

# CITY OF AUBURN, NE BOARD OF PUBLIC WORKS

## SOURCE WATER PROTECTION PROJECT - 2009

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### DESCRIPTION OF CURRENT PROJECT

The City of Auburn, led by the Board of Public Works (BPW) has been working proactively towards improving its public water supply source for several years. The community's existing groundwater aquifer supply is sparse and threatened by the presence of multiple onsite wastewater treatment systems among other sources of potential contamination.

Existing municipal wells are shallow with total depths of less than 100 feet. Due to the shallowness of the aquifer and presence of the Little Nemaha River, a strong hydrologic connection between ground and surface water is assumed to exist. The municipal wells are scheduled to be tested by the State to determine if the wells are under the influence of surface water.

This intent of this project is to establish of a Wellhead Protection Plan, a Wellhead Protection Overlay Ordinance, and Source Water Management Plan. Auburn BPW desires to establish a 'comprehensive management plan' with the intent of establishing multiple management activities to be implemented continuously. Management options will aim to reduce or completely eliminate certain threats to Auburn's source of drinking water and include implementation of conservation actions.

This comprehensive effort will layout a road map for pollution prevention actions over the next five to ten years including encouragement of source water friendly land uses and establishment of an ordinance to assist Auburn with land-use decisions in coordination with Nemaha County.

A 'planning team' will be established and include members from each 'partner' and other appropriate agencies. The intent of the planning team will be to guide decision making during the planning process and implementation of management strategies.

Cost-share has been provided by the Nebraska Department of Environmental Quality's Source Water Protection Grant Program. The project started in February 2009 and is expected to be completed within one year.

For more information on this project contact David Hunter, Auburn Board of Public Works Director, at (402) 274-4981 or [dhunter@auburnne.net](mailto:dhunter@auburnne.net).

**For More Information  
on the Proper Disposal  
of Chemicals the  
Following Agencies  
May Be Contacted:**

**City of Hastings Solid Waste  
Landfill**

Mr. Jack Newlun  
Solid Waste Superintendent  
Ph# 402-461-2308

**Hastings Utilities**

Mr. Marty Stange  
Environmental Supervisor  
Ph# 402-462-3651

**Local Emergency Planning  
Committee (LEPC) &  
Adams County Emergency  
Management**

Ph# 402-461-2360

**For more information  
on water quality issues,  
the following agencies  
may be contacted:**

**Water Sampling Information**

Mr. Marty Stange (Ph# 402-462-3651)  
Mrs. Jenny Sidlo (Ph# 402-462-3664)  
Hastings Utilities  
Fax# 402-462-3666

**Drinking Water and Public Health**

Nebraska Dept. of Health & Human Services  
Domestic Well Division  
Lincoln, NE  
Ph# 402-471-0598

**Water Resources**

Little Blue Natural Resources District  
Davenport, NE  
Ph# 402-364-2145

Upper Big Blue Natural Resources District  
York, NE  
Ph# 402-362-6601

Hastings Utilities  
1228 North Denver Avenue  
Hastings, NE 68901

Phone: 402-463-1371 Fax: 402-462-3666  
Email: [mstange@hastingsutilities.com](mailto:mstange@hastingsutilities.com)  
[www.hastingsutilities.com](http://www.hastingsutilities.com)

**HASTINGS UTILITIES  
WELLHEAD  
PROTECTION  
AREA**



**“Protecting Ground Water  
Is Everyone’s Responsibility”**



**HASTINGS  
UTILITIES**



**Pawnee Creek Sampling 7/10 - 7/11/98**  
**Isotope Ratio Analysis Summary - N15IRMS.002**

<u>Date</u>	<u>Lab ID</u>	<u>&amp;15N-NO3</u>	<u>&amp;15N-NH4</u>	<u>Remarks</u>
7/10/1998	071098-2	10.10		Indicates NO3 is from Animal waste
7/10/1998	071098-6	17.30		Indicates NO3 is from Animal waste
7/10/1998	071098-10	17.30		Indicates NO3 is from Animal waste
7/12/1998	071298-1		9.81	Source of NH4 may not be animal waste
7/12/1998	071298-2	21.20		Indicates NO3 is from Animal waste
7/10/1998	071098-3		23.90	Indicates NH4 is from Animal waste
7/10/1998	071098-7		23.10	Indicates NH4 is from Animal waste
7/10/1998	071098-11		23.70	Indicates NH4 is from Animal waste
7/11/1998	071198-2		24.70	Indicates NH4 is from Animal waste
7/11/1998	071198-1	23.70		Indicates NO3 is from Animal waste

Note: &15N values greater than 10 generally source of NO3 and NH4 is from animal waste



## Nitrate Isotope Test Results 08/01/2008

Well #	NO3-N mg/l	15N-NO3 %	NH4-N mg/l	15N-NH4 %	Comments
33	8.5	8.42	<0.1	NM	Indicates NO3 from commerial fertilizer
28	3.1	5.69	<0.1	NM	Indicates NO3 from commerial fertilizer
26	5.2	4.7	<0.1	NM	Indicates NO3 from commerial fertilizer
16	7	5.88	<0.1	NM	Indicates NO3 from commerial fertilizer

15N-NO3 Results of -5 to +5 indicate commerial fertilizer (anhydrous ammonia)

15N-NO3 Results of +10 to +30 indicate animal wastes

NM Not Measured as NH4 less than 0.1mg/l

## Hastings Wellhead Protection Area

Goal: To support the development of appropriate and applicable programs related to the Hastings Wellhead Protection Area

### Project Areas:

Public Education  
Nitrate Source Inventory  
Best Management Practices  
Water Conservation

### Specific Projects:

- ✦ ***Hastings Museum Nitrate Education***  
Incorporate pollution prevention education in display along with demonstrations, activities, etc.
- ✦ ***Soil Sampling (Vadose, deep soil testing)***  
Testing to determine future nitrate trends and amount of nitrate found below root zone
- ✦ ***Well Water Nitrate Sampling***  
Test all irrigation and domestic wells within the WHPA boundary for nitrates
- ✦ ***Lawn Care Techniques***  
Analyze water usage on lawns, along with promoting composting. Trade in old mowers for mulching mowers
- ✦ ***Community Outreach Program at Prairie Loft Center***  
Educate community (rural & city) on issues associated with the WHPA during their October Festival

## **Hastings Wellhead Protection Advisory Team**

Michele Bever-Facilitator	South Heartland District Health Dept.
Chuck Neumann	Farmer
Clark Haberman	College / Citizen
Ron Seymour	County Extension
Dawn Miller	Adams Co. Public Works Dept.
Glen Kroeker	Adams Co. Planning and Zoning
Jack Newlun	City of Hastings
Jeremy Groves	City of Hastings
Mark Hemberger	Hastings Utilities
Charles Wagner	Village of Juniata
Robin Vodehal	Citizen
Tom Krueger	Citizen
Ed Fleharty	Hastings Utilities / LBNRD
Chuck Rainforth	LBNRD / Farmer
Warren Brakhahn	LBNRD / Farmer
Willis Hunt	BPW
Ruben Wehnes	Farmer
Bill McLeod	Farmer
Stan Knudson	Citizen
Lonnie Lipsack	Citizen
Butch Hughes	Citizen

## **Hastings Wellhead Protection Technical Committee**

Daryl Anderson	Little Blue NRD
Russ Gierhardt	Upper Big Blue NRD
Jamie Oltman	The Groundwater Foundation
Randy Gunn	NRCS, South Central Nebraska RC&D
Marty Stange	Hastings Utilities
Jenny Sidlo	Hastings Utilities
Michele Bever	South Heartland District Health Dept.