The statement of scope for this rule, SS 049-23, was approved by the Governor on July 28, 2023, published in Register No. 812A1 on August 7, 2023, and approved by the Natural Resources Board on September 27, 2023. This rule was approved by the Governor on insert date.

ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
REPEALING, RENUMBERING AND AMENDING, CONSOLIDATING, RENUMBERING, AND AMENDING; AMENDING, REPEALING AND RECREATING AND CREATING RULES

The Wisconsin Natural Resources Board proposes an order to **repeal** NR 812.07 (1h), (57w), (57w) (Note), (60e), (60e) (Note), (69), (74) (a) to (e), (79) (Note), and (110), 812.091 (2) (f) and (g) and (6) (a) to (d), 812.10 (6) (Note), 812.27 (2) (a) and (b), 812.31 (2) (d) and (4) (e) and (f), 812.32 (4) (d) 1., 812.35 (2) (Note 1), 812.42 (3m), (4) (h), and (11) (am), and 812.44 (5) (b) 27.; to **renumber and amend** NR 812.08 (4), 812.091 (6) (intro.), 812.27 (2) (intro.), and 812.32 (4) (d) 2.; to **consolidate, renumber, and amend** NR 812.31 (5) (intro.), (a), and (b); to **amend** NR 812.07 (1p), (17), (38), (62), (62) (Note), (75p) (Note), (79), (82), (85), (87), (109), (112q), and (124), 812.08 Table A, 812.09 (4) (f), 812.10 (6) and (11) (a) 5., 812.12 (3), 812.13 (6) (b) 1. to 3. and (7) (b) 2., 812.14 (3) (b), (4) (b) 2. and 3., (8) (e), and (10), 812.151 (13), 812.26 (5) (m) and (6) (g) 2., 812.27 (3) and (5), 812.31 (2) (a) to (c) and (4) (a) and (d), 812.32 (1) (f), (4) (b) 1., 1. a. and b., and 2. a. to c., (5) (a), (7) (a) and (b), and (9) (title), (a), and (c) 3., 812.35 (intro.), 812.36 (1), 812.39 (2), 812.40 (intro.), (1), (2), (3), and (4), 812.42 (2), (4) (b) to (d), and (7) (a) 1. to 3., 812.45 (1) (c), and 812.46 (1) (a) 2., (2) (b) 2. and (c) 1., and (8) (b); to **repeal and recreate** NR 812.09 (4) (v), 812.151 (4), 812.28, 812.32 (9) (c) 1. and 2., 812.33 (2), 812.42 (title), and 812.43; and to **create** NR 812.07 (18m), (30p), (66m), (74m), and (112t), 812.08 (4) (a) to (c), 812.091 (2) (em) and (gm), 812.10 (11) (a) 6., 812.12 (3) (Note), 812.153, 812.27 (1) (c) to (e), 812.29 (1) (title), (2) (title), (3) (title), and (5) (title), 812.31 (2) (intro.) and (dm), (3) (a) (title) and (b) (title), and (4) (b) (title) and (c) (title), 812.32 (1) (a) (title), (b) (title), (c) (title), (d) (title), (e) (title), and (f) (title), (7) (intro.), (c) and (d), and (9) (c) (intro.) and 4., 812.37 (2) (L), and 812.42 (1) (d) and (4) (intro.) relating to updating, correcting and clarifying existing code requirements and adding requirements for new pump installations and water treatment and other specified code requirements and affecting small business.

DG-03-23

Analysis Prepared by the Department of Natural Resources

1. Statute Interpreted: Chapters 280 and 281, Wis. Stats.

2. Statutory Authority: Chapters 280 and 281, Wis. Stats.

3. Explanation of Agency Authority:
Chapter 280, Wis. Stats., establishes the statutory authority and framework for regulation of private water systems. Section 280.11(1), Wis. Stats., specifically directs the department to prescribe, publish, and enforce minimum reasonable standards and rules for methods to obtain pure drinking water for human consumption, and to establish safeguards deemed necessary in protecting the public health against the hazards of polluted sources of impure water supplies intended or used for human consumption. This statute gives the department general supervision and control over all methods of obtaining groundwater for human consumption; authority to prescribe, amend, modify, or repeal any applicable rule; and authority to perform any act deemed necessary for the safeguarding of public health. Section 280.13(1), Wis. Stats, gives the department authority to exercise powers and promulgate rules reasonably necessary to carry out and enforce the provisions of ch. 280, Wis. Stats.

Chapter 281, Wis. Stats., gives the department authority to establish, administer and maintain a safe

drinking water program no less stringent than the requirements of the Safe Drinking Water Act (s. 281.17(8)(a), Wis. Stats.) and regulate groundwater withdrawals (s. 281.34, Wis. Stats.), and includes enforcement authorities (s. 281.98, Wis. Stats.). Chapter 299 provides additional enforcement authority.

4. Related Statutes or Rules:

- Chapter NR 146, Wis. Adm. Code, implements the licensing and registration requirements of ch. 280, Wis. Stats., for water well drillers, heat exchange drillers, pump installers and rig operators.
- Chapter NR 809, Wis. Adm. Code, establishes minimum standards and procedures for the protection of public health, safety, and welfare in the obtaining of safe drinking water.
- Chapter NR 810, Wis. Adm. Code, governs the general operation and maintenance of all public water systems.
- Chapter NR 811, Wis. Adm. Code, governs the general operation and design of community water systems.

5. Plain Language Analysis: The primary objectives of revisions to ch. NR 812, Wis. Adm. Code, are to correct and clarify language, streamline processes, update construction and pump installation standards, and ensure consistency with federal and state law related to well construction and pump installation. Specific proposed rule changes are described below:

- Correct cross-references in other NR codes.
- Add or revise definitions in s. NR 812.07 to provide clarity. Delete definitions in s. NR 812.07 that are not used in the code.
- Revise s. NR 812.08 (4) to simplify and clarify compliance with separation distances to possible contamination sources. This was done by reorganizing and rewording the text to make it easier to read and understand. Table A was also edited to clarify the setback requirements for residential propane tanks.
- Revise ss. NR 812.09 and 812.33 to clarify when an approval is required for nonpressure storage vessels.
- Revise s. NR 812.091 to allow use of pitless adapters and well caps or seals that meet the standards set out in s. NR 812.28 without further approval by the department.
- Revise s. NR 812.10 (6) to remove duplicative language referencing continuing obligations, in order to clarify when a contractor needs to consult with the department.
- Revise s. NR 812.10 (11) to clarify when a well construction report needs to be filed with the department. Language was added clarifying that a report is only needed when a screen is replaced on a well that has no construction report on file, and requiring a report for the construction of a test drillhole or test heat exchange drillhole as allowed under s. NR 812.09 (4).
- Revise ss. NR 812.13 and 812.14 to modify the mud weight requirements for driving casing to make is easier for drillers to comply with grouting requirements. The mud weight was reduced and language requiring drill cuttings was removed to allow for grouting to proceed more smoothly in most cases going forward.
- Revise s. NR 812.13 (7) (a) 2. to clarify grouting requirements. This was done by adding a more specific reference to sub. (8) (b) or (d).
- Revise s. NR 812.14 (8) to expand the use of bentonite chips in fractures formations. This was done by adding language to allow drillers to bring the chips to the ground surface rather than requiring neat cement grouting after the fractures are filled, when appropriate.
- Revise s. NR 812.151 to clarify the requirements for heat exchange drillhole construction. This was done by reorganizing the content and removing duplicate language.
- Create s. NR 812.153 to create minimum standards for the construction of dewatering wells. The language creates standards for both temporary and permanent dewatering wells that were not present

in the previous version of the code and addresses the location, discharge, sanitary protection, well screen and casing requirements for dewatering wells.

- Revise ss. NR 812.26 (3), 812.26 (5), 812.36 (1) and 812.42 (2) to remove references to valve pits. Pits containing only valves are regulated through the plumbing code and do not fall under department authorities granted under ch. 280 or 281, Wis. Stats.
- Revise multiple sections of subch. III of ch. NR 812 to:
    - Streamline and modernize the pump installation requirements for new well construction and provide consistent protection for all types of pump installations.
    - Clarify pump installer responsibilities for submitting samples, placing water lines, disinfecting wells and ensuring that flowing wells are controlled.
    - Clarify requirements for attaching pitless adapters to wells.
    - Clarify requirements for new storage tanks and reservoirs and reduce the frequency with which an approval from the department would be required.
    - Be consistent with Department of Safety and Professional Services (DSPS) requirements for water line location relative to septic system features.
    - Clarify requirements for hand pump installations and modify the requirement for pump platforms to only require a platform on a non-community public water system.
    - Clarify requirements for recording total water usage on high capacity wells.
- Revise ss. NR 812.42 and 812.44 to allow for wells with casing diameters that do not match construction standards at the time they were constructed to be worked on and not identified as non-complying.
- Revise s. NR 812.43 to:
    - Add application and form requirements to allow for consistent information to be submitted to the department.
    - Reorganize content for clarity.
    - Add cross-references that were previously omitted.
- Revise s. NR 812.45 to correct cross-references to citable offenses that were previously omitted during a prior code revision.
- Revise s. NR 812.46 to eliminate the requirement to sample a well for bacteria when a pressure tank is replaced but the pump installer makes no entry into the well. This was done to match DSPS plumbing code requirements for the same work conducted by a Master Plumber.

6. Summary of, and Comparison with, Existing or Proposed Federal Statutes and Regulations: Federal law does not directly regulate the construction of wells or heat exchange drillholes and does not regulate the installation of pumps. For public drinking water systems, Wisconsin is a primacy state, with the primary responsibility to enforce state drinking water regulations consistent with the federal Safe Drinking Water Act. One federal requirement of Wisconsin's primacy role, under 40 CFR s. 142.10 (b) (5), is that the state assures that the design and construction of new or substantially modified public water system facilities will be capable of compliance with the state primary drinking water regulations. For non-community public drinking water systems, ch. NR 812, Wis. Adm. Code, provides the design and construction standards to meet this federal requirement.

7. If Held, Summary of Comments Received During Preliminary Comment Period and at Public Hearing on the Statement of Scope: A preliminary hearing was not required for this scope statement.

8. Comparison with Similar Rules in Adjacent States: In general, the four surrounding states (Illinois, Iowa, Michigan and Minnesota) have similar but less prescriptive rules governing well and heat exchange construction and pump installation compared to Wisconsin. Simplifying and clarifying requirements as proposed in the rule will make Wisconsin's rules more similar to the approach used in surrounding states. A brief comparison with the four adjacent states is provided below on the most substantive changes

proposed in these rule revisions.

a. Reservoir and storage tank approvals
The rule eliminates prior department-written approval for above-ground tanks except when a tank is installed at a non-community water system. Michigan requires approval of storage reservoirs (equivalent to buried or above-ground tanks) prior to installation, but none of the other states have requirements for approval.
b. Dewatering wells
Wisconsin law requires the approval of all high-capacity wells, including dewatering wells. The rule creates a new section with minimum standards for the construction of all dewatering wells, including permanent, low capacity wells. Minnesota and Michigan have minimum standards for dewatering wells that are similar to this rule.
c. Casing diameter of existing wells
The rule modifies standards for existing wells to allow wells that had casing diameters smaller than the construction requirements at the time of installation to remain in compliance for the purposes of pump work on existing wells and property transfer inspections. None of the adjacent states have requirements for the casing diameter of existing wells.

9. Summary of Factual Data and Analytical Methodologies Used and How Any Related Findings Support the Regulatory Approach Chosen:
Many of the rule revisions simplify, clarify and streamline rule language. An external advisory group of pump installers and well drillers was convened to provide input and review draft language for changes to pump installation standards in subch. III of ch. NR 812 and the proposed standards for dewatering wells and existing installations. Department staff identified areas for improvement based on experience implementing the rule over time.

10. Analysis and Supporting Documents Used to Determine the Effect on Small Business or in Preparation of an Economic Impact Report: The minimal changes in the code language will mostly affect the administration of the code by the department. The changes proposed do not have associated costs so there is no anticipated economic impact on small businesses.

11. Effect on Small Business (initial regulatory flexibility analysis): The majority of businesses impacted by the rule are small businesses. The total economic impact of the proposed rule revision is estimated to be $0.

12. Agency Contact Person:
Marty Nessman, Bureau of Drinking and Groundwater – DG/5
Department of Natural Resources
101 S. Webster Street
Madison, WI 53703
Martin.nessman@wisconsin.gov
608-574-2592

13. Place where comments are to be submitted and deadline for submission:
Comments may be submitted to the department contact person listed above or to DNRAdministrativeRulesComments@wisconsin.gov until the deadline given in the upcoming notice of public hearing. The notice of public hearing and deadline for submitting comments will be published in the Wisconsin Administrative Register and on the department's website, at https://dnr.wisconsin.gov/calendar. Comments may also be submitted through the Wisconsin Administrative Rules Website at https://docs.legis.wisconsin.gov/code/chr/active.

The consent of the Attorney General will be requested for the incorporation by reference of ASSE 1093.

RULE TEXT

SECTION 1. NR 812.07 (1h) is repealed.

SECTION 2. NR 812.07 (1p) and (17) are amended to read:

NR 812.07 (1p) ~~"Air gap"~~ "Air gap" means the unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank or plumbing fixture and the flood level rim or spill level of the receptacle.

(17) "Basement" means a ~~subsurface structure or part of a structure in which the floor is~~ substructure or foundation of a building that has a floor entirely below grade.

SECTION 3. NR 812.07 (18m) and (30p) are created to read:

NR 812.07 (18m) "Cathodic protection borehole**"** means any drillhole that is constructed for the purpose of installing equipment to prevent electrolytic corrosion of metallic equipment or facilities.

(30p) (a) "Dewatering well" means a well that is used to lower groundwater levels for construction or use of underground space.

(b) "Dewatering well" does not include a drain tile, perforated pipe, sump, or pit less than 10 feet deep or less than 10 feet below the floor of a basement.

SECTION 4. NR 812.07 (38) is amended to read:

NR 812.07 (38) "Existing" when referring to an installation, well, water system, reservoir, spring, pit, or alcove means an installation, well, water system, reservoir, spring, pit, or alcove that was constructed, reconstructed, or installed before ~~July 1, 2020~~ the effective date of this subsection [LRB inserts date].

SECTION 5. NR 812.07 (57w), (57w) (Note), (60e), and (60e) (Note) are repealed.

SECTION 6. NR 812.07 (62) and (62) (Note) are amended to read:

NR 812.07 (62) "Materials recovery facility" has the meaning specified in s. 287.27 (1), Stats.

Note: Section 287.27 (1), Stats., defines "materials recovery facility" as a facility where the materials specified in s. 287.07 (3) or (4) or 287.27 (4) (b), Stats., not mixed with other solid waste, are

processed for reuse or recycling by conversion into a consumer product or a product ~~which~~that is used as a raw material in a commercial or industrial process. "Materials recovery facility" does not include a facility operated by a pulp or paper mill ~~which~~that utilizes fiber or paper that has been separated from waste for use as a raw material in a commercial product.

SECTION 7. NR 812.07 (66m) is created to read:

NR 812.07 (66m) "Nonpressure storage vessel" means any tank or reservoir for the storage of water that is not under pressure.

SECTION 8. NR 812.07 (69) is repealed.

SECTION 9. NR 812.07 (74) (a) to (e) are repealed.

[Note to LRB: Keep original definition text under (74) that is before par. (a).]

SECTION 10. NR 812.07 (74m) is created to read:

NR 812.07 (74m) "Pit privy" means an enclosed nonportable toilet into which human wastes not carried by water are deposited into a subsurface storage chamber that is not watertight.

SECTION 11. NR 812.07 (75p) (Note) and (79) are amended to read:

(75p) Note: Section SPS 381.01 (184) defines "POWTS dispersal component" as a device or method that is intended to promote the assimilation of treated wastewater by the environment. ~~The terms "absorption field" and "sewage disposal unit" and "POWTS dispersal unit" have been used in previous versions of this rule to describe these types of units.~~

(79) "Privy" means a ~~pit privy as defined in s. SPS 391.03 (6), or a vault privy as defined in s. SPS 391.03 (9).~~"pit privy" or a "vault privy."

SECTION 12. NR 812.07 (79) (Note) is repealed.

SECTION 13. NR 812.07 (82), (85), (87), and (109) are amended to read:

(82) "Pump installing" has the meaning specified in s. 280.01 (5), Stats.~~, and includes installing, repairing, replacing or reinstalling a: spring box, reservoir, pump, pump drop pipe, check valve, well cap or seal, pitless adapter, pitless receiver tank, pitless unit, above-ground discharge unit, associated discharge piping and associated connections, valves and appurtenances, pressure tank, sampling faucet, water storage or pressure vessel or structure, the electrical wiring and controls needed to operate a pump~~

~~or pressure system, and any chemical addition, water treatment device or yard hydrant upstream of the water storage or pressure vessel or building control valve; attaching well casing pipe to extend the well casing pipe to a complying height above grade, or up and out of a pit or a subsurface pumproom or alcove; or bailing or chemically conditioning a well to return it to its original capacity, production capability or water quality. Pump installing does not include installation of a temporary test pump by a well driller for the purpose of determining well capacity or water quality and does not include the installation, by a well driller, of a well cap or seal. Opening a well cap or well seal to inspect or chlorinate a well is also not considered pump installing unless the well cap or seal is replaced with a different cap or seal, or unless the well has a hand pump installed on it.~~

(85) "Reconstruction" means modifying the original construction of a well. ~~Reconstruction includes, but is not limited to deepening, lining, installing or replacing a screen, underreaming, hydrofracturing and blasting.~~

(87) "Reservoir" means a closed structure for storage of water, including a constructed tank or manufactured water storage vessel, constructed or installed entirely ~~above~~ or partially below the ground surface~~, including a constructed tank or manufactured water storage vessel~~.

(109) "Surge tank" means a nonpressure storage tank into which overflow from a flowing well, spring, or other water source is ~~discharged~~temporarily stored and is repumped to a pressure tank or the water system.

SECTION 14. NR 812.07 (110) is repealed.

SECTION 15. NR 812.07 (112q) is amended to read:

NR 812.07 (112q) "Variance" means a ~~department approval to construct or install a water system or a portion of a water system in a manner not in strict compliance with the requirements of this chapter~~variance approved under s. NR 812.43.

SECTION 16. NR 812.07 (112t) is created to read:

NR 812.07 (112t) "Vault privy" means an enclosed nonportable toilet into which human wastes not carried by water are deposited into a subsurface storage chamber that is watertight.

SECTION 17. NR 812.07 (124) is are amended to read:

NR 812.07 (124) "Well Drilling" has the meaning specified in s. 280.01 (8), Stats., and includes any activity ~~that requires the use of a well drilling rig or similar equipment, or any activity~~ conducted using a well drilling rig or similar equipment ~~with the exception of~~ except for the driving of points having

pipe or casing smaller than three inches in diameter. ~~Well drilling also includes constructing a well or performing any activity that changes the characteristics of a drilled well including constructing, reconstructing or deepening a well, sealing the annular space of a well, joining or welding together lengths of well casing pipe or liner pipe, installation of a liner, installing or replacing a screen, well rehabilitation, hydrofracturing, blasting, and chemical conditioning. Attaching well casing pipe to the upper portion of a well to extend the well out of a pit is not considered well drilling.~~

SECTION 18. NR 812.08 (4) is renumbered (4) (intro.) and amended to read:

NR 812.08 (4) RELATION TO CONTAMINATION SOURCES. ~~A well driller or well constructor may not construct or reconstruct a well, install a reservoir, or develop a spring that is less than the minimum separation distance from a possible contaminant source as specified in Table A. The minimum separation distances of this subsection do not apply to dewatering wells approved under s. NR 812.09 (4) (a). Greater separation distances may be required for wells requiring plan approval under s. NR 812.09.~~ Separation distance requirements to possible contaminant sources may not be waived because of property lines. Separation distances shall be measured from the edge of the well, reservoir, or spring, to the nearest edge of the contaminant source or as specified in Table A. The location of newly constructed wells, reservoirs, and springs shall meet all of the following additional requirements that are applicable:

SECTION 19. NR 812.08 (4) (a) to (c) are created to read:

NR 812.08 (4) (a) *Wells.* A well driller or well constructor may not construct or reconstruct a well that is less than the minimum separation distance from a possible contaminant source as specified in Table A, except as specified in par. (c).

(b) *Reservoirs and springs.* A pump installer may not install a reservoir or develop a spring that is less than the minimum separation distance from a possible contaminant source as specified in Table A.

(c) *Exceptions.* The minimum separation distances of this subsection do not apply to dewatering wells approved under s. NR 812.09 (4) (a). Greater separation distances may be required for wells requiring plan approval under s. NR 812.09.

SECTION 20. NR 812.08 Table A is amended to read:

MINIMUM SEPARATION DISTANCE REQUIREMENTS BETWEEN POTABLE OR NONPOTABLE WELLS, RESERVOIRS, SPRINGS, AND POSSIBLE CONTAMINATION SOURCES

Source	Distance in Feet

Animal Barn or Animal Barn Pen (measured to the nearest outside edge of the building or structure)	50
Animal Shelter (not including pet shelter or pet kennel housing 5 or fewer pets)	50
Animal Yard—Includes Calf Hutch (not including pet shelter or pet kennel housing 5 or fewer pets)	50
Cemetery Grave Sites	50
Cistern	8
Coal Storage (greater than 500 tons)	1,200
Culvert, stormwater	8
Ditch−Edge of	8
Drain−Sanitary building	8
Drillhole used for the underground placement of any waste, surface water, or any substance as defined in s. 160.01 (8), Stats.	100
Fertilizer or Pesticide Storage Tank (any size, surface or buried) (Nonpotable wells)	8
Fertilizer or Pesticide Storage Tank (any size, surface or buried) (Potable wells)	100
Fertilizer or Pesticide (Dry) Storage Structure (storing more than 100 pounds in bags or bulk)	100
Fuel Oil Tank >1,500 gallons on surface or any size buried (including associated buried piping)	100
Fuel Oil Tank ≤ 1,500 gallons on surface or any size buried if serving single family residence (including associated piping)	25
Gasoline or Other Petroleum or Liquid Product Tank — Buried (Does not apply to separation distance between Liquid Propane tanks and wells serving single family residence) (Including any associated piping)	100
Gasoline or Other Petroleum or Liquid Product Tank — Surface (< 1,500 gallons, including any associated buried piping, but not including Liquid Propane Tanks)	25
Gasoline or Other Petroleum or Liquid Product Tank — Surface (≥1,500 gallons, including any associated piping, but not including Liquid Propane Tanks)	100
Glass Lined Feed Storage Facility (harvester−type silos)	50
Grease Interceptor (buried trap)	25
Hazardous Waste Treatment Facility regulated by the department	1,200
Heat Exchange Drillhole	10
Land Disposal System for Liquid Waste	250
Landfill (active, proposed or closed) (distance is measured to ~~nearest fill area of closed landfill~~the limits of filling, if known; otherwise the distance is measured to the property line)	1,200
Lift Station (does not apply to residential lift stations, see Sanitary Building Sewer)	100
Liquid Propane (L.P.) gas tank (buried or surface) and associated buried gas lines serving a single family residence	8
~~Liquid Waste Disposal System~~	~~250~~
Manure Hopper or Reception Tank—Liquid−Tight [1]	50
Manure Loading Area	50
Manure Stack−Temporary	150
Manure Storage Structure − earthen, excavated or non−liquid tight	250
Manure Storage Structure − fabricated, liquid−tight	100

Materials recovery facility that requires self−certification under NR 500 series	100
~~Milk house~~Milkhouse drain outlet	50
Nonpotable Well	8
Pet animal shelter or kennel housing not more than 5 pets	8
Pet animal shelter or kennel housing more than 5 pets	50
Pet Waste Pit Disposal Unit	50
Pit or alcove—Noncomplying	8
POWTS dispersal component (also known as Soil Absorption Unit or Mound) < 12,000 gal/day (except for school wells) [2]	50
POWTS dispersal component (also known as Soil Absorption Unit or Mound) < 12,000 gal/day (school wells) [2]	200
POWTS dispersal component (also known as Soil Absorption Unit or Mound) ≥ 12,000 gal/day [2]	250
POWTS holding component (also known as a Holding Tank (Wastewater))	25
POWTS treatment component (Includes septic tanks, aerobic treatment units or filters)	25
Privy – pit privy (not watertight)	50
Privy – vault privy (watertight)	25
Quarry [3]	500
Reservoir—Noncomplying	8
Salt or Deicing Material Storage Area, including structure and area surrounding where material is transferred to vehicles [4]	250
Salvage yard or junkyard	250
Scrap Metal Processing Facility	100
SEWERS (Buried)	
—Manure Sewer	25
—Manure Sewer (> 6 inches in diameter)	50
—Sanitary Building Sewer	8
—Sanitary Collector Sewer	25
—Storm Sewer	8
Shoreline—Lake or Pond (measured to the regional high−water elevation), River or Stream (measured to the edge of the floodway) [5]	25
Silage Storage, Earthen Trench or Pit	250
Silage Storage Structure (Fabricated liquid−tight) (In−ground or surface)	100
Silage Storage—Surface, Uncovered	100
Silage Storage in a Transfer Tube (Plastic)	50
Silo (Not including dry grain storage structures)	50
Single application landspreading of petroleum−contaminated soil	250
Sludge Drying Bed, Liquid−tight	100
Sludge Drying Bed, Not Liquid−tight	250

Solid waste processing facility (including incinerators, air curtain destructors, woodburning facilities, composting facilities, and municipal solid waste combustors), solid waste storage facility or solid waste transfer facility that requires a license or approval under NR 500 series	250
Stormwater Detention Basin (measured to the edge)	25
Stormwater Infiltration basin or system, single− or two−family residential location, includes rain gardens, infiltration trenches and similar structures	8
Stormwater Infiltration basin or system, commercial, multifamily residential (> 2 family units) or industrial	100
Sump—Wastewater (watertight)	8
Sump—Wastewater (not watertight)	25
Swimming Pool (above or below ground) (measured from edge of water)	8
Vegetated Treatment Area (previously known as a filter strip)	50
Wastewater Treatment Plant Effluent Pipe	50
Wastewater Treatment Plant Structure, Conveyance or Treatment Unit	100

SECTION 21. NR 812.09 (4) (f) is amended to read:

NR 812.09 (4) (f) The construction or reconstruction of a well in designated special well casing depth areas, as provided under s. NR 812.12 (3).

SECTION 22. NR 812.09 (4) (v) is repealed and recreated to read:

NR 812.09 (4) (v) The construction or installation of a nonpressure storage vessel as provided under s. NR 812.33 (2).

SECTION 23. NR 812.091 (2) (f) and (g) are repealed.

SECTION 24. NR 812.091 (2) (em) and (gm) are created to read:

NR 812.091 (2) (em) Any treatment equipment to be installed directly in or on a well.

(gm) Heat exchange fluids used in piping that is placed in vertical heat exchange drillholes.

SECTION 25. NR 812.091 (6) (intro.) is renumbered (6) and amended to read:

NR 812.091 (6) CRITERIA FOR DEPARTMENT APPROVAL. The department shall ensure the protection of public safety, safe drinking water, and groundwater in review and approval of each application submitted under sub. (5). When deemed necessary and appropriate for the protection of public safety, safe drinking water, and the groundwater resource, the department may impose more stringent conditions on the use of a product or component than the manufacturer's instructions. ~~In addition, the department shall apply the following criteria:~~

SECTION 26. NR 812.091 (6) (a) to (d) are repealed.

SECTION 27. NR 812.10 (6) is amended to read:

NR 812.10 (6) CONSULTATION WITH THE DEPARTMENT PRIOR TO DRILLING.
A well driller or well constructor shall consult with the department prior to drilling in areas where the driller has been notified or determines that there are contaminated formations or groundwater contamination levels in excess of the standards specified in s. NR 812.06~~, or prior to drilling a well on a property identified by the department as having residual contamination and continuing obligations requiring listing on the department's database under s. 292.12 (3), Stats~~.

SECTION 28. NR 812.10 (6) (Note) is repealed.

SECTION 29. NR 812.10 (11) (a) 5. is amended to read:

NR 812.10 (11) (a) 5. Well screen replacement ~~if the screen is set more than 5 feet above or below the original screen depth setting.~~ in a well with no previous well construction report on file.

SECTION 30. NR 812.10 (11) (a) 6. is created to read:

NR 812.10 (11) (a) 6. The construction of a test drillhole or test heat exchange drillhole as allowed under s. NR 812.09 (4) (a) 5.

SECTION 31. NR 812.12 (3) is amended to read:

NR 812.12 (3) SPECIAL WELL CASING DEPTH AREAS. A well driller or well constructor shall provide for greater depth of well casing pipe in special well casing depth areas designated by the department where well histories show contamination extends to a greater depth. ~~In some of these areas department~~Department approval under s. NR 812.09 (4) (f) shall be obtained for each well prior to construction, when specified by the department in the special well casing depth area designation list.

SECTION 32. NR 812.12 (3) (Note) is created to read:

NR 812.12 (3) Note: A list of established special well casing depth areas is available on the department's website at dnr.wi.gov.

SECTION 33. NR 812.13 (6) (b) 1. to 3. and (7) (b) 2. are amended to read:

NR 812.13 (6) (b) 1. When casing is driven or advanced from the ground surface, excavating a funnel-shaped depression around the casing ~~to create a reservoir, which~~that shall be kept filled with dry granular bentonite. The granular bentonite shall be kept dry at the surface during advancement.

2. Filling a starter drillhole or temporary outer casing with ~~clay~~any of the following, which shall be maintained around the outside of the casing:

a. Clay slurry ~~or sodium~~having a mud weight of at least 9 pounds per gallon.

b. Sodium bentonite slurry ~~and drill cuttings~~ having a mud weight of at least ~~11~~9 pounds per gallon~~, or with dry~~.

c. Dry granular bentonite~~, which shall be maintained around the outside of the casing~~.

3. Constructing an upper enlarged drillhole in accordance with sub. (7). The upper enlarged drillhole shall be kept filled to within 10 feet of the ground surface with ~~clay~~one of the following:

a. Clay slurry ~~or sodium~~having a mud weight of at least 9 pounds per gallon.

b. Sodium bentonite slurry ~~and drill cuttings~~ having a mud weight of at least ~~11~~9 pounds per gallon~~, or with dry~~.

c. Dry granular bentonite.

(7) (b) 2. A well driller or well constructor may reduce the diameter of an upper enlarged drillhole to 3 inches greater than the nominal diameter of the casing when flush-threaded thermoplastic casing is used and the required sealing material, according to sub. (8) (b) or (d), is placed in the annular space using a pressure grouting method according to the requirements of s. NR 812.20.

SECTION 34. NR 812.14 (3) (b), (4) (b) 2. and 3., (8) (e), and (10) are amended to read:

NR 812.14 (3) (b) When well casing is set within an upper enlarged drillhole, it shall be centered within the drillhole to ensure an even annular space around the casing. When casing is placed in an upper enlarged drillhole that extends more than 80 feet below ground surface, a drive shoe or casing shoe shall be welded to the bottom of the casing and the casing shall be driven to a firm seat. The department may require, as a condition of an approval or in a special well casing depth area, that the well casing pipe be centered in the drillhole using any of the following methods:

(4) (b) 2. Filling a starter drillhole or temporary outer casing with ~~clay~~any of the following, which shall be maintained around the outside of the casing:

a. Clay slurry ~~or sodium~~ having a mud weight of at least 9 pounds per gallon.

b. Sodium bentonite slurry ~~and drill cuttings~~ having a mud weight of at least 9 pounds per gallon~~, or with dry~~.

c. Dry granular bentonite~~, which shall be maintained around the outside of the casing~~.

3. Constructing an upper enlarged drillhole in accordance with sub. (7). The upper enlarged drillhole shall be kept filled to within 10 feet of the ground surface with ~~clay~~one of the following:

a. Clay slurry ~~or sodium~~having a mud weight of at least 9 pounds per gallon.

b. Sodium bentonite slurry ~~and drill cuttings~~ having a mud weight of at least ~~11~~9 pounds per gallon~~, or with dry~~.

c. Dry granular bentonite.

(8) (e) ~~The~~Except when cement grout is required by an approval under s. NR 812.09, a special well casing depth area under s. NR 812.12, or a variance under s. NR 812.43, bentonite chips may be used to seal the annular space up to the ground surface. When cement grout is required by an approval, special well casing depth area, or variance, the volume of bentonite chips used shall be limited to the minimum needed to resume grouting according to the requirements specified ~~in~~ under s. NR 812.20.

(10) Wells constructed or reconstructed to withdraw water from any of the aquifers beneath the Maquoketa Shale and the Niagara formations in the eastern part of the state shall be cased and grouted into the Maquoketa Shale formation except in areas designated by the department as special well casing ~~pipe~~ depth areas. If a liner is used to case off the Niagara formation, the Maquoketa Shale formation, or both, it shall be installed and grouted in place in accordance with s. NR 812.21.

SECTION 35. NR 812.151 (4) is repealed and recreated to read:

[Note to LRB: Pars. (a) and (b) are repealed.]

NR 812.151 (4) LOCATION. A heat exchange driller shall ensure that heat exchange drillholes are separated from potential contamination sources as specified in s. NR 812.08 (5).

SECTION 36. NR 812.151 (13) is amended to read:

NR 812.151 (13) Only ~~department approved~~ heat exchange fluids approved for use under s. NR 812.091 may be used in the piping placed in heat exchange drillholes.

SECTION 37. NR 812.153 is created to read:

NR 812.153 Dewatering wells. Dewatering wells installed for permanent use shall meet all of the requirements of this chapter for non-potable wells and all of the following requirements that are applicable:

(1) APPROVALS. Department approval under s. NR 812.09 (4) of a high-capacity dewatering well shall be obtained prior to installation.

(2) LOCATION. Permanent dewatering wells shall be separated from potential contamination sources as specified under s. NR 812.08.

(3) DISCHARGE. The discharge water from a dewatering well shall be managed to prevent impacts to surface water or groundwater and may not connect to a potable water supply. The discharge water from a dewatering well shall comply with applicable permitting regulations under s. 283.31, Stats.

(4) SANITARY PROTECTION. Temporary dewatering wells shall be protected from the introduction of surface water into the well by providing a secure cover or cap when unattended and preventing surface drainage to the well.

(5) WELL SCREEN. Well screens shall meet the requirements of s. NR 812.11 (11) (d).

(6) CASING. The casing of temporary dewatering wells shall be of sufficient material and thickness to withstand the forces imposed on it during installation and pressures exerted on it by the material surrounding it. Casing may be removed and reused in accordance with s. NR 812.26 (5) (k).

SECTION 38. NR 812.26 (5) (m) and (6) (g) 2. are amended to read:

NR 812.26 (5) (m) When a well terminating in a pit is filled and sealed, the pit shall also be filled and sealed, except when the pit is an alcove or if the pit will only be used for the purpose of housing valves ~~and the pit complies with s. NR 812.36 (1)~~. The filling and sealing of a well pit shall meet all of the following requirements:

(6) (g) 2. Dug or bored wells constructed partially or completely into bedrock shall be filled and sealed with neat cement grout, sand-cement grout, concrete, or bentonite chips or pellets to a point at least two feet above the top of the bedrock. The remainder of the well or drillhole may be filled and sealed using any of the materials listed in par. ~~(c)~~(g) 1.

SECTION 39. NR 812.27 (1) (c) to (e) are created to read:

NR 812.27 (1) (c) A well driller installing a temporary test pump for the purpose of determining well capacity or water quality.

(d) A well driller installing a well cap or seal.

(e) An individual opening a well cap or well seal to inspect or chlorinate a well unless the well cap or seal is replaced, or unless the well has a hand pump installed on it.

SECTION 40. NR 812.27 (2) (intro.) is renumbered NR 812.27 (2) and amended to read:

NR 812.27 (2) ~~Except when the reporting requirements of s. NR 812.04 (2) are complied with, a~~ A pump may not be installed~~, replaced or serviced~~ in a new well that is not properly located according to the minimum location and separation requirements ~~in effect at the time of construction and:~~of s. NR 812.08. Except when the reporting requirements of s. NR 812.04 (2) are complied with, a pump in an existing well may be replaced or serviced only if the existing well complies with the minimum location

requirements in effect at the time of construction or at the time of installation of any potential source of contamination.

SECTION 41. NR 812.27 (2) (a) and (b) are repealed.

SECTION 42. NR 812.27 (3) and (5) are amended to read:

NR 812.27 (3) New well pits shall comply with the minimum standards of s. NR 812.36 and the conditions of a department approval. Existing pits and alcoves shall comply with the conditions of a department approval to construct the pit or alcove, or to the minimum standards of s. NR 812.42 (2).

(5) The pump installer shall disinfect and flush any potable well and water system according to s. NR 812.41 (1) and (2) upon completion of the original pump installation and thereafter, ~~anytime~~any time the well is entered ~~for the purpose of measuring or diagnosing any feature or problem with the well or after the well is entered~~ for rehabilitation, redevelopment, reconditioning, or cleaning or if the well is entered for the purpose of installing, replacing, or repairing any equipment located within the well. ~~Following disinfection, the disinfectant shall be flushed according to s. NR 812.41 (2).~~ The disinfection and flushing shall be completed before the system is placed into service. The pump installer shall seal or cover the well with a ~~vermin-proof~~vermin-proof cap or seal ~~approved for use under s. NR 812.091~~meeting the requirements of s. NR 812.30. The pump installer may designate the owner, the property lessee, or any other person to flush the system.

SECTION 43. NR 812.28 is repealed and recreated to read:

NR 812.28 Pump installation equipment and supply pipe. Pump installers shall use pump installation equipment and supply pipe that meet all of the following requirements:

(1) LEAD PROHIBITED. All material permanently installed in a well by a pump installer and any solder or flux used to make connections within a well shall be lead-free as defined under section 1417 of the Safe Drinking Water Act, as amended.

Note: Section 1417 of the Safe Drinking Water Act defines "lead-free" as not containing more than 0.2 percent lead when used with respect to solder and flux; and not more than a weighted average of 0.25 percent lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures.

(2) WELLHEAD EQUIPMENT. Well caps and seals shall be weather- and vermin-proof compression-type components and shall attach securely to the well. Nuts and bolts shall be made of materials that minimize corrosion. Any component attached to a wellhead shall enter the well in a manner that maintains sanitary integrity and prevents the entrance of contaminants or vermin into the well.

(3) PITLESS ADAPTERS AND PITLESS UNITS. Pitless adapters and pitless units installed on a well shall meet the requirements of s. NR 812.31.

(4) SUPPLY PIPE. Pipe used for year-round installations shall be protected from freezing. Pump discharge and supply piping shall conform to all of the following requirements that are applicable:

(a) *Metal pipe.* Metal discharge and supply piping shall conform to the specifications for steel pipe under s. NR 812.11 or shall conform to the requirements for pipe and tubing for water services and private water mains under s. SPS 384.30 (4) (d).

(b) *Joints between pipe and fittings of different materials.* Dielectric unions shall be installed at the point of connection of dissimilar metal materials.

(c) *Plastic pipe.* Plastic pipe may not be used for buried pipe in soils known to be contaminated with volatile organic chemicals. Plastic pipe shall conform to the standards for pipe and tubing for water services and private water mains specified under s. SPS 384.30 (4) (d) and shall have a minimum pressure rating of 150 pounds per square inch. When plastic pipe extends through the seal of a well with an above-ground discharge, the portion of the plastic pipe extending above ground from the well shall be protected from sunlight or the plastic pipe used shall be of the type with inhibitors recommended for use in direct sunlight.

SECTION 44. NR 812.29 (1) (title), (2) (title), (3) (title), and (5) (title) are created to read:

NR 812.29 (1) GENERAL REQUIREMENTS.

(2) DRIVEWAY RAMPS.

(3) WELLS IN FLOODPLAINS.

(5) WELLS IN WALKOUT BASEMENTS.

SECTION 45. NR 812.31 (2) (intro.) is created to read:

[Note to LRB: Keep original sub. (2) title.]

NR 812.31 (2) No pump installer or person installing pumps may install a pitless adapter or pitless unit on a well that has a condition in an approval or variance that requires permanent cement grouting to the ground surface. A pitless adapter or pitless unit shall be installed according to the manufacturer's instructions and any approval conditions. All subsurface connections shall be made in a watertight manner and in accordance with all of the following requirements that are applicable:

SECTION 46. NR 812.31 (2) (a) to (c) are amended to read:

NR 812.31 (2) (a). ~~A pitless subsurface pipe connection to a well casing pipe shall be made with a weld-on, clamp-on, bolt-on or bolt-through pitless adapter or with a pitless unit, except that a bolt-~~

~~through adapter may only be installed for a well constructed with polyvinyl chloride well casing pipe that has a permanently attached well screen.~~ *Weld-on pitless adapters.* A weld-on adapter or pitless unit shall be welded or threaded to the well casing pipe according to sub. (3) or (4). All welding shall be performed in accordance with s. NR 812.18. ~~A pitless adapter or pitless unit shall be installed according to any approval conditions and according to the manufacturer's instructions.~~

(b) *Pitless adapter and pitless unit sizing and type.* The inside diameter of a pitless unit may not be smaller than the inside diameter of the well casing pipe. The pitless adapter shall be constructed to provide complete clearance within the internal diameter of the casing and may connect to the casing by a threaded connection, welded connection, bolted flange with gasket, clamp and gasket, or compression gasket. No part of a pitless adapter may extend into the inside of the well casing pipe prior to the installation of the pump, except that a bolt-through pitless adapter may be installed for a well with polyvinyl chloride well casing pipe ~~having~~that has a permanently attached screen.

(c) *Pitless adapters and units for school and high capacity wells.* An above-ground discharge shall be provided for all school and high capacity wells except that a pitless unit or a weld-on pitless adapter may be installed in accordance with sub. (3) if the welded or threaded joints are pressure tested for leakage using a packer and pressure gauge or by a comparable testing procedure. The adapter or unit joints shall be tested and proven watertight under a pressure of not less than 14 ~~psi~~ pounds per square inch. A soap and water solution shall be applied to welds to identify any leaks, and all leaks shall be repaired with additional welding prior to starting the pressure test. The pressure shall be maintained for at least 30 minutes. The pump installer shall notify the department at least 24 hours before testing~~, so that a department employee may witness the test~~.

SECTION 47. NR 812.31 (2) (d) is repealed.

SECTION 48. NR 812.31 (2) (dm) is created to read:

(dm) *Pitless control modules.* Pitless control modules designed to house pressure tanks and control valves at the wellhead shall either be welded watertight to the casing or attached with a threaded coupling. Electrical controls or pressure switches shall not be installed within a pitless control module.

SECTION 49. NR 812.31 (3) (a) (title) and (b) (title) are created to read:

NR 812.31 (3) (a) *Pitless unit connection procedures*.

(b) *Restrictions.*

SECTION 50. NR 812.31 (4) (a) is amended to read:

NR 812.31 (4) (a) ~~Steel well casing pipe, pitless units or pitless adapters may not be welded after they are attached to thermoplastic well casing pipe.~~ *Solvent welding.* The thermoplastic coupling shall be threaded onto the pitless unit before it is solvent cemented to the top of the thermoplastic well casing pipe. Pitless unit connections for thermoplastic well casing pipe are depicted in Figure 2 of ch. NR 812, Appendix.

SECTION 51. NR 812.31 (4) (b) (title) and (c) (title) are created:

(b) *Lubricants and threading casing.*

(c) *Threaded coupling restriction.*

SECTION 52. NR 812.31 (4) (d) is amended to read:

(d) *Riser pipes.* Steel pitless units or pitless adapters may not be welded after they are attached to thermoplastic well casing pipe. The portion of the well casing pipe above a short length pitless unit shall be steel or thermoplastic well casing pipe meeting the requirements specified ~~in~~under s. NR 812.11. When thermoplastic well casing pipe is extended above the ground surface, the thermoplastic pipe shall be of the type with inhibitors recommended for use in direct sunlight or shall be contained in a pumphouse or in an oversized steel pipe extending from below the frost depth to the top of the thermoplastic pipe. A permanent tag bearing the message "plastic well casing pipe" shall be attached to the top of any steel riser pipe.

SECTION 53. NR 812.31 (4) (e) and (f) are repealed.

SECTION 54. NR 812.31 (5) (intro.), (a), and (b) are consolidated, renumbered NR 812.31 (5) and amended to read:

NR 812.31 (5) PITLESS RECEIVER TANKS. ~~Pitless receiver units shall be approved for use under s. NR 812.091. (a)~~ Steel buried tanks that are part of a pitless unit shall have a minimum wall thickness of ~~1/4 inch~~0.25 inch and shall have an identifying seal, label, or plate showing the manufacturer's name and model number. ~~(b)~~ An approval under s. NR 812.09 shall be obtained for the installation of a buried pitless receiver tank having a gross volume greater than 1,000 gallons.

SECTION 55. NR 812.32 (1) (a) (title), (b) (title), (c) (title), (d) (title), (e) (title), and (f) (title) are created to read:

NR 812.32 (1) (a) *General requirements.*

(b) *Pump lubrication.*

(c) *Discharge.*

(d) *Discharge to a water body.*

(e) *Electrical wiring.*

(f) *Backflow prevention.*

SECTION 56. NR 812.32 (1) (f) and (4) (b) 1., 1. a. and b., and 2. a. to c. are amended to read:

NR 812.32 (1) (f) For water systems with multiple wells interconnected to a common plumbing piping system, or when a non-potable water supply line is installed upstream of the pressure tank on multiple wells or a single well, the department may require additional equipment to reduce the possibility of back-flow or back-siphonage between wells. This equipment may include a separate pressure tank for each well, additional check valves, air gaps, reduced pressure principle backflow preventers, pressure switches, and electronic pump control devices.

(4) (b) 1. When a water discharge line crosses a sanitary sewer, the water discharge line piping within ~~10~~5 feet of the point of crossing shall be installed in accordance with any of the following requirements:

a. At an elevation at least 12 inches above the top of the sewer measured from the bottom of the water line~~; or~~.

b. At least 18 inches below the bottom of the sewer measured from the top of the water line~~; or~~.

2. a. Water discharge lines ~~2 1/2~~greater than 2 inches in diameter ~~and larger~~ shall be separated at least ~~8~~5 feet horizontally from a sanitary sewer, measured from center to center of the 2 pipes.

b. Except as provided in subd. 2. c., water discharge lines 2 inches or smaller in diameter shall be separated at least ~~30~~24 inches horizontally from a sanitary sewer, measured from center to center of the 2 pipes.

c. Water discharge lines 2 inches in diameter and smaller may be installed less than ~~30~~24 inches horizontally separated from a sanitary sewer if the bottom of the water discharge line is installed at least 12 inches above the sewer, except that portion of the water discharge line within 5 feet of the point where the line enters the building may be less than 12 inches above the sewer.

SECTION 57. NR 812.32 (4) (d) 1. is repealed.

SECTION 58. NR 812.32 (4) (d) 2. renumbered (4) (d) and amended to read:

[Note to LRB: Keep original par. (d) title.]

NR 812.32 (4) (d) A water discharge line shall be separated at least 10 feet horizontally from a POWTS treatment, holding or dispersal component, including ~~but not limited to~~ a septic or holding tank, or any in-ground, at-grade, or mound soil absorption unit.

SECTION 59. NR 812.32 (5) (a) is amended to read:

NR 812.32 (5) (a) ~~When~~If the pump unit does not effectively seal the top of the well casing pipe and the well pump suction pipe or jet pump piping emerges from the top, a threaded fitting~~,~~ or ~~an approved type~~ a seal with expandable rubber or neoprene gasket shall be provided between the well casing pipe and the well pump suction pipe or jet pump piping.

SECTION 60. NR 812.32 (7) (intro.) is created to read:

NR 812.32 (7) HAND PUMPS. Hand pumps shall be installed in accordance with all of the following requirements:

SECTION 61. NR 812.32 (7) (a) and (b) are amended to read:

NR 812.32 (7) (a) *Pump heads.* Hand pump heads shall be designed and fabricated so there are no unprotected openings, other than the spout, to the interior of the pump. The ~~water spout~~waterspout shall turn downward and be closed on top. If a separate watertight port is provided for priming, it shall be sealed watertight when not being used. ~~Unsealed openings may not exist in the pumpbase. If the pump is installed outside, a concrete crack−free watertight pump platform at least 6 feet in diameter shall be provided. The top of this platform may be at ground grade, but in any case the platform shall be mounded so that water does not accumulate around the well. If excess water flow from the pump spout is channelized, it shall be directed to a point at least 8 feet from the well with a drain pipe or watertight channel.~~

(b) *Connection to well.* Hand pumps shall be connected firmly to the well casing pipe by threading in small diameter well casing pipe or by bolting the ~~pumpbase~~ pump base flange to a well casing pipe flange with a gasket to seal the top of the casing. Other types of hand pump bases may be used if they meet the approval requirements specified in s. NR 812.091 for vermin-proof caps and seals. Unsealed openings may not exist in the pump base.

SECTION 62. NR 812.32 (7) (c) and (d) are created to read:

NR 812.32 (7) (c) *Pump platform*. When a hand pump is installed outside for a non-community water system, a concrete, crack-free and watertight pump platform at least 6 feet in diameter or 6 feet by 6 feet square shall be provided. The top of this platform may be at ground surface, but the platform shall be

mounded so that water does not accumulate around the well. If excess water flow from the pump spout is channelized, it shall be directed to a point at least 8 feet from the well with a drainpipe or gravel pocket.

(d) *Emergency use hand pumps.* A hand pump for emergency use may be installed in a well with a power-driven pump if it extends through the well seal or cap in a watertight and vermin-proof manner.

SECTION 63. NR 812.32 (9) (title) and (a) are amended to read:

NR 812.32 (9) ~~PUMP INSTALLATIONS~~DISCHARGE LINES FOR FLOWING WELLS

(a) *Underground pipe connections.* Underground pipe connections may only be made to a flowing well with ~~an approved~~a pitless adapter.

SECTION 64. NR 812.32 (9) (c) (intro.) and 4. are created to read:

[Note to LRB: Keep original par. (c) title.]

NR 812.32 (9) (c) A controlled overflow pipe may be installed for a flowing well to prevent damage from overflowing water or to prevent freezing of the top of the well. The overflow pipe shall be installed at the wellhead or shall extend off a surge tank in the basement. When installed, overflow piping shall comply with all of the following requirements:

4. If a pump is installed in the well and the well stops flowing during pumping, a screen shall be installed on the overflow pipe.

SECTION 65. NR 812.32 (9) (c) 1. and 2. are repealed and recreated to read.

NR 812.32 (9) (c) 1. Overflow pipe connections through a well casing shall be watertight and the point of exit from the well casing pipe shall be a minimum of 12 inches above surrounding ground grade, or a minimum of 24 inches above the regional flood elevation if the well is in a floodplain.

2. The flow of water from the overflow pipe shall be limited to a minimum so as to preserve groundwater and water pressure.

SECTION 66. NR 812.32 (9) (c) 3. is amended to read:

3. ~~When necessary, overflow piping shall be installed to prevent flow of water up the outside of the well casing pipe or to prevent freezing of water inside the casing. When installed, the flow of water from the discharge pipe shall be limited to a minimum so as to preserve groundwater and water pressure. The overflow pipe shall be installed to extend through the well cap or seal or shall extend off a surge tank in the basement. The overflow pipe may be attached to the outside wall of the well casing pipe if both the point of exit from the well casing pipe and the terminus of the overflow are at least 12 inches above the ground grade and the connection to the well casing pipe is watertight.~~ The overflow pipe shall terminate

at least 2 pipe diameters above any drain inlet at the well site, in a building or in a building basement. If the overflow is installed at the well head, ~~the overflow shall extend at least 2 feet above the regional flood elevation and~~ a free air gap of at least 2 pipe diameters above the drain shall be provided. The receiving drain shall discharge to the ground or to a gravel pocket at a point at least 8 feet from the well. A funnel receptacle shall be installed on the inlet of the drain to accept all ~~of~~ the overflow water, to prevent splashing and prevent ponding of water around the well casing pipe. ~~If a pump is installed in the well and the well stops flowing during pumping, a screen shall be installed on the overflow pipe.~~

SECTION 67. NR 812.33 (2) is repealed and recreated.

NR 812.33 (2) NONPRESSURE STORAGE VESSELS. All structures used to store water in a nonpressurized tank or reservoir shall meet all of the following requirements:

(a) *Approvals.* Prior department approval under s. NR 812.09 is required for all of the following:

1. Any reservoir located prior to the entry point into a water system.

2. A nonpressure storage vessel, except for a surge tank, at a non-community water system located prior to the entry point into the distribution system.

3. A nonpressure storage vessel made of a material not meeting the specifications of par. (b) 1.

(b) *General Specifications.* All storage vessels and reservoirs shall meet all of the following specifications:

1. 'Material.' Reservoirs shall be constructed of steel or reinforced concrete. Above-ground storage vessels shall be made of stainless steel, poured concrete or high-grade plastic. Elevated storage vessels shall be constructed of steel. Concrete used to construct a storage vessel shall be mixed according to the requirements specified in s. NR 812.11 (15) (e).

2. 'Location.' Reservoirs shall meet the location requirements of s. NR 812.08. Above-ground and elevated storage vessels shall be placed in a location that provides convenient access for inspection and maintenance.

3. 'Access.' Storage vessels and structures shall be provided with a 20-inch diameter or 20 square inch manhole for cleaning and maintenance.

4. 'Inflow Piping.' Above-ground inflow pipes shall enter the vessel or reservoir a minimum of two pipe diameters above the overflow elevation within the tank to maintain an air gap. Buried inflow pipe shall be maintained under a continuous positive pressure head that is greater than the ground surface elevation.

5. 'Overflow Piping.' Water storage vessels and structures shall be provided with an overflow pipe that discharges at least 12 inches above ground grade and discharges onto a splash plate or other

hard, non-erodible surface. The end of the overflow pipe shall be fitted with an attached screen that is adequate to prevent entry of vermin into the storage tank.

6. 'Cover.' The cover of any water storage vessel or structure shall seal well enough to prevent water, vermin, and insects from entry.

7. 'Steel construction specifications.' Steel reservoirs or elevated storage vessels shall meet the requirements of AWWA D100−21 for welded construction dated November 1, 2021, or AWWA D103−19 for bolted construction dated January 1, 2020, which are incorporated by reference.

Note: Copies of AWWA D100-21 and AWWA D103-19 may be obtained directly from the American Water Works Association's website at https://store.awwa.org/standards. Copies are also on file at the offices of the department and the legislative reference bureau.

(c) *Reservoirs.* A reservoir may be constructed or installed to store water if it is constructed or installed above the groundwater level and in accordance with the general requirements of par. (b) and the specific requirements of this paragraph. Concrete reservoir construction features are shown in Figure 8 of ch. NR 812 Appendix. Reservoirs constructed of concrete shall meet all of the following specifications:

1. 'Pipes.' The supply pipe and overflow pipe shall extend through the structure.

2. 'Joints and drain.' Wall construction joints shall have an impervious flexible water stop strip and a reservoir drain facility shall be installed before the concrete is poured.

3. 'Floor.' The floor of the reservoir shall be reinforced poured concrete with a thickness of at least 6 inches and shall have a curbing wall 6 inches high and 6 inches thick with a keyway or a flexible water stop strip for a construction joint with the walls.

4. 'Walls.' The walls of the reservoir shall be reinforced poured concrete at least 6 inches thick and terminate above the established ground surface.

5. 'Roof.' The roof shall be reinforced poured concrete at least 6 inches thick and shall extend at least 12 inches above established ground surface. An access manhole at least 20 inches in diameter or 20 inches square shall be constructed as an integral part of the roof. The manhole shall have a curbing wall extending at least 12 inches above the roof. The department recommends that the manhole shall be constructed entirely of 4-inch-thick reinforced poured concrete but may be fabricated of a 0.25-inch steel or cast-iron frame with a gasket and bolted cover. The curbing shall be provided with a snug-fitting, overlapping cover with a minimum of 3-inch-wide skirted sides. The cover may be constructed with welded sheet steel or reinforced poured concrete. Concrete shall be mixed according to the requirements specified under s. NR 812.11 (15) (e).

SECTION 68. NR 812.35 (intro.) is amended to read:

NR 812.35 Yard hydrants may be installed in a water system between the well and the pressure tank provided they are not installed in or on a well and have been approved by the department of safety and professional services for this purpose. All yard hydrants and backflow prevention devices shall comply with ch. SPS 384 and shall be installed and maintained in accordance with ch. SPS 382~~.~~, and all of the following requirements that are applicable:

SECTION 69. NR 812.35 (2) (Note 1) is repealed.

SECTION 70. NR 812.36 (1) is amended to read:

NR 812.36 (1) A pit structure that is completely or partially below the ground surface or below a building floor used for the housing of wells, off-set pumps, pressure tanks, or heads of pressure tanks may not be constructed without prior written approval from the department under s. NR 812.09. ~~Pits used only for the housing of valves are exempt from the requirements of this section except that a pit used for this purpose shall be watertight, may not be connected to a sewer, shall be drained to permeable soil or to the ground surface and may not be subject to flooding.~~

SECTION 71. NR 812.37 (2) (L) is created to read:

NR 812.37 (2) (L) Sample faucets meeting the requirements of s. SPS 382.40 (8) (d) 8. shall be installed within 6 feet upstream and downstream of a chemical injection system or water treatment device installed to mitigate a contaminant regulated under ch. NR 140 or 809.

SECTION 72. NR 812.39 (2) and 812.40 (intro.), (1), (2), (3) and (4) are amended to read:

NR 812.39 (2) The department may require the installation and calibration of means for the recording of total water usage from a high capacity well and shall require the operator of the well to submit monthly reports of this information. Water usage measurements shall comply with the requirements of s. NR 856.31.

NR 812.40 When a structure is constructed to house a well, pump, pressure tank, other ~~appurtenances~~ accessories, or any combination thereof, the structure shall be weather- and frost-proof, if needed. Above ground pumphouses that also house a well shall be constructed ~~with~~in accordance with the requirements of s. NR 812.08 (2). Pumphouses shall be constructed to meet all of the following minimum ~~features~~ specifications:

(1) When a poured-concrete floor is provided, the top of the floor shall be at least 4 inches above the established ground ~~grade~~ surface and sloped toward the drain or door, or away from the well, if needed. A watertight bond shall be provided between the well casing pipe and the concrete~~;~~, if needed.

(2) A door opening outward when the structure is large enough, or a trapped floor drain discharging to the ground surface at least 8 feet from the well when a door is not installed~~;~~.

(3) Protection from freezing for the well, pressure tank and piping, if needed~~;~~.

(4) ~~Hinged~~A hinged roof or removable hatch over the well or some provision for pulling the pump~~; and~~, if needed.

SECTION 73. NR 812.42 (1) (d) is created to read:

NR 812.42 (1) (d) *Minimum Diameter.* The minimum diameter of an existing well terminating in unconsolidated formations shall be 1.25 inches. The minimum diameter for permanent casing in an existing well terminating in quartzite or granite bedrock shall be 6 inches. For existing wells constructed before February 1, 1991, the minimum diameter for permanent casing in an existing well terminating in sandstone, limestone, or shale bedrock formations shall be 4 inches.

SECTION 74. NR 812.42 (2) is amended to read:

NR 812.42 (2) Existing well or pressure tank pits and alcoves constructed after April 10, 1953, shall comply with the minimum requirements specified in s. NR 812.36 (2). When a well in a pit is filled and sealed, the pit shall be filled in accordance with s. NR 812.26 (5) (m)~~ unless the pit is a complying valve pit~~. If a building is constructed over a well pit or alcove, the well shall meet the requirements of a basement well as specified in s. NR 812.42 (9). Pits and alcoves constructed on or before April 10, 1953, shall meet all of the following minimum requirements that are applicable:

SECTION 75. NR 812.42 (3m) is repealed.

SECTION 76. NR 812.42 (4) (title) is repealed and recreated to read:

(4) NONPRESSURE STORAGE VESSELS.

SECTION 77. NR 812.42 (4) (intro.) is created to read:

[Note to LRB: Keep original sub. (4) title.]

NR 812.42 (4) Nonpressure storage vessels shall be maintained in a clean and sanitary condition and provide water free from coliform bacteria and free from contaminant levels in excess of the standards specified in s. NR 812.06. Existing above ground and elevated storage vessels shall meet the requirements of s. NR 812.33 (2) (b). Existing reservoirs shall meet all of the following minimum requirements:

SECTION 78. NR 812.42 (4) (b) to (d) are amended to read:

NR 812.42 (4) (b) The manhole curbing shall extend at least 12 inches above the established ground ~~grade~~ surface. If the reservoir roof terminates above the established ground ~~grade~~ surface, the curbing shall terminate at least 6 inches above the reservoir roof. The manhole shall be provided with a waterproof, tight−fitting, overlapping metal cover with skirted sides.

(c) A reservoir overflow pipe shall be installed watertight just under the roof of the reservoir and entirely above the established ground ~~grade~~ surface. It shall terminate at a point at least 12 inches above the established ground ~~grade~~ surface with a screened, downturned elbow. If an existing overflow pipe is totally buried between the reservoir and its outlet, it shall be eliminated by properly sealing the pipe with concrete at the reservoir.

(d) A gravity discharge pipe to the reservoir shall extend entirely above established ground ~~grade~~ surface and through the roof of the reservoir or manhole curbing. Service pipe connections shall be sealed watertight. A pressurized service pipe may be connected to the reservoir below ground ~~grade~~ surface provided it is under a continuous pressure that is greater than the ground surface elevation.

SECTION 79. NR 812.42 (4) (h) is repealed.

SECTION 80. NR 812.42 (7) (a) 1. to 3. are amended to read:

NR 812.42 (7) (a) 1. Low capacity wells, except school and wastewater treatment plant wells, constructed before February 1, 1991, shall terminate at least 8 inches above established ground ~~grade,~~ surface.

2. High capacity, school, and wastewater treatment plant wells shall terminate at least 12 inches above established ground ~~grade, and~~ surface.

3. All wells constructed on or after February 1, 1991, shall terminate at least 12 inches above established ground ~~grade~~ surface.

SECTION 81. NR 812.42 (11) (am) is repealed.

SECTION 82. NR 812.43 is repealed and recreated to read:

NR 812.43 Variance. (1) VARIANCE APPLICATION. A well owner or the owner's agent may apply for a variance from requirements of this chapter. The department may require additional information necessary to the department to determine if a variance is justified. An application for a variance shall comply with all of the following requirements:

(a) *Forms and instructions.* The application for a variance shall be submitted on a form specified by the department. All of the following information shall be included on the form:

1. The proposed or existing location of the well.

2. The well owner information, including the owner's name, mailing address, and contact information.

3. The name of the well driller, heat exchange driller, well constructor, or pump installer.

4. The code citation for the requirements for which the variance is sought.

5. The reason or reasons compliance with the requirement or requirements of this chapter is not feasible in practice.

6. The signature of the well owner, or the well owner's agent, except as required under par. (b).

7. Maps or figures that support the request.

(b) *Landfill separation distance variances.* An application for a variance from the separation distance specified under s. NR 812.08, Table A, for an existing water supply well within 1,200 feet of a proposed landfill or landfill expansion shall be signed and submitted to the department by the owner of the well or the owner of the landfill. A variance request for a well to be constructed within 1,200 feet of an existing landfill shall be signed and submitted to the department by the owner of the well. Landfill separation distance variances shall meet all of the following requirements that are applicable:

1. If a landfill owner submits the application for a variance, the application shall include documentation that written notification of the application for a variance has been provided to all well owners for which a variance is sought.

2. If a well owner submits the application for a variance, the application shall include documentation that written notification of the application for a variance has been provided to the landfill owner.

(c) *Verbal variances*. For situations that require an immediate response, a well owner may verbally request, and the department may verbally approve, a variance. A verbal variance shall meet all of the requirements under sub. (2). If a verbal request for a variance is made by the owner's agent, the agent shall provide confirmation of the owner's concurrence with the request. For verbal variances for landfill separation distances, the applicant shall submit a written application in accordance with pars. (a) and (b) within 30 days of the verbal variance. The department shall respond with a written variance approval within 65 business days.

(2) DEPARTMENT APPROVAL AND CONDITIONS. (a) *Department approval.* The department may approve a variance when the applicant demonstrates that strict compliance with the requirement or requirements of this chapter is not feasible in practice. When approving a variance, the department may condition the variance to require additional construction, installation features, or sampling to safeguard the groundwater and water supplied by the installation from contamination. Failure to comply with the conditions of a variance or the applicable requirements of this chapter voids the variance approval.

(b) *Landfill separation distance variance conditions.* The department may approve a variance from the separation distance specified in s. NR 812.08, Table A, for an existing water supply well within 1,200 feet of a new landfill or landfill expansion when conditions of the variance provide comparable protection. Comparable protection may include a deeper well casing depth setting, specific grouting materials or methods, specific drilling methodology, or additional well-water sampling. The owner of the well and the owner of the landfill shall have the right to appeal the department's decision on the variance application, pursuant to ch. 227, Stats.

(c) *Casing depth variance conditions.* The department may approve a variance from the casing depth construction requirement under ss. NR 812.14 (2) and 812.152 (4) if the well owner or the well owner's agent demonstrates that adequate water quantity or water quality is not available below the required casing depth. The department may require additional conditions, including continuous chlorination or permanent cement grouting to the ground surface.

SECTION 83. NR 812.44 (5) (b) 27. is repealed.

SECTION 84. NR 812.45 (1) (c) is amended to read:

NR 812.45 (1) (c) Sampling and reporting requirements, as provided under ss. NR 812.04 (2), 812.09 (4) (a) 3., 812.10 (8), (10), (11), or (15), 812.151 (3), 812.26 (7), 812.27 (12), 812.42 (13), 812.44 (3) or (4), or 812.46.

SECTION 85. NR 812.46 (1) (a) 2., (2) (b) 2. and (c) 1., and (8) (b) are amended to read:

NR 812.46 (1) (a) 2. Replacing a pump ~~or pressure tank~~ on an existing water system that does not involve entry into the well.

(2) (b) 2. Collect samples for total coliform bacteria analysis in a sample bottle that does not contain sodium thiosulfate.

(c) 1. Water samples for total coliform bacteria shall be analyzed by a laboratory that has received certification for the analysis requested under ch. ATCP 77.

(8) (b) The laboratory shall test the sample for the presence of free chlorine before analyzing for total coliform bacteria. If free chlorine is present in the sample above ~~0.1~~0.5 mg/L, the laboratory shall reject the sample. Laboratories shall reject samples that are frozen.

SECTION 86. EFFECTIVE DATE. This rule takes effect on the first day of the month following publication in the Wisconsin Administrative Register as provided in s. 227.22 (2) (intro.), Stats.

SECTION 87. BOARD ADOPTION. This rule was approved and adopted by the State of Wisconsin Natural Resources Board on [DATE].

Dated at Madison, Wisconsin _____.

STATE OF WISCONSIN

DEPARTMENT OF NATURAL RESOURCES

BY _____

Steven Little, Deputy Secretary