10-DEPARTMENT OF HEALTH AND HUMAN SERVICES

144A BUREAU OF HEALTH

CMR CHAPTER 232 - Well Drillers and Pump Installers Rules

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SUMMARY

This rule describes the examination and license requirements for persons and companies that perform well drilling, pump installation and hydrofraturing. This rule also prescribes a code of conduct for well drillers and pump installers.

BASIS STATEMENT

The Maine Water Well Program was authorized and established by the Maine Legislature to provide the public with the highest quality drinking water possible by ensuring that water wells are drilled, constructed, altered or abandoned in a manner that protects ground water from contamination.

COMMENTS

None received.

NON-DISCRIMINATION NOTICE

In accordance with Title VI of the Civil Rights Act of 1964, as amended by the Civil Rights Restoration Act of 1991 (42 U.S.C. 1981,2000d et seq.) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), the Age Discrimination Act of 1975, as amended (42 U.S.C. 6101 et seq.), Title II of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.), and Title IX of the Education Amendments of 1972, the Maine Department of Human Services does not discriminate on the basis of sex, race, color, national origin, disability or age in admission or access to or treatment or employment in its programs and activities.

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CHAPTER 1

DEFINITIONS

SECTION 100.0 GENERAL

100.1 Requirements: All well drillers and pump installers shall comply with the applicable rules**.**

100.2 Scope: Unless otherwise expressly stated, the following terms shall, for the purpose of this rule, have the meanings set forth in the following sections.

100.3 Interchangeability: Words used in the present tense include the future tense; words in the masculine gender include the feminine and neuter; the singular number includes the plural, and the plural includes the singular.

100.4 Terms not defined: Terms not defined in the following sections shall have ascribed to them their ordinarily accepted meanings such as the context may imply.

SECTION 101.0 DEFINITIONS

Abandonment: The complete sealing of a well or borehole with grout or other impermeable material to prevent contamination of the aquifer.

Apprentice pump installer: "Apprentice pump installer" means a person who is engaged to work at and learn the trade of water well pump installation, repair and maintenance under the direct supervision of a master or journeyman pump installer. A person who is licensed under chapter 49 as a master plumber is not required to register with the commission as a pump installer.

Apprentice well driller: A person who is engaged to work at and learn the trade of well drilling under the direct supervision of a master or journeyman well driller.

Bentonite: Means a clay which consists of a majority of montmorillonite and expands by absorbing water. It is commercially available in a variety of forms designed to add viscosity to drilling fluids or to create a seal of low hydraulic conductivity.

Borehole: See well or water well**.**

Commission: Maine Water Well Commission

Department: The Department of Health and Human Services

Development: The act of flushing or pressurizing the aquifer to increase the efficiency, and clean the well.

Disposal Field: Any system designed to dispose of waste or waste water on or beneath the surface of the earth; includes, but is not limited to: crushed rock or chambered disposal fields; grandfathered cesspools; or any other fixture, mechanism, or apparatus used for those purposes.

Drilling rig: A mechanical device used to drill, drive, or bore water wells.

Drive shoe: A hardened steel cylinder designed to be welded or threaded onto the end of the steel casing and manufactured to provide a seal to the bedrock surface.

Gravel packed well: A type of gravel well in which filter material is placed in the annular space to increase the effective diameter of the well, and to prevent fine-grained sediments from entering the well.

Gravel Well: A well drilled and completed in unconsolidated surficial deposits of sand, gravel or till.

Ground water: The water contained within the interconnected pores, cracks or fractures located below the water table of a confined or unconfined aquifer.

Grout for abandonment: Means a fluid mixture of cement and water, bentonite and water or both, possibly with additives, of a consistency which can be forced through a pipe and which is designed to provide a seal.

Holding Tank: A closed watertight structure designed and used to receive and store waste water or septic tank effluent. A holding tank does not discharge waste water or septic tank effluent to surface or ground water or onto the surface of the ground. Holding tanks are designed and constructed to facilitate ultimate disposal of waste water at another site.

Hydrofracturing: A process of putting hydraulic pressure on the bedrock surrounding the borehole that has been drilled for the purpose of enhancing the quantity of water.

Jaswell type seal: A flexible rubber like collar with circular rings designed to provide a water tight seal between the well casing or liner and a larger diameter hole. Although one such seal is manufactured by the Jaswell Corporation, in these rules the term means all similar products of other manufacturers.

Journeyman pump installer: "Journeyman pump installer" means a person doing the work of pump installation, repair or replacement who is in the employment of a master pump installer. A person who is licensed under chapter 49 as a master plumber is not required to register with the commission as a pump installer.

Journeyman well driller: A person doing the work of drilling, driving or boring wells who is in the employment of a master well driller.

Lift Station: A closed, water tight structure equipped with a sewage pump and designed and used to receive and store waste water or septic tank effluent and then pump the waste water or effluent to a disposal field.

Master pump installer: "Master pump installer" means a person firm or corporation engaged in the installation, repair or replacement of a pump in a water well. The licensure of a master pump installer under this chapter must specify the name of the person licensed. In the case of a firm, the person registered as a master pump installer must be a member or employee of the firm. In the case of a corporation, the person registered as a master pump installer must be an employee of the corporation or an officer of the corporation.

Master well driller: A person, firm or corporation engaged in the business of drilling, driving or boring wells. The licensure of a master well driller under this chapter must specify the name of the person licensed. In the case of a firm, the person licensed as a master well driller must be a member or employee of the firm. In the case of a corporation, the person licensed as a master well driller must be an employee of the corporation or an officer of the corporation.

Non-submersible pump: Mechanical device that is used to move water from the well to higher elevation and the pump and motor are installed outside the well.

Open end casing: Casing terminated in a gravel aquifer without a screen.

Open hole setting: Installing casing when the overburden is stable enough to remain free of impediments.

Overburden: The loose soil, silt, sand, gravel, or other unconsolidated material overlaying bedrock.

Packer: Down-hole equipment consisting essentially of a sealing device, a holding or settling device, and an inside passage for fluids. It is used to block the flow of fluids through the annular space between the tubing and the wall of the well-bore, or between the tubing and the casing, by sealing off the space between them.

Perforated casing: A series of openings in a well casing, made either before or after installation of the casing to permit the entrance of water into the well.

Permanent Structure: A building, constructed to house people, vehicles, or equipment and supplies, of sufficient size and weight, or anchored to the ground in such a way, that it is unreasonable to relocate it for the purpose of drilling a water well.

Potable: Water suitable for drinking.

Public Water Supply: A public water supply is one which serves 25 or more people for at least 60 days per year or which has at least 15 service connections. Examples include water districts, mobile home parks, campgrounds, restaurants, apartment buildings, and hotels.

Pump Installation Company: "Pump installation company" means a person, firm, partnership or corporation that is engaged in the trade of water well pump installation, repair or replacement.

Pump installer: "Pump installer" means an apprentice pump installer, journeyman pump installer or master pump installer. A person who is licensed under chapter 49 as a master plumber is not required to register with the commission as a pump installer.

Pump or pump system: "**Pump or pump system** means" Mechanical equipment or a device used to

remove water from a well including all piping and wiring up to the existing equipment in the structure.

Road box: A covered box of adequate size and strength to provide protection for the top of a well that has been terminated below the surface of the ground, from foot and vehicle traffic.

Rules: Means these rules.

Sealed Vault Privies: See “Septic Tank”

Septic Tank: A septic tank is a watertight receptacle which receives the discharge of a drainage system or part thereof, designed and constructed so as to retain solids, digest organic matter through a period of detention and allow the liquids to discharge into the soil outside of the tank through a system approved by the Administrative Authority. **Sealed vault privies** are considered “septic tanks” for the purpose of setback distances.

Shale packer: A flexible rubber like cone collar designed to fit between a well casing or liner and a larger diameter hole. The collar prevents material placed above it from passing by it and into the well below.

Submersible pump: Mechanical device that is used to move water from the well to higher elevation and is completely submerged in the well.

Surface water: Water occurring above the ground water table.

Underreamer: Method of drilling borehole, and installing casing at the same time. The underreamer bit extends to drill a slightly larger bore than the O.D. of the casing, then it is retracted after the borehole is drilled.

Well driller: An apprentice well driller, journeyman well driller or master well driller.

Well drilling company: “Well drilling company” means a person, firm, partnership or corporation that owns or otherwise operates any mechanical equipment used to drill, drive or bore water wells.

Well, Water Well or Borehole: Any hole drilled, driven or bored into the earth used to extract drinking water. The terms "well" and "water well" do not include:

1. Dug wells;

2. Monitoring wells;

3. Wells constructed exclusively for the relief of artesian pressure at hydroelectric projects;

4. Wells constructed for temporary dewatering purposes;

5. Wells constructed for the purposes of extracting oil, gas or brine; and

6. Wells on private property for private use that are constructed by the property owner or lessee of the property.

Well screen: Serves as the intake section of the well that obtains water from an aquifer of unconsolidated materials such as sand.

Yield: The volume of water discharged from a well in gallons per minute.

CHAPTER 2

GENERAL REQUIREMENTS

SECTION 200.0 APPLICATION PROCEDURES

200.1 General: Effective January 1, 1994, a person may not engage in the business of constructing water wells within the State or engage in the installation, repair or replacement of a pump in a water well unless licensed with the Commission. All licensed well drillers and pump installers must be in the charge of a licensed well drilling or pump installation company. A company license is valid only while the company employs at least one licensed master well driller for a well drilling company or one licensed master pump installer for a pump installation company. An application request for the well driller and pump installer examination/license shall be on an application form furnished by the Department and requires the information set forth in the Section.

200.2 References: Three (3) references shall be submitted by persons who have a professional knowledge of the applicant's work. At least one reference must be from a master well driller for applicants for a well drillers license, and a master pump installer for applicants for a pump installers license.

200.3 Work experience: Documentation showing that the minimum work experience criteria set forth in Section 202.0 has been met. Failure to provide appropriate evidence of work experience will result in the denial of an application.

200.4 Time frame: The applicant's request for examination/license, along with the completed application and reference forms, must be received by the Department no later than thirty (30) days prior to the examination date.

200.5 Application review / examination fee: Twenty-five (25) dollars shall be submitted with each application and is non-refundable. This fee covers the initial application review and one examination. Checks shall be made payable to Treasurer of State.

200.6 Exemptions: This subsection does not prevent a person from making pump system installations, alterations, repairs or replacements in a single-family residence owned and occupied by that person and to be occupied by that person as a bona fide personal abode, providing the installation, alteration, repair or replacement conforms to the standards set forth in this chapter and any rules adopted by the Maine Water Well Commission or the department. This subsection does not prevent a person from removing and replacing an existing pump for the purpose of well inspection or to test pumping if the pump and electrical system are not being modified.

200.7 Applicability: These rules are applicable when determining the appropriate setbacks for new water supply wells from existing disposal system components. The Maine Subsurface Waste Water Disposal Rules, 144A CMR 241, are the applicable rules for determining the appropriate setbacks for new or replacement disposal system components from existing water supply wells. When both a new water supply well and a new or replacement disposal system are being designed simultaneously homeowners are advised to verify that the proposed well location does not conflict with requirements of the Maine Subsurface Waste Water Disposal Rules.

SECTION 201.0 GRANDFATHER CLAUSE; TRANSITION

201.1 License conversions: Any person registered by the Commission on May 5, 2002 as a pump installer who is in good standing shall be licensed as a master pump installer.

201.2 After May 5, 2002: Persons seeking either initial pump installer licensure or an upgrade to either master pump installer or journeyman pump installer licensure by the Commission subsequent to May 5, 2002 must meet the appropriate minimum work experience criteria set forth in Section 202.0 and successfully complete the appropriate examination set forth in section 203.0

SECTION 202.0 MINIMUM WORK EXPERIENCE

202.1 General: The minimum work experience required for an initial grandfathered and any future license is set forth in this section.

202.2 Master well driller: A master well driller must have a minimum of three (3) years experience in well drilling and have worked an average of 1000 hours per year as a licensed journeyman well driller for each of those years.

202.3 Journeyman well driller: A journeyman well driller must have at least one (1) year experience in well drilling and have worked at least 1000 hours during that year as a licensed apprentice well driller.

202.4 Apprentice well driller: An apprentice well driller is an applicant who is not eligible under subsections 202.2 or 202.3.

202.5 Master pump installer: A **master** pump installer must have a minimum of three (3) years experience as a pump installer and have worked at least 350 hours as a licensed journeyman pump installer during each of those years.

202.6 Journeyman pump installer: A journeyman pump installer must have at least one (1) year experience in pump installing and have worked at least 350 hours during that year as a licensed apprentice pump installer.

202.7 Apprentice pump installer: An apprentice pump installer is an applicant who is not eligible under subsection 202.6.

202.8 Work experience from another state: The Commission may consider work experience obtained from another state for satisfying the relevant requirements of sections 202.2, 202.3, 202.4, 202.5 and 202.6 on a case-by-case basis. For any state with comparable licensing or registration requirements, applicants shall be required to provide a copy of a valid license or registration and evidence of good standing with the regulatory agency from that state which has jurisdiction over well drillers in addition to references and proof of appropriate work experience. For states without comparable licensing or registration requirements, the Commission may require any information it deems necessary to verify adequate work experience and demonstrate good standing in that state in addition to appropriate references and other required information.

SECTION 203.0 EXAMINATIONS

203.1 Qualifying: Only persons meeting the work experience criteria set forth in Section 202.0 and having suitable references as determined by the Commission will be admitted to the examination.

203.2 Examination dates: Examinations shall be held on dates and places as determined by the Department, but in no case shall the Department hold less than one (1) examination per calendar year.

203.3 Examination fee: The twenty-five (25) dollar fee in Section 200.5 includes the costs for one examination. Applicants needing to retake an examination or wishing to take another examination, shall submit a new application along with the application fee set forth in Section 2005.

203.4 Examination content: The written examination focuses on the principles of water well drilling, abandonment of water wells, and the installation of water well pumps.

203.5 Master well driller examination: To upgrade from a journeyman well driller to a master well driller requires a score of seventy (70) unscaled on each master well driller examination.

203.6 Journeyman well driller examination: To upgrade from an apprentice well driller to a journeyman well driller requires a score of seventy (70) unscaled on the journeyman well driller examination.

203.7 Master pump installer: To upgrade from an journeyman pump installer to a master pump installer requires a score of seventy (70) unscaled on the master pump installer examination.

203.8 Journeyman pump installer: To upgrade from an apprentice pump installer to a journeyman pump installer requires a score of seventy (70) unscaled on the journeyman pump installer examination.

SECTION 204.0 LICENSURE

204.1 General: The Department shall issue a license to an applicant who meets the qualifications as set forth in Sections 202.0 and 203.0 and this Section.

204.2 Renewal date: Licenses shall be renewed the first day of January of each year by submitting the renewal application form and registration fee, provided his/her record of compliance with these

rules and standards and applicable statutes is acceptable to the Department.

204.3 Renewal of license: If a licensee has not complied with the rules and standards and applicable statutes, the Commission or Department shall notify the licensee that the license shall not be renewed and the reasons for such action. A licensee who receives a notification may request a hearing before the Commission (207.5). A license shall not expire until final agency action has been taken.

204.4 Reinstatement of lapsed licenses: Well drillers and pump installers who allow a license to lapse for more than three (3) years will be required to take an examination and pay the examination fee. After successful completion of an examination and provided his/her record of compliance with these rules and standards and applicable statutes is acceptable to the Department, a license will be issued upon receipt of the appropriate licensure fee. Licenses that have lapsed for less than three (3) years may be reinstated by paying the current year's license fee and lapsed years fees.

204.5 License required: No individual or company shall perform drilling or pump installation, repair or replacement without an appropriate and current license.

204.6 Company Licenses: One well drilling company license shall be issued for each well drilling company that employs at least one licensed master well driller, pays the appropriate fees and makes application to the commission, and to each pump installation company that employs at least one licensed master pump installer, pays the appropriate fees and makes application to the commission.

204.7 The licensure **fee(s) is as follows:**

204.7.1 $120.00 - Master Well Driller

204.7.2 $88.00 - Journeyman Well Driller

204.7.3 $ -0- Apprentice Well Driller

204.7.4 $ 60.00 - Master Pump Installer

204.7.5 $ 40.00 - Journeyman Pump Installer

204.7.6 $ -0- Apprentice Pump Installer

204.7.7 $10.00 - Well Drilling Company

204.7.8 $10.00 - Pump Installation Company

Make checks payable to Treasurer of State.

SECTION 205.0 RECIPROCITY

205.1 General: The commission may issue a license without examination, in a comparable classification, to any person who holds a registration or license in any state, territory or possession of the United States or any country, if the commission determines that the requirements for licensure of well drillers or pump installers under which the person's license was issued do not conflict with this rule or the code of performance adopted by the commission under this rule.

SECTION 206.0 Vehicle Identification

206.1 Required rig and pump service vehicle identification: A company shall display its license number on both sides of each drilling rig and pump service vehicle.

206.1.1 Size of numbers: The numbers and/or letters shall be 1.5" in size and located immediately adjacent to the Maine Water Well Commission seal.

206.1.2 Contrasting colors: The license number and rig number and/or letter shall be of a contrasting color to the drilling rig and pump service vehicle.

SECTION 207.0 CONTRACTS

207.1 Contracts and Complaints: In the absence of a written agreement, whose terms satisfactorily address water quality or water quantity, the Commission may apply any of the recommended practices established in these rules as the standard upon which to evaluate a complaint against a driller or pump installer related to the drilling of a water well or installation of a water pump.

SECTION 208.0 SEVERABILITY CLAUSE

208.1 General: If any section, subsection, sentence, clause, phrase or portion of these rules is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of these rules.

CHAPTER 3

CODE OF ETHICS

SECTION 300.0 CONTENTS

300.1 General: All work shall be performed in accordance with State and local regulations, and shall be performed with the customer's best interest as a primary goal.

300.2 Professionalism: The process of selecting the well site, getting to, constructing, developing, and completing the job will be done with as much concern for the customers wishes, neatness, speed, safety, and professionalism as possible. Striving to make the end results beneficial, acceptable and pleasing to all parties concerned.

300.3 Ethical practices: The purpose of the Maine well and or pump contractor, is not only to make a living, but to show our concern for the environment and to help make Maine a cleaner and safer place for all who live here.

300.3.1 When well drilling or pump installations are practiced as a profession, the privilege of practice requires professional, ethical conduct and professional responsibility.

300.3.2 Each well driller or pump installer is to be guided by the highest standards of ethics, personal honor, and professional conduct.

300.3.3 A well driller or pump installer shall not engage in false or deceptive advertising, or make false, misleading or deceptive representations or claims in regard to the profession, or in regard to others in the practice of the profession, which concern his or her own professional qualifications or abilities.

300.3.4 A well driller or pump installer shall not issue a false statement or false information even though directed to do so by an employer or client.

300.3.5 A well driller or pump installer shall protect, to the fullest possible extent, the interest of his or her employer or client so far as is consistent with the law and the well drillers and pump installers professional obligations and ethics.

300.3.6 A well driller and pump installer shall endeavor to cooperate with others in the profession and encourage ethical and educational advancement.

300.3.7 It shall be the duty and professional responsibility of every well driller and pump installer not only to uphold these standards of ethics by precept and example, but also, where necessary, to encourage by counsel and advise to other well drillers and pump installers, their adherence to such standards.

CHAPTER 4

NEW WATER WELL CONSTRUCTION

SECTION 400.0 WATER WELL LOCATION

400.1 Scope: This Chapter governs the horizontal setback distances between new water supply wells and disposal fields, septic tanks, holding tanks and lift stations.

400.1.1 General: The minimum setback distances from waste water systems set forth in this rule are designed to minimize water well contamination by waste water disposal systems. A well driller must make every reasonable effort to determine the location of all septic system components on the subject property and any adjacent properties of concern. The natural flow of ground water on a particular piece of property, as well as the type of water well and the manner in which it will be constructed, are primary considerations when siting a water well in relationship to a waste water disposal systems. This section establishes minimum setback distances for private wells from waste water disposal fields, septic tanks, holding tanks and lift stations and provides for reductions to those distances for bedrock wells when one or more of the conditions defined in section 400.2 below exists at a drilling site.

400.1.2 Public Water Supply Wells: The State of Maine Rules Relating to Drinking Water, Section 3, describes the approval process for a new well which will serve a public water supply and states that "no new production well shall be installed prior to preliminary approval being granted in writing by the Department of Human Services." Examples include water districts, mobile home parks, campgrounds, restaurants, apartment buildings and hotels. Any setbacks for public water supply wells from septic systems or other potential sources of contamination shall be determined by the Department of Human Services during the preliminary approval review process. See definition in Chapter 1.

Point of Contact is:

Maine Drinking Water Program
#1~~0~~1 State House Station
Augusta, ME 04333-0010
Telephone (207)287-2070

400.1.3 Gravel Wells: The minimum setbacks provided for in this Chapter cannot be reduced for gravel wells without a specialty well application as provided for in Section 400.7 having been approved by the Commission prior to drilling.

400.2 Minimum Setback Distances Between Water Supply Wells~~,~~ and Disposal Fields : The minimum horizontal setback distance of a water supply well from a waste water disposal field designed to treat less than 2,000 gpd (gallons per day) is 100 feet, and the minimum horizontal setback distance of a water supply well from a waste water disposal field designed to treat 2,000 gpd or more is 300 feet, except as provided for in Sections 400.3 and 400.7.

400.2.1 Wells intended to serve Public Water Supplies, as defined in Chapter 1 of these rules, must be approved in writing by the Department of Health and Human Services prior to being drilled and shall be constructed with a setback from disposal fields or other potential sources of contamination as required by the Department of Health and Human Services, Drinking Water Program.

400.3 Reduction in Minimum Setback Distances Between Bedrock Water Supply Wells and Disposal Fields: The well driller, after consultation with the property owner or customer, may determine that it is not practical to maintain the minimum setback distances from disposal fields as specified in Section 400.2. In these instances, the minimum setback distance for bedrock water supply wells may be reduced, depending upon the amount of casing or liner seal installed below ground level, as provided in Table 400.1 for the following reasons:

a) the size of the property is not sufficient to allow for the required setback; or
b) sufficient setbacks from other potential sources of contamination cannot be met; or
c) excessive slopes prohibit access; or
d) the location of permanent structures would result in unreasonable impacts or damage to the structures; or

e) the location of lakes, ponds, streams or wetlands prohibits meeting the required setback; or
f) the presence of bedrock at or within three vertical feet the surface would result in unreasonable trenching requirements.

In these cases a bedrock well must be installed and the setback reductions set forth in Table 400.1, shall be used. In addition, a Setback Reduction Notification Form as described in Section 400.5 must be completed. All other reasons for reducing the setback from a bedrock well to a disposal field shall require a Specialty Well application approved by the Commission prior to drilling. In no case shall the minimum setback be reduced to less than 60 feet from disposal fields designed for less than 2,000 gpd, or 180 feet in the case of wells with sewage systems designed for 2000 gpd (gallons per day) or more, without written approval of a Specialty Well application as described in Section 400.7 by the Commission.

400.3.1 Reduction in Minimum Setback Distances Between Gravel Water Supply Wells and Disposal Fields There is no setback reduction allowed for gravel wells without a Specialty Well application approved by the Commission as described in Section 400.7.

Table 400.1

Reduction in disposal field setbacks, for bedrock wells and a Wastewater Disposal Field

Depth of Well Casing or Liner Seal Below Ground Level	Minimum Setback Distance for Disposal System < 2,000 gpd	Minimum Setback Distance for Disposal System > 2,000 gpd
40 feet	90 feet	270 feet
55 feet	80 feet	240 feet
70 feet	70 feet	210 feet
90 feet	60 feet	180 feet

400.4 Minimum Setback Distances Between Water Supply Wells and Septic Tanks, Holding Tanks and Lift Stations The minimum horizontal setback distance of a water supply well from septic tanks, lift stations, and holding tanks is 60 feet. In no case shall the minimum setback be reduced to less than 60 feet from septic tanks, lift stations or holding tanks without written approval of a Specialty Well application as described in Section 400.7 by the Commission.

400.5 Setback Reduction Notification Forms: The well driller is required to submit a complete Setback Reduction Notification Form to the Commission, on a form provided by the Commission, for all wells drilled less than 100 feet from a disposal field, or 60 feet from a septic tank, holding tank, or lift station, or 300 feet from a disposal field designed for 2,000 gpd or more. The well driller shall indicate on the form which situation(s) described in Section 400.2. resulted in the reduced setback, or indicate the date Specialty Well approval as described in Section 400.7 was granted by the Commission. The well driller will also include the setbacks achieved, a description of the construction details of the completed well, including the depth of casing seal below ground, the length of any liners and the depth of any liner seals below ground. The form, signed and dated by the property owner and well driller, shall be submitted to the Commission no later than thirty (30) days from the completion of the well. If the Commission reviews the setback reduction notification form and finds the reduction not acceptable, the Commission may order corrective measures to be taken.

400.6 Water Wells Located Adjacent to Property Lines: The Maine Subsurface Waste Water Disposal Rules provide for special setback conditions between a well and an abutter's subsequently located waste water disposal field (whether located purposefully or not). Specifically, Sections 702 and 703 of the Waste Water Rules (144A CMR 241, pages 7-2, 7-3 and 7-4, and Tables 700.2, 700.3 and 700.4) establish conditions and requirements for setbacks between wells and proposed disposal fields.

400.7 Specialty Wells: The Commission is authorized to review and approve or deny, in writing, on a case-by-case basis, the location of bedrock wells that cannot meet the setback and/or casing provisions described in Sections 400.2, 400.3 and 400.4, or is a gravel well that cannot meet the setbacks described in Sections 400.2 and 400.4. Application for a Specialty Well shall be made directly to the Commission by a duly licensed well driller on a form provided by the Commission. In such instances, if it is not practical to meet the requirements established by these rules, the Commission may permit the location of water supply wells through a written waiver. In such cases the Commission may prescribe other such conditions as they deem necessary for the protection of public health.

400.7.1 Registry of Deeds: When the Commission authorizes a waiver, the owner may be

required by the Commission to file with the Registry of Deeds, a form clearly stating the particular aspects of the well location with reference to the waste water disposal field. The application form will be provided by the Commission and presented to the owner by the well driller. Once approved by the Commission, the owner of the well, or his/her agent, shall then file this application form with the Registry of Deeds and inform the Commission of its disposition, by indicating the property deed's book and page number.

SECTION 401.0 STANDARD PRACTICE FOR CONSTRUCTION OF WELLS DRILLED IN BEDROCK

401.1 Well casing material: Well casings shall be made of a material and weight appropriate to assure adequate performance of the functions for which casing is used. The major functions and characteristics of the well casing are as follows:

401.1.1 Contaminants from casing itself: Casing material shall not be a source of pollution.

401.1.2 Steel casing: Steel well casing for new wells shall have a minimum wall thickness of .250 inches.

401.1.3 Plastic casing: Plastic well casing shall be schedule 40 or heavier and National Sanitation Foundation approved for potable water use, including but not limited to Polyvinylchloride (PVC), Chlorinated polyvinyl chloride (CPVC), or Acrylonitrile butadiene styrene (ABS).

401.2 Well casing placement: Well casing placement shall be as follows:

401.2.1 General: Casings shall prevent intrusion of contaminants from the ground surface or unconsolidated soil layers into the well.

401.2.2 Soil particles: Casings shall prevent entrance of soil particles into the well.

401.2.3 Termination above ground: Well casings shall extend above ground surface a minimum of eight inches. Additional height, or a vented water tight cap may be required to prevent entrance of surface water in areas prone to flooding. (see 402.0)

401.3 Covers: Well casings shall have a cover to prevent the entrance of foreign matter into the well.

401.4 Drive shoe or coupling: Drive shoe or coupling shall be used for all rotary drilled wells to assist in sealing the casing into bedrock when steel casing is used. A coupling may be used in an open hole setting.

401.5 Casing extension into bedrock: It shall be the responsibility of the Water Well Contractor to install a sufficient length of well casing into bedrock, and to affect a proper seal in order to prevent surface water and shallow ground water from transmitting gravel, sand, silt, clay, and coliform bacteria into the wellbore at the bottom of the casing or anywhere along the length of the casing. The below requirements shall not preclude the use of additional protective measures if approved by the Commission.

401.5.1 Twenty (20) foot minimum: For any drilled bedrock well, in addition to the requirements of 401.5, a contractor is responsible for the installation of a minimum of 20 feet of casing. At least 10 feet of casing extending into the bedrock is recommended.

401.5.2 Plastic casing seal: When plastic casing is used, the seal shall be created by using a "jaswell" type seal tip, shale packer or equal.

401.5.3 Steel casing seal: "Jaswell" type seal tips, shale packers or their equal may be used on steel casing when the casing is placed in an open hole.

401.5.4 Void area seal: The void area outside the casing shall be filled with cement grout, bentonite or ledge cuttings.

401.5.5 Bit size: All wells shall be started with a bit at least .5 inches larger than the drive shoe or coupling being used, except when a casing underreamer is used.

401.5.6 Cable Tool Wells: For cable tool wells, a tapered hole with ledge drilling or bentonite grout is an acceptable substitute for a drive shoe.

401.5.7 Additional protective measures: The above requirements shall not preclude the use of additional protective measures.

SECTION 402.0 TERMINATION OF WELL CASINGS BELOW GROUND SURFACE

402.1 General: Notwithstanding 401.0 and 403.0, which stipulate~~s~~ that well casings shall be terminated a minimum of 8 inches above the ground surface, it is possible to terminate a well casing below the ground surface if the following conditions are met:

402.2 Hazardous location: Locations in driveways, parking lots and walkways shall be considered potentially hazardous. Locations in lawn or yard areas, out of a direct walkway shall not be considered hazardous.

402.3 Advise Owner: The well contractor shall advise the well owner of the advantages of leaving the well casing above ground, including but not limited to:

402.3.1 Easy access to well: Ease of locating the well should maintenance be needed;

402.3.2 Easy access to pump: Ease of access to the pump in all seasons when maintenance is needed;

402.3.3 Surface contamination protection: Protection against unwanted surface or ground waters; and

402.3.4 Additional protection: The additional construction requirements necessary if the top of the well be left below the land surface.

402.4 Owners Request: Once advised, the well owner may request in writing that the top of the well be terminated below the land surface.

402.5 Construction Requirements: The top of the well terminated below the land surface shall:

402.5.1 Road box: Be terminated in a drained, and/or slightly elevated road box with an appropriate, secure cover.

402.5.2 Sealed cap: Be completely sealed to prevent the entrance of surface water, soil, or other matter.

402.5.3 Venting: Be properly vented to avoid the creation of a vacuum. Vents shall be constructed in a manner such that they will not become blocked or allow contamination to enter the well.

SECTION 403.0 STANDARD PRACTICE FOR CONSTRUCTION OF WELLS DRILLED IN UNCONSOLIDATED MATERIALS

403.1 General: This section refers to wells commonly known as gravel wells and are constructed by drilling or washing into unconsolidated materials.

403.2 Casing Materials: Well casing materials. Refer to 401.1.

403.3 Extension above ground: Well casing shall extend above the ground surface a minimum of eight inches. In areas prone to flooding, additional height, or a vented watertight cap may be required to prevent entrance of surface water. (see 406.0)

403.4 Well casing covers: Well casings shall have a cover to prevent the entrance of foreign matter into the well.

403.5 Termination of the bottom of the casing: The bottom of the well casing shall be terminated in a manner appropriate for the conditions present and the uses of the well. Acceptable treatments include but shall not be limited to:

403.5.1 Open end casing

403.5.2 Well screen

403.5.3 Gravel packs

403.5.4 Perforated casings

403.6 Adequate quantity of water: Drilled or washed wells, constructed for household use, shall not be terminated in unconsolidated materials unless an adequate quantity of water free from fine soil particles can be withdrawn.

SECTION 404.0 STANDARD PRACTICE IN DEVELOPMENT OF WELL YIELD

404.1 Periodic measurement: Well yield may be measured periodically during well construction when there is a readily observable increase in yield.

404.2 Method and duration of development: The contractor shall develop the well by using appropriate methods of his choice until such time as the well produces clear, sand free, clay free water.

404.3 Final measurement: The final yield shall be measured for all new wells after development, and indicated on well completion report.

SECTION 405.0 STANDARD PRACTICE FOR DISINFECTION

405.1 General: Water used for the development of gravel wells, or water used hydrofracturing bedrock wells will be chlorinated or potable.

405.2 New well disinfection: All new wells shall be chlorinated to a minimum concentration of 50 PPM for a minimum of 4 hours upon completion of the well. See table 405.1 for the recommended amounts of chlorine bleach.

Table 405.1
Recommended chlorine dosages using 5.25% chlorine bleach

Diameter of the well	Amount of chlorine bleach needed for each 100 feet of water depth
2 inches	2 ounces
4 inches	9 ounces
6 inches	20 ounces
8 inches	34 ounces
12 inches	80 ounces
24 inches	298 ounces

SECTION 406.0 WELL CASING EXTENSIONS

406.1 Steel casing extensions: Steel casings shall be extended by welding or threading.

406.2 Plastic casing extensions: Plastic casing shall be extended by cement welding, or by threading. No other methods will be acceptable.

SECTION 407.0 RECOMMENDED MINIMUM FLOW RATES

407.1 Recommended Minimum flow rates for single family homes: These standards are based on a static water level of approximately 25 feet below ground surface. Every foot of a 6" wells holds approximately 1 1/2 gallons of water.

Table 407.1
Recommended minimum flow rates

Well Depth (Feet)	Recovery rates (GPM)
75	5
110	4
160	3
250	2
320	1
420	1/2

407.2 Hydrofracturing: Hydrofracturing a drinking water well must be performed by a licensed journeyman or master well driller or by individuals in the responsible charge of a licensed well drilling company.

407.3 Water Used: All water used in the hydrofracturing of a drinking water well must be from a potable source or be disinfected prior to introduction of the water into the well.

407.4 Packers: All packers used in hydrofracturing must have been designed specifically for use in hydrofracturing including, but not by way of limitation, any mechanical, inflatable or cylinder activated packer. A non-toxic or food grade fluid must be used as an inflation fluid in any such packer.

407.4.1 Packer Settings: The top most packer must be located at least forty feet below the bottom of the well casing and a minimum of sixty feet below the ground surface.

407.5 Disinfection: All wells hydrofractured must be properly disinfected prior to the well being place in service.

407.6 Notification of Neighboring Well Owners: The owner, operator or person in responsible charge of any public water supply well within 150 feet of a well to be hydrofracted must be notified in writing at least 48 hours before hydrofracturing is to commence. Notification must include a warning that hydrofracturing can cause short term temporary water quality changes in adjacent wells, and a contact name and telephone number of the person in responsible charge of the hydrofracturing process. It is strongly recommended that drillers and hydrofracturing companies provide notification to owners of private wells in close proximity to proposed hydrofracturing sites in form and manner acceptable to the Commission. The Commission shall make available hydrofracturing notification forms for this purpose.

SECTION 408.0 WELL INFORMATION

408.1 Required Well Information Recording: Upon the effective date of these rules, any construction, enlarging or deepening of a drinking

water well requires that the well driller who constructed, enlarged or deepened the drinking water well shall be responsible for recording in a permanent manner, including but not limited to, the name of the driller or drilling company, the date that the well was constructed, enlarged or deepened, the depth of the well and the yield in gallons per minute.

408.2 Approved Methods for Information Recording: The information required in 408.1 may be recorded using one or more of the following methods:

408.2.1: Stamping engraved numbers and letters on the well cap using pre-cast stamping tools.

408.2.2: Stamping engraved numbers and letters on an aluminum plate permanently attached to the well casing using pre-cast stamping tools.

408.2.3: Permanently affixing a placard to the forward facing side of the pressure tank using permanent marker.

408.2.4: Permanently affixing a placard on a wall near and in clear and obvious view from the pressure tank using permanent marker.

408.3 Other Methods of Information Recording: The commission may at its discretion approve an alternative method of well information recording reasonably calculated to provide the well owner, or its successors in interest, with the information required in Subsection 408.1.

408.4 The information must be maintained: Any work performed on a water well and pump system which results in the alteration or removal of any well information initially recorded will require that person or entity to record such information in a manner consistent with Subsection 408.2.

CHAPTER 5

ABANDONMENT OF WELLS

SECTION 500.0 GENERAL

500.1 Applicability: These provisions shall apply to all wells abandoned after the effective date of the rules.

500.2 Purpose: This Article is intended to prevent the possibility of abandoned wells providing a means for contaminants to enter the ground water, and to prevent personal injury.

SECTION 501.0 DETERMINING WHEN TO ABANDON WELLS

501.1 Contaminated Wells: A well subject to defilation by either chemical or microbial contaminants which may not be adequately remediated, and whose source of contamination neither identified or removed, and which is determined by the commission to constitute a significant threat to public health or to contamination of the groundwater below, shall be abandoned.

501.2 Improperly Installed Wells: A well determined by the commission to have been installed in violation of any part of these rules which can not be altered or repaired in a manner that will result in compliance with these rules including adequate set back from potential sources of contamination shall be abandoned.

501.3 Open Boreholes: Any open borehole that is not properly cased, including the annular space being properly backfilled and the casing secured by a well cap or cover adequate to prevent access to the borehole, shall be abandoned.

SECTION 502.0 DETERMINING SIGNIFICANT THREATS TO PUBLIC HEALTH

502.1 Determining Significant Threats To Public Health: A finding by the commission that a well has been contaminated by any chemical or microbe identified by the U. S. Environmental Protection Agency or the State of Maine Department of Health and Human Services, Bureau of Health, as an acute contaminant shall support a Commission determination that the condition constitutes a significant threat to public health for the purposes of section 501.1

SECTION 503.0 DETERMINING SIGNIFICANT THREATS TO GROUNDWATER

503.1 Determining Significant Threats To Groundwater: A finding by the commission that a well is likely to undergo in the movement of water, chemicals or microbes from the surface or near-surface to groundwater, either because of improper well installation or the absence of an adequate seal of the casing into bedrock shall support a Commission determination that the condition constitutes a significant threat of contamination of the groundwater below for the purposes of Section 501.1

SECTION 504.0 STANDARD PRACTICE FOR ABANDONING WELLS

504.1 General Standards: Abandoned wells or boreholes shall be sealed in a manner appropriate to prevent the entry of contaminants and from the mixing of waters from separate water bearing zones.

504.2 Sealing: Well casings shall not be removed without the borehole in bedrock having been permanently sealed, using practices currently accepted by the water well industry.

504.3 Open borehole filling: Open boreholes shall be filled in a manner appropriate to prevent the possibility of personal injury, contamination of groundwater or future collapse of the area around the borehole.

504.4 Time frame: When a new well is to be drilled to replace a contaminated drilled well the abandoned well shall be sealed within a reasonable length of time, at the owner's expense. It shall be the responsibility of the driller to inform the homeowner of this action in writing. The notice shall be signed by both parties and shall include a statement of acceptance of these conditions by the homeowner as a requirement of remaining in compliance with these rules. Wells ordered abandoned by the commission shall be abandoned within thirty (30) days of the date of determination at

the expense of the homeowner if the well has been found by the commission to be a threat to public health or contamination of groundwater or at the expense of the well driller if a determination is made by the commission that the well was installed in violation of any part of these rules.

CHAPTER 6

REQUIREMENTS OF PUMPS

SECTION 600.0 ELECTRICAL REQUIREMENTS

600.1. Electric code: Pump installers shall comply with National Electrical Code requirements.

600.2 Securing the wire: Number 10, 12, or 14 gauge electrical wire shall be secured to the drop pipe in a well at a minimum of 10 foot intervals and less than number 10 gauge electrical wire shall be secured to the drop pipe at a minimum of 5 foot intervals.

600.3 Securing materials: Materials used for securing the wire to the pipe shall not contain materials hazardous to the water quality.

SECTION 601.0 SUBMERSIBLE PUMPS

601.1 Pump type and size: Size and install pump to at least the minimum of the Manufacturer's recommendations.

601.2 Check valves: One (1) check valve shall be installed within 20 feet of the discharge of the pump. All check valves shall be accessible for service but shall not be direct buried.

601.3 Disinfection: For any new installation of a submersible pump or servicing of wire, pipe and/or pump repair within the well, the well shall be chlorinated to a minimum concentration of 50 parts per million for a minimum of 24 hours upon completion of installation or repair.

SECTION 602.0 NON-SUBMERSIBLE PUMPS

602.1 Pump type and size: Size and install pump to at least the minimum of the Manufacturer's recommendations.

602.2 Check valves: A non-submersible pump installed on a driven point shall have a minimum of one (1) check valve installed on the suction line. All check valves shall be accessible for service but shall not be direct buried.

602.3 Foot valves: One (1) foot valve shall be installed at the end of the suction line for a non-submersible pump with the exception of a driven point.

602.4 Minimum pressure: Any non-submersible pump with the capacity to develop more than 75 psig shall have a relief valve. A shutoff valve shall not be installed between the pump and the relief valve. The installation of a relief valve shall conform to a minimum of the current State of Maine Internal Plumbing Rules Chapter 238, Section 11.

602.5 Shutoff: No shutoff valve shall be installed between a non-submersible pump and the operating control for the pump.

SECTION 603.0 PIPING MATERIALS

603.1 Piping materials: Acceptable materials for pipe and fittings used in well or trench are:

603.1.1 Copper: Minimum type "K" copper.

603.1.2 Steel: Minimum Sch. 40 Galvanized steel.

603.1.3 Polyethylene: Minimum 160 psi polyethylene coil plastic.

603.1.4 Polyvinylchloride: Minimum Schedule 40 PVC plastic.

603.1.5 Other: Any material approved by the Commission.

603.2 Pipe rating: No installation of materials shall exceed the manufacturer's rating and specifications.

603.3 Cemented fittings: No plastic or nylon fittings shall be used in the well or in the trench in submersible pump installations unless they are cement type fittings for use with rigid or semirigid pipe.

603.4 Stainless steel clamps: All connections to flexible plastic pipe in the well or under ground

outside the building foundation shall be double clamped with all stainless steel clamps.

603.5 Torque arrestors: On all wells cased 5 inches or larger for submersible pump installations, one (1) torque arrestor shall be installed within 5 feet of the discharge of the pump for all materials used. One (1) torque arrestor, cable guide, or acceptable centralizer shall be used at a minimum of 50-foot intervals for the first 200 feet above the discharge of the pump for all nonmetallic piping materials.

603.6 Pump safety lines: If safety lines are used for submersible pump installation, they should be installed to at least the manufacturer's minimum strength recommendations. The safety line shall be secured to the drop pipe at a minimum of 10 foot intervals and should be secured inside the casing when pitless adapters are used. Materials used for safety lines and secureness shall not contain materials hazardous to the water quality.

603.7 Pitless adapters: All pumps installed for drilled wells shall be installed with a pitless adapter or a sanitary seal. Pitless adapters shall be installed in a manner to exclude the entrance of water or other material into the well. All pitless adapters shall be installed not to exceed the weight recommendation of the manufacturer. Any above ground installation shall use a sanitary well seal.

603.8 Casing cover: Drilled well casing shall have a manufactured cover to prevent the entrance of foreign matter into the well.

603.9 Underground shutoff values: Installation of underground shutoff valves shall conform to the current State of Maine Internal Plumbing Rules Chapter 238.

SECTION 604.0 PIPE TRENCHES

604.1 General: Trenches for well lines shall conform to the current edition of Chapter 238 State of Maine Internal Plumbing Rules and Chapter 241 State of Maine Subsurface Wastewater Disposal Rules.

604.2 Water and sewer pipes in same trench: Building sewer or drainage piping shall not be run or laid in the same trench with water service pipes or any underground water pipes unless both of the following requirements are met:

604.2.1 Separation distance: The bottom of the water piping at all points shall be at least twelve (12) inches above the top of the sewer piping.

604.2.2 Separate shelf: The water piping shall rest on a solid shelf at one side of the common trench.

604.3 Fill material: Pipes in trenches are recommended not to be installed in direct contact with rocks. Use loose soil whenever possible.

SECTION 605.0 PRESSURE TANKS

605.1 Storage capacity: Pressure tanks should be installed to the minimum capacity recommendation of the pump and motor manufacturer. Tanks shall be constructed of materials that are not hazardous to the water quality.

605.2 Relief valve: At least one (1) relief valve shall be required for a submersible pump installation. A shutoff valve shall not be installed between the pump and the relief valve. The installation of a relief valve shall conform to a minimum of the current State of Maine Internal Plumbing Rules Chapter 238, Section 11.

SECTION 606.0 DISINFECTION

606.1 General: For any new installation of a pump or servicing of pipe within the well, the well shall be chlorinated to a minimum concentration of 50 parts per million for a minimum of twenty-four (24) hours upon completion of installation or repair. (See Table 405.2)

CHAPTER 7

COMPLAINTS INVESTIGATIONS AND PENALTIES

SECTION 700.0 COMPLAINTS AND INVESTIGATIONS

700.1 Written petitions: Complainants must petition the commission in writing within 24 months of completion of a well or the installation, repair or replacement of a pump system.

700.2 Investigations: The commission or the Department shall investigate complaints and cases of noncompliance with, or violation of the applicable statutes or the well driller and pump installer code of performance adopted by the commission.

700.3 Third party investigators: At the commission's discretion, an investigation of an alleged violation may be conducted by a neutral qualified individual. Upon the filing of a complaint, in form satisfactory to the Commission, the licensee who is the subject of the complaint may petition the Commission within 30 days of notification of the complaint to have a neutral qualified individual other then the Commission's initial choice, acceptable to both the licensee and the Commission, appointed to conduct the investigation and report to the Commission.. All costs and expenses charged by the licensee's neutral qualified individual shall be the responsibility of and paid for by the licensee.

700.4 Referrals: The commission may refer a complaint to the Attorney General.

700.5 Suspension and/or revocation: The commission will determine if a violation has occurred and shall notify the responsible well driller, well drilling company, pump installer or pump installation company by certified or registered mail of the violation and order the responsible party to correct the violation within sixty (60) days of receipt of the notification, or within 48 hours of receipt of the notification if the commission makes a determination that the violation has resulted in a significant threat to public health, including but not limited to verified or potential contamination by pathogenic organisms. If the violation is not corrected within sixty (60) days, or within 48 hours of receipt of the notification if the commission makes a determination that the violation has resulted in a significant threat to public health, or if the commission finds a violation of any section of these rules, the commission may initiate revocation or suspension of the license of the responsible party or parties. The duration of the suspension shall be determined by the commission upon a review of the number of violations accumulated by the licensee, the severity of the violation and its potential impact on public health, and the level of cooperation with the commission by the licensee to resolve the violation. A violation committed by either a licensed well driller or licensed pump installer is chargeable against both the individual licensee and the company for whom the individual is employed. A registrant who receives a written notice of a violation or of a proposed revocation or suspension of license under this rule may request a hearing before the commission. The commission shall conduct a hearing in accordance with the Administrative Procedures Act and issue its decision within thirty (30) days of the request for a hearing. A decision of the commission under this rule is a final agency action.

700.6 Reinstatement: A well driller, well drilling company, pump installer or pump installation company whose license has been suspended may apply for license reinstatement in writing after the duration of the suspension has elapsed, any fines levied by the commission have been paid in full and any corrective measures ordered by the commission have been completed. The commission may verify by inspection that corrective measures required by the commission have been properly completed prior to license reinstatement.

SECTION 701.0 COMPLIANCE WITH OTHER LAWS AND RULES

701.1 General: All wells must be constructed and maintained in accordance with all other laws and rules in effect, including the water well information laws, Title 12, section 550-B.

SECTION 702.0 PENALTIES

702.1 General: Any person, company, firm, partnership or corporation who installs, alters, repairs or replaces a water well or pump system without being licensed as provided in this chapter or in violation of the code of performance adopted by the Maine Water Well Commission pursuant to section 4700-A, subsection 5, except for an apprentice well driller or an apprentice pump installer as set forth in this chapter, or any person, firm, partnership or corporation who procures a license as provided in this chapter wrongfully or by fraud or violates any standard or provision of this rule commits a civil violation punishable by a fine of not more than $1,000.

702.2 Fines: The commission may levy fines for violations of the well driller and pump installer code of performance of not more than $1,000 per violation.

702.3 Injunction: The State may bring action in Superior Court to enjoin any person, firm, partnership or corporation from violating this chapter, regardless of whether proceedings have been or may be instituted in the District Court or whether civil proceedings have been or may be instituted.

702.4 Exclusion: This chapter does not prevent a person from making water well or pump system installations, alterations, repairs or replacements in a single–family residence owned and occupied by that person or to be occupied by that person as a bona fide personal abode, provided the installation, alteration, repair or replacement conforms to the standards set forth in this chapter and any rules adopted by the commission or the department.

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