

BURT TOWNSHIP

WELLHEAD PROTECTION PLAN

WSSN 2780

Prepared For:

Burt Township
P.O. Box 430
Grand Marais, MI 49839

Prepared By:

U.P. Engineers & Architects, Inc.
100 Portage Street
Houghton, Michigan 49931



September 29, 2016

BURT TOWNSHIP WELLHEAD PROTECTION PLAN

TABLE OF CONTENTS

Tab

1. Introduction
2. Roles and Responsibilities
3. Delineation of Wellhead Protection Areas
4. Contaminant Source Inventory
5. Wellhead Protection Area Management Strategies
6. Contingency Plan
7. Siting of New Wells
8. Public Education and Participation
9. Appendices
 - a) Conceptual Model Report – Includes Aquifer Test Report
 - b) Delineation Report
 - c) Public Education Materials

INTRODUCTION

The goal of Burt Township's Wellhead Protection Program (WHPP) is to protect the groundwater-sourced public water supply system (PWSS) from potential sources of contamination. Protection is provided by identifying the area which contributes groundwater to PWSS wells, identifying sources of contamination within the area, and developing methods to cooperatively manage the area and minimize the threats to the PWSS. In addition to the technical aspects of identifying the water source area and travel time, and the potential threats to the groundwater quality, the goal of protecting the municipal drinking water is very dependent on the use of this Wellhead Protection Plan to bring drinking water source and quality awareness to the residents and businesses of the community. By using the education and outreach materials and plans as well as implementing the management strategies selected by the Wellhead Protection Team and presented within this plan, the overarching goal of protecting the community's groundwater that is the source of their municipal drinking water will be achieved.

This plan was originally prepared in 2012 and issued in January, 2013. This current update (September, 2016) incorporates revisions to various sections which have now been approved by the Michigan Department of Environmental Quality.

Burt Township is located in eastern Alger County in the Upper Peninsula of Michigan. The Township contains a small village, Grand Marais, located on a harbor of refuge on Lake Superior's south shore. The water system serves approximately 360 customers. The businesses and residential areas in the immediate vicinity of Grand Marais are served by the public water supply system. The map included in this section highlights Grand Marais and the area studied during development of this wellhead protection plan.

Burt Township's WHPP was developed following guidelines and with grant assistance provided by the State of Michigan in response to 1986 amendments to the federal Safe Drinking Water Act (SDWA). Michigan's wellhead protection program is voluntary and is implemented on a local level through the coordination of activities by local, county, regional, and state agencies. Guidelines for the program were developed by the MDEQ. Although the program is voluntary, PWSSs who choose to participate in wellhead protection must develop a local WHPP consistent with the guidelines established by the state. Local WHPPs must specifically address seven elements which include the establishment of roles and duties, wellhead protection area (WHPA) delineation, identification of sources of contamination

within the WHPA, the development of mechanisms to manage the WHPA and minimize threats to the PWSS, the development of contingency plans for water supply emergencies, identification of procedures for the development of new well sites and incorporation into the local WHPP, and provide opportunities for public participation. Various state and local regulations are integrated into the local WHPP and provide legal authority for a broad range of activities which help to support local wellhead protection efforts.

Funding for the WHPP has been obtained through a grant program administered by the Michigan Department of Environmental Quality (MDEQ). The grant program has been designed to assist PWSSs in the development and implementation of WHPPs. The program is a 50% grant program which must be matched with 50% local funds.

Burt Township's public water supply system is comprised of two wells, an in ground water storage tank and distribution piping. Well PW-2 (MDEQ #02000001246) pumps at a maximum rate of 270 gallons per minute (gpm) while PW-3 (MDEQ #02000002350) pumps at a maximum rate of 350 gpm. Either well is individually capable of providing the full amount of water normally used throughout the system on a daily basis. The system has no interconnections to an alternative source.



PROJECT LOCATION MAP
BURT TOWNSHIP
WELLHEAD PROTECTION PLAN
ALGER COUNTY, MICHIGAN

Source: INSERT DATA. DATE. INITIALS



Wellhead Protection Area Map

Burt Township WHPA
Grand Marais, Michigan

Legend

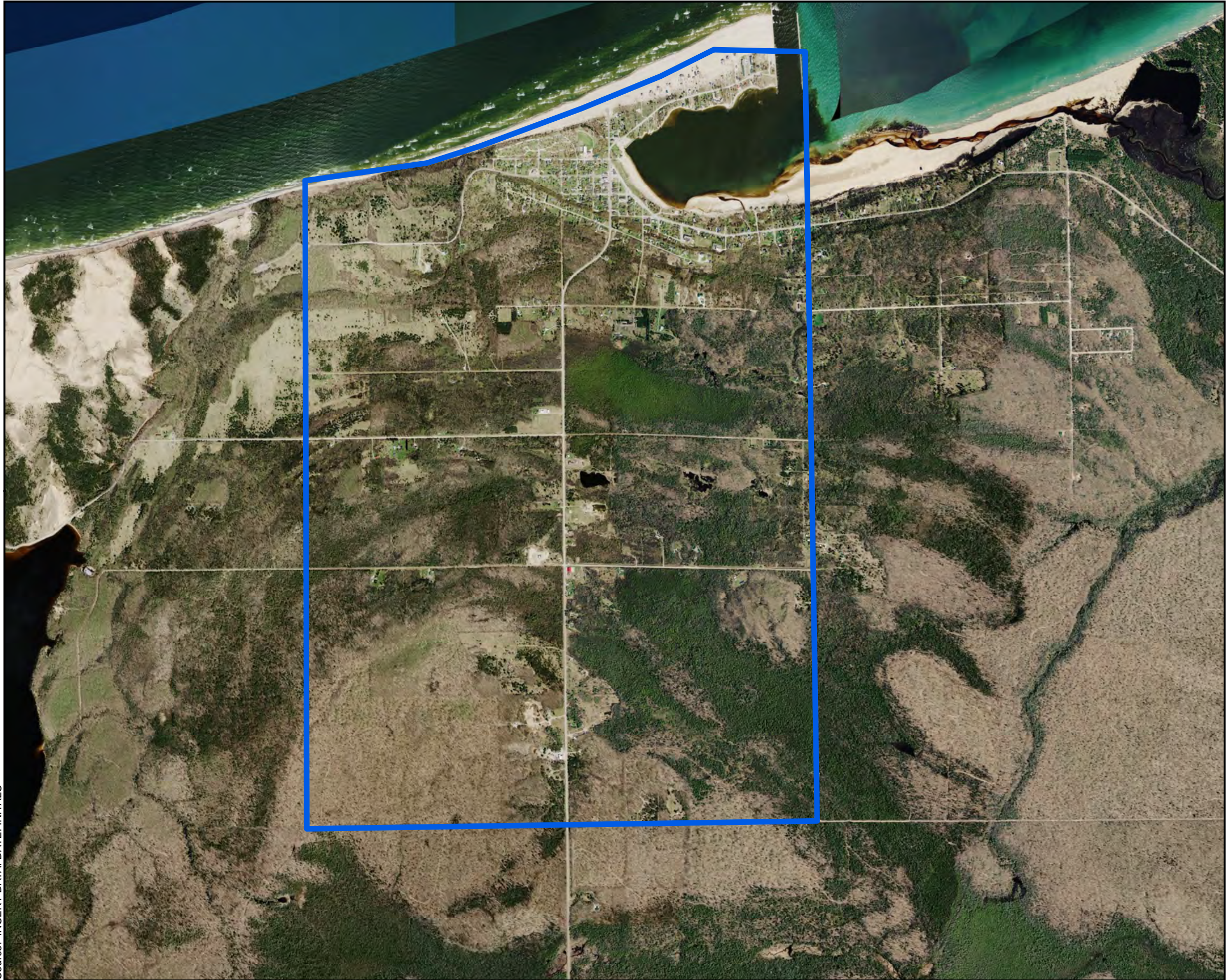
 WHPA



0 900 1,800 3,600 Feet

1:24,000





Source: INSERT DATA. DATE. INITIALS

Wellhead Protection Area Map

Burt Township WHPA
Grand Marais, Michigan

Legend

 WHPA



0 900 1,800 3,600 Feet

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ROLES AND RESPONSIBILITIES

This element of the wellhead protection program is designed to identify individuals responsible for development and implementation of the local WHPP. The wellhead protection team is made up of volunteers who have recognized the importance of protecting the Township's drinking water from contamination. A trustee on the Township board has led the team and guided integration of the WHPP into the existing Township governance procedures and strategies with the involvement of the former Township Supervisor. The water system operator and his staff have taken the lead in collection of much of the technical data needed to determine the WHPA. Significant contributions have been made by all wellhead protection team members in planning and selecting management strategies, developing the contaminant source inventory, the contingency plan and the education and outreach plan. Collection, analysis, modeling and interpretation of technical data pertaining to well field and regional groundwater levels, determining the time of travel zones and preparation of project documentation has been completed by U. P. Engineers & Architects, Inc.

In the future, as in the past, the team will collaborate with the Burt Township Board, Burt Township Planning Commission, MDEQ Office of Drinking Water and Municipal Assistance, and the local health department, as well as the public at large and residents and land owners within the WHPAs. The team membership is expected to change over time and the Burt Township Board of Commissioners will be responsible to seek new team members as well as assign the team to evaluate the WHPP for needed updates and revisions on at a maximum of every six years or more frequently as appropriate.

DELINEATION OF WELLHEAD PROTECTION AREAS

The federal Safe Drinking Water Act (SDWA) defines a wellhead protection area as ... “the surface and subsurface area surrounding a water well or well field, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or well field.” In simpler terms, it is that area which contributes groundwater to a PWSS well. The Michigan WHPP requires a hydrogeologic study to identify the contributing area. The area contributing groundwater to a well may extend for miles; therefore, Michigan’s WHPP is based upon a groundwater time-of-travel (TOT) of 10 years. The 10 year TOT provides a reasonable length of time for responding to environmental problems within the WHPA while concurrently providing an area which can be reasonably managed.

The Burt Township WHPA has been determined by using Flow Path II, a numerical computer model developed by Waterloo Hydrogeologic, Inc. Details of the modeling effort are included in the delineation report included in the appendix section of this WHPP document. The output plots of the computer model were overlaid on the USGS topographical map of the Burt Township area. This map is included on the next page.

CONTAMINANT SOURCE INVENTORY

Potential sources of contamination within the WHPA have been identified as of May 2016 and are shown on the following map. The original potential sources inventory was compiled in 2012 and updated in 2013 prior to the current inventory. State and federal databases were consulted in compiling the information shown. The databases consulted included registered underground storage tanks (USTs), leaking underground storage tanks (LUSTs), groundwater discharge permits, Superfund sites, other sites of environmental contamination (Part 201 sites of Act 451), class V injection wells and waste management sites operating under the Resource Conservation and Recovery Act (RCRA). These RCRA sites include hazardous waste generators, transporters, storage, and disposal facilities (TSDs).

In addition to the databases, the WHPA was visually checked for potential contaminant sources. Potential sources of contamination may include accidental spills, improper discharges to the groundwater due to failing septic systems or disposal of chemicals used in the household. Local residents who have lived in the area for an extended period of time were also interviewed regarding past land uses in the WHPA, particularly operations and facilities that are no longer present or discernible by visual inspection.

MDEQ staff reviewed their records for the presence of groundwater discharges within the wellhead protection areas. MDEQ records indicate that there are no permitted groundwater discharges in these areas.

Abandoned wells left improperly sealed provide direct conduit into the groundwater system through which contaminants may migrate and should be considered as potential sources of contamination. The water system operator and several of the team members reviewed the WHPA for the presence of abandoned wells; a few presently unused wells may be located within the delineated wellhead protection area.

BURT TOWNSHIP

WELLHEAD PROTECTION PLAN

POTENTIAL CONTAMINANT SOURCE INVENTORY

Potential contaminant sources and their locations were researched by the Team using local knowledge and searches of federal and state environmental databases. Those determined to be within or near the WHPA were cataloged. Sources identified are listed in no particular order. The attached Contaminant Source Inventory Map shows the location of each potential contaminant source identified to date.

Database Search

There are known and suspected sites of environmental contamination and potential sources of contamination located within the delineated wellhead protection area (WHPA). State of Michigan and U.S. Environmental Protection Agency (EPA) databases were searched to identify sites of known environmental contamination. Results of the database search are listed as follows:

I. Sites of Environmental Contamination - Part 201 of Act 451 and Federal CERCLIS (Superfund) Sites

There are no known Part 201 Sites of Environmental Contamination within the delineated WHPA (database checked May 2016). The U.S. Environmental Protection Agency's (EPA) Envirofacts database was reviewed for the area encompassing Burt Township's WHPA. There were no federal CERCLIS sites (active or archived) located within the WHPA.

II. Underground Storage Tank (UST) Sites – Part 211 of Act 451 of 1994, as Amended

There are two known Part 211 UST systems located within the delineated WHPA (database checked May 2016).

III. Open Leaking Underground Storage Tank (LUST) Sites – Part 213 of Act 451 of 1994, as Amended

There are no known Part 213 Open LUST sites located within the delineated WHPA (database checked May 2016).

IV. Above Ground Storage Tank (AST) Sites- Act 207 of the Public Acts of 1941, as Amended

There are five AST sites located within the delineated WHPA (database checked May 2016).

V. Underground Injection Well Sites

There are no listed Underground Injection Well sites within the delineated WHPA (verified with US EPA, June, 2016).

VI. Resource Conservation and Recovery (RCRA) Sites and Hazardous Waste Generators – Part 111 of Act 451 of 1994, as Amended

There are no RCRA sites within the delineated WHPA (database checked May 2016).

VII. Licensed Landfills and Former Dumps - Michigan Department of Environmental Quality List

There are no listed MDEQ-regulated landfills or former dump sites within the WHPA.

VIII. Groundwater Discharge Permits - Michigan Department of Environmental Quality List

There are 12 known sites with groundwater discharge permits located within the delineated WHPA (as of June 2016). Upon further investigation, all are classified as large capacity septic systems.

Other Potential Contaminant Sources Within and Adjacent to the WHPA

Additional potential contaminant source locations were identified upon knowledge of the Township and information provided by members of the Wellhead Protection Team.

I. Residential On-Site Septic Systems

Residential On-Site Septic Systems are present in downtown Grand Marais as well as south of the town within the wellhead protection area. It is possible that some systems may not be adequately functioning; however, there is no known reported contamination associated with the septic systems located in the wellhead protection area.

II. Agricultural Uses

Land use within the wellhead protection area is primarily rural residential and typically includes limited agricultural uses such as hay production, limited crops and gardening. However, there is no known reported contamination associated with these uses in the wellhead protection area. Information from landowners and people familiar with agricultural land uses in the area suggests that pesticide and herbicide use is presently very limited within the defined wellhead protection area, although historical usage is not documented as part of this project.

WELLHEAD PROTECTION AREA MANAGEMENT

The goal of WHPA management is to provide mechanisms which will prevent existing and potential sources of contamination from reaching the public water supply fields. The Burt Township wellhead protection team has developed a list of management strategies for the specific land uses of their WHPA and which are within the Township's means to implement and manage. The table of management strategies and activities included in this section reflects the current views and choices of the Team and may be changed as the Team deems appropriate when considering new developments within the WHPA and its management.

Inasmuch as the WHPA contains only potential concerns considered to represent relatively low risk sources, the principal focus of the management strategies selected by the wellhead protection team is to provide education and outreach to the residents and land owners within the WHPA. Another important aspect of the team's management strategy is to plan for future community development to minimize risks associated with locating industries within wellhead protection areas.

A list of the specific management strategies adopted by the wellhead protection Team is provided on the following pages. The dates of implementation and completion, if appropriate, are noted. Those strategies indicated to be "on-going" are of a continual nature.

**BURT TOWNSHIP WELLHEAD PROTECTION PLAN
WELLHEAD PROTECTION TEAM MANAGEMENT STRATEGIES**

MANAGEMENT STRATEGY	TARGET COMPLETION DATE	ACTUAL COMPLETION DATE
1. Provide for educational and informational items to be conducted, distributed and posted.		
a. Provide an initial general press release in the local newspaper.	During update of the wellhead protection plan	Sept. 25, 2015
b. Provide a public education flyer concerning the delineated wellhead protection area, encouraging minimization of hazardous waste generation and proper storage, handling and use of these materials. Include information regarding abandoned wells and septic systems. Distribute copies to all water customers, those living in the WHPA, and others by Burt Township.	Originally completed 2012	Copy of approved general education flyer in WHPP binder June 2016. Re-posted at the Township offices, 2016.
c. Introduce groundwater and well head protection concepts into classroom education programs.	Ongoing	Ongoing
d. Annually report water quality testing results in a consumer confidence report.	Annually	Annually
e. Post a large (poster-size) map and contaminant source inventory map at the Township office, Township Community Center and Township Services building.	June, 2016	June, 2016
2. Land Use Planning and Zoning		
a. Incorporate the wellhead protection area into the Township's master plan. Recognize the importance of wellhead protection concepts in all Township planning. Provide a map of the wellhead protection areas to the planning commission.	Master Plan revision, 2013.	Sept. 2013 and adopted Nov. 2013.

MANAGEMENT STRATEGY	TARGET COMPLETION DATE	ACTUAL COMPLETION DATE
3. Local Health Department Coordination		
a. Provide a copy of the Wellhead Protection Plan.	2015-2016 grant year	Pending Oct. 2016
4. Environmental Permits Checklist		
a. Assist developers in compliance with state and local environmental permits through Burt Township planning and development permitting programs. (The environmental permits checklist is included in the Wellhead Protection Plan binder along with other WHPA documents.)	Use is ongoing through planning commission and building department. See Permits checklist App. C.	Ongoing
5. Hazardous Waste		
a. Support and coordinate with household hazardous waste collection activities conducted within the county.	Periodic as organized by the county or others.	N/A
b. Provide information to residences and businesses within the WHPA regarding household hazardous waste collections.	Periodic as organized by the county or others.	N/A
6. Contaminant Source Inventory (CSI)		
a. Update the potential contaminant source inventory annually or as needed. The CSI will be updated by the Township's water system operator staff or other WHPA team member as directed by the water system operator.	Annually review WHPA for new potential sources or as needed.	Current revision May, 2016.
7. Contingency Plan (CP)		
a. Update the contingency plan annually or as needed. The CP will be updated by the Township's water system operator staff or other WHPA team member as directed by the water system operator.	Review annually	Update as needed by the Public Works Department
8. Team Training		
a. Encourage education and training for the wellhead protection team members regarding hazardous materials and other relevant topics.	Ongoing	N/A

CONTINGENCY PLAN

As part of the local WHPP, it is important that the Public Water Supply System (PWSS) identify an effective contingency plan for water supply emergencies. The plan, included in this section, identifies personnel, testing equipment, and procedures and materials necessary for efficient and effective mitigation of water supply emergencies. The contingency plan also includes response protocol, notification procedures, and methods for handling emergencies based on the nature of the threat to the PWSS. The contingency plan includes the ability to provide an alternative water supply in the event that a PWSS well is impacted.

BURT TOWNSHIP
WELLHEAD PROTECTION PLAN
WELLHEAD PROTECTION AREA CONTINGENCY PLAN

Note: This contingency plan shall be updated as necessary.

A water supply emergency under this plan includes chemical spills of all kinds, including gasoline and fuel oil. Burt Township is the owner and operator of the public water supply system (PWSS) and has contingency plans in place to deal with water supply interruptions due to mechanical, electrical or plumbing failures. The following plan addresses only situations involving chemical spills reported to Township officials that occur within the wellhead protection area (WHPA) or discovery of chemical contamination in the groundwater aquifer within the wellhead protection area.

When a Spill Is Reported

For purposes of reporting chemical spills or releases within the WHPA, spills or releases of any quantity shall be reported to the water system operator and superintendent. The water system operator and superintendent, in conjunction with other Township officials and assistance from outside agencies as appropriate, shall evaluate the nature and quantity of the spill or release and initiate further reporting as required.

Notification of Authorities of Spill or Release

The water system operator, superintendent or other Township officials shall evaluate the nature and quantity of the spill or release and initiate further reporting as required. If further reporting is appropriate, the following agencies should be notified:

- | | | |
|----|---|----------------------------|
| 1. | Alger County Office of Emergency Management: | 906-387-4444 |
| 2. | Alger County Sheriff Office: | 906-387-4444 |
| 3. | MDEQ Pollution Emergency Alert System (PEAS): | 800-292-4706 |
| 4. | Grand Marais Fire Department | 906-494-2381 or 911 |

5. Burt Township Supervisor: Joe Venturato **906-494-2381**
6. Michigan Dept of Environmental Quality Office of Drinking Water & Municipal Assistance
Chuck Thomas, District Supervisor **906-228-4514**

If the spill or release presents a threat to human health or safety, also call: **911**

Although a spill or release within the wellhead protection area may or may not represent an immediate threat to the PWSS, Burt Township should be contacted as soon as possible.

Mr. Joe Venturato, Township Supervisor; **906-494-2381**

Mr. Michael Beek, Department of Public Works Manager **906-494-2411**
Certified Operator
Burt Township
P.O. Box 430
E21837 Grand Marais Avenue
Grand Marais, MI 49839

Corrective Actions

Evaluation of potential contamination events and selection of appropriate corrective actions may require assistance from several organizations and agencies. The necessity of testing and appropriate location(s) from which to draw samples, as well as the constituents of concern requiring analytical testing will be decided on a case by case basis after evaluating each reported spill or release. Factors that shall be considered include:

- Point of the spill or release location within the 1, 5, or 10 year time of travel zones
- Presence of the spill or release in or adjacent to drainage paths that may expedite transport toward the well field area
- The product or products released and their constituent chemicals
- Physical and chemical properties of the spilled product as a whole and those of the constituent chemicals that may affect mobility of the constituents of concern, transport mechanisms potentially acting on the product or constituents of concern and fate of the constituents of concern in the impacted environmental media (air, soil, water).

Other factors may need to be considered, as appropriate.

Samples of soil or water shall be collected at the selected locations and shall be analyzed at an approved analytical laboratory for the chemicals of concern. Sampling equipment and supplies necessary to collect various samples for laboratory analysis are available from:

U. P. Engineers & Architects, Inc. **906-482-4810** (Houghton)
906-485-1011 (Ishpeming)

Other agencies that may need to be notified include:

- Michigan Department of Environmental Quality – Office of Drinking Water and Municipal Assistance
Chuck Thomas, P. E., District Supervisor **906-228-4514**
Mike Bolf, P.E., District Engineer **906-630-4107**
- Luce-Mackinac-Alger-Schoolcraft District Health Department **906-387-2297**

Notification of Water Users

If problems related to the public water supply system that may affect water quality or the quantity that could be provided throughout the system were experienced, the public must be notified by Burt Township through one or more of the following procedures:

- Notice provided in a monthly water bill to all water system users or as a separate mailing or door-to-door notification (as appropriate)
- Public Notice at the Township offices, Fire Stations and Grand Marais Post Office
- Notification in the *Grand Marais Gazette* **906-494-2492**
- Notification through local radio stations
Eagle 96.7 **906-293-1400**
WNBY Newberry **906-293-3221**

Alternative Water Supplies

The Township has evaluated alternative methods to provide a suitable connection however, one does not currently exist. Arrangements may be made with a water supply company for water to be trucked into the community as a backup source to the secondary wells. Potential emergency water supply sources include the City of Munising. Water hauling from this source maybe required.

Bulk or bottled water supply haulers include:

- Culligan Water, Escanaba **888-330-7757**
- Newberry Bottling, Newberry **906-293-5189**
- Pike Distributors, Newberry **906-293-8611**
- Norway Springs, Inc., Iron Mountain, Michigan **906-563-8410 / 800-WATER-04**

Long-term Water Treatment Options

If treatment of the water supply were necessary, an emergency packaged water treatment plant would be evaluated. If it is determined that one of these systems is feasible, it would be installed on a long-term, temporary basis or permanent basis. Some of the potential water treatment systems include micro-filtration, reverse osmosis, aeration, granular activated carbon, and others. Possible suppliers of various systems include:

- Tonka Equipment Company, 13305 Watertower Circle, Plymouth, Minnesota 55441 **(763-559-2837)**
- Evoqua Water Technologies, 2607 N. Grandview Blvd. Suite 130, Waukesha, Wisconsin 53189 **(866-926-8420 / 800-435-3223)**
- Roberts Filter Group, 214 N. Jackson St., Media, Pennsylvania 19063 **(610-583-3131)**

New Production Wells

A new well may be installed to address either a water supply expansion, an increase in water demand, or susceptibility of an existing well to contamination. Any new wells that are constructed will be incorporated into the Wellhead Protection Program.

To incorporate a new well into the Wellhead Protection Program, the following steps would be followed:

1. GPS coordinates would be taken of the new well and the information noted on the updated WHPA map. The Wellhead Protection Area Map would be updated to include the new water supply well. A new time of travel model would be developed and run to determine at a minimum 10 year time-of-travel WHPA around the new well.
2. A contaminant source inventory would be conducted within the revised WHPA.
3. All appropriate WHPA management strategies should be applied to the new WHPA. These may include an abandoned well search and inventory, consideration of land use planning or other management strategies that may be developed by the Wellhead Protection Team and implemented by local government.

SITING OF NEW WELLS

Wellhead protection activities provide a useful assessment of the PWSS by providing information on existing groundwater availability, the ability of the PWSS to meet present demands, and the susceptibility of the existing wells to contamination. Although the two existing wells will provide a sufficient supply of water for the foreseeable future, should water supply expansion or replacement of either of the existing wells be necessary, the 10 year delineation area will be determined through use of the wellhead protection concepts. Location of the new well will play a significant role in the level of modification of the existing WHPP. New production wells located within the existing well field will require a lesser degree of modification than a production well placed outside of the existing well field, in which case all of the steps in the WHPP may need to be fully addressed. Below is a list of the steps that will need to be followed if a new production well is required.

Role and Responsibilities

The current wellhead team would satisfy the requirements for a new production well in an existing well field or with the creation of a new well field.

Wellhead Protection Area Delineation

Modification of this portion of the WHPP is dependent on the location of the new well. A new production well placed in the existing well field will require only minor adjustments to the existing model and delineation area. The addition of a new production well in a new well field will require the creation of a new model and an additional delineation area. The new model would include a second hydrogeological conceptual model or modification of the previously developed conceptual model, including groundwater flow map, and delineation model.

Identification of Contaminant Sources within the WHPA

The adjustment of this portion of the WHPP depends on the location of the new production well. If the well is located in an existing well field and an updated contaminant source inventory is available, then a new inventory may not be required. If the production well is placed in a new well field, a new contaminant source inventory will be required. The new contaminant source inventory would then be added to the existing inventory system.

Wellhead Protection Area Management

The management plan for the WHPA will require only minor adjustments if a new production well is added to an existing well field. The addition of a new well field will require the creation of a new management plan for the new well field and this plan will then need to be incorporated into the existing management plan.

Development of Water Supply Contingency Plans

Although a new production well in a separate location from the existing well field provides an alternate source of water, the current contingency plan will need to be altered to incorporate the new production well. A new production well in the existing well field would require a much smaller alteration to the existing water supply contingency plan.

Identification of Potential New Well Sites

Whether a new well field is developed or a new well in an existing well field is added, new well sites will need to be identified. Considerations in any new developments include the location of suitable geologic conditions for the presence of a sufficient quantity and quality of water and proximity to the existing water distribution system or areas of planned future development.

Public Education and Participation

The public education and participation plan would not be significantly altered by the addition of a new production well in the existing well field. Measures should be taken to include participation of the public affected by the new delineation area. Outreach would include communicating the presence of the new well and adjustments caused by the altered delineation area. The introduction of a new well field would require the creation of public education and participation strategies that would make the public aware of the new delineation area and any management strategies that may apply specifically to that area.

PUBLIC EDUCATION AND PARTICIPATION

Community involvement in the development and implementation of the local WHPP helps to ensure its success and longevity. While it is best if all citizens are provided an opportunity to participate, it is essential that individuals who live, work, and own property in the WHPA take an active interest in the program. Generation of interest in wellhead protection on the part of the public can be assisted by dissemination of wellhead protection information. Burt Township Wellhead Protection Team intends to develop education and outreach activities which may include those listed below in addition to other education activities.

Classroom Education Program

A classroom education program will be developed to introduce students to wellhead protection issues and the location of the wells and control buildings. The program will be established to occur over a three (3) year minimum time frame. Up to three presentations will be developed and presented at local schools and at public venues such as county fairs or groundwater awareness week activities.

Publish Newspaper Article(s)

Newspaper article(s) providing updates of the team's activities and explanations of further steps the team will take will be published periodically.

Consumer Confidence Report (CCR)

On an annual basis a CCR will be provided to each customer within the water supply area.

Post a Wellhead Protection Area Delineation Map

A large (poster-size) map of the 10 year time-of-travel (TOT) WHPA delineation map has been posted at the Township office.

Educational Flyer

An educational flyer has been prepared and made available to Township residents by mailing or at the Township offices and local businesses. This flyer is included in the appendix section.

Continuing Involvement of Board Members and Planning Commission

Encourage wellhead protection team members to continue learning about current hazardous materials and their potential migration in the groundwater as well as other topics.

Building Department and Permits

An important management technique is communication between the Alger County Building

Department and the Burt Township office when building permits are issued for land within the WHPA. If it is not already being done, a copy of the MDEQ Environmental Permits Checklist may be handed out to building permit applicants to help them in making sure their building project is environmentally friendly. (*Note: This is also a management strategy listed in the Management Strategies of this WHPP.*)

Interaction with Community Members

Maintain communication with community members about current issues. Coordinate with the Health Department on educating community members about proper waste water disposal practices (especially concerning septic tanks).

A presentation to the public was made on June 13, 2016 using a Crystal Scientific groundwater tank model. Basic concepts of groundwater flow were demonstrated as well as introduction and migration of contaminants using colored fluids in a shallow unconfined alluvial aquifer and confined alluvial and bedrock aquifers. A representative of the local newspaper was present and subsequently published information useful to the community concerning groundwater protection.

Provide information to community members on the availability and location of household hazardous waste collections when they may occur. Other information related to the existence and contents of the Wellhead Protection Plan has also been published in the local newspaper. Copies of some published information are included in Appendix C.

Interaction with Businesses within the Community

Maintain ongoing communications with businesses in the community. The WHPP team may meet with local businesses to encourage proper storage, handling and use of hazardous wastes at their facilities. The minimization of storage, handling and use of these materials should also be discussed. This can be coordinated through the fire department. A town hall type meeting is being considered for this purpose.

An ongoing effort will be made by the wellhead protection team members to update local businesses on household hazardous waste collection availability and locations.

A copy of the contingency plan will be provided to all businesses in the WHPA so that they may adequately respond to threats to the Township's water supply if an incident occurs.

Building and Site Development Best Management Practices

The wellhead team, Township officials and the township's Department of Public Works are perfectly positioned to provide suggestions and guidance to individual residents and

commercial business owners and operators regarding the best practices for a large number of business and land use related activities including good site design practices for storm water runoff, hazardous material storage and use, and business processes where the potential for adverse impacts to groundwater may occur.

BURT TOWNSHIP

WELLHEAD PROTECTION PROGRAM

Appendices

- A. Conceptual Model Report - Includes Aquifer Test Report
- B. Delineation Report
- C. Public Education Materials

Appendix C

Public Education and Outreach Materials

- Groundwater Protection Information Brochure
- Michigan Department of Environmental Quality - Permits Checklist
- Inclusion of Wellhead Protection Plan in the Township of Burt Master Plan
 - Newspaper Publications and Public Informational Meeting



BURT TOWNSHIP BOARD

ALGER COUNTY
P.O. BOX 430
E21837 GRAND MARAIS AVE.
GRAND MARAIS, MI 49839-0430
906-494-2381
Fax: 906-494-2627
www.burttownship.com

Attach 3.0

Joe Venturato, Supervisor
Lori McShane, Clerk
Tara Dongillo, Treasurer

Lois Leavenworth
L. Scott Wieting
Trustees

June 1, 2015

Michigan Department of Environmental Planning
Resource Management Division
Drinking Water & Environmental Health Section

RE: Section V Attachment 3 of Grant Application

To whom it may concern:

Burt Township has recently updated our Master Plan. This new plan was adopted at the regular meeting of the Burt Township board on November 12, 2013. Please see the attached copies of Chapter five, Public Health Section, regarding the township participation in the Wellhead protection program.

Please accept this letter as evidence that our Master Plan does comply with your requirements.

Sincerely,

James F. Krempa
Planning Commission
Chairman

Cc: Lori McShane, Clerk
William F. Griffin, UP Engineers



Burt Township Master Plan Table of Contents P 2

Housing Tenure	2
Housing Occupancy	2
Household Type and Relationship	2
Housing Age and Condition	3
Housing Value	4
Issues and Opportunities	4

5.0 CHAPTER FIVE: COMMUNITY FACILITIES AND SERVICES

Introduction	1
Potable Water	1
Wellhead Protection Program	1
Wastewater Treatment	2
Storm Sewers	2
Solid Waste and Recycling	2
Utilities	3
Law Enforcement	3
Ambulance Service, Search and Rescue	3
Fire Protection	3
Marina	4
Airport	4
Roads and Streets	4
Township Buildings	4
Government	4
Medical Services	4
Churches	5
Cemetery	5
Recreational Facilities	5
Schools	5
Issues and Opportunities	6

6.0 CHAPTER SIX: LAND USE

Introduction	1
Urban Lands	2
Agriculture Lands	3
Nonforested or Open Lands	3
Forestland	3
Water Bodies	3
Wetlands	4
Barren Lands	4
Factors Influencing Land Use Patterns	4
Land Ownership	5
Contaminated Soils	6

CHAPTER FIVE: COMMUNITY FACILITIES AND SERVICES

INTRODUCTION

Burt Township provides a variety of services and facilities to residents and visitors. In addition, other services and facilities are provided by other government agencies or businesses.

POTABLE WATER

Residents and businesses in the community of Grand Marais are provided with potable water by Burt Township. Water is supplied by two wells located on the north edge of town near the Community Center. Burt Township employs one full-time person who is responsible for maintenance at the water works. Water is metered and users are charged based on classification.

Residential	\$41.19/month
Commercial & Governmental	\$61.78/month

Since the installation of the original water system around 1900, the system has been upgraded only three times. In 1960, a new pump was installed, and in 1975 new controls were installed. A \$570,000 project in 1978 resulted in development of one new well and rehabilitation of the existing well. As a result of this project, the township incurred a debt of \$255,000 to the Farmer's Home Administration, payable over 40 years, or through 2018.

Some of the water lines date back to 1900. The lines were antiquated and there were many leaks. Plans are under way to implement and construct a new water system in Grand Marais. The nearly five million dollar water system upgrade is funded by a Rural Development grant and loan package. The project involves installing six and eight-inch diameter pipes and the replacement of water valves. By the end of the project, approximately six miles of pipe will have been installed. Fire hydrants will be closer together (which may lower fire insurance costs), water pressure will increase, and each building will have a water meter installed. Upgrades will also be made to the pump house building, new controls for the water tank and there will be a new standby generator. The system upgrades were completed in August 2013.

WELLHEAD PROTECTION PROGRAM

Burt Township participates in a Michigan Department of Environmental Planning, Resource management Division, Drinking Water and Environmental Health Section, Well-Head Protection Program (WHPP), which monitors water quality. Outside contractors have been hired to fulfill requirements of the program. The Township also participates in a grant program to partially subsidize the cost. The Township Board recognizes the importance of education and outreach as part of the WHPP and the Board, staff and members of the WHPP are actively involved in the ongoing education and outreach process. Burt Township has developed a Wellhead Protection Program Education and Participation Plan that includes the following: classroom education in cooperation with the Burt Township School, information fliers, newspaper articles, consumer confidence report, posting of a wellhead delineation map, septic system maintenance fliers for residents, annual community clean-up for household waste and household hazardous waste and continuing education for Board members.



BURT TOWNSHIP BOARD

ALGER COUNTY

P.O. BOX 430

E21837 GRAND MARAIS AVE.

GRAND MARAIS, MI 49839-0430

906-494-2381

Fax: 906-494-2627

www.burttownship.com

Joe Venturato, Supervisor

Lori McShane, Clerk

Tara Dongvillo, Treasurer

Lois Leavenworth

L. Scott Wieting

Trustees

June 3, 2016

Due to the Community Center floor work the June 13, 2016, regular board meeting will be held at the Burt Township School.

June 13, 2016

6:00 PM – Wellhead Protection community education program. We will have representatives from UPEA here to explain the Wellhead protection program and share some information on how to protect our water supply.

7:00 PM – regularly scheduled township board meeting. Agenda will be posted June 10, 2016.

"The Township of Burt, Alger County is an Equal Opportunity Employer"
Arrangements for Americans with Disabilities can be made by calling the Township Office at the above number.



The Michigan Wellhead Protection Program:

by Michael L. Beek, Public Works Manager, Burt Township, Alger County

The Well Head Protection Program involves activities and management practices for protecting public groundwater supply systems from contamination. Wellhead protection is an ongoing process that will help your community have control over its future environment. Your involvement and commitment to helping ensure a safe and reliable source of drinking water is vital. By participating in the Michigan WHPP, your community will effectively manage and thus protect your public drinking water source.

set of guidelines that help communities protect their drinking water by identifying the area that contributes groundwater to PWSS wells, identifying sources of contamination within that area, and developing methods to cooperatively manage the area and minimize the threat to the PWSS.

- Clean drinking water is vital to sustain a community
- Develop a set of guidelines that will protect your community drinking water supplies
- Utilize more stringent state regulations in WHPAs
- Develop a management area that is approved by the State of Michigan.
- Provide a higher level of environmental review in the state permitting process.
- Financial assistance available in the development of management practices in the WHPA.

Wellhead Protection Program

Recognizing that the best way to maintain high quality drinking water is to prevent contaminants from reaching drinking water sources, in 1986 the Safe Drinking Water Act was amended to require states to develop Wellhead Protection Programs. Through this program, states help communities to:

- form a local team which will assist with protection of public supply wells in their area;
- determine the land area which provides water to public supply wells;
- identify existing and potential sources of contamination;
- manage potential sources of contamination to minimize their threat to drinking water sources; and
- develop a contingency plan to prepare for an emergency well closing and to plan for future water supply needs.

It is the due diligence of the community leaders and elected officials to protect our safe drinking water, the most valuable resource Grand Marais

and Burt Township has. To be proactive in identifying contaminant sources and fixing the problem before it is too late. To maintain and protect our natural resources not only for now but for future generations to come. The community leaders are here to represent the best interests of the community in its entirety.

Michael L. Beek, Public Works Manager, Burt Township, Alger County, PO Box 430, E21782 Coast Guard Pt. Rd., Grand Marais, MI, 49839 906-494-2411-shop 906-250-2097-cell 906-494-2627-fax

Improper Disposal of Contaminants

One of the most common forms of groundwater contamination is improper disposal of household contaminants ranging from used motor oil to paint. Local businesses and agencies can either recycle or properly dispose of your household contaminants. For more information call the Burt Township Clerk's Office at (906) 494-2381

CONTAMINATION EVIDENCE:

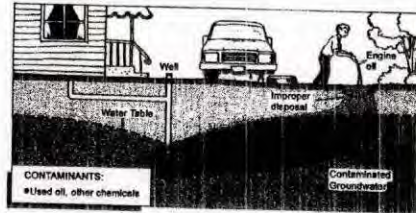
- Petroleum odor in well Water
- Other chemical odors.
- Detection of chemicals in well water tests

CAUSES:

- Improper disposal of chemicals, oil, pesticides, other wastes and used containers
- Lack of disposal facilities for small amounts of hazardous wastes.

PREVENTION:

- Public information/education
- Disposal facilities for small hazardous wastes generators
- Enforcement against improper waste disposal
- Recycle used motor oil



For more information, go to U.P. Engineers & Architect's website at www.upea.com

Grand Island cont. fr. Pg. 14

Visitors can get to the island via passenger ferry or private watercraft. The ferry departs from Grand Island Landing on the mainland, located on M-28 about 2.5 miles west of the Munising's blinking light. Look for the Grand Island National Recreation Area signs.

Explore pristine Trout Bay Beach where a long stretch of sugar sand affords spectacular views of Trout Bay Cliffs and far off in the distance, Pictured Rocks National Lakeshore.

For ferry schedule and bike rental information contact Grand Island Ferry Service, Inc at (906) 387-2600.

For information about Grand Island Bus Tours, contact Alger County Transit

Beachcombing: Walk along the beautiful beach

Call on us. WE DO MORE THAN KEEP THE LIGHTS ON.

- As a public power utility, we're owned by the community we serve - which means we care about helping our local businesses, schools and government facilities manage their operating costs.
- We're here as a resource. Our staff can evaluate energy use, identify potential efficiency projects, and find incentives and other funding resources.



Contact us for ways to save 428-4141

Our Town

FARMER'S MARKET

in the "Green Space", Thursdays 5 to 7, Produce, Herbs, Pastries, Baked Goods, Coffee, Art Crafts; Visit with your neighbors and Grand Marais visitors and pick up some goodies while doing so!

First Monday Lunch, Break-wall Bakery and Cafe, Mon., November 2th, noon - All Women Welcome, reservations not necessary.

Schedule your appointments, do your shopping and enjoy the company of others.

ALTRAN Bus, Grand Marais to Marquette, Wed., November 4th; leaves the Frank W Mead Community Center at 8 a.m.; \$10 for round trip. For reservations call Janna at 494-2557

Daylight Savings Time ends Sunday, Nov 1 at 2 a.m.

"I love turning the clocks back so it gets dark at 4 p.m.," said no one ever...

(From Sal's Facebook page)

Editors Note: I feel your pain, Sal. It is so unfair - dark, dark and then dark. Oh Happy Fall!!!!



Altran Bus
Round Trip From Grand Marais to Marquette
1st Wednesday of Every Month
\$10.00 Per Person
Leaves at 8:00 a.m. from the Frank W Mead Community Center
Call Janna at 494-2557
To Reserve Your Spot

Burt Township's Water... an ongoing discussion

In an effort to help us and the rest of Burt Township understand what's involved in the Wellhead Protection Project/Drinking Water Protection Plan and the possibility of a sewer system, we'll be writing short articles on a regular basis until the Town Hall/Informational Meeting to be held in the Summer of 2016.

If you have a particular concern and/or question, send it to us and we'll attempt to find and answer. This week's discussion revolves about maintenance of a private septic system.

We have read and re-read the "Drinking Water Protection Plan" Brochure and had questions about how to tell if a septic system was working properly. Is there a way to test it? How would a private home owner know if it was not contaminating the ground water. We asked Michael Beek, Burt Twp Public Works Manager, who directed us to Tom Mosely of the LMAS District Health Department—Alger County.

Here is his response:

Hi Carol, Thank you for your note. In regard to 'testing', there is no real way of doing that. Maintenance is really the key to keeping your system working. Everyone should have their septic tanks pumped every 2-5 years depending on the # of people using the system. Everyone should know where the tank is so pumping can be done easily. We advise people to not do more than one load of laundry a day but spread it out over the week. Do a load if you have a load so to speak. A new community system would really help free up some space for Grand Marais to grow as so much space is being taken up with sewage disposal, especially the down town. If you need anything else, let me know!

Thanks, Tom Mosley

And because of his answer re: downtown, and of some of the downtown businesses advocating for a sewer system, we asked him if it were possi-

ble to put in a sewer system just for the downtown area. His reply, "Yes, it would be a special assessment project. The properties have to agree to it first."

Food for thought?

When we are thinking of taking good care of the septic systems we currently have and our ground water we need to be aware of some of contaminants that could be affecting the septic system and thereby the drinking water. Below is a list of some of them.

Contaminants: (taken from the "Drinking Water Protection Plan" brochure

- Paint thinners
- Pesticides
- Chemical cleaning compounds
- Floor care products
- Poisons
- Polishing and degreasing compounds
- Automotive products
- Acids

Along with questions/answers/comments, we will be giving you some recipes for homemade chemical-free cleaning and pest control products. There are several brands of chemical-free products you can purchase as well. If you have any special chemical-free products that you purchase or make, please consider sharing them with our readers.

CITRUS AND VINEGAR CLEANER

Ingredients
 Citrus peels White vinegar

Fill ½ glass jar (large mason jars work well) with your citrus peels and fill it with white vinegar.

1. Cover your jar with a lid, and allow it to sit in a dark place for two weeks. The longer you let it sit, the more the citrus will infuse into the vinegar.

2. **Strain it:** After two weeks, strain your citrus cleaner using a fine mesh sieve or cheesecloth placed over a large bowl. Put the peels in your compost bin

3. Put the citrus cleaner to a spray bottle and use it as you would any other all purpose

cleaner. (Because of the oil in the citrus, this spray does not work real well on windows and mirrors.)

Want to add a little something extra to your cleaner? Throw in a handful of herbs

FOR THE TIC AND FLEAS IN OUR LIVES...

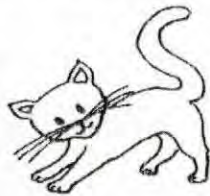
Tic & Flea deterring drink-for dogs, cats (and/or humans)



For every 40 pound dog add 1 teaspoon vinegar to 1 quart of their drinking water. We recommend organic vinegar, such as Braggs Apple Cider Vinegar. Not only does it deter tics and fleas, it improves an animal's skin and coat condition from the inside-out.

Make your own tic and flea collar

3-5 drops of cedar oil or lavender oil 1-3 tablespoons of water, Bandana or piece of cloth -an eyedropper (optional)



Directions

Dilute 2-3 drops of your chosen oil in 1-3 tablespoons of water. Next, pick out a bandana or a piece of cloth to be the flea/tic collar. Using an eyedropper or other similar means, apply 5-10 drops of the mixture to the cloth and rub the sides of the fabric together. Reapply oil mixture to the collar once a week. In conjunction with this, 1 or 2 drops of oil diluted with at least 1 tablespoon of olive oil can be placed at the base of your dog's tail.

Juice 'em Away

Fleas are known to be re-



pelled by citrus. The juice from a freshly squeezed orange or lemon can be lightly rubbed onto your pet's fur to ward off the bugs.

MAKE YOUR OWN NON-TOXIC LAUNDRY SOAP - next issue

And we'll be working to find answers as to where you can dispose of contaminants.

If you have ideas as to how we can keep our ground water safe, please share them. Email them to carolrose.u.p@gmail.com or drop them in the mail to GM Pilot, PO Box 339, GM 49839

Hiawatha National Forest

Your "Great Lakes National Forest"

Located in Michigan's wild and scenic Upper Peninsula, the Hiawatha National Forest is known as "the Great Lakes National Forest." The Forest's dramatic shorelines lie nestled up to Lakes Superior, Huron and Michigan -- three of the five great lakes -- where our outstanding lakeshores, lighthouses, islands and snow create a playground and place of respite within a day's drive from major urban and rural areas of Michigan, Wisconsin, other nearby states and international locations.

Divided into two major blocks of land (our East and West Units) and five districts, we're home to Grand Island National Recreation Area, Whitefish Scenic Byway, six lighthouses, five Wildernesses, and Clear Lake Education Center. In addition to recreation opportunities, visitors will find a wide array of habitats, including northern hardwoods, jackpine & other

Hiawatha cont. on Pg. 9

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John A. Morrison : Owner
 Licensed & Insured • Over 25 Years Experience
New Construction
Remodeling • Log Homes

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2 Bedroom Cottage Fully Furnished
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 Reasonable Rates - Pets Welcome
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 • IN THE HEART OF GRAND MARAIS •
 • WALKING DISTANCE TO LOCAL BUSINESSES & SITES • BEAUTIFUL LAKE SUPERIOR •

FAMILY OWNED & OPERATED SINCE 1929
 OPEN YEAR ROUND