Environment and Natural Resources Trust Fund
2011-2012 Request for Proposals (RFP)

LCCMR ID: 055-B

Project Title: City of Rogers Groundwater Observation and Geological Investigation

Category: B. Water Resources

Total Project Budget: $ $162,200

Proposed Project Time Period for the Funding Requested: 1.25 yrs, July 2011 - June 2012

Other Non-State Funds: $ 0

Summary:

Rogers proposes to conduct a geological investigation, including construction of four groundwater observation wells and procuring monitoring equipment, for long term groundwater monitoring to ensure water supply sustainability.

Name: Bret Weiss

Sponsoring Organization: City of Rogers

Address: 22350 South Diamond Lake Rd

Rogers MN 55374

Telephone Number: 763-428-8580

Email JSeifert@ci.rogers.mn.us

Web Address http://www.cityofrogers.org/

Location

Region: Metro

Ecological Section: Minnesota and NE Iowa Morainal (222M)

County Name: Anoka, Hennepin, Wright

City / Township:

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base	
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency	
_____ Capacity Readiness	_____ Leverage	_____ Employment	_____ TOTAL	_____%

2011-2012 MAIN PROPOSAL

PROJECT TITLE: City of Rogers Groundwater Observation and Geological Investigation

I. PROJECT STATEMENT

This project needs to be done to address the sustainability of Rogers' water supply, and identify any impact pumping might have on other aquifers and surface water. This project will also contribute to regional monitoring of groundwater. Multi- aquifer monitoring in Rogers has not been conducted at a scale that monitors spatial variations in water levels and interaction between aquifers, as this project proposes to do.

The goal is to monitor ground water to ensure sustainability of the drinking water and surface water resources, and monitor interactions between local precipitation and water levels over time. Rogers intends on identifying sustainability issues before they become a problem, and contribute to the knowledge base of the aquifer by sharing data collected in this project. Installing observation wells in multiple aquifers will measure the water levels in multiple aquifers over a long (indefinite) time period. This will allow local interactions between aquifers to be identified and quantified, and relationship between groundwater and climate to be measured.

The project includes:

- Construction of four observation wells
- Conduct a geological investigation of local confining layers
- Acquiring and installing automated water level data acquisition devices
- Acquiring and installing an automated weather station that measures temperature, rainfall, and barometric pressure which is necessary for measuring groundwater levels over time.
- Operating and maintaining observation wells, including the existing one
- Compiling and analyzing data on water levels and other data essential for measuring water levels such as atmospheric pressure and rainfall, and maintaining the database developed though compilation of this data.

II. DESCRIPTION OF PROJECT ACTIVITIES

Activity 1: Construct four observation wells **Budget:** $ 142,000

Four observation wells shall be constructed to measure water levels, two each in the water table and Tunnel City – Wonewoc aquifers. The wells are expected to require approximately $15,000 for each drift well and $29,000 for each rock well. There are two of each well in this proposal. The City of Rogers will provide funds to construct one well, or 25% of the total cost of the four. Design and construction observation cost for four wells is approximately $29,000.

Conduct a geological analysis of the Rogers area, focusing on locating and measuring confining layers. The analysis is expected to require approximately $25,000.

This cost includes design, bidding, construction, logging, development, and record drawing preparation. The well will be constructed on property already owned by the City of Rogers.

Outcome	Completion Date
1. Construct four wells	March 2012
2. Through mud and geophysical logs, classify geology in each well	April 2012
3. Perform geological analysis	May 2012
4. Operate and maintain five observation wells	indefinite

Activity 2: Acquire and install automated water level data measuring devices **Budget:** $42,000

Five data loggers will be acquired and installed in each of the City's observation wells (four new and one existing) requiring approximately $3,000.

Electric power will be brought to two wells proposed in Activity 1. (above). The other three observation wells already have electric power on-site. The electrical work will require approximately $39,000.

The wells proposed in Activity 1. (above) and the existing observation well will receive one data logger each.

Outcome	Completion Date
1. Provide power to proposed observation well site	March 2012
2. measure water levels using data loggers	April 2012
3. Operate and maintain data logging equipment	indefinite

Activity 3: Acquire and install automated weather station **Budget:** $ 200
One weather station will be acquired and installed at the City's maintenance facility.
The weather station is expected to cost approximately $200.

Outcome	Completion Date
1. Acquire, install, and calibrate weather station	April 2012
2. Measure pressure, temperature, and rainfall data	April 2012
3. Operate and maintain weather station	indefinite

Activity 4: Acquire data and maintain water level database **Budget:** $ 44,100 per year
Collect data from the City of Rogers' observation wells, production wells, and weather station. Calibrate data collectors by measuring water level manually. Compile collected data into a database to be kept up to date on a bi-weekly basis.
The data collection, calibration, and database maintenance is expected to cost approximately $44,100 in direct labor.
The City shall furnish personnel that are qualified and able to accomplish this task on an ongoing basis.

Outcome	Completion Date
1. Establish and maintain database	indefinite
2. Calibrate data loggers	indefinite

III. PROJECT STRATEGY

A. Project Team/Partners

The City of Rogers will coordinate with a consultant to locate, design, and manage construction of the observation well, and perform the geological analytical work.
The City of Rogers will coordinate with the power supplier to provide electric service to the wells that require power for instrumentation.
The City of Rogers will contract well construction and instrument installation work, and will fund 25% of the total well construction cost.
All of the above will receive a portion of the Trust Fund funds on a contract basis.
The City of Rogers will provide, at their expense, qualified personnel to collect data and maintain the database, and fund the operations and maintenance of observation wells.

B. Timeline Requirements

The observation wells can be designed starting in July of 2011. The design process will take three months. The geological work will start simultaneous with well design.
The electric service for the instrument package will be requested in August of 2011, with completion by April of 2012.
The well will be put out for bids or quotes based on the design (above). This will take one month from request for bids to award approval by City Council.
Well construction is expected to start in November of 2011, to be completed by March of 2012.
Instrumentation shall be installed and calibrated by April, 2012.
Project shall be completed and operational by August of 2012.

C. Long-Term Strategy and Future Funding Needs

This project will require operation and maintenance from the completion date indefinitely into the future. The City of Rogers will fund 100% of operations and maintenance relating to this project, once it is constructed and in service.

2011-2012 Detailed Project Budget

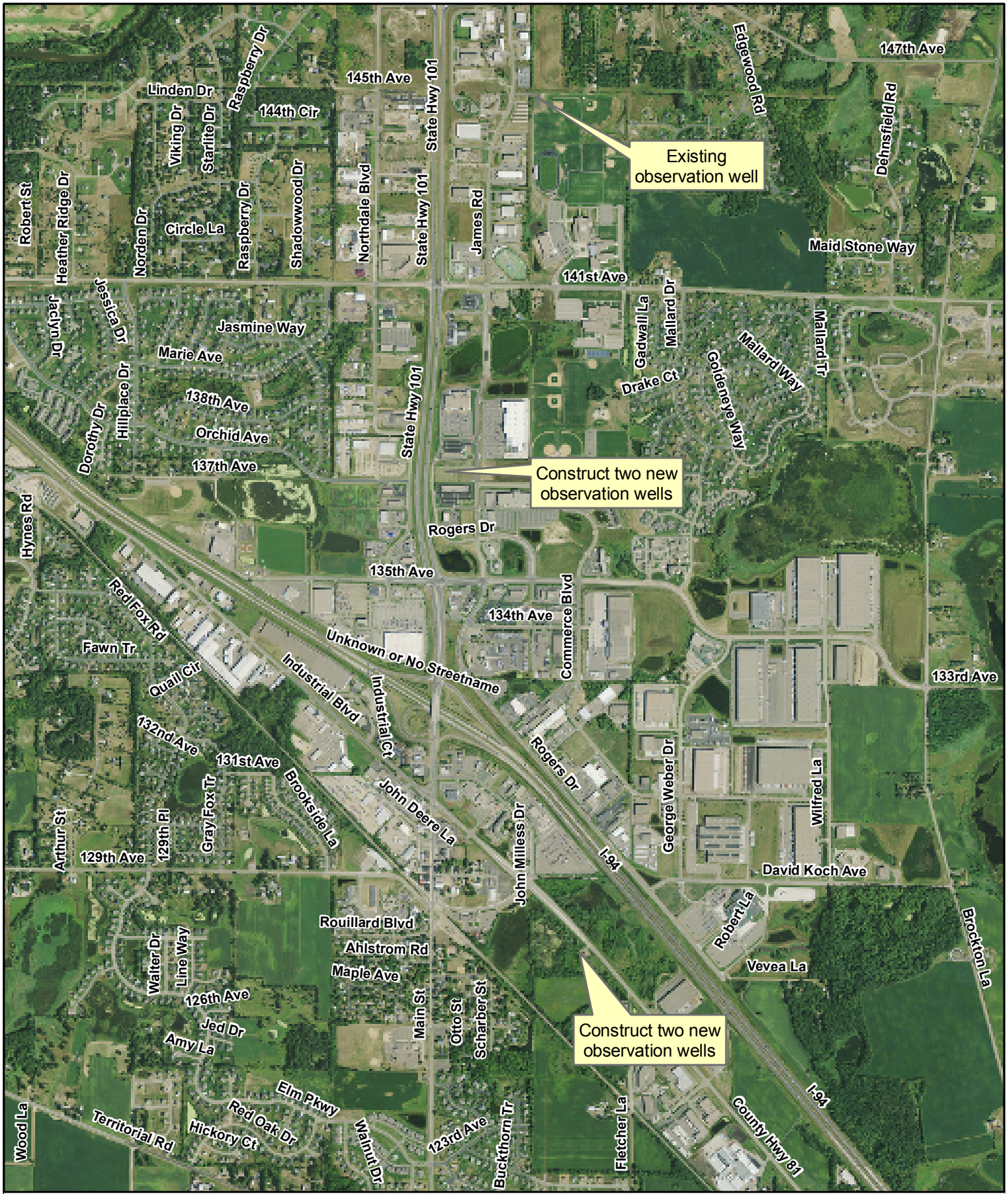
City of Rogers Groundwater Observation and Geological Investigation

IV. TOTAL TRUST FUND REQUEST BUDGET one year

BUDGET ITEM	AMOUNT
Personnel: One service worker will be required to collect and process data collected in this project, per year. The time required to accomplish these tasks is the equivalent of 30% of one full-time employee. Approximately $16,800 is salary and the remaining $27,300 is benefits. The City of Rogers will bear these costs, as noted in Sevtion V. below..	$ -
Contracts: A consultant will be retained to design, manage, observe, and record the construciton of two observation wells, inspect the existing observation well, and the installation of water level monitoring equipment..	$ 29,000
Contracts: A licensed well drilling contractor will be retained to construct four observation wells in two sepreate aquiifers.	$ 66,000
Contracts: A consultant will be retained to perform a geological analysis of the area around Rogers.	$ 25,000
Contracts: A electrical contractor will be retained to install electric power to the water level observaton equipment.	$ 39,000
Equipment/Tools/Supplies: Five submersible data loggers with transducers will be purchased.	$ 3,000
Equipment/Tools/Supplies: One weather station will be purchased.	$ 200
TOTAL ENVIRONMENT & NATURAL RESOURCES TRUST FUND $ REQUEST	$ 162,200

V. OTHER FUNDS

SOURCE OF FUNDS	AMOUNT	Status
Other Non-State $ Being Applied to Project During Project Period: The City of Rogers will provide funds for 25% of the cost of constructing the four wells discussed in Section IV. (above).	$ 22,000	Secured internal funds
Other Non-State $ Being Applied to Project During Project Period: The City of Rogers will provide funds for operations and maintenance of the observation wells and for data acquisition and processing once the system is in service. The amount shown is per year for an indefinite time.	$ 44,100	Secured internal funds


Existing observation well
Construct two new observation wells
Construct two new observation wells
Linden Dr
Raspberry Dr
145th Ave
144th Cir
Viking Dr
Starlite Dr
State Hwy 101
Edgewood Rd
147th Ave
Dehnsfield Rd
Robert St
Heather Ridge Dr
Norden Dr
Circle La
Raspberry Dr
Shadowood Dr
Northdale Blvd
James Rd
Maid Stone Way
141st Ave
Jessica Dr
Jacyln Dr
Jasmine Way
Marie Ave
Gadwall La
Mallard Dr
Mallard Way
Mallard Tr
Goldeneye Way
Drake Ct
Hillplace Dr
Dorothy Dr
138th Ave
Orchid Ave
137th Ave
Hynes Rd
Rogers Dr
135th Ave
Red Fox Rd
134th Ave
Commerce Blvd
Fawn Tr
Unknown or No Streetname
Quail Cir
Industrial Blvd
Industrial Ct
133rd Ave
132nd Ave
131st Ave
Brookside La
John Deere La
Rogers Dr
George Weber Dr
Wilfred La
Arthur St
129th Pl
Gray Fox Tr
129th Ave
John Milless Dr
I-94
David Koch Ave
Rouillard Blvd
Robert La
Brockton La
Ahlstrom Rd
Walter Dr
Line Way
Maple Ave
Vevea La
126th Ave
Jed Dr
Amy La
Main St
Otto St
Scharber St
Elm Pkwy
Red Oak Dr
Hickory Ct
Territorial Rd
Wood La
Walnut Dr
123rd Ave
Buckthorn Tr
Fletcher La
I-94
County Hwy 81
N
W
E
S
0
0.125
0.25
0.5 Miles
THE CITY OF ROGERS

2011-2012 Attachment Item #6

Project Manager Qualifications and Organization Description

Project Manager – Bret Weiss, PE (WSB & Associates)

Bret is a registered professional engineer with over 20 years of diverse experience in many types of municipal and general civil engineering projects, including storm sewers, water distribution systems, sanitary sewer systems, site grading, parking facilities, and municipal State Aid systems. He is an experienced project manager responsible for the planning, coordination, design, and construction administration of a wide variety of municipal projects.

Bret has extensive experience in providing city engineering services, conducting public and assessment hearings, and working effectively with government officials. Bret's strength is working with his clients to complete successful projects.

Bret has participated as the lead Project Manager of many large public and environmental projects including design, review, agency coordination, agreement negotiation, and environmental documentation. Bret is fully capable of successfully managing this groundwater observation grant, and is knowledgeable in the conditions, characteristics, and demands of the Rogers area aquifers

Organization Description – City of Rogers

Located in northern Hennepin County, Rogers was incorporated as a City in 1914. The Rogers Public Works Department is responsible for the design, construction, and maintenance of the City's streets, water, sanitary sewer, and storm sewer systems. Public Works staff is also responsible for maintaining the parks, sidewalks, trails, and all City buildings and vehicles.

The City of Rogers obtains its water from six deep wells in the Franconia – Ironton - Galesville aquifer. Over the past five years, the average usage was 1,330,000 gallons per day. In order to ensure that the people of Rogers have clean, safe drinking water and adequate fire protection, the groundwater supply must be sustainable over time. The City of Rogers proposes to monitor groundwater levels and local recharge to meet the goal of water sustainability.