DEPARTMENT OF HEALTH

FOR OFFICE USE ONLY	
Date Received	
Date Reviewed	
Reviewed By	
Plan #:	

Water Treatment Plan Submittal

NONCOMMUNITY PUBLIC WATER SYSTEMS

In accordance with Minnesota Rules 4720.0010, this form must be completed and submitted to the Minnesota Department of Health (MDH) for the installation or modification of water treatment associated with a noncommunity public water supply well.

Responsible party of facility _____ Name of facility _____

Phone number _____ Email _____

Facility street address, City, ZIP _____

County name _____ PWSID # _____

Mailing street address, City, ZIP _____

Signature _____ Date _____

Treatment Designer Information

Name _____ On behalf of (company) _____

Plumbing license # _____ Contractor license # _____ Engineer license # _____

Mailing street address, City, ZIP _____

Phone number _____ Fax # _____ Email _____

Signature _____ Date _____

Water Operator Information (Nontransient Systems Only)

A person may not operate a water treatment facility unless the system or facility maintains at least one person that is certified in a class equal to or higher than the class of the facility; and has responsibility for the daily on-site operation of the facility. (Minnesota Statutes Chapter 115.57)

A minimum of a Class D Water Operator is required for systems treating for a regulated contaminant or continually disinfecting. A higher class may be required depending on the facility.

Name _____ Class _____ Operator license # _____

Target Contaminant(s)

Check all that apply

☐ Arsenic

☐ Nitrate

☐ Corrosion Control

☐ Lead/Copper Removal

☐ Hardness

☐ Iron

☐ Manganese

☐ Taste and Odor

☐ Bacteria (Disinfection)

☐ Other: _____

Note: This form is not for use with disinfection of Surface Water, Groundwater Under Direct Influence, or Contaminated Groundwater.

Plumbing Materials

Check all that apply, circle ASTM or AWWA standard(s)

☐ PE (ASTM D2239/D2737/D3035, AWWA C901)*
☐ COPPER (ASTM B42/B75/B88/B251/B302/B447)
☐ PVC (ASTM D1785/D2241, AWWA C900)**
☐ PEX (ASTM F876/F877, AWWA C904)
☐ CPVC (ASTM D2846/F441/F442)
☐ Other: _____

*PE cannot be installed within a building after the pressure tank, non-pressurized storage, or treatment device, whichever is furthest upstream

**PVC may only be for building supply or treatment applications and cannot otherwise be installed within or under the foundation of any building.

Treatment Facility Information

- Facility flow rate (gpm): Average: _____ Peak: _____ ☐ Flow restrictor installed
- Unique Well ID(s) of interconnected wells: _____
- Operating pressure: _____ psi to _____ psi
- Media make/manufacturer:_____ Media volume (include units): _____
- Backwash/regeneration control parameter (check all that apply):

  ☐ Volume ☐ Time ☐ Pressure Drop ☐ Breakthrough ☐ Other:_____
- Is a new pump house or well house being constructed? ☐ Yes ☐ No
- Will the system be de-pressurized during part of the year? ☐ Yes ☐ No
- Specify any existing treatment, target contaminant(s) for removal and if it will be removed as part of this project: _____

Chemical Feed

Check all that apply, include target chlorine and corrosion control inhibitor where applicable

☐ Sodium Hypochlorite (liquid)
☐ Chlorine Dioxide
☐ Gas Chlorine
☐ Phosphates (inhibitor)
☐ Potassium Permanganate
☐ Silicates (inhibitor)
☐ Sodium Permanganate
☐ Other: _____

Target free chlorine residual (mg/L): _____ Target inhibitor residual (mg/L): _____

Orthophosphate/Polyphosphate Blend Ratio: ____ / _____

Treatment Floor Plan

On a separate page, provide a site diagram of the water treatment system. Engineering or technical drawings are also acceptable. Please include the following in one or more diagrams of the project:

- Proposed treatment and storage equipment
- Existing components of the system
- All piping materials, and pipe sizes
- Valves
- Water meters

- Cross connection control devices
- Water sampling taps
- Chemical injection points
- Wastewater discharge receptacles
- Direction of flow
  (process flow diagram may be separate)

Equipment Specifications

Complete specifications must be provided for all new water treatment, storage, and supply equipment. In addition, provide the following information for new and existing equipment. Additional pages may be submitted as needed.

For pressure tanks:

- Make/Model: _____ Operating pressure (psi): _____

  Capacity (gal): _____ Tank material: _____

For atmospheric storage tanks:

- Make/Model: _____ Baffled Tank? ☐ Yes ☐ No

  Capacity (gal): _____ Tank material: _____

For well pumps:

- Make/Model: _____ Variable Speed? ☐ Yes ☐ No

  Type: _____ Capacity (gpm):_____ VFD Make/Model: _____

For distribution pumps:

- Make/Model: _____ Variable Speed? ☐ Yes ☐ No

  Type: _____ Capacity (gpm):_____ VFD Make/Model: _____

Third Party Standards

Equipment, materials, and additives in contact with potable water must be certified to the applicable American National Standards Institute/National Sanitation Foundation (ANSI/NSF) Standards.

- Provide ANSI/NSF certification listing if any Drinking Water Treatment Chemicals are involved in treatment system (Standard 60).
- Provide ANSI/NSF certification listing for “Drinking Water System Components” (Standard 61).
- Provide ANSI/NSF certification listing for “Drinking Water Treatment Units” if product is certified, including ANSI/NSF 42, 44, 53, 55, and 58.

Design Requirements and Recommendations

- Treatment facilities intended to remove a regulated contaminant must be designed to supply all potable water fixtures within the distribution system, including showers, sinks, and dishwashers.
- All materials, devices, and methods of construction used for the plumbing system shall comply with the standards set in the Minnesota Plumbing Code (see Minnesota Rules, Chapter 4714, Section 301.1).
- A sample tap must be installed and maintained on the system so that an untreated source water sample can be collected. Sample taps should also be installed prior to any treatment unit.
- The treatment system shall be labeled by the licensed plumbing contractor or water conditioning contractor that assembled the complete system so as to clearly identify the type of equipment and name and address of the installer and/or the manufacturer (Minnesota Rules, Chapter 4714, Section 611.1.3).

- The completed system shall be equipped with a flow meter(s) that allow(s) measurement of instantaneous flow and total gallons.
- A check valve shall be installed prior to any chemical injection point to prevent backflow of chemical into the source water.
- Chemical feeders shall be such that chemicals cannot be siphoned into the water system. A pressure relief valve should be installed on the discharge line from any positive displacement chemical feed pumps.

Source Water Quality

Submit the following source or treatment influent water quality samples relevant to the treatment technique (in units of mg/L unless specified). Samples must be collected using EPA Standard Methods for drinking water. These samples must be collected within 2 years of plan submittal.

For all systems

- pH (pH units)
- Alkalinity
- Total Hardness (as CaCO3)

Treating for Arsenic

- Arsenic III (Arsenite)
- Arsenic, Total

With oxidation

- See "Disinfection, Chlorine Injection, Oxidation"

With anion exchange

- Sulfate (if ion exchange)
- Chloride (if ion exchange)

With iron co-precipitation and filtration

- See "Disinfection, Chlorine Injection, Oxidation"

Treating for Nitrate

- Nitrate + Nitrite
- Sulfate
- Chloride

Disinfection, Chlorine Injection, Oxidation

- Iron, Total
- Manganese, Total
- Ammonia
- Total Organic Carbon (TOC)

Treating for Iron and/or Manganese

- Iron, Total
- Manganese, Total

Ultraviolet Disinfection

- Specific Ultraviolet Absorbance or Ultraviolet Transmittance
- Total Organic Carbon (TOC)
- Iron, Total
- Manganese, Total
- Turbidity (NTU)

Other Treatment

- Contact MDH Noncommunity Plan Review Engineer for recommended and required raw water samples

Note: Please email completed form to attn.: Plan Review Engineer at Health.NoncommunityPlanReview@state.mn.us or fax or mail (attn. Plan Review Engineer).

Minnesota Department of Health
Drinking Water Protection Section
Noncommunity Water Supply Unit
PO Box 64975
St. Paul, MN 55164-0975
www.health.state.mn.us

Phone: 651-201-4700
Fax: 651-201-4701
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To obtain this information in a different format, call: 651-201-4700.