

When You Need An Engineer - Plan Review Submittal Guidance

By David Weum, Minnesota Department of Health engineer

The Minnesota Department of Health's (MDH) plan review authority comes from Minnesota Rule 4720.0010 which can be paraphrased by: "no system of public water supply shall be installed, materially altered, or extended until complete plans and specifications with any additional required information are submitted to and approved by the Department of Health." To clarify this broad statement, the table below shows which items need review and when review is not required. Field review has been allowed as an option in some cases. If the field review option is used, it is at the discretion of the system's MDH district engineer, who will then review the work on-site.

Most municipal drinking water projects are required to be submitted by a licensed professional engineer registered in Minnesota. Some specific projects are allowed to be submitted by other representatives, but they must be submitted by the licensed contractor performing the work, the owner, or a professional engineer. Non-municipal public water suppliers are encouraged to use the services of professional engineers but are not required to do so. Failure to submit plans for review will result in enforcement action.

Symbol	Description
x	No plan review required.
x1	Plans must be submitted by a professional engineer.
x2	Plans may be submitted by the licensed contractor performing the work, owner, or professional engineer.
x3	The work must be replacing like component with like component (size, shape, type).

Community Water Supply Wells			
Types of Projects	Plan Review Required	Plan Review Required with District Engineer Field Approval Allowed	Plan Review Not Required
Construct New Community Water Supply Well	x1		
Wellhead completion	x1		
Replace Pump with Exact Same Pump			x3
Replace vertical turbine pump with submersible pump	x1		
Replace submersible pump with vertical turbine pump	x1		
VFD Installation			x
Modify Well Casing (either extend or shorten)	x2		
Install a New Well Casing in an existing well	x2		
Basic Well Rehabilitation (includes pulling pump, replacing screen, acid treatment, etc.)			x
Well Sealing			x

Surface Water Intake Structures			
Types of Projects	Plan Review Required	Plan Review Required with District Engineer Field Approval Allowed	Plan Review Not Required
Modifying Surface Water Intake Structures	x1		
Replace surface water intake pump			x
Surface water intake circulation/aeration			x
Intake chemical treatment (algicide, etc.)	x2		

Treatment Plants & Well Pump Houses			
Types of Projects	Plan Review Required	Plan Review Required with District Engineer Field Approval Allowed	Plan Review Not Required
Filter rehabilitation (structural modifications or interior coating)	x1		
Replacing filter media with exact same media			x3
Replacing filter media with different media	x1		
New chemical addition (includes temporary chemicals)	x2		
Replacing or adding a chlorine cabinet		x2	
Emergency chemical addition (for bacti issues only)		x2	
Change to Similar Chemical Type (i.e. KMnO4 to NaMnO4)		x2	
Adding gas chlorine inside of building	x1		
Converting gas chlorine to sodium hypochlorite	x2		
Moving a chemical injection point to a new location		x2	
Eye wash addition	x2		
Emergency Electrical Generator Addition	x2		
Replacement of existing chemical feed equip (tank, pumps, tubing, etc.)			x3
Replace high service pump (with exact same pump)			x3
Replace high service vertical turbine pump with submersible pump	x2		

Replace high service submersible pump with vertical turbine pump	x2		
Installation of Water Monitoring Equipment		x2	
Changing pipe configuration or size	x1		
Replacing Existing Piping with Same Size Pipe			x3
New Treatment Plant	x1		
New Pumphouse/Wellhouse	x1		

Drinking Water Storage

Types of Projects	Plan Review Required	Plan Review Required with District Engineer Field Approval Allowed	Plan Review Not Required
Painting /Coating Wet Interior	x1		
Rehabilitation of Storage Facilities	x1		
New Storage Tower/Standpipe/Reservoir	x1		
Chemical feed at storage	x2		
Mixing system addition	x2		
Coating exterior only (without structural modifications)			x
Adding an Emergency Electrical Generator for Cell Phone Use	x2		

Watermain

Types of Projects	Plan Review Required	Plan Review Required with District Engineer Field Approval Allowed	Plan Review Not Required
New Watermain Installation (>100 ft)	x1		
Watermain Replacement (> 100 ft)	x1		
Raw Water Transmission Main Installation (> 100 ft)	x1		
Hydrant and/or Valve Replacement only			x
Automatic Flushing Devices	x2		

Booster Stations

Types of Projects	Plan Review Required	Plan Review Required with District Engineer Field Approval Allowed	Plan Review Not Required
Changing pipe configuration of size	x1		
New booster station	x1		
Replace booster pump with exact same pump			x3
Replace submersible booster pump with vertical turbine pump	x2		
Replace vertical turbine booster pump with submersible pump	x2		
Emergency generator addition (contact MDH prior to installation)		x2	