



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE
 ENVIRONMENTAL HEALTH SECTION

**Noncommunity Public Water Supply
 Water Treatment System Construction Permit Application
 Required Under Authority of Act 1976 PA 399, as amended**

Nitrate Treatment Type: Reverse Osmosis

Facility

Facility Name _____

Street Address _____

City _____ State _____ Zip _____

Public Water Supply System Number (WSSN) _____

Facility Owner

Name _____ Phone _____

Address _____

City _____ State _____ Zip _____

Email _____

Treatment System Designer

Name _____ Company _____

Address _____

City _____ State _____ Zip _____

Phone _____

Email _____

Please submit the following information in addition to plans, specifications, and an operation and maintenance manual:

Make and model of reverse osmosis unit
Filtration rate (permeate water)
Type of membrane filter
Operating pressure and system controls
Holding capacity of permeate water storage tank

Total population served
Number of point of use outlets
Location of point of use outlets
Peak demand of water system (gpm)

Other Treatment

Description and basis of design for other treatment applied such as softening, disinfection, iron removal, etc.

Water Quality (Untreated)

Nitrate _____ (mg/l)	Iron _____ (mg/l)	Silica _____ (mg/l)
Nitrite _____ (mg/l)	Total Hardness _____ (mg/l)	pH _____ (mg/l)
Chlorides _____ (mg/l)	Sodium _____ (mg/l)	Other _____ (mg/l)

Plans & Specifications

- 1) Include plans and specifications identifying:
 - a. Service line, storage tank, treatment vessels, piping, valves, pressure gauges, flow meters, sampling locations
 - b. Chemical injection location (if applicable)
 - c. Waste water receiving system
 - d. Mechanical warning alarm
 - e. Labeled "Raw Water" and "Treated Water" taps
 - f. Make and model of equipment including chemical injection pumps
 - g. Method of controlling chemical injection or regeneration process (if applicable)
 - h. Number and size of treatment vessels

Operation & Maintenance

- 1) Include an operation and maintenance manual Including:
 - a. Routine operation and maintenance activities
 - b. Troubleshooting guide
 - c. Monitoring plan
 - d. Permanent tags/labels for piping, valves, gauges, sample taps, key components

Certified Operator

Identify an operator certified at or above the D5 level (limited treatment)

Operator Name _____ Cert. No. _____ Level _____

Operation Report

Monthly operation report (attached) is to be submitted by the certified operator.

Other Relevant Information

Alternate Source

If another approved water source is available (by connection or drilling a new well) that source shall be used in lieu of treating a source that exceeds drinking water standards

Distance to and name of nearest community water system_____

Is connection to community water possible? Yes _____ No _____

Comments_____

Third Party Standards

Equipment, materials, and additives in contact with potable water must meet American National Standards Institute/National Sanitation Foundation (ANSI/NSF) Standards.

- 1) Provide ANSI/NSF listing if any "Drinking Water Treatment Chemicals" are involved in treatment system (Standard 60).
- 2) Provide ANSI/NSF product listing for "Drinking Water System Components". (Standard 61, 58, 51...)

Backwash Discharge

Approval may be required for disposal of backwash waste water. Requirements are dependent on the characteristics of the waste water and where the waste water is to be discharged. It is the water supply owner's responsibility to obtain any required wastewater discharge permits.

Backwash water will be discharged to: Community Sewer_____

Septic tank/drainfield_____ Other _____, if other describe location: _____

Provide a copy of the permit application and plans and specifications to the local health department and another copy to:

Office of Drinking Water and Municipal Assistance
Environmental Health Section
Noncommunity and Private Drinking Water Supplies Unit
525 W Allegan Street
P.O. Box 30241
Lansing, Michigan 48909-7773



Michigan Department of Environmental Quality
 Drinking Water and Environmental Health Section
Nitrate Treatment Monthly Operation Report – Reverse Osmosis

Facility Name _____

WSSN _____

Certified Operator _____ # _____

Month/Year: _____ / _____

Day	Flow Meter Reading (Gallons)	Nitrate Treated (mg/L)	Filter Changes (Y/N)	Visual Inspection (Y/N)	Comments	Inspected By
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
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22						
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24						
25						
26						
27						
28						
29						
30						
31						

Operator Signature _____

Date _____

See back for instructions on completing form

Completion of this form is required by Rule 325.11502, 1976 PA 399
 Submit a copy of this MOR to the Local Health Department within 30 days after the end of the month.



Instructions for Completion of Monthly Operation Report: Reverse Osmosis Nitrate

Flow Meter Reading: Record treated water meter reading at beginning and end of month. Flow data may be read from the face of a shut off valve or other metering device.

Nitrate Treated: Sample nitrate levels at the faucet where treated water is obtained **quarterly** and analyze through a certified lab. After getting the nitrate sample result from the lab, write the result in this column for the day that it was obtained. The Maximum Contaminant Level (MCL) for nitrate is 10 mg/L which is 10 parts per million. If the lab results are higher than 10 mg/L, change the filter(s) and resample or contact your local health department to determine what steps to take to maintain compliance.

Filter Changes: Change the cartridge filter(s) when the shut-off valve shuts off the flow of water or the performance indicating device signals it is time to change the cartridge filter(s), whichever is applicable for your treatment system or every 6 months, whichever comes first. Record a "Y" in the filter change cartridge column and sign for that day. The RO membrane should be changed every 3 – 5 years or if the treated water level of nitrate exceeds 10 mg/L or water production from the unit is reduced.

Visual Inspection: Visually inspect the treatment system weekly to verify the treatment unit is operating properly. Mark a "Y" in this column every day the treatment system is inspected and sign your name in the "Inspected By" column for that day.

Comments: Record maintenance or any unusual events. See below for additional space.

Inspected By: Person obtaining arsenic sample, changing cartridge filter, or inspecting system signs for that day. Signatures are not needed on days a sample, cartridge filter change, or inspection has not occurred.

Operator Signature: Certified operator signs and dates bottom of MOR attesting to the submitted information in the report and then submits the MOR to their local health department within 30 days after the end of the month. Submittal of an MOR is required for every month the treatment system is in operation even if a nitrate sample is not taken that month.

Local Health Department (LHD) Name _____

LHD Address _____

LHD Contact Person _____ Phone _____

Nitrate Untreated: Sampling the raw water (untreated) nitrate levels once a year. Sampling the raw water (untreated) nitrite levels once every 3 years. Clearly label the point description "Raw Water" on the lab slip and write the sampling date, nitrate or nitrite result, and that it is raw water in the comment section below so they are not used in determining compliance with the nitrate MCL.

Additional Comments _____

Submit a copy of the MOR to the Local Health Department within 30 days after the end of the month