342, F.S.

History – New 1-1-85, Amended 12-19-89, 3-16-05.

### **40E-3.021 Definitions.**

When used in this chapter:

(1) "Abandoned Well" means a well, the use of which has been permanently discontinued. Any well which is in such a state of disrepair that its continued use for the purpose of obtaining groundwater, or disposing of water or liquid wastes, or for observation, is impractical, shall be deemed to be abandoned.

(2) "Annulus or Annular Space" means any artificially created void existing between a well casing or liner pipe and a borehole wall, or between two casings, or between tubing and the casing for liner pipes.

(3) "Aquifer" means a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield useful quantities of groundwater to wells, springs, or surface water.

(4) "Bentonite Grout" means a pumpable grouting material, consisting of high solid sodium montmorillonite, used for plugging or sealing water wells.

(5) "Casing Diameter" or "Diameter of Casing" means the largest nominal permanent water bearing casing. For the purpose of this chapter, the diameter of the casing at the upper terminus will be presumed to be the diameter for the entire length, unless the well owner or contractor can demonstrate that the well has a smaller diameter permanent water bearing casing below the upper terminus.

(6) "Consolidated" means a geologic stratum, which is cemented with a binding substance commonly derived from within the deposit containing that stratum.

(7) "Consumptive Use Permit" means a Water Use Permit issued under Chapter 40E-2 or 40E-20, F.A.C.

(8) "Department" means the Florida Department of Environmental Protection (FDEP).

(9) "Dewatering" means the use of wells or other such equipment to temporarily lower a water level as may be necessary during construction activities.

(10) "Driller" means a person licensed by the water management district or a person working under the direct supervision of a licensed water well contractor who actually constructs the well.

(11) "Driven Casing" means well casing installed by the percussion drilling method, in which the well casing is advanced into a borehole that is less than the nominal outside diameter of the casing.

(12) "Drive Shoe" means any device specifically designed, fabricated, and installed to protect the bottom end of a water well casing or liner pipe from collapse or other damage while the casing or liner pipe is being driven into place in a water well.

(13) "Field Log" means a log with accurate, written documentation of all construction activities needed to fill out well completion reports.

(14) "Filter Pack" means sand or gravel that is uniform, clean, and siliceous. It is placed in the annulus of the well between the borehole wall and the well screen.

(15) "Grout" or "Neat Cement Grout" means a mixture consisting of water and Portland cement (American Concrete Institute Types I, II, or III, or other types of cement and acceptable amounts of those additives approved for use in cement grouts by the District), also Bentonite grout as defined by subsection 62-532.200(4), F.A.C.

(16) "Inspection Port" means any opening not less than three-quarters (3/4) inch in diameter through which unobstructed access to the inside of the casing can be obtained for measuring water levels. Inspection ports shall be threaded openings temporarily sealed with a removable watertight plug.

(17) "Jetted Well" or "Sand Point Well" means a pipe with an attached well point or open-ended screen. The well is installed in unconsolidated formations by the washing action of a water jet.

(18) "Liner" means a metallic or nonmetallic pipe, which is installed within the permanent water bearing casing to improve, repair, or protect the casing or is installed below and separate from the casing to seal off casing material which may be encountered in the open hole of the well.

(19) "Monitoring Well" or "Observation Well" means a well used primarily to monitor hydrologic parameters such as water levels or water quality.

(20) "Nominal" means the standard size of the well casing and may be less than or greater than the number indicated. Nominal, when referring to the grouting annulus, means either the available void thickness between the telescoped casings or the average available void thickness between the borehole and the outside wall of the casing at any point.

(21) "Packer" means a device placed within a well casing that seals the annulus between two pieces of casing, between the casing and the screen, between one formation or water bearing strata and another, or between the formation and the casing.

(22) "Public Water Supply Well" means a well constructed for the purpose of supplying water to a public water system, as permitted under Chapters 62-550, 62-555, 62-560, 62-524, and 64E-8, F.A.C.

(23) "Public Water System" means a system for the provision to the public of piped water for human consumption through pipes or other constructed conveyances, if such a system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

(24) "Telescoped casing" means an interior well casing extending below an exterior casing.

(25) "Test Hole" means any temporarily cased or uncased hole drilled, bored, cored, washed, or jetted, for the intended use of obtaining data for engineering, geophysical or geological exploration, and/or prospecting for minerals or products of mining or quarrying, and not for the purposes of either producing, disposing of, or searching for water.

(26) "Upper Terminus" means that portion of a well casing ending at land surface or within an approved depth below land surface. Land surface is considered to be the ground elevation of the finished grade at the well.

(27) "Water Test Well" means a temporary water well for the purpose of obtaining data to determine aquifer properties or water quality. Water test wells are typically drilled prior to applying for a water use permit. Water test wells must either be abandoned or converted to a water well or monitoring well within 30 days of completion of testing.

(28) "Water Use Permit" means a permit issued under Chapter 40E-2 or 40E-20, F.A.C.

(29) "Water Well" means a well as defined in subsection 373.303(7), F.S., which includes any excavation that is drilled, cored, bored, washed, driven, dug, jetted, or otherwise constructed when the intended use of such excavation is for the location, acquisition, development or artificial recharge of ground water. This term does not include any well constructed for the purpose of obtaining or prospecting for oil, natural gas, or products of mining or quarrying, for disposing of oil brine or re-pressuring oil bearing or natural gas-bearing formations, for storing petroleum, natural gas or other products, or for temporary dewatering of subsurface formations for mining, quarrying or construction purposes.

(30) "Water Well Contractor" means an individual who is responsible for the location, construction, repair, or abandonment of a water well and who is licensed under Chapter 62-531, F.A.C., to engage in the business of construction, repair, or abandonment of water wells.

(31) "Well Casing" means a metallic or nonmetallic pipe installed in a borehole or driven to prevent caving, provide structural strength, seal off zones of poor water quality, or prevent the interchange of waters between aquifers.

(32) "Well Completion Report" means the form, supplied or approved by the District, that is completed and signed by the licensed water well contractor.

Specific Authority 373.044, 373.113, 373.171, F.S.

Law Implemented 373.019, 373.106, 373.303, 373.306, F.S.

History – New 1-1-85, Amended 12-19-89, 3-16-05.

#### **40E-3.032 Delegation.**

The authority for general administration of Chapter 40E-3, F.A.C., is delegated to the Executive Director of the District. It is the policy of the Governing Board that in making this delegation the Executive Director is authorized to designate specific staff members to carry out various tasks but that overall supervision and responsibility shall rest with the Executive Director. The Executive Director is expressly authorized to issue permits under this chapter as provided in subsection 373.342(1), F.S.

Specific Authority 373.044, 373.113, 373.171, F.S.

Law Implemented 373.308, 373.309(2), 373.339, 373.342, F.S.

History – New 1-1-85, Amended 12-19-89, 3-16-05.

#### **40E-3.035 Agreements.**

The Governing Board hereby incorporates by reference the following documents:

- (1) "Agreement between Lee County and South Florida Water Management District," dated January 9, 1985.
- (2) "Agreement between Dade County and South Florida Water Management District," dated January 31, 1985.
- (3) "Agreement between Collier County and South Florida Water Management District," dated February 5, 1985.
- (4) "Agreement between the City of Cape Coral and South Florida Water Management District," dated October 10, 1986.
- (5) "Agreement between the Martin County Health Department and South Florida Water Management District," dated June 12, 1998.
- (6) "Agreement between the Osceola County Health Department and South Florida Water Management District," dated February 11, 1999.
- (7) "Agreement between the St. Lucie County Health Department and South Florida Water Management District," dated April 13, 2000.
- (8) "Agreement between the Hendry County Health Department and South Florida Water Management District," dated September 14, 2000.
- (9) "Agreement between the Okeechobee County Health Department and South Florida Water Management District," dated April 11, 2002.

Specific Authority 373.044, 373.113, 373.171, F.S.

Law Implemented 373.103, 373.308, 373.309, 373.323, 373.324, 373.326, 373.329, 373.333, F.S.

History – New, Amended 3-16-05.

#### **40E-3.036 Rules and Publications Incorporated by Reference.**

The following Department rules and publications are incorporated by reference into this rule and shall apply to the well contractor licensing program administered by the District and to all wells constructed, repaired, or abandoned in the District.

- (1) Chapter 62-531, F.A.C., Well Contractor Licensing Requirements (12-25-02).
- (2) The Department's Water Well Contractor Disciplinary Guidelines and Procedures Manual (October 2002) and the Department's Florida Unified Citation Dictionary for Well Construction (October 2002).
- (3) Chapter 62-532, F.A.C., Water Well Permitting and Construction Requirements (3-28-03).
- (4) Chapter 62-555, F.A.C., Construction of Public Supply Water Wells (4-10-03).
- (5) Chapter 62-524, F.A.C., Construction of Water Wells in Delineated Areas (6-27-00).

Specific Authority 373.044, 373.113, 373.171, F.S.

Law Implemented 373.103, 373.308, 373.309, 373.323, 373.324, 373.326, 373.329, 373.333, F.S.

History – New 3-16-05.

**40E-3.038 Violations of Contractor Licensing and Well Construction Requirements.**

(1) Violations of the contractor licensing requirements and well construction requirements are provided by Chapter 373, Fla. Stat., and Chapter 62-531, F.A.C.

(2) The licensed contractor must submit any change of address to the District within 30 days.

Specific Authority 373.044, 373.113, 373.171, 373.333, F.S.

Law Implemented 373.323, 373.326, 373.333, 373.336, F.S.

History – New 12-19-89, Amended 3-16-05.

**40E-3.041 Permits Required.**

(1) Unless expressly exempted by statute or District rule, a permit must be obtained from the District or delegated agency prior to the construction, repair or abandonment of any water well within the District's jurisdiction.

(2) No test hole or water test well shall be converted to a water well until a well construction permit or modification is obtained. No monitoring well shall be converted to a production well until a well construction permit or modification thereof is obtained for each production well.

(3) If a potable well is proposed to be constructed in an area of known groundwater contamination, the well shall be permitted pursuant to Chapter 62-524, F.A.C.

(4) Permits for construction, repair, modification or abandonment of wells for which a water use permit is required under Chapters 40E-2 and 40E-20, F.A.C., shall not be issued prior to issuance of the water use permit authorizing water use withdrawals.

Specific Authority 373.044, 373.113, 373.171, F.S.

Law Implemented 373.103, 373.309, 373.313, 373.316, F.S.

History – New 1-1-85, Amended 3-16-05.

**40E-3.051 Exemptions.**

(1) The following wells are exempt from Rule 40E-3.041, F.A.C.:

(a) Existing wells exempted under section 373.316, Fla. Stat.

(b) A well exempted under subsection 373.303(7), Fla. Stat.

(c) A test hole, as defined in subsection 40E-3.021(27), F.A.C.

(d) A well intended for use as an injection well, which has received a permit under Chapter 62-528, F.A.C. Such wells are exempt from the construction standards in this chapter, provided the applicable standards of Chapter 62-528, F.A.C., are met.

(e) In addition, a well which satisfies the requirements of Chapter 40E-30, F.A.C., is exempt from the provisions of Rules 40E-3.301, 40E-3.321, 40E-3.411, 40E-3.501, 40E-3.512, and 40E-3.351, F.A.C.

(2) These exemptions do not relieve the applicant from obtaining permits which may be required under Chapter 40E-2 (Consumptive Use), Chapter 40E-4 (Environmental Resource Permits), Chapter 40E-20 (General Water Use Permits) or Chapter 40E-40 (Environmental Resource Standard General Permits).

Specific Authority 373.044, 373.113, 373.171, F.S.

Law Implemented 373.303, 373.308, 373.309, 373.313, 373.316, 373.326, F.S.

History – New 1-1-85, Amended 3-16-05.

### **40E-3.101 Content of Application.**

(1) All applications shall be submitted to the permitting authority by the owner or by the water well contractor on behalf of the owner. All applications shall be submitted on the form entitled "State of Florida Permit Application to Construct, Repair, Modify, or Abandon a Well".

(2) All applications shall be submitted with the required non-refundable fee pursuant to Rule 40E-1.607, F.A.C. or the fee schedule established by the agency to which permitting authority has been delegated shall be submitted with the permit application.

(3) Applications for permits required by this chapter shall be filed with the District or the entity to which the authority to issue a permit has been delegated. The application for the construction, repair or abandonment of water wells shall contain:

(a) The name, address, telephone number, license number and signature of the licensed contractor who will be constructing the well, except in the case of a state agency or political subdivision that needs an indication of approval from the District in order to obtain financing to construct a well. In this case, the District will take action on the application for a permit not signed by a licensed water well contractor with the following condition: "Prior to well construction, a copy of the original application, signed by the licensed water well contractor chosen to construct the well, will be submitted to the District,"

(b) The name, address, telephone number and signature of the property owner or his agent, if applicable, on whose property the well is being drilled,

(c) Written authorization from the owner designating the authorized agent, if any,

(d) The location of the well (to the nearest one-quarter-quarter section, or latitude and longitude to the nearest second, or Florida State Planar Coordinates to the nearest one hundred feet), and property site map of the well location, depicting land marks and providing a scale,

(e) The expected cased depth and total depth of the well,

(f) The proposed use of the well,

(g) The proposed grouting interval,

(h) The specification for well construction including the size(s) of the casing to be used, the proposed construction, repair or abandonment methods, specifications including casing types, casing diameters; open hole or screened intervals, sizes and screen openings; and proposed grouting materials,

(i) The proposed method of construction and completion of the well, or the method of plugging and abandoning of the well,

(j) The anticipated starting date to begin drilling,

(k) The District water use permit number, the water use application number, and the well number from the water use permit Table A, if applicable,

(l) A well completion report and/or lithologic or cuttings log for any test hole or water test well and testing results, which is being requested to be converted to a water well,

(m) Applications for public supply wells shall include: the name and address of the water system; the number of persons the well is intended to serve; and three copies of a scaled map showing the well location, property boundaries, existing buildings or physical

features, the location of all known and proposed sources of contamination within a 500 feet radius of the proposed well location,

(n) Applications for water test wells must be accompanied by a description of the proposed test. The description at a minimum shall include:

1. Purpose of the test, a brief description of the testing method, and a summary of the results to be provided to the District within 30 days of completion of the testing.

2. Name, address, and telephone number of the person or consulting firm performing the test.

3. A site map showing the location of the water test well and any observation wells.

(4) In addition to the information required to be submitted on the District form, the District staff may specifically request such reasonable additional information as may be necessary to evaluate the hydrologic impacts of the withdrawal to ensure that the impacts will not be harmful to the water resource of the District as set forth in Chapter 40E-2, F.A.C., and that the withdrawals are in compliance with statutory and rule requirements. Pursuant to section 373.314, Fla. Stat., the District will cite a specific rule when requesting such additional information. Such requests for additional information will be made in compliance with section 120.60, Fla. Stat. and Chapter 40E-1, F.A.C.

Specific Authority 373.044, 373.113, 373.171, F.S.

Law Implemented 373.308, 373.309, 373.313, 373.326, 373.342, F.S.

History – New 1-1-85, Amended 12-19-89, 11-8-99, 3-15-05.

#### **40E-3.301 Conditions for Issuance of Permits.**

(1) The applicant shall comply with the applicable provisions of Chapter 373, Fla. Stat. and this chapter.

(2) A water use permit, if applicable, under Chapters 40E-2 or 40E-20, F.A.C., must have already been obtained. If a water use permit has not been obtained, an application for a consumptive use permit must be submitted concurrently with the well construction application and must also be approved by the District prior to issuance of the well construction permit.

(3) The proposed well must not harm the water resources of the District or interfere with existing legal users.

(4) The application must be complete and must meet the requirements of Chapter 373, Fla. Stat., and this chapter.

(5) The District or delegated agency shall impose on any permit issued under this chapter such reasonable conditions as are necessary to protect the water resource and to assure that the permitted activity will be consistent with the overall objectives of the District. The District or delegated agency shall attach such conditions to the well construction, repair, or abandonment permit and the conditions shall be performed accordingly.

Specific Authority 373.044, 373.113, 373.171, F.S.

Law Implemented 373.103, 373.306, 373.308, 373.309, 373.313, 373.342, F.S.

History – New 1-1-85, Amended 3-16-05.

**40E-3.321 Duration of Permits.**

(1) Each permit shall be valid for a period of six (6) months, unless the time limit is extended by the District or delegated agency.

(2) Construction, repair or abandonment of a well shall not commence or continue after the expiration of a permit.

(3) Extensions of an existing permit shall be granted by the District or delegated agency upon written request if:

(a) Submitted by the permittee prior to the expiration date of the permit, and

(b) The permittee shows circumstances and conditions have not changed substantially since the permit issuance so that the proposed well will not harm the water resource.

(4) A well construction permit may be transferred from one licensed water well contractor to another if the owner or his agent agree to the transfer prior to permit expiration.

Specific Authority 373.044, 373.113, 373.171, F.S.

Law Implemented 373.308, 373.309, 373.313, 373.326, 373.342, F.S.

History – New 1-1-85, Amended 3-16-05.

**40E-3.341 Suspension and Revocation.**

The District or delegated agency may suspend or revoke a permit to construct, repair or abandon a well by written notice to the permittee under any of the following circumstances:

(1) Material misstatement or misrepresentation in the application for a permit;

(2) Failure to comply with the provisions set forth in the permit;

(3) Disregard or violation of any provisions of this chapter or Part III of Chapter 373, F.S.;

(4) Unforeseen circumstances which may create a danger to the water resources or the public health, safety or welfare if the well is constructed as permitted; or

(5) Material change of circumstances or conditions from those existing at the time such permit was issued.

Specific Authority 373.044, 373.113, 373.171, F.S.

Law Implemented 373.103, 373.306, 373.308, 373.309, 373.313, 373.342, F.S.

History – New 1-1-85, Amended 3-16-05.

**40E-3.411 Well Completion Reports.**

(1) The water well contractor shall submit a fully completed well completion report (Form 0124) to the District and delegated agency for the construction, repair or abandonment of all wells, regardless of whether a permit is required under Rule 40E-3.101, F.A.C. Well completion reports shall be filed with the District and delegated agency within 30 days of the completion of the work.

(a) Well completion reports for sites controlled by Chapter 62-761, F.A.C., Underground Storage Tank Systems, may include all monitoring wells for the same site on a single form.

(b) Computer generated completion reports developed by the contractor may be used in place of District supplied forms.

(2) The water well contractor shall keep or cause to be kept by a person in his employ an accurate field log of all well construction, repair or abandonment activities

performed under each permit. Such logs shall be available for inspection at the site during all times when work is in progress.

(3) If no work is performed or if the well is not completed, a report shall be filed within thirty days of the expiration of the permit stating that no well construction was performed under the permit or outlining the status of the incomplete well.

(4) For water test wells, a report on the test results shall be submitted to the District within 30 days of completion of the testing. The report shall also include a request and a proposed schedule to either abandon the water test well or convert the water test well to a production well or monitoring well.

Specific Authority 373.044, 373.113, 373.171, F.S.

Law Implemented 373.308, 373.309, 373.313, 373.326, 373.342, F.S.

History – New 1-1-85, Amended 3-16-05.

#### **40E-3.451 Emergency Authorization.**

(1) Emergency water well construction permits may be issued by the Executive Director or their designee when one of the following conditions exist which justifies the issuance:

(a) An existing well supplying a particular use has failed and must be immediately replaced;

(b) The health, safety, or general welfare of the people affected by said emergency would be jeopardized without such authorization;

(c) Emergency authorization is needed to immediately mitigate or resolve potentially hazardous degradation of water resources; or

(d) A serious set of unforeseen circumstances occurs which creates the emergency.

(2) Emergency permits may be applied for and issued orally. Mere carelessness or lack of planning on the part of the applicant, contractor or driller will not constitute sufficient cause for the issuance of an emergency permit. If Chapters 40E-2 or 40E-20, F.A.C., also applies to the well, an emergency permit may be issued only if, in addition to qualifying under (1) above, an application for a consumptive use permit has been filed with the District. Issuance of an emergency permit will not be evidence of any entitlement to the consumptive use permit.

(3) The applicant for an emergency permit shall submit the application and fee in accordance with Rule 40E-3.101 F.A.C., along with any other requested information within twenty-four hours after making oral application.

Specific Authority 373.044, 373.119, 373.171, F.S.

Law Implemented 373.308, 373.309, 373.313, 373.326, 373.342, F.S.

History – New 1-1-85, Amended 7-2-98, 3-16-05.

#### **40E-3.461 Inspection.**

(1) The District or delegated agency is authorized to inspect any well or abandoned well within its jurisdiction, including those wells permitted under Rule 40E-3.041, F.A.C. Inspections shall be done as necessary to insure conformity with applicable standards. Duly authorized representatives of the District or delegated agency, upon presenting proper identification and at reasonable times, may enter upon any premises for the purpose of such inspection. Such inspection may include but need not be limited to geophysical logging, water level measurements, or other methods.

(2) If, based on such inspection, the District or delegated agency finds the standards of this chapter have not been met, the District or delegated agency shall proceed with enforcement actions as prescribed by Chapter 62-531, F.A.C.

(3) A site inspection may be conducted by an authorized representative of the District or delegated agency prior to issuing a permit for construction of a public water supply well.

(4) The District or delegated agency shall be notified at least 24 hours in advance of placement of grout in the annular space of any public water supply well. A District or delegated agency representative may be on site to observe the grouting. If the District or delegated agency is properly notified and a representative is not at the site at the appointed time, the grouting may begin in the absence of a representative.

(5) If, based on an inspection, the District or delegated agency finds any well is an abandoned or incomplete well, the well shall be plugged in accordance with Rule 40E-3.531, F.A.C.

(6) If, based on an inspection, the District or delegated agency determines that applicable laws or rules have not been complied with, it shall disapprove the well. A disapproved well shall not be used until brought into compliance. If compliance cannot be achieved in a reasonable time, the well shall be properly abandoned.

(7) If, based on an inspection, the District determines that any well is a potential hazard to the water resource, the well shall be abandoned in accordance with Rules 62-532.500(4) and 40E-3.531, F.A.C.

(8) In all circumstances, a copy of all applicable well construction permits will be available at the construction site during well construction.

Specific Authority 373.044, 373.171, F.S.

Law Implemented 373.103, 373.308, 373.309, 373.319, F.S.

History – New 1-1-85, Amended 3-16-05.

#### **40E-3.502 Construction Methods.**

(1) Water wells must be located, constructed, cased, grouted, plugged, capped, or sealed to prevent uncontrolled surface flow, uncontrolled movement of water from one aquifer or water bearing zone of differing water quality to another, contamination of groundwater or surface water resources, or other adverse impacts. The construction methods and standards in this chapter shall apply to all construction, repair, or abandonment of wells in the District except:

(a) In those areas exempted by the District with the concurrence of the Department; or

(b) For public water supply wells or limited use public supply wells, which shall be constructed, repaired or abandoned in accordance with Chapter 62-555 or Chapter 64E-8, F.A.C. respectively, or

(c) For monitor wells, which shall be constructed, repaired, or abandoned in accordance with Chapter 62-761, F.A.C., covering underground storage tank systems, or

(d) For water wells permitted under Chapter 62-524, F.A.C., delineated areas, which shall be constructed, repaired or abandoned in accordance with Chapter 62-534, F.A.C., or special criteria developed for specific designated areas, or

(e) When special well construction conditions have been specified on a water use permit, these conditions shall be attached to applicable well construction permits.

(2) The District may designate special well construction standards areas by Emergency Rule to prevent transport of surface contaminants to groundwater or movement of introduced or natural contaminants from one aquifer or zone to another. Such standards will be the minimum necessary to prevent the movement of contaminants and will be in cooperation with other state agencies, local jurisdictions, and the regulated public, in accordance with Chapter 120, Fla. Stat., provisions for emergency rule making.

Specific Authority 373.044, 373.309, 373.171, F.S.

Law Implemented 373.113, 373.306, 373.308, 373.309, F.S.

History New 1-1-85, Amended 12-19-89, 3-16-05.

#### **40E-3.504 Location.**

(1) Water wells shall be located so as to not pose a threat of contamination to the water resource and to provide for the protection of the health, safety and welfare of the user.

(2) Water wells shall be located to comply with the setback distances in subsection 62-532.400(7), F.A.C. This subsection does not relieve the applicant from the responsibility of complying with the requirements of any other regulatory agency with jurisdiction over the applicant's activities.

(3) The District shall increase these distances if necessary to protect the health, safety and welfare of individuals who may be exposed to ground water contamination.

Specific Authority 373.044, 373.171, 373.309, F.S.

Law Implemented 373.113, 373.306, 373.308, 373.309, F.S.

History – New 1-1-85, Amended 3-16-05.

#### **40E-3.507 Casing and Liner Pipe Standards.**

(1)(a) Well casing, liner pipe, and well screen shall be new or in like new condition. Such well casing, liner pipe, and well screen shall not be used unless free of breaks, corrosion, and dents, straight and true, and not out of round. Welded or seamless black or galvanized steel pipe or casing, or stainless steel pipe or casing, or approved types of nonmetallic pipe shall be used for well casing or liner pipe.

(b) All well casing shall conform to the standards identified in subsection 62-532.500(1), F.A.C.

(2) Wells constructed using telescoping casings shall be considered as a continuous casing provided the following conditions are met:

(a) Any annular space including the overlapped section shall be grouted in accordance with subparagraph 62-532.500(2)(f)4., F.A.C. The grout shall extend from the bottom of the casing to the top of the innermost casing. The use of lead packers is prohibited.

(b) The bottom end of the casing shall extend to or below the water level of the aquifer intended to supply water to the well.

(c) All caving zones below the uppermost consolidated unit shall be cased.

(d) A minimum of 10 feet overlap is required for non-public supply wells. One casing centralizer shall be used within the overlapped section.

(e) A minimum of 20 feet overlap is required for public supply wells. Two casing centralizers shall be used within the overlapped section.

(4) Nonmetallic and stainless steel well casing or liner pipe shall not be installed by driving unless prior approval is obtained from the District based on a demonstration that the integrity of the well casing or liner pipe will be maintained.

(a) For well casing or liner pipe installed by driving, the casing or pipe shall not butt together inside threaded couplings unless the joint is electrically welded so as to be completely watertight.

(b) A drive shoe is required for use on casing or pipe installed by driving unless prior approval is obtained from the District based on a demonstration that a drive shoe is not necessary to maintain the integrity of the casing or pipe.

Specific Authority 373.044, 373.171, 373.309, F.S.

Law Implemented 373.113, 373.306, 373.308, 373.309, F.S.

History – New 1-1-85, Amended 3-16-05.

#### **40E-3.512 Well Construction Requirements.**

(1) In the construction of a well, reasonable caution shall be taken to maintain the work site so as to minimize the entrance of contaminants into the water resource.

(a) Materials used in construction shall be reasonably free of contamination.

(b) Water used during construction shall be supplied from a potable well or potable water supply. If the well or water supply is a known source of contamination or is within a known area of contamination, it shall not be used to provide water for well construction.

(2) All water wells which penetrate multiple aquifers or water bearing zones shall be properly designed and constructed to prevent an interchange of water between water bearing zones which may result in deterioration of the quality of water in one or more water bearing zones, or will result in a loss of artesian pressure.

(a) If a well cannot be properly completed to prevent an unauthorized interchange of water between water bearing zones or to prevent a loss of artesian pressure, the well shall be abandoned and plugged in accordance with subsection 40E-3.531(3), F.A.C., or other instructions from the District, which are appropriate for the geological conditions encountered.

(3) For wells obtaining water from unconsolidated earth materials, casing shall extend from the upper terminus of the well to the well screen.

(a) The well screen shall be attached to the casing with a watertight seal;

(b) The well shall be constructed to prevent caving or pumping of sand. A filter pack shall be installed around the screened portion of the well;

(c) The well shall be adequately developed until clear of any drilling fluids, particulate material and turbidity.

(4) For wells obtaining water from consolidated earth materials, a continuous casing shall extend from the upper terminus of the well to the top of the uppermost consolidated unit.

(5) For artesian wells, the casing shall penetrate the entire thickness of the overlying formation above the aquifer. The District may grant waivers for seating of casing within the confining zone above an artesian aquifer provided that:

(a) The casing extends a sufficient distance into the confining zone so as to prevent movement of water from the artesian aquifer to overlying aquifers;

(b) The District determines that such construction will not harm the water resources.

Specific Authority 373.044, 373.171, 373.309, F.S.

Law Implemented 373.113, 373.306, 373.308, 373.309, F.S.

History – New 1-1-85, Amended 3-15-05.

#### **40E-3.517 Grouting and Sealing.**

Wells shall be grouted and sealed in accordance with paragraph 62-532.500(2)(f), F.A.C., and this section, to protect the water resource from degradation caused by movement of waters along the well annulus either from the surface to the aquifer or between aquifers, and to prevent loss of pressure in artesian aquifers.

(1) All wells that are constructed in a manner which creates an annular space between the casing and the naturally occurring geologic formations shall be grouted and sealed in accordance with the methodologies listed in paragraph 62-532.500(2)(f), F.A.C. and this section.

(2) For any part of a well casing with an outside diameter of four inches or larger intended to be installed in a bore hole which is larger in diameter than the outside diameter of the casing, the annular space shall be filled from bottom to top with not less than a nominal two inch thickness of neat cement grout.

(3) For any part of a well casing with an outside diameter of less than four inches intended to be installed in a bore hole which is larger in diameter than the outside diameter of the casing, the annular space shall be filled from bottom to top with not less than a nominal one inch thickness of neat cement grout minimum.

(4) Wells obtaining water from unconsolidated formations, using a method other than jetting or driving a casing, and creating an annular space, shall be grouted from no more than ten (10) feet above the top of the screen to the upper terminus. Borehole cuttings shall not be reintroduced into the annular space.

(5) For jetted wells or sand point wells obtaining water from an unconsolidated formation of a naturally caving nature in which the annular space is completely filled with formation material, only the upper three (3) feet shall be grouted to provide protection from possible contaminated surface water.

(6) For jetted wells or sand point wells circulating drilling fluids to the surface, and obtaining water from a consolidated formation, shall be grouted bottom to top prior to being seated into water bearing formation.

(7) For wells constructed by driven casing, dry bentonite, with an average mesh size of between 4 and 20 U.S. standard sieve size or grain size between 5mm and .85mm, must be added to the continuous casing string at land surface at the beginning and during construction of the well.

(8) All other wells shall be grouted from the bottom of the casing to land surface.

(9) Unless a variance has been granted by the District, grouting and sealing of water wells shall be accomplished in the following manner:

(a) The grout mixture shall consist of either Portland Cement or a natural bentonite slurry for wells and boreholes meeting the requirements in subsection 40E-3.512(7), F.A.C. The mixture shall consist of 5.2 to 5.5 gallons of water per sack of

Portland Cement or a mixture of 6.0 gallons of water per sack of Portland Cement with 3 to 7.5 pounds of Bentonite, not to exceed 8% by weight.

(b) The minimum set time for grouting of casing using either Portland Cement or Bentonite before drilling operations may continue is 12 hours.

(c) The casing shall be centered in the borehole prior to grouting and sealing.

(d) Grouting of the annular space shall be completed using the tremie pipe, forced pressure, or other equivalent method approved by the District. In all cases, grout will be introduced into the annular space from bottom to top.

(e) In those cases where, during grouting operation, circulation of the grout is lost so that the annular space being grouted cannot be filled in one continuous operation, a tremie pipe shall be installed in the annular space to a point immediately above the zone of lost circulation. The annulus shall be bridged at that point by sand or other approved material introduced through the pipe. Grouting or sealing of the annular space shall be completed using the tremie pipe or other approved methods.

(10) Water wells constructed using Bentonite grouts shall meet all the following requirements:

(a) The slurry grout mixture shall be introduced into the annular space from bottom to top. The casing seat must be clean, allowing the casing to set at the total depth bored in a hole reasonably free of drill cuttings;

(b) A formation packer or a 5-foot neat cement plug must be installed at the casing seat;

(c) Neat cement must be placed in the upper ten (10) feet of the annular space to prevent deterioration of, or damage to, the bentonite seal; and

(d) Bentonite grout may be used only on monitor, domestic, irrigation, water source, or ground source heat pump installations with a nominal casing diameter of five (5) inches or less. Use of bentonite grout is not allowed on public supply wells, wells in delineated areas, wells where artesian flow occurs, in any identified contamination sites where the contaminants will prevent an adequate seal, or in wells with the water quality concentrations exceeding 10,000 milligrams per liter total dissolved solids.

(e) Bentonite grout may be used for abandonment purposes for any well. However, it cannot be used to abandon a dry well, or a well which flows to surface and cannot be placed any higher in the well than the height of the static water level. Any unsealed remainder above the height of the static water level must be filled with neat cement.

(f) Bentonite chips or pellets used for abandonment purposes may not be placed in any well casing or hole less than three inches in diameter or for sealing the annular space of any well.

(g) In all circumstances, the manufacturer's mixing instructions shall be followed.

Specific Authority 373.044, 373.171, 373.309, F.S.

Law Implemented 373.113, 373.306, 373.308, 373.309, F.S.

History – New 1-1-85, Amended 3-16-05.

#### **40E-3.521 Well Seals.**

(1) Temporary Well Seals.

(a) Whenever there is a temporary interruption in work on the well during construction, repair or abandonment, the well opening shall be sealed with a tamper resistant cover.

(b) Except in areas designated by the Department with the concurrence of the District, any well in which pumping equipment is installed seasonally or periodically shall, whenever pumping equipment is not installed, be capped with steel or reinforced concrete cover, or valve.

(2) Permanent Well Seals.

(a) Wells shall be properly sealed to prevent the movement of contaminants and surface water into the well.

(b) The top of the well casing shall at a minimum extend 12 inches above land surface and if practical, 12 inches above the 100-year flood elevation.

(c) Any cased well equipped with permanently installed pumping equipment shall have that pumping equipment and any necessary piping installed through a well seal.

(d) Any unused well shall be capped in a watertight manner with a threaded, welded, or bolted cover or valve. The top of the well casing shall at a minimum extend 12 inches above land surface.

Specific Authority 373.044, 373.171, 373.309, F.S.

Law Implemented 373.113, 373.306, 373.308, 373.309, F.S.

History – New 3-16-05.

#### **40E-3.525 Explosives.**

The use of explosives in well construction or development is prohibited unless specifically approved by the Department.

Specific Authority 373.044, 373.171, 373.309, F.S.

Law Implemented 373.113, 373.306, 373.308, 373.309, F.S.

History – New 1-1-85, Amended 12-19-89, 3-16-05.

#### **40E-3.529 Flowing Wells.**

If the well flows at land surface, a valve shall be provided and maintained to control the discharge from the well.

Specific Authority 373.044, 373.171, 373.309, F.S.

Law Implemented 373.113, 373.306, 373.308, 373.309, F.S.

History – New 1-1-85, Amended 3-16-05.

#### **40E-3.531 Abandoned Well Plugging.**

(1) Any well which was not constructed in accordance with the standards of this chapter and fails to be corrected upon written notice in accordance with subsection 40E-3.461(2), F.A.C., shall be deemed an abandoned well.

(a) Any well, which has been permanently disconnected from pumping equipment and has not been converted to a monitoring well, shall be deemed to be abandoned.

(b) The owner of the property, on which an abandoned well is located, shall be responsible for ensuring that all abandoned wells on the property are properly plugged by a licensed water well contractor.

(2) Any well, which is an abandoned artesian well under subsection 373.203(1), F.S., shall be plugged in accordance with this section.

(3) All abandoned wells shall be plugged by filling them from bottom to top with grout within a time specified by the District. The work shall be performed by a licensed water well contractor.

(a) Use of clean aggregate to bridge cavernous or lost circulation zones shall be allowed if measurements indicate loss of grout and the borehole or screened portion does not connect two (2) or more aquifers of significantly differing water quality. Prior approval to use aggregate or other material must be obtained from the District.

(b) Obstructions shall be cleared from all wells prior to plugging.

(4) Requests to abandon a well shall be submitted on the application form provided by the District.

Specific Authority 373.044, 373.171, 373.309, F.S.

Law Implemented 373.113, 373.306, 373.308, 373.309, F.S.

History – New 1-1-85, Amended 3-16-05.