

Drinking Water Construction Rules



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Utah Division of Drinking Water
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Where can I find the Rules?

Utah Division of Drinking Water

<http://drinkingwater.utah.gov>

R309-500 through 550

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Presentation Topics

- 1. Plan Review Process**
2. New & Proposed Rules
3. Effective Rule Amendments

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R309-500 **Plan Review Process**

- **Public Drinking Water Project**
- **On-going O&M Procedure**
- **Plan Approval & Operating Permit**

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R309-500 Plan Review Process **Public Drinking Water Project**

- **Plan Review Required**
- **Construction, Addition, and Modification**
 1. Re-coating or re-lining storage tank interior
 2. "In-situ" re-lining of pipeline
 3. A change or addition of treatment chemical
 4. Redevelopment of a well or spring
 5. Replacement of well pump with one of different capacity
 6. Deepen a well
 7. Construct a replacement well
 8. Add a booster pump, or PRV, or a chlorinator

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Ongoing O & M Procedure **Plan Review NOT Required**

- a) Pipeline leak repair
- b) Replacement of existing pipeline
 - a) Same size pipe
 - b) Upgrade to meet min. pipeline sizes or larger sizes determined by a hydraulic analysis
- c) Tapping existing water mains to connect new service laterals
- d) Distribution pipeline addition <500' or total <1,000'/year
 - a) Same size pipe
 - b) Pipe size meeting min. pipeline sizes or larger sizes determined by a hydraulic analysis
- e) Inspect, clean, and maintain a tank
- f) Replacement of equipment or appurtenances of same type, size, and rated capacity

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R309-500 Plan Review Process **Plan Approval & Operating Permit**

- No construction until "Plan Approval"
- Submit a project notification form
- Submit plans and specifications
 1. Submit plans and specs at least 30 days in advance.
 2. Should be previously reviewed by the PWS for conformance with their own requirements.
 3. The submittal should be made by the PWS.
 4. DDW does not approve subdivision plats.
 5. Should be final and complete for actual construction.
 6. Stamped, signed, and dated by a Utah PE.
- Obtain **Operating Permit** prior to using the facility (as-builts, bact results, etc.)

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Waiving Plan Submittal **R309-500-6(3)**

- Distribution system improvements (excluding PRV & booster pump stations)
 - a) Previously approved "master plan" and "standard installation drawings"
 - b) "Designated PE directly responsible for the entire water system" & previously approved "standard installation drawings"
- **Operating Permit** is still required even if a plan submittal waiver is granted.

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Hydraulic Modeling Rule **New Rule R309-511**

- Effective 3/10/2010
- Rule Applicability
 - Community systems & NTNC water systems with high demands
 - Checklist available
- Rule Elements
 - Hydraulic model
 - Engineer's certification
 - Hydraulic Model Design Elements Report
 - System Capacity and Expansion Report

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Grouting Inspection During Well Construction **Proposed revisions to R309-515-6(5)(b)**

- Time Line
 - DWB meeting 3/10/2010 – initiate rule making
 - Public Comment Period – 30-days in April
 - DWB meeting 5/12/2010 – adopt the rule
- Authorized Individuals
 - DDW engineers and geologists
 - DEQ District Engineers
 - Division of Water Rights representative
 - Individuals authorized by the Executive Secretary

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Grouting Inspection During Well Construction **Proposed revisions to R309-515-6(5)(b)**

- Obtaining Authorization
 - At least 5 years of professional experience in well design, drilling or sealing
 - A PE or PG in Utah
 - No conflict of interest
 - Not Acting as an agent of State of Utah
 - Follow protocols or attend training
 - Pass DWR's water well drilling test

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Presentation Topics

1. Plan Review Process
2. New & Proposed Rules
3. **Effective Rule Amendments**

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Minimum Water Pressures

R309-105-9

- For PWS approved prior to 1/1/2007:
 - Maintain the 20 psi min. dynamic pressure at all locations during normal operation.
 - Meet the new minimum pressures in new service areas
- New PWS constructed after 1/1/2007 at points of connection:
 - **20 psi with fire flow during peak day demand**
 - **30 psi during peak instantaneous demand**
 - **40 psi during peak day demand**
- Individual home booster pumps not allowed

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Requesting For Exception-to-Rule

R309-105-6(2)(b)

Submit a written request with:

1. Citation of specific rule
2. A detailed explanation of why the conditions of rule cannot be met
3. What the water system proposes in lieu of rule
4. Justification

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Storage Volume?



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Hydropneumatic Systems

R309-540-6(1)&(5)

- Community systems & NTNC systems with a demand in excess of required source capacity
 - Require ground level or elevated storage
 - Provide at least two pumping units
- Community systems
 - Diaphragm or air pressure tanks are **NOT** for storage
- TNC & NTNC systems with sufficient source capacity
 - **Can** count hydropneumatic tank volume toward storage
 - **Not req'd** to have two pumping units

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Storage Tank Venting

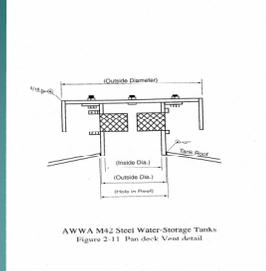
R309-545-15

- Inverted Vent – Be downturned **a minimum of two inches below any opening** or shielded to prevent the entrance of surface water and rainwater.
- Open Discharge – On buried structures, have the discharge **a minimum of 24 inches** above the earthen covering.

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Pan Deck Vent (AWWA M42 Design)

This no longer meets our tank vent standard, unless the cap extends 2" below the opening.



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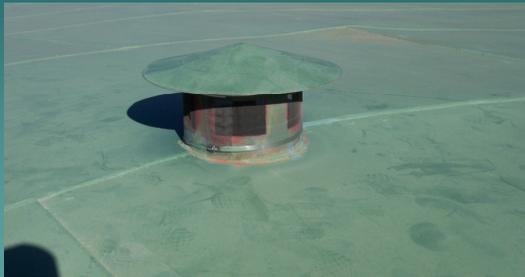
Tank Vent



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Tank Vent

This does NOT meet the tank vent standard.



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Well Grouting

R309-515-6(6)(i)

- Annulus between the **outermost well casing and the borehole wall** shall be grouted to a depth of at least 100 feet.
- If more than one casing is used, **the annulus between the outermost and the next inner casing** shall be sealed with grout.
- **All temporary casings shall be removed** prior to or during well sealing. If not, obtain exception from State Engineer's office & submit evidence to DDW.

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"Master Plan" Definition

R309-100-4

- ◆ Source, Storage, Pumps, and Pipelines
- ◆ Connection Type, Number, and Associated ERC's
- ◆ Existing Service Connection, Water/Land Use, and Projection
- ◆ Hydraulic Analyses of Existing and Expansion Scenarios
- ◆ Alternatives in Managing Growth

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Questions?

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