

WELLHEAD PROTECTION SERVICES

Request For Proposal (RFP) Template

INSTRUCTIONS: This RFP template was created by Minnesota Department of Health (MDH) staff to assist public water suppliers with seeking and obtaining consulting services related to wellhead protection activities. It is strongly recommended that a public water supplier consult with MDH staff before using this template so that specific factors affecting preparation of a wellhead protection plan can be discussed.

Wellhead protection planning typically is conducted in two parts:

- 1) Wellhead protection area (WHPA) delineation and vulnerability assessment, and*
- 2) Contaminant source inventory and wellhead protection plan development.*

This template RFP is designed to cover only the first part of the wellhead protection planning process, namely the WHPA delineation and vulnerability assessment. The specific requirements can be found in Minnesota Rules, parts 4720.5100 to 4720.5590. Various types of guidance documents that elaborate on the wellhead rule requirements are available from MDH.

Because of its likely broad application, parts of this template RFP are necessarily general and may require elaboration by the public water supplier. Blanks have been inserted in places throughout the document for completion by the entity that ultimately issues it.

Many variables may affect the ultimate content of this RFP, including the physical setting of the well(s) or wellfield, the availability of background information or analytical tools, and the specific wellhead rule requirements--which may vary depending on system size and geology, among other things. Accordingly, preparation of this template RFP may be somewhat complex. MDH recommends that a wellhead protection scoping meeting be held with the public water supply system staff to help define the scope of activities necessary to comply with Minnesota's wellhead protection rule. In fact, there are repeated references in this document to the MDH scoping letter, which should be attached to the RFP as an addendum.

Inquiries about the use of this document, scheduling a scoping meeting or any questions you may have about wellhead protection may be directed to the MDH planner assigned to your area. If you don't know who the MDH planner is for your area, call 651-215-0800.

- z** *Italics within brackets are used as explanatory text directed to the preparer of the RFP. The text is not intended to be part of the final document.*

REQUEST FOR PROPOSAL

CITY OF _____

Introduction

The City of _____ requests proposals from qualified consulting firms to provide expertise related to wellhead protection activities. This expertise will be directed towards assisting the City in fulfilling the requirements of Minnesota Rules parts 4720.5100 to 4720.5590, with respect to conducting wellhead protection area delineations, completing vulnerability assessments, and meeting associated reporting requirements. The result of this Request for Proposal (RFP) will be a contract for technical services as described below.

Purpose/Anticipated Results

The objective of the work activities is to complete the wellhead protection area (WHPA) delineation, an assessment of well and aquifer vulnerability, and associated reporting requirements in order to meet the wellhead protection rule (MR parts 4720.5100 to 4720.5590) requirements for wellhead protection.

Work Tasks

- 1.0. Assemble Necessary Data *[The data elements required for WHPA delineation and associated vulnerability assessments will be identified during the first scoping meeting. The elements will be presented to the PWS system by MDH through the written notice of the scoping meeting.]*
 - 1.1. Physical Environment (MR 4720.5400, subp. 2)
 - 1.1.1. Precipitation. Assemble the data necessary to fulfill the requirements of the scoping letter (Addendum I) prepared by the Minnesota Department of Health (MDH).
 - 1.1.2. Geology. Assemble the data identified in the scoping letter (Addendum I) related to geology of the area.
 - 1.1.3. Soils. Assemble the soils data identified in the scoping letter (Addendum I).
 - 1.1.4. Water Resources. Assemble the water resources data identified in the scoping letter (Addendum I).
 - 1.2. Land Use (MR 4720.5400, subp. 3)
 - 1.2.1. Land Use. Assemble necessary land use data as identified in the scoping letter from MDH (Addendum I)
 - 1.2.2. Public Utility Services. Compile the maps and records required in the scoping letter from MDH (Addendum I).
 - 1.3. Water Quantity (MR 4720.5400, subp. 4)
 - 1.3.1. Surface Water Quantity. Compile surface water quantity data as identified in the MDH scoping letter (Addendum I).
 - 1.3.2. Groundwater Quantity. Compile the groundwater quantity data identified in the MDH scoping letter (Addendum I).
 - 1.4. Water Quality (MR 4720.5400, subp. 5)
 - 1.4.1. Surface Water Quality. Compile surface water quality data identified in the MDH scoping letter (Addendum I).
 - 1.4.2. Groundwater Quality. Compile groundwater quality data identified in the MDH scoping letter (Addendum I).

2.0. Delineate Wellhead Protection Area (WHPA)

- 2.1. Method Scoping. Assess available geologic and hydrogeologic data to ascertain the level of effort required to meet the wellhead rules for WHPA delineation. The Minnesota wellhead rules require that the following criteria be evaluated and considered as part of the method used to make the delineation:

- \$ time of travel
- \$ flow boundaries
- \$ daily volume
- \$ groundwater flow field
- \$ aquifer transmissivity

These criteria will be discussed in a general nature during the first scoping meeting with MDH. CONTRACTORS should use data assembled in Tasks 1.1 through 1.4 to make a general evaluation of these criteria. This evaluation will help to define the conceptual model for the wellfield and will serve to help identify the most appropriate method for use in delineating the WHPA. After evaluating the criteria, and in conjunction with _____ [enter PWS name] staff, CONTRACTOR shall identify the delineation approach that best serves the needs of the public water supply system and meets the rule requirements. If a groundwater flow model is necessary, consult with _____ [enter PWS name] and MDH staff about availability of regional or local groundwater flow models.

If more than one aquifer is used as a source of supply, then such an assessment must be done for each aquifer.

[The scoping letter from MDH will indicate if a pumping test is required. If not, Section 2.1.1. is unnecessary.]

- 2.1.1. Quantitative Aquifer Performance Test (Pumping Test). The pumping test is a required element of wellhead protection planning as a tool to help evaluate aquifer transmissivity (MR 4720.5510, subp. 6). The MDH scoping letter (Addendum I) provides general guidance as to how the test must be done. The wellhead rules provide specific instructions (MR 4720.5520-5540). Work activities for conducting the pump test include all field work, data collection and data analysis, work plan preparation (and submittal to MDH), and report preparation. All data must be provided for submittal to MDH in electronic form. *[Consult with MDH staff to determine if MDH equipment can be used for the test.]*

[The scoping letter from MDH will indicate if the geologic setting requires the installation of a monitoring (observation) well for data collection purposes during the pumping test. If not, Task 2.1.1.1 is unnecessary.]

- 2.1.1.1. Monitoring Well Installation. A single monitoring well must be installed according to the Minnesota Water Well Construction Code (MR 4725) at the location specified by _____ [enter PWS name]. The well must be completed to a depth of _____ feet, with a _____-foot long well screen.

- 2.2. Pre-Delineation Meeting. After completing all tasks under Section 2.1, CONTRACTOR shall meet with _____ [enter PWS name] and MDH staff to discuss the delineation criteria, the conceptual model and the WHPA delineation method.

- 2.3. Delineate the WHPA. Using the method selected in the previous subtasks, delineate the wellhead protection area for each of the following city wells:

Well #__ (unique number ____)

[Add other wells, as necessary]

A time-of-travel of ____ years [City's choice; minimum rule requirement is ten years] will be used to determine the final WHPA boundary, but 1-year and 5-year time-of-travel zones must be shown on maps in the project deliverables. If the well(s) pump from an unconfined aquifer, the computed WHPA must be modified to include upgradient surface water drainages that may recharge the surficial groundwater system.

- 2.4. Delineate Drinking Water Supply Management Area (DWSMA) using the boundary definitions contained in the wellhead protection rules (MR 4720.5100, subp. 13).

- 3.0. Conduct Vulnerability Assessment. The vulnerability assessment must be done in accordance with the wellhead protection rules (MR 4720.5210) for each of the wells and aquifers in the area of the DWSMAs delineated for the City. The well vulnerability assessment conducted by MDH to phase the well into the WHP program must be reviewed in light of other data collected for the WHPA delineation to determine whether it should be revised. Also, geologic data collected for the WHPA delineation and groundwater chemistry data must be used to prepare an aquifer vulnerability assessment of the entire DWSMA.

4.0. Delineation/Vulnerability Reporting/Deliverables

- 4.1. Draft Report. A draft report will be prepared and submitted to MDH to satisfy the wellhead protection reporting requirements for WHPA delineations and vulnerability assessments. A key objective of the report is to provide sufficient documentation to meet wellhead protection rule (MR 4720.5330) requirements for the WHPA delineation and vulnerability assessment.

- 4.1.1. The report will describe the data elements considered in conducting the delineations and assessments, and the technical approach used to make the analysis. Accordingly, the report must describe for each of the wells the following details: 1) the hydrogeologic setting used to characterize the aquifer, 2) the five delineation criteria, 3) the delineation method used, 4) the delineation results, 5) data collected and used other than those provided by MDH, and 6) a copy of the calculations performed (when a computer model is used, the electronic data input and solution files).

- 4.1.2. Documentation of the vulnerability of the DWSMA must:

\$ identify the method used;

\$ describe the geologic conditions throughout the DWSMA, from the land surface to the aquifer;

\$ contain the data elements collected and used; and

\$ contain the maps, diagrams, reports, studies, and tables used to prepare the DWSMA vulnerability assessment.

- 4.1.3. All geographic information must be presented on a stable base material or in electronic form. If electronic, CONTRACTOR must use ARC/INFO or ARCVIEW formats **B** using UTM-meters (NAD 83 Datum).

- 4.1.4. ____ copies of the draft report will be required.

- 4.2. Final Report. The draft report will be updated to respond to comments made by City and

MDH staff. ____ copies of the final report will be required.

4.3. Project Work Products

4.3.1. Model Input Sets. The modeling input files, as revised to meet the terms of this project and MDH's wellhead protection rules, will be a key component of the project deliverables.

4.3.2. Supporting Data Files. Project-specific data files that define aquifer geometry/hydraulic characteristics and from which model input files are created (insofar as the model is modified from an existing model) must be presented digitally, preferably in an ARCVIEW or ARC/INFO format. Model input should be in the form of:

- 1) polygons (e.g., representing zones of like hydraulic conductivity, unit base elevation, recharge values, etc.);
- 2) lines (e.g., defining locations of various hydraulic boundary conditions), and
- 3) point data (e.g., wells).

Metadata annotation must accompany these files. The metadata documentation files need not be elaborate or lengthy but must, at a minimum, contain the following:

- 1) description of feature being documented (e.g., stream location and elevation, bedrock elevation);
- 2) data source (e.g., USGS quad sheets, MGS bedrock geology GIS cover);
- 3) date of the source(s), and
- 4) areas where the model input differs from referenced source(s).

4.3.3. Wellhead Protection Area Delineations. The ____-year time-of-travel WHPA delineations must be delivered in such a way that a minimum of 20 streamline traces are defined (using x, y, z, time, line id, and well unique number data attributes) in an ASCII or an ARCVIEW/ ARC/INFO compatible electronic file-format.

5.0. Meetings

During the course of this project a series of formal and informal meetings are expected (assume 4 meetings @ 2 hours each). Informal meetings with _____ [enter PWS name] staff will be necessary on an occasional (approximately once every four to six weeks) basis while the project is active. These meetings will take place at the _____ [enter PWS name] offices, and will serve as progress reports on the technical activities. These meetings may be held via telephone.

6.0. Schedule

All project activities must be completed within 120 days after the contract is signed.

This request for proposal does not obligate the _____ [enter PWS name] to complete the project, and the _____ [enter PWS name] reserves the right to cancel the solicitation if it is considered to be in its best interest.

Prospective responders who have any questions regarding this request for proposal may call or write:

Name

City of _____

Address

City, State, Zip Code

Telephone:

E-mail:

Other _____ [enter PWS name] personnel are NOT allowed to discuss the request for proposal with anyone, including responders, before the proposal submission deadline.

All proposals must be sent to the following address:

Name

City of _____

Address

City, State, Zip Code

All proposals must be received no later than _____.

Late proposals will not be considered.

Submit three copies of the proposal in a sealed mailing envelope, or package, with the responder's name and address written on the outside. Each copy of the proposal must be signed in ink by an authorized member of the firm. Submission by telephone facsimile is not acceptable. Prices and terms of the proposal as stated must be valid for the length of any resulting contract. The project must be completed within 120 days from the date that the contract officially begins.

All proposals will be evaluated on the basis of content. The following are considered minimum contents for the proposal:

1. A restatement of the objectives, goals, and tasks to show or demonstrate the responder's view and understanding of the nature of the project.
2. Identification and description of the deliverables to be provided by the responder.
3. An outline of the responder's background and experience, with particular emphasis on the skills and expertise necessary (e.g., geologic mapping, computer modeling, etc.) for conducting WHPA delineations in accordance with MDH rules. Note that professional licensure (P.G. or P.E. with sufficient geologic experience) is required for performing WHPA delineations in Minnesota. The proposal should identify the personnel that will work on the project along with details on training, work experience, proposed role in the project, and hourly rates. No change in personnel assigned to the project will be permitted without prior approval of the _____ [enter PWS name]. The work described in this RFP must be performed by either a geoscientist or engineer who is licensed by the State of Minnesota. Past experience conducting the work activities described herein, or in conducting equivalent work activities, must be included in the qualifications section

of the proposal.

4. A detailed cost estimate and work plan that will identify the major tasks to be accomplished and who will do them. This work plan will be used as a scheduling and managing tool, as well as the basis for invoicing.

All proposals received by the deadline will be evaluated by representatives of the _____ [*enter PWS name*].

The following criteria will be used in evaluating the proposals:

1. Expressed understanding of proposal objectives (___ percent)
2. Work plan (___ percent)
3. Cost detail (___ percent)
4. Qualifications/experience of company (___ percent)
5. Qualifications/experience of personnel working on the project (___ percent)

City staff expect to evaluate all proposals and select a consultant by _____.