

City of Alpena Septage Receiving Facility Operating Plan



August 2008
Amended 3/30/10

Alpena Water/Wastewater Utility
Alpena Water Recycling Plant
Septage Receiving Facility Operating Plan

The City of Alpena owns a wastewater treatment plant and wastewater collection system that services domestic, commercial, institutional and industrial customers in the City of Alpena and in portions of Alpena Township. United Water operates and maintains the Alpena Water/Wastewater Utility on a contractual basis for the city.

The State of Michigan requires the development of a Septage Receiving Facility Operating Plan in accordance with Part 117 of the Septage Waste Services of the Natural Resources and Environmental Protection Act, 1994 P.A 451. This plan is submitted to comply with that requirement.

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A. City of Alpena Septage Receiving Facility Contact Information

City of Alpena Water Recycling Plant
210 Harbor Drive
Alpena, MI 49707

Hours of Operation
Monday through Friday 8:00 a.m. to 3:30 p.m.

All discharges are allowed by permit only.

The defined service area for the facility is a 15-mile radius of the Alpena Water Recycling Plant. On October 1, 2010 the defined service area will be expanded to a 25-mile radius of the Alpena Water Recycling Plant.

The receiving facility will also accept septage waste from outside the defined service area provided it originates from the counties of Alpena, Presque Isle, Montmorency, Alcona and Oscoda and Iosco provided the hauler is licensed by the State of Michigan and has secured a discharge permit from the Alpena Water Recycling Plant. Septage from other counties in Michigan will also be accepted contingent on the hauler being issued a permit prior to discharge and the facilities ability to treat the waste.

Fees
3 year Permit Fee \$100.00
Septage Receiving Fee \$ 0.025/gallon

Contacts: Mike Glowinski, Utility Manger
Alpena Water/Wastewater Utility
210 Harbor Drive
Alpena, MI 49707
Phone: 989-354-1401
Fax: 989-354-8472
Michael.glowinski@unitedwater.com

Bob Hilla, Superintendent
Alpena Water Recycling Plant
210 Harbor Drive
Alpena, MI 49707
Phone: 989-354-1402
Fax: 989-354-8472
Robert.hilla@unitedwater.com

B. Introduction

The State of Michigan has subsequently enacted legislation in Part 117 of the Natural Resources and Environmental Protection Act directed at controlling the disposal of septic tank waste. In addition, federal regulations under 40 CFR part 503 contain requirements which exceed Part 117 rules when domestic septage is land applied. These rules are designed to protect public health and the environment from problems associated with the pollutants found in domestic septage. A number of private septage waste haulers in the Alpena area have installed the equipment necessary to comply with these regulations and they are expected to continue to utilize these facilities even after the Alpena Septage Receiving Facility becomes operational. Two of these companies have indicated that they may use the city facility if they are serving customers close to the plant and the price is competitive.

In 2005, the City of Alpena submitted a State Revolving Loan Fund (SRF) application to fund \$5 million worth of improvements at the water recycling plant and in the collection system. The application included funding for the construction of a septage receiving station at the Alpena Water Recycling Plant. Some of the potential positive impacts resulting from providing treatment service include the following:

- Enhancing the protection of the watershed
- Protecting drinking water supplies
- Increasing methane gas production in the anaerobic digesters at the water recycling plant
- Reducing operational costs for septage haulers
- Improving the quality of biosolids being land applied

This Septage Receiving Facility Operating Plan was Public Noticed as required by the Part 117 Rules. In addition, all of the Township Supervisors in Alpena County were notified in writing about the existence of the plan. Copies of the letters can be found in Appendix A for your reference.

C. Water Recycling Plant Overview

The Alpena Water Recycling Plant (NPDES permit No MI0022195) is a 5.5 MGD average capacity wastewater treatment facility that serves customers within the City of Alpena and portions of Alpena Township. The treatment train at the facility consists of the following processes:

1. Preliminary Treatment
 - i. Fine screening
 - ii. Aerated grit removal
2. Primary Clarification
3. Secondary Treatment
 - i. Fine bubble conventional activated sludge
 - ii. Final Clarification
4. Chlorination
5. De-chlorination
6. Anaerobic Digestion – Primary and Secondary
7. Biosolids storage with land application
8. Odor control using chemical scrubbing.

D. Septage Receiving Facility Equipment

The City of Alpena intends to begin accepting domestic septage for treatment in September 2008. The City will continue to provide the service as long as the wastewater treatment facility remains within capacity and is in compliance with permit limitations. The treatment facility will accept domestic septage and porta-pot waste only. Food establishment septage will not be accepted.

The treatment equipment will be located at the Alpena Water Recycling Plant within a fenced perimeter with locked gates that limit access to defined operating hours. The receiving equipment includes a flow meter, gravel trap, fine screen, grinder, and washer. Removed screenings will be stored and eventually disposed in a sanitary landfill along with the screenings removed in the plant head works. A receiving station building will house all related equipment. Haulers will be able to access the facility using a circle drive. Individual loads received will be tracked using an automated card system. The building is heated and ventilated to allow any odors generated to be collected and transported the recycling plant odor control scrubbers.

After screening the septage will flow by gravity to an existing gravity thickener for storage. The septage will be pumped via piston pump to the primary anaerobic digester for stabilization in volumes that do not inhibit digester operation. The sludge thickener building is heated and ventilated with the air collected and treated by the plant's odor control scrubbers. The capacity of the thickener is 115,000 gallons, and the volume of septage pumped to the primary anaerobic digester is expected to be less than 4,000 gallons per day.

E. Anaerobic Digestion Capacity

The treatment plant has a total anaerobic digester capacity of 600,000 gallons. The 2006/2007 Annual Report for the Alpena Biosolids Program shows that the plant complied with the Vector Attraction Reduction requirements contained in the Part 31 Rules of the Natural Resources and Environmental Protection Act, 1994 PA 451 as amended. The average Mass Volatile Reduction for the last reporting year was 52.6%.

The 2006/2007 Biosolids Report also demonstrated compliance with Pathogen Reduction criteria needed for Class B designation. Records show that the primary anaerobic digester had an average detention time of 60 days, with an average temperature of 38 C.

The available capacity of the existing primary digester was studied to confirm that adequate capacity exists to treat normal biosolids and to accept septage. This evaluation assumes that Alpena operates one high rate anaerobic digester and utilizes the other unit as a secondary digester. For this evaluation the following septage design criteria was used:

Annual Septage Volume County-wide	2,000,000 gal
Design Average Day delivery to WRP	5,500 gal
Design Septage BOD	7,000 mg/l
Design Septage VSS	10,000 mg/l
High Rate Digester Volume	315,000 gal

To estimate the available digester capacity, actual raw sludge data from 2004 and 2005 was used. The results are as listed below:

Maximum 30-day Raw Sludge Production	15,300 gpd
Raw sludge Solids Concentration	3.1 % average
Volatile Solids Percent	66% average
Current Digester VS Loading	2,610 lbs/day VS

The available treatment capacity of one digester was estimated as follows:

Digester volume	315,000 gal -40 Kcf
Allowable VS Loading	80 lbs VS per Kcf 3,200 lbs VS per day
Reserve Digester Treatment Capacity	590 lbs VS per day
Septage Volume which can be Accepted	7,070 gpd

The above analysis indicates that the Alpena WRP can accept up to 7,070 gpd of septage at normal assumed concentrations and during the maximum month of sludge production for the remaining treatment processes. The plant will limit the volume of septage received to 10,000 gpd maximum and 7,000 gpd average over any 7-day period.

Appendix A

October 27, 2008

Eric Smith
Green Township Supervisor
Green Township Hall
M-32 West
Lachine, MI 49753

5270 M-65
N. Lachine, MI 49753

Dear Mr. Smith:

The Alpena Water/Wastewater Utility recently completed construction of a septage receiving station at the Alpena Water Recycling Plant on Harbor Drive in the City of Alpena. On October 27, 2008 the Michigan Department of Environmental Quality approved the facilities required operating plan. The plan is available for review at City Hall, the Utility Administrative Office and on the City web page. State law requires that the septage receiving station operator inform all Township Supervisors within a 15 mile radius when the facility becomes operational and this letter serves that purpose.

We believe that the receiving station offers septic tank waste haulers another option to consider for disposal of this material. The new processing equipment includes a gravel trap, flow meter, grinder, and screenings washer. After screening the solids will receive further treatment in an existing high rate anaerobic digester to reduce the organic content. High rate digestion produces biosolids that are land applied at agronomic rates under a MDEQ permit. This approved program has successfully recycled valuable nutrients for over 25 years with no adverse environmental impacts

The facility will only be accepting material pumped from residential septic tanks and portable toilets. The operating hours are from 8:00 am to 3:00 pm Monday through Friday. Use of the facility requires the hauler to obtain a 3-year discharge permit for a fee of \$100. The per unit treatment cost is \$0.025.gallon.

If you have any questions, would like a copy of the approved operating plan or would like to tour the new facilities please contact us at (989)354-1401.

Sincerely,

Mike Glowinski
Utilities Manager

October 27, 2008

Howard Lumsden
Long Rapids Township Supervisor
Township Hall
5270 M-65
N. Lachine, MI 49753

Dear Mr. Lumsden:

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Sincerely,

Mike Glowinski
Utilities Manager

Tom Ritter
Maple Ridge Township Supervisor
Maple Ridge Township Hall
6010 W. Lacombe Road
Alpena, MI 49707

Dear Tom:

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Sincerely,

Mike Glowinski
Utilities Manager

October 27, 2008

Ken Lobert
Ossineke Township Supervisor
Ossineke Township Hall
9041 W. Nicholson Hill Road
Hubbard Lake, MI 49747

Dear Mr Lobert:

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Sincerely,
United Water NACO

Mike Glowinski
Utilities Manager

October 27, 2008

Kenneth Gauthier
Sanborn Township Supervisor
Sanborn Township Hall
129011 US 23 South
Ossineke, MI 49766

Dear Mr. Gauthier:

The Alpena Water/Wastewater Utility recently completed construction of a septage receiving station at the Alpena Water Recycling Plant on Harbor Drive in the City of Alpena. On October 27, 2008 the Michigan Department of Environmental Quality approved the facilities required operating plan. The plan is available for review at City Hall, the Utility Administrative Office and on the City web page. State law requires that the septage receiving station operator inform all Township Supervisors within a 15 mile radius when the facility becomes operational and this letter serves that purpose.

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Sincerely,

United Water NACO

Mike Glowinski
Utilities Manager

October 27, 2008

Marie Twite
Alpena Township Supervisor
4385 US 23 North
Alpena, MI 49707

Dear Marie:

The Alpena Water/Wastewater Utility recently completed construction of a septage receiving station at the Alpena Water Recycling Plant on Harbor Drive in the City of Alpena. On October 27, 2008 the Michigan Department of Environmental Quality approved the facilities required operating plan. The plan is available for review at City Hall, the Utility Administrative Office and on the City web page. State law requires that the septage receiving station operator inform all Township Supervisors within a 15 mile radius when the facility becomes operational and this letter serves that purpose.

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Sincerely,
United Water NACO

Mike Glowinski
Utilities Manager

October 27, 2008

William Domke
Wilson Township Supervisor
Wilson Township Hall
15616 King Settlement Road
Alpena, MI 49707

Dear Mr. Domke:

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Sincerely,

United Water NACO

Mike Glowinski
Utilities Manager

Appendix B

