

## APPLICATION FOR GRANT FUNDING

### STEP 1 – Applicant and Partner Information

**Primary Applicant (Required):**

Name of principle individual: Duke Nieskens, Manager  
Name of agency/entity: County Water District of Billings Heights (CWDBH)  
Street: 1540 Popelka Drive  
City: Billings  
County: Yellowstone  
State: Montana  
Zip Code: 59105  
Contact email address: cwdbh@hotmail.com  
Contact fax address:  
Contact phone: (406) 252-0539 (phone), (406) 281-0627 (cell)

**Organizational Unit (if applicable)**

Department:  
Division:

**Other Project Partners – complete for each partner (copy box as needed):**

Name of contact: Christopher “Shoots” Veis, PE  
Name of Agency: Interstate Engineering, Inc.  
Street: 1211 Grand Ave, Suite 6  
City: Billings  
County: Yellowstone  
State: Montana  
Zip Code: 59102  
Contact email address: shoots.veis@interstateeng.com  
Contact phone: (406) 256-1920

**Date Submitted (Required): 1/28/15****Date Received by State:****Descriptive Title of Applicant's Project (Required):**

**CWDBH GIS Asset Management**

## **STEP 2 – Relevance and Public Benefit**

The County Water District of Billings Heights, (referred to as either CWDBH or the District) intends to obtain an ArcGIS Desktop license as well as maintain an asset management database for all water assets (valves, hydrants, curb stops, etc.) managed by the District. GPS location data will be used to collect information on the system to aid the District and emergency services personnel in maintenance and future planning of projects, as well as contribute this functional information to the public realm.

The purpose of the CWDBH GIS project will be to collect location data on the existing water distribution system and to make these datasets readily available to public and private entities. This would be accomplished by publishing the data to the state GIS portal, qualifying the project to receive funding under grant priorities B2.2. In addition to aiding both the public and private realm in various planning and project development applications (including sharing the data with the Yellowstone County GIS Department and City of Billings GIS Department), this project would directly aid the Montana State Library in its duty to collect, maintain, and disseminate land information established under MCA 90-1-404.

### **Project Description:**

The CWDBH would like to incorporate GIS mapping capability into its current asset management database. Currently, utility maps are updated by an engineering firm based on paper maps provided by the District. This would save the District money and time; making it easier for the utility to create maps for the benefit of field personnel. Future project planning would be streamlined as asset location would be readily available in a format conducive to data transfer. Also, the introduction of a GIS-based database could save significant time spent by District personnel locating valves, curb stops, etc., particularly during adverse weather or in locations under construction where assets may be buried due to construction activities.

Locations of appurtenances will be recorded using Trimble handheld GPS equipment purchased by the District and uploaded into ArcGIS software, which would be purchased using grant funding. The incorporation of this data to the state GIS portal is a natural and logical addition to the project as it would benefit local and regional government as a planning tool, inform residents of the location of utility appurtenances, and contribute to the State's overall land information efforts. This information would also be shared with the Yellowstone County GIS Department and City of Billings GIS Department for public information and planning purposes.

## STEP 3 – Scope of Work Narrative

### Scope of Work

The overall goal of this project is to provide the District with access to ArcGIS software and to create an electronic database containing all assets maintained by the District in a georeferenced format for easy look-up and creation of utility maps. The following tasks have been identified as necessary to the successful completion of this project.

1. Purchase Trimble GPS equipment and ArcGIS Basic software license.
2. CWDBH personnel will perform data collection and management:
  - Collect location data of all water valves, fire hydrants, water tanks, pump stations, and curb stops within the CWDBH service area using Trimble handheld GPS equipment.
  - Establish a set of guidelines for each separate layer to provide a systematic method of applying QA/QC.
  - Interstate Engineering personnel will provide on-call training / support as requested by the District
3. Create the GIS data files using ArcGIS for the CWDBH Dataset for the following layers:
  - Water Pipe – Interstate Engineering has this information already available in GIS-based format due to previous water system modeling.
  - Water Valves – Obtained through data collection
  - Curb Stops – Obtained through data collection
  - Hydrants – Obtained through data collection
  - Municipal Water Tanks – Obtained through data collection
  - Municipal Pump Stations – Obtained through data collection
  - District Boundary – Available through Interstate Engineering

These datasets will also be shared with the Yellowstone County GIS Department and the City of Billings GIS Department.

4. Interstate Engineering will create metadata entries following the Montana GIS Data List Metadata Standard instructions for the aforementioned layers to submit to the Montana State Library. The entries will indicate that the data is offline, requiring any interested party to request the data directly from the District.
  - These databases will be updated annually. Databases will be shared with the City of Billings and Yellowstone County GIS Departments annually as well.

### Project Time Line

- By May 2015 – Purchase of ArcGIS software and Trimble GPS equipment
- May 2015 – Sept 2016: Collection of Data Points (Hydrants, Water Valves, Curb Stops, etc.)
- Oct 2016 - May 2017: Creation of Base Map, QA/QC of Datasets

- May 2017 – Oct 2017: Create and Publish Datasets & Associated Metadata

## **STEP 4 – Project Management and Organizational Capability Narrative**

**Duke Nieskens, CWDBH manager**, will oversee the project schedule, budget, and distribution of grant funds.

**Peyton Brookshire, Assistant CWDBH Manager**, is tasked with purchasing the ArcGIS software license and Trimble GPS equipment and will coordinate data collection efforts for the District.

**Christopher Veis, PE**, of Interstate Engineering will be the designated Project Engineer for the GPS Data collection. Christopher has 10 years of experience as a Project Engineer and has managed several infrastructure projects. Chris has previous experience satisfying the requirements of this grant.

**Zach Kirkemo, EIT**, is a staff engineer with several years of GIS-related work experience working with the ArcGIS software package. Zach has previous experience with similar work involved in satisfying requirements of this grant.

CWDBH has a contract with Interstate Engineering to assist in the development of the GIS metadata and datasets, with Interstate Engineering having previous experience working with this grant and the Montana State Library. CWDBH will work with Interstate Engineering to ensure the correct information is collected and useful to the District as well as all private and public entities accessing the databases through the Montana State Library in the future.

## **STEP 5 – Budget Justification Narrative and Tables**

The full scope of the project is approximately \$72,000 to purchase the ArcGIS software license, purchase handheld Trimble GPS equipment, collect survey data on all District assets, and develop the GIS information to submit to the Library. The District is providing approximately \$47,000 in-kind funding for the project including personnel and actual funds. They are requesting a grant of \$25,000 to complete the project.

The CWDBH will purchase Trimble GPS equipment using in-kind funds and provide personnel to collect the GPS data. The CWDBH is requesting funds from the MLIA to assist in the completion of the following items.

- Purchase of ArcGIS software license (Desktop Basic license ~ \$1,500)
- Assist in funding of personnel for data collection (~ \$53,000 in total wages and benefits assuming ~ 1 year of total data collection)
- Travel time (estimated 480 miles at \$0.56 per mile)
- The creation of a dataset containing the aforementioned GIS layers to be incorporated into the State of Montana Geographic Information Clearinghouse (part of contract with Interstate Engineering to provide up to 40 hours of assistance and training of CWDBH personnel for \$6,100)
- Creation of metadata files to submit to Montana State Library (Interstate Engineering will perform as part of contract for \$6,100)

***Applicant budget summary***

Category	MLIA Share	Applicant Share	Total
a. Personnel	\$13,704.20	\$28,744.48	\$42,448.68
a.1 Fringe Benefits	\$3,426.00	\$7,186.12	\$10,612.12
b. Travel	\$269.80	\$0	\$269.80
c. Equipment	\$1,500.00	\$10,967.50	\$12,467.50
d. Supplies	\$0	\$0	\$0
e. Contractual	\$6,100.00	\$0	\$6,100.00
f. Other	\$0	\$0	\$0
<b>Totals</b>	<b>\$25,000.00</b>	<b>\$46,898.10</b>	<b>\$71,898.10</b>

***Project Partner budget summary (provide a separate budget summary for each partner (including subcontracts). See page 6 for a definition of a project partner.***

Category	Interstate Engineering	Total
a. Personnel	\$0	\$0
a.1 Fringe Benefits	\$0	\$0
b. Travel	\$0	\$0
c. Equipment	\$0	\$0
d. Supplies	\$0	\$0
e. Contractual	\$6,100.00	\$6,100.00
f. Other	\$0	\$0
<b>Totals</b>	<b>\$6,100.00</b>	<b>\$6,100.00</b>

## **STEP 6 – Statements of Support**

See attached letter from Interstate Engineering, Inc.

## **STEP 7 – Renewable Grant Accountability Narrative**

Not applicable.

## **STEP 8 – Sign the Application**

### **Authorizing Statement**

I hereby certify that the information and all statements in this application are true, complete and accurate to the best of my knowledge and that the project or activity complies with all applicable state, local and federal laws and regulations.

I further certify that this project will comply with applicable statutory and regulatory standards.

I further certify that I am (by my signature) authorized to enter into a binding agreement with the Montana State Library to obtain a grant if this application receives approval.

**Duke Nieskens**  
Name (print or type)

**CWDBH Manager**  
Title (print or type)

---

**Signature and Title of Authorized Representative(s) of Public Entity Applicant**

**Feb 14, 2015**  
Date