

## Forward

The following are excerpts from the Lincoln-Pipestone Rural Water Systems website that provide a brief overview of this large area, rural public water supply system: *“The Lincoln Pipestone Rural Water System (LPRW) has been constantly growing and changing since its beginning in 1979. LPRW was legally established under Minnesota Statute 116A in 1979, but planning and organizing started in 1976 when a group of Lincoln County farmers began pursuing the dream of clean and plentiful water. Since its beginning LPRW has grown to provide service in Lac qui Parle, Lincoln, Lyon, Murray, Nobles, Pipestone, Redwood, Rock, Yellow Medicine, and Jackson Counties. The LPRW Board has adopted a policy of providing water service whenever it is feasible to do so, and as a result growth and expansion of the System is an on-going process. New water sources are being developed to meet existing needs as well as allowing for future expansion...”*

This document presents an amended, comprehensive wellhead protection plan for LPRW that will help provide for an adequate and safe drinking water supply for community residents.

Four separate well fields in Minnesota contribute source water to the LPRW system. Each well field has undergone a separate, extensive groundwater modeling process as part of wellhead protection planning. The modeling results are presented in a ‘part one’ report. All four reports for the Holland, North Holland, Verdi and Burr wellfields are located in Appendix A with each report containing the 1) delineation of the wellhead protection area, 2) delineation of the drinking water supply management area (DWSMA), and 3) the assessments of well and drinking water supply management area vulnerability. The part one reports were approved by the Minnesota Department of Health (MDH) before the second part of the plan was prepared.

The remainder of the wellhead protection plan is referred to as ‘part two’ and contains procedures for conducting an potential contaminant source inventory (PCSI) and the development of goals, objectives and measures that LPRW will take to offset the risk that potential contamination sources present to the public water supply system.

A review and assessment of various data elements as determined by DWSMA vulnerability as per MDH wellhead protection rules must be completed for each DWSMA. This process must address existing and historical aspects of the 1) physical environment, 2) land uses, 3) water quantity and 4) water quality. The data assessment process conducted by the LPRW wellhead protection team supports both the delineation and vulnerability report (part one) and assists in the identification of potential impacts the data elements may have on the source water and how the water supplier can address potential impacts (part two). Appendix B contains detailed assessments of all applicable data elements for each DWSMA.

The identification of potential contaminant sources within each DWSMA is a fundamental element of wellhead protection. A PCSI is needed to assign meaningful priorities to management measures and to effectively monitor the effectiveness of implementation of the WHP plan. This is an ongoing process that entails inventorying present and past land uses and periodically updating the PCSI as land uses change within the DWSMAs. The extent of potential contaminant inventory conducted within a DWSMA is determined by the vulnerability of the public water supply wells and the DWSMA. The LPRW wellhead protection team has conducted a thorough inventory of potential contaminant sources within each DWSMA which are shown on maps and tables in Appendix C.

The wellhead protection team discussed and listed any expected changes to the physical environment, land use, surface and groundwater that may impact the aquifer serving the public water supply wells in each

DWSMA. Chapter 5 discusses this subject in greater detail to clarify expected changes and how those changes may impact the source water used by LPRW.

A WHP plan must identify water use, land use issues, problems and opportunities related to the aquifer serving the public water supply wells, the well water and each DWSMA. The wellhead protection team needs this process to define the nature and magnitude of contaminant source management issues within each DWSMA. The identification of issues, problems and opportunities that may exist in each DWSMA enables LPRW to 1) take advantage of opportunities that may be available to make effective use of existing resources, 2) set priorities for management of contaminants listed, and 3) request support for implementing specific management strategies. Chapter 6 provides further discussion and tables of issues, problems and opportunities identified by the LPRW wellhead protection team.

Finally, the core of a WHP plan is the identification and implementation of effective management strategies that will protect the public water supply wells from contamination. These management strategies or measures, may range from nonregulatory activities such as public education, to regulatory activities such as adoption by federal, state or local units of government to control specific types of contaminant sources. The LPRW wellhead protection team has selected measures and prioritized that should effectively address local land and water uses as well as resource needs.

Factors the team considered include:

- contamination of a public water supply well;
- quantities of potential contaminant sources and their proximity to a public water supply well;
- capability of the geologic material to absorb a contaminant;
- existence and effectiveness of existing official controls;
- time required to obtain cooperation; and
- administrative, legal, technical and financial resources needed.

The long range goals, objectives and measures assigned to each DWSMA by the LPRW wellhead team is discussed and itemized in Chapters 8 and 9 and Appendix D.

When both parts of the plan are approved by the MDH, the Public Water Supplier has met all requirements for preparing a wellhead protection plan that are contained in Minnesota Rules Chapter 4720, parts 4720.5100 to 4720.5590.

### **Wellhead Protection Plan Manager**

Jared Beck - LPRW

| <b>WHP Team Members</b>   | <b>Technical Assistance Provided by:</b>                              |
|---|---|
| Jason Overby, Joe Weber, Randy Kraus, Frank Engels, Jared Beck (LPRW Board) | Liesch Associates, Inc. (Part 1 for Holland, North Holland and Verdi) |
| Kyle Krier, Laura DeBeer, Adam Ossefoort (Pipestone Co.)                    | Leggette, Brashears & Graham, Inc. (Part 1 for Burr)                  |
| Aaron Meyer (MRWA)  | Terry L. Bovee, Water Planner – Part 2                                |
| Amanda Strommer (MDH)   |   |
| Brian Nyborg, Brent Beste (DNR)   |   |