



DRINKING WATER AND ENVIRONMENTAL HEALTH POLICY AND PROCEDURE

DWEHD-368-127-001 – Criteria for Approval of Water Well Equipment

Effective Date: May 5, 1966
Last Reviewed Date: June 6, 2022

ISSUE

Part 127, Water Supply and Sewer Systems, of the Michigan Public Health Code, 1978 PA 368, as amended and the administrative rules promulgated thereunder, referred to as the Groundwater Quality Control Rules (State Well Code), states that buried pressure tanks may be used if the manufacturer's unit is approved, in writing, by the director. Therefore, the Michigan Department of Environment, Great Lakes, and Energy (EGLE) is responsible for evaluating and approving buried pressure tanks for use in the state of Michigan.

EGLE is responsible for evaluating pitless well adapters and units to determine if they comply with state regulations. Pitless adapters and pitless units are devices used to make sanitary below grade connections to well casings for installation of a water service line. They permit termination of the well casing above ground surface, protect the water from temperature extremes, and provide access to the well for maintenance and repair. Pitless adapters eliminate the need for well pits, which are a health and safety hazard.

Other equipment, such as well caps, hand pumps, and yard hydrants, shall be evaluated and approved prior to use in the state of Michigan.

Authority: Michigan Public Health Code, 1978 PA 368, as amended, Part 127, Groundwater Quality Control Rules, R 325.1642 and Michigan Public Health Code, 1978 PA 368, as amended, Part 127, Groundwater Quality Control Rules, R 325.1656(2).

STAKEHOLDER INVOLVEMENT

Pitless Adapters and Units: Original guidance document was approved by the Well Driller Advisory Board on January 16, 1967. The document was updated on April 30, 1984, and a draft policy was completed on January 1, 1994. Based on manufacturers' input, an additional update to the policy was presented with subsequent approval to the Water Well Advisory Committee on June 14, 2018.

Buried Pressure Tanks: Original Guidance document (Department Letter No. 36-2), dated May 5, 1966, was adopted by the Well Driller Advisory Board on January 16, 1967. The document was updated to include a review and approval process for buried metal pressure tanks with less than 3/16-inch thickness. The update to the policy was presented with subsequent approval to the Water Well Advisory Committee on December 9, 2021.

DEFINITIONS

A pitless adapter is affixed to the permanent well casing below the frost line. A pitless unit includes the upper portion of the casing and is installed by threading or welding to the permanent well casing below the frost line.

POLICY

Criteria for approval of pitless well adapters and units by EGLE are as follows:

1. Pitless units shall have either a threaded or welded connection to the well casing. Compression-type connections to the well casing are not permitted. The pitless unit casing may not be a smaller diameter than the well casing.
2. Clamp-on (saddle style) pitless adapters shall be designed so that the gasket between the saddle portion of the adapter and the well casing is pressurized with water from the pump such that any water leakage will be from the pressure system outward.
3. After the portion of the pitless adapter that is attached to the pump drop pipe is removed from the well, there shall be no part(s) of the adapter protruding into the interior of the casing.
4. Pitless adapters and units shall provide for venting of the casing, except for those designed for single-pipe deep well jet pump systems.
5. Pitless units or adapters for jet pump systems must provide connections for concentric piping to meet the concentric piping provisions of R 325.1654, Rule 154, of the Groundwater Quality Control Rules promulgated under Part 127.
6. All components in contact with potable water shall be constructed of materials that will not leach harmful contaminants into the water at levels exceeding drinking water standards and will not impart taste or odor to the water. Manufacturers must provide documentation that the product meets the definition of "lead free" as defined in the Federal Safe Drinking Water Act. Materials shall meet industry accepted standards or the manufacturer must present a body of evidence showing that the materials meet the provisions of R 325.1640, Rule 140, of the Groundwater Quality Control Rules promulgated under Part 127. Compliance with ANSI/NSF Standard 61 or Food and Drug Administration (FDA) food grade approval of materials is recommended for approval.
7. Manufacturers shall submit all of the following to EGLE:
 - a. A letter requesting evaluation of the product that gives the product model name, model number(s), casing sizes, and pump type for the product.
 - b. Detailed installation instructions and promotional literature for the product.
 - c. An actual model of the pitless adapter or unit or scaled shop drawings. The model adapter will be retained by EGLE unless the manufacturer specifically requests that it be returned.

8. Weather-tight and vermin-proof caps shall be provided with all pitless adapters and units.
9. Well caps that accompany a pitless adapter or unit designed for submersible, shallow well jet, two-pipe deep well jet, or reciprocating pumps shall meet the well cap and vent design criteria in R 325.1657, Rule 157, and R 325.1658, Rule 158, of the Groundwater Quality Control Rules.
10. Support brackets (brackets that rest on the top of the casing or affix to the casing) for submersible pump installations shall have provisions for attachment of electrical wires for grounding of the pump.

Criteria for approval of buried pressure tanks by EGLE are as follows:

1. Buried tanks shall be constructed of metal at least 3/16-inch in thickness. If the metal tank submitted is less than 3/16-inch in thickness or other material, the manufacturer shall conduct and provide a study to EGLE for approval that indicates the tank has adequate strength, life expectancy, and resistance to corrosion for buried use in Michigan.
2. All connections to the tank shall be welded or threaded.
3. The exterior and interior of tanks may be coated to prolong life and prevent rusting. If an interior coating or bladder is used, it shall be free of contamination, nontoxic, and not capable of producing tastes or odors, and it shall also meet or surpass ANSI/NSF standard 14, 60, or 61 as required in R 325.1640, Rule 140, of the Groundwater Quality Control Rules.
4. Dewatering and special air charging devices are not required under the regulation but should be incorporated in the design of the installation. Such connections and facilities shall incorporate anti-contamination protection in their entirety.
5. Buried pressure tanks shall not be used in areas where their location will penetrate the groundwater or be subjected to undue flooding conditions. If a slab-type home is required due to high groundwater condition, a buried pressure tank should not be approved for such home.

The above criteria are not retroactive. Pitless adapters and units approved by EGLE prior to January 1, 1994, are acceptable for use in Michigan.

PROCEDURE

Step	Who	Does What
1	Manufacturers	Apply this policy when submitting water well equipment for evaluation and approval.
2	EGLE, DWEHD staff	Apply this policy when evaluating pitless adapters and units for compliance with R 325.1642.
3	EGLE, DWEHD staff	Apply this policy when evaluating buried pressure tanks for compliance with R 325.1656.
4	EGLE, DWEHD staff	Add the water well equipment that meets the criteria to the Water Well Equipment Approved List located under the Documents Section on the EGLE/Water/Drinking Water/ Water Well Construction Web page .

LINKS TO ADDITIONAL INFORMATION

[Michigan Public Health Code, 1978 PA 368, as amended, Part 127, Water Supply and Sewer Systems \(statute\)](#)

[Michigan Public Health Code, 1978 PA 368, as amended, Part 127, Groundwater Quality Control Rules \(administrative rule\)](#)

[Michigan Safe Drinking Water Act, 1976 PA 399, as amended \(statute\)](#)

[Michigan Safe Drinking Water Act, 1976 PA 399, as amended, Supplying Water to the Public \(administrative rule\)](#)

[NSF/ANSI Standard 14: Plastic Piping System Components and Related Materials](#)

[NSF/ANSI Standard 60: Drinking Water Treatment Chemicals – Health Effects](#)

[NSF/ANSI Standard 61: Drinking Water System Components – Health Effects](#)

APPROVING AUTHORITY



Eric J. Oswald, Director
Drinking Water and Environmental Health Division



Aaron B. Keatley, Chief Deputy Director

HISTORY

Policy No.	Action	Date	Title
ODWMA-368-127-001	Original Effective Date	May 5, 1966	Criteria for Approval of Water Well Equipment
ODWMA-368-127-001	Revised Date	January 1, 1994	Criteria for Approval of Water Well Equipment
ODWMA-368-127-001	Reviewed Date	June 1, 2016	Criteria for Approval of Water Well Equipment
DWMAD-368-127-001	Revised Date	June 29, 2018	Criteria for Approval of Water Well Equipment
DWEHD-368-127-001	Revised Date	June 6, 2022	Criteria for Approval of Water Well Equipment

CONTACT/UPDATE RESPONSIBILITY

Any questions or concerns regarding this policy and procedure should be directed to David DeYoung, Source Water Unit, DWEHD, EGLE at 517-898-3589 or DeYoungD@Michigan.gov.

An EGLE policy and procedure cannot establish regulatory requirements for parties outside of EGLE. This document provides direction to EGLE staff regarding the implementation of rules and laws administered by EGLE. It is merely explanatory, does not affect the rights of or procedures and practices available to the public, and does not have the force and effect of law. EGLE staff shall follow the directions contained in this document.