

CITY OF PERHAM, MN

SOURCE WATER PROTECTION PLAN
EVALUATION & WORK PLAN

Date of Initial Plan Approval: DECEMBER 22, 2005

Evaluation Completed By: WELLHEAD PROTECTION COMMITTEE

Date Evaluation Completed: NOVEMBER 19, 2008

Plan Evaluation Frequency: 1 year 2 year 3 year 4 year 5 year
 6 year 7 year 8 year 9 year 10 year

Copies of Evaluation Presented or Sent To:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Trudi Witkowski
Minnesota Department of Health
Drinking Water Protection Section
Sourcewater Protection Unit
625 North Robert Street
P.O. Box 64975
St. Paul, MN 55164-0975 | <input checked="" type="checkbox"/> Governing Body |
| | <input checked="" type="checkbox"/> Wellhead Protection File |
| | <input checked="" type="checkbox"/> MRWA Planner |

Signed: *Sheryl Korman* WHP Manager Date: 2-18-09

I. Changes to Water System, Delineations, or Contaminant Sources

A. List the unique number and locations of new high-capacity wells installed since the last Plan evaluation, or other changes:

No changes noted.

B. List any new facilities or changes in current facilities in the DWSMA(s) that may be of concern with regard to groundwater quality? List the facility name, and nature of concern:

<u>Name of Facility</u>	<u>Change</u>	<u>Distance to Well</u>	<u>Well #</u>	<u>Date Change Made</u>
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No changes noted.

C. Was the Wellhead Protection Area(s) or Drinking Water Supply Management Area(s) changed or altered in any way? (If so, explain)

No changes noted since WHP Plan was adopted.

II. WHP Plan Evaluation Approaches

A. Sampling the quality of groundwater throughout the DWSMA:

Members of the WHP Team and Minnesota Department of Agriculture (MDA) staff continue an on-going program to bi-annually monitor private wells for nitrate content. Report is available for review at city hall.

B. Documenting inventory control of potential contaminants.

No changes or additions to the Potential Contaminant Source Inventory have been noted.

C. Documentation of the implementation of wellhead protection measures.

WHP Measure A1-1: Make educational information available through mailings, pamphlets, local newspapers, radio and TV stations, and through city water bills.

Various educational materials have been distributed throughout the WHP Area, via direct mailings, newspapers, local television channel programming and enclosures within city newsletters.

WHP Measure A1-2: Conduct educational meetings, workshops, and tours covering the topics listed previously. Tours would be given showing examples of proper land use management in the WHPA.

Members of the Perham WHP Team sponsored and populated a WHP table display as part of the Community Health Program.

The East Ottertail SWCD conducted a field tour highlighting WHP accomplishments during their 2007, 50th anniversary program.

WHP Measure A2-1: The Wellhead Committee decided that educating area students about water quality issues would be beneficial to improving water quality in the future.

Since 2003, 8th grade students annually collect samples of their home drinking water. Students GPS the location of the well, collect water samples and analyze the samples for nitrate content, using equipment provided by MDA. The SWCD & MDA staff present information on groundwater to the students. Water testing results are mapped and MDA personnel make a follow-up presentation to the students to discuss the results.

Local area students developed advertising materials for, and helped to facilitate, a public meeting on the WHP Plan.

WHP Measure B1-1: The EOT SWCD and USDA/NRCS can offer assistance for nutrient and pest management plans that include soil and manure testing.

At the end of 2008, Nutrient Management Plans had been developed for 1,913 acres of agricultural crop land within the DWSMA.

WHP Measure B4-1: The Wellhead Committee and Coordinator will initiate communication efforts with the University of Minnesota to address new fertilizer recommendations and also to work with local cooperators to help implement any new changes.

MDA Staff conducted workshops and demonstration projects addressing nutrient management within the DWSMA.

MDA staff collected groundwater samples from lysimeters on an on-going basis under two irrigated fields located within the Perham DWSMA. These sampling locations have provided valuable information regarding the relative nitrate leaching losses under various irrigated crops grown in the area.

MDA staff worked co-operatively with local potato producers to develop and test trial a new strain of potato that requires less nitrogen fertilizer.

During the 2005 field season AGRIMUM agronomist Alan Blaylock presented ESN product information to area producers and technical service providers. Included with the presentation were field visits to potato demonstration plots where ESN was being tested in the Perham area.

WHP Measure B5-1: Landowners should consider placing cropland acres into less intensive land uses or placement of those acres into conservation programs such as the federal Conservation Reserve Program (CRP) or the state Reinvest in Minnesota program (RIM) which takes marginal farmland or sensitive groundwater areas out of agricultural production.

At the end of the 2008 growing season, the EOT SWCD & NRCS offices report that agricultural lands, within the DWSMA, have been placed into the following programs:

- 1,044 Acres of Conservation Reserve Program (CRP)
- 971 acres with Conservation Tillage Plans
- 640 acres planted to Cover Crops
- 158 acres planted to Tree Cover

WHP Measure B5-2: The city should consider purchasing parts or all of Priority Area A and building a fund to use as local match to grant funds for this purpose.

Lands within the DWSMA have been purchased by the City and placed into less intense land use programs.

WHP Measure C1-1: The Wellhead Protection Team will review and update the current One Year TOT survey for all wells in system.

The IWMZ review and survey update has been completed for all existing wells. The IWMZ surveys will be completed for proposed new wells # 8 & # 9.

WHP Measure D3-1: Another option for reducing potential contaminants from private septic systems is to look at the feasibility of expanding public sewer and water utilities to include areas outside the City of Perham.

Lands purchased by the city within the DWSMA have been served with city water and sewer utilities.

WHP Measure G2-1: The continuation of the nitrate testing clinics would be useful in monitoring private water wells. The Wellhead Committee would like to assign one responsible party to be accountable for all of the well monitoring information.

Members of the WHP Team, the East Ottertail SWCD, and MDA maintain an ongoing program to annually monitor private wells for nitrate content. MDH staff has developed an analytical data review program for collected nitrate information. Report is available for review at city hall.

WHP Measure I1-1: Communicate with City Planner and City Engineer (or appropriate parties) that the city is concerned about future impact upon the groundwater due to potential storm water infiltration to the aquifer.

City staff has worked to develop a storm water management program for the city, and the City's new subdivision ordinance requires storm water management plans for all new subdivisions. The City has also implemented a storm water utility to raise funds to improve and maintain storm water infrastructure.

WHP Measure I1-2: In order to minimize the potential impact upon the drinking water aquifer, discourage location of storm water infiltration ponds within the delineated ten year time of travel area. If storm water ponds must be located in the WHPA, require them to be lined.

Clay liners are required in all storm water collection basins located within the DWSMA. The storm water retention pond constructed in the Clearwater Subdivision, which is located in the WHPA (land purchased by the City), has a clay liner.

- D. Using monitoring data that is required by existing laws and rules in effect at the time of plan adoption.

Perham public utility staff collects water samples from monitoring wells located within the DWSMA three (3) times per year. Samples are tested for nitrate content and the static water level in the well is logged.

III. New Data and/or Issues

- A. List any new data/issues that relate to WHP delineations or source management (i.e., groundwater study results, water quality monitoring data, well construction logs, changes in land uses, etc...) that need to be considered and addressed, or that may be used during the next update of the WHP Plan.

Nature of Data/Issue

Source of Data

The City has currently received preliminary MDH approval for the location of sites for proposed new Well # 8 & Well # 9. These two wells will be located in the vicinity of Well # 7 and, when completed, will pump alternately between the three wells to produce water for the northern area of the City.

IV. Work Plan For Next 2 Year(s)

A. Inner Wellhead Management Zone

- a. Review/Update IWMZ Form every 5 years. Add new wells # 8 & # 9.
- b. Implementation of Management Strategies for potential contaminant sources located within the IWMZ for city wells.

B. Plan Management Strategies

The SWP Team has outlined the following management strategies, taken from the approved WHP Plan, for attention and effort over the next 24 months:

WHP Measure B3-1: The Irrigation Scheduling program is a plan of action that the WHP Committee would like to see in practice for all irrigating producers within the DWSMA. With BMP's and Irrigation Scheduling in place, fertilizer application and potential leaching events would be monitored and reduced.

At the end of the 2008 growing season, the NRCS office reported that 1,901 acres of land within the DWSMA are covered by Irrigation Management Plans and Low Pressure Conversions of irrigation pivots.

WHP Measure B6-1: An on-site inspection of fertigation and chemigation areas, coordinated by MDA, is necessary in order for a fertigation well to be permitted within the DWSMA. (NOTE: Research by Luke Stuewe, MDA, has identified 35 irrigation pivots within, or located near, the DWSMA that have been permitted by MDA for chemigation.)

WHP Measure B7-1: Work with homeowners and other turf managers on proper fertilizer and chemical rates for turf and proper grass clipping disposal.

WHP Measure D1-1: The WHPA Committee decided that a letter and/or personal contact with landowners within the DWSMA to ask for their support in voluntarily having a compliance inspection by a certified ISTS inspector would be a good introduction to the idea that they will have to be upgrading their systems eventually.

WHP Measure D2-1: Explore the establishment of a grant/loan program to upgrade ISTS. Financial incentives may be established through the City of Perham. Other grant/loan programs can be investigated through the East Ottertail SWCD, MPCA and Department of Trade and Economic Development.

WHP Measure E1-1: An inventory of all above and below-ground tanks should be compiled.

WHP Measure F1-1: Contact local industries and residents to let them know that a program to help them deal with hazardous waste and chemicals is available.

WHP Measure G1-1: Identifying unknown or abandoned wells and having them sealed or closed properly is a good management strategy to reduce risk of contaminated groundwater. (The East Ottertail SWCD has some monies available for sealing of unused wells.)

WHP Measure G3-1: Coordinate efforts with the DNR Water Appropriations Program to identify proposed high capacity wells in the City's WHPA and/or major changes to groundwater appropriations for existing high capacity wells.

WHP Measure H1-1: Potential locations of Class V Wells will be inventoried through direct personal contact with the operator of the business or landowner in the DWSMA.

WHP Measure I1-2: In order to minimize potential impact upon the drinking water aquifer, discourage location of storm water infiltration ponds within the delineated ten year time of travel area. If storm water ponds must be located in the WHPA, require them to be lined.

C. Contingency Plan

Was any component of the contingency plan implemented by your system at any time since the last program evaluation?

- Yes Watering ban was implemented in 2007 to reduce demand on the City's wells
- No

List changes that are needed in the contingency plan and update the plan accordingly.

1. Annually update notification procedures contained within the city's water emergency plan.
2. The water emergency and conservation plan was updated and adopted September 24, 2008.

D. Data Collection

V. Plan Implementation Administrative and Financial Concerns

A. Estimate the annual cost of plan implementation for each plan year including staff time and actual dollar amount spent.

Year 1 (2005)--\$17,317	Year 6-- _____
Year 2 (2006)--\$3,800 + \$115,000	Year 7-- _____
Year 3 (2007)--\$209,800	Year 8-- _____
Year 4 (2008)--\$185,600	Year 9-- _____
Year 5 (2009)--\$185,600	Year 10-- _____

(NOTE: the larger sums of money were allocated by the city council for the purchase of land within the DWSMA)

B. Estimate full time equivalency (FTE) spent on WHP implementation in term of percentage of FTE.

FTE = .25 %

(NOTE: This figure does not include time contributed to the project by MDA, MDH, SWCD & MRWA personnel).

C. Has the WHP budget been adequate to conduct WHP implementation activities during the last evaluation period?

Yes No

If no, where could it improve?

D. Itemize difficulties incurred during your plan implementation.

VI. Steering Committee

In an effort to provide continuity in the Source Water Protection effort, the following individuals have been appointed to the SWP Steering Committee. The Committee will have the responsibility of providing leadership and oversight to implementation of the Plan. The Committee will meet on an annual basis, with additional meetings scheduled as-needed.

WHP Committee:

Kevin Keil

Merle Meece

Charlie Guck

Ronald Rusche

George Kupferschmid

David Moenkedick

Sheila Dombeck

Susan Flatau

Kelcey Klemm

Larry Lange

Terry Wageman

Becky Renniecke

Mark Reistenberg

Ashley Hersche

Darrell Huber

Retired:

Larry Monico
Don Sirucek

Deceased:

John Alstadt
Sherman Mandt
Jerry Neseth

Advisors:

Mike Howe, MDH
Luke Stuewe, MDA
Rich Soule, MDH

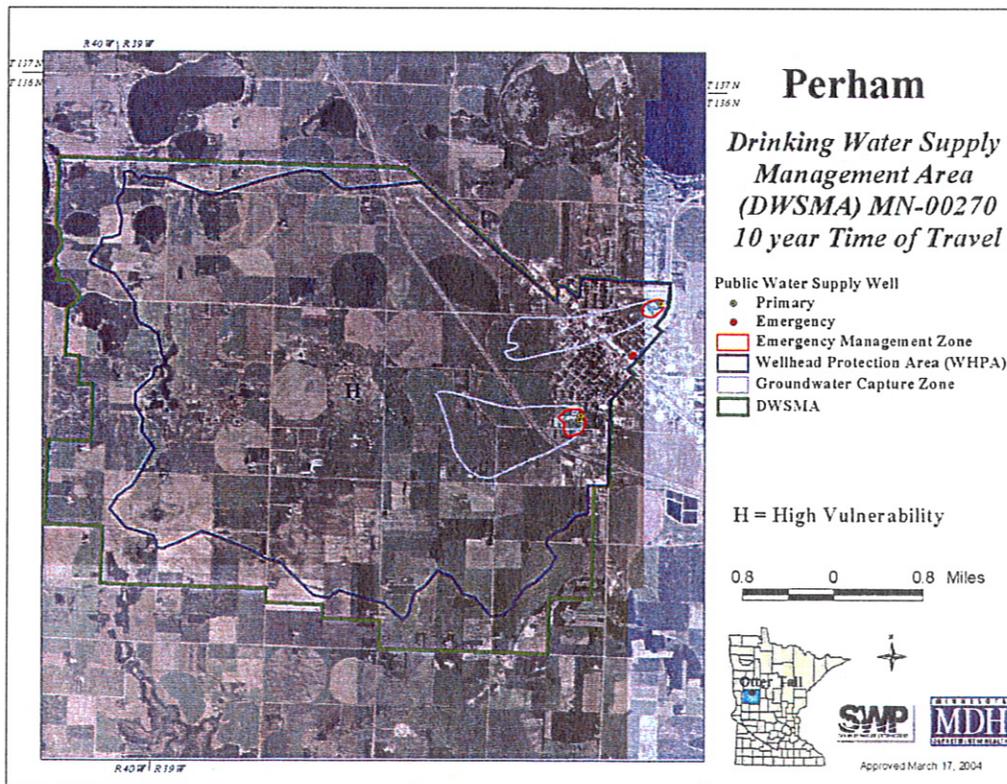
Dave Neiman, MRWA
Darren Newvile, EOT SWCD

VII. Reference Materials

- Wellhead Protection Plan

Copies of the current WHP Plan may be reviewed at City Hall Offices.

- Drinking Water Supply Management Area Map



- Contingency Plan

The City's Water Emergency Management Plan may be reviewed at the City Maintenance Shop Office.

- Meeting Input

Input from the WHP Committee meetings and several public meetings have been incorporated into the WHP Plan and this report.