

APPLICATION FOR GRANT FUNDING

STEP 1 – Applicant and Partner Information

Primary Applicant (Required):

Name of principle individual: Jack Rice
Name of agency/entity: City of Glendive
Street: 300 S. Merrill Ave
City: Glendive
County: Dawson
State: Montana
Zip Code: 59330
Contact email address: jrice@middrivers.com
Contact fax address: 406-377-6873
Contact phone: 406-377-3318

Organizational Unit (if applicable)

Department: Public Works
Division:

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

Name of contact: Craig Pozega
Name of Agency: Great West Engineering
Street: 2501 Belt View Drive
City: Helena
County: Lewis & Clark
State: Montana
Zip Code: 59604
Contact email address: cpozega@greatwesteng.com
Contact phone: 406-449-8627

Date Submitted (Required):

Date Received by State:

Descriptive Title of Applicant's Project (Required):

Glendive Water Asset Management project

STEP 2 – Relevance and Public Benefit

The purpose of the Montana Land Information Act (MLIA) is to develop a standardized, sustainable method to collect, maintain, and disseminate information in digital formats about the natural and artificial land characteristics of Montana. Land information changes continuously and is needed by businesses, citizens, governmental entities, and many others in digital formats to be most effective and productive (MCA 90-1-402).

The City of Glendive is experiencing growth related to the economic boom caused by oil exploration in the Bakken formation located in eastern Montana and western North Dakota. This boom has increased the area's population and is putting stress on the City's public utilities. This asset management system will significantly enhance the City's ability to manage the growing demand for public services. The Glendive Water Asset Management Project meshes with the purpose of the MLIA as it will enable the City to develop a GIS database for its water system and a public utilities asset management system.

The addition of technological equipment and methodologies to the City of Glendive Public Works Department is essential. The Director and employees of the Glendive Public Works Department have extensive experience and knowledge of the City's infrastructure systems. Currently, that knowledge is stored in AutoCAD map, Excel spread sheets, paper files and in the collective memories of the Director and each of his employees. The City of Glendive has spent a great deal of time collecting data and entering it in to AutoCAD map software. This project will enable the department to elevate its management and operations capacity by converting this impressive, but somewhat fragmented body of knowledge into a consolidated GIS based Asset Management System, which coincides with **MLIA priority B2.2 "Localized GIS solutions that demonstrate the value of GIS in improving the quality of life for Montana Citizens and build grass roots support for location based services."**

The City of Glendive has collected GIS data for the past 10 years and will integrate this data into the Asset Management System. This project will enhance communication and collaboration between the City's departments through a GIS based system. Departments will share data, technical assistance, and training opportunities to maintain this critical information. This project will provide the opportunity to keep user rates as low as possible by maximizing the effectiveness of the Public Works and Finance Departments. The GIS database Asset Management System will provide enhanced project costing, maintenance, and the ability to project future infrastructure needs that directly impact the City of Glendive. This new system will also improve the efficiency of the City staff and ensure accurate and retrievable records long after the current director and his staff are gone.

The City of Glendive must be well prepared to respond effectively to the needs of its residents when emergencies or disasters occur. This new system will result in better capital improvement decisions and a more thorough understanding of the condition of the water system. The Public Works Department will have superior information to protect the health and safety of the community. This information will also result in improved utilization of scarce public funds. This project coincides with the priority of the **MLIA grant category B2: Local, Regional, and Tribal GIS Support**. This project is an investment in the infrastructure in the City of Glendive as a GIS based Asset Management System. The MLIA grant will allow the City to digitally represent all aspects of its water infrastructure. In addition, this grant will prepare the City of Glendive to eventually expand the Asset Management System to include infrastructure data related to its wastewater and storm water systems, streets, and signage.

Access to this information is critical as the community continues to grow and expand its utility systems. The water system data is essential for land use planning, municipal, and economic development planning. Tracking job costs and maintenance costs is valuable information to realize the value of capital improvements. Future infrastructure information will be more accurate, more detailed, and far more accessible once the data is collected and entered into the Asset Management System.

STEP 3 – Scope of Work Narrative

Goals and Objectives:

The City of Glendive project primarily develops a modernized GIS based Asset Management System for all local government services provided to its residents. It may be ultimately used within every aspect of municipal services. PubWorks software will initially include the collection of feature data for water. City of Glendive has over 10,000 data points collected. These points as well as other available data points, electronic or paper, will be the foundation for all GIS datasets.

Develop asset database for the water infrastructure. This will include data points such as valves, hydrants, and curb stops, that will be integrated into a mapping system. The GIS Asset Management System will be utilized for future upgrades, maintenance, and repair. The PubWorks program, utilizing the Map View and Asset Management components, will integrate the feature data points into a map system. PubWorks software will be applied in multiple administration facets including, but not limited to, budgeting, repairs and maintenance, insurance purposes, and water system upgrades.

Task 1. Water system design concept. The project will be initiated with a meeting, between the GIS consultant and the City of Glendive, to begin to develop a geodatabase framework for City of Glendive's existing water system. In this meeting, the GIS consultant and the City of Glendive will identify key features, feature attributes, key data themes and specify scales ranges.

Task 2. Finalize Geodatabase design. The GIS consultant, working with the City of Glendive, will finalize the water system geodatabase framework agreed upon in the initial design concept meeting. This includes, but is not limited to, all features, attributes, scale ranges, fields and metadata.

Task 3. Build Geodatabase. The water infrastructure geodatabase will be constructed using ESRI ArcGIS 10.1 software. This will include all attribute fields and column types agreed upon in the finalization of geodatabase framework meeting.

Task 4. Collect Data. Collection of data will begin with the assembly of all readily available paper and electronic data from the City of Glendive. The City of Glendive will provide all previously collected AutoCAD and Survey data, along with paper and electronic data to the GIS Consultant for the creation of a base map.

Task 5. Project Work Session. Work session will be held to assess the data provided by the City of Glendive. City of Glendive and GIS Consultant will review all features and attributes required for this project.

Task 6. Data Entry. The GIS consultant for the City of Glendive will enter all water system features into the Geodatabase framework. This data will include all features, and attribute fields agreed upon in the finalization of geodatabase framework meeting. The GIS consultant will ensure data integrity through domain lists to limit attribute entry errors.

Task 7. PubWorks Interface with GIS Geodatabase. A unique text field will be added to each individual feature per the specifications from Pubworks Software. This unique text field will allow the Geodatabase to interface with PubWorks Asset Management Software.

Task 8. Test the GIS Asset Management System. The GIS consultant and the City of Glendive will test the GIS Database Asset Management System to confirm proper operation.

Task 9. PubWorks Software Training. PubWorks software will provide on-site training the City of Glendive. PubWorks software training will cover the asset database software utilization.

Task 10. Finalize GIS Asset Management System Design. A project completion meeting will be held between the GIS consultant and the City of Glendive in order to finalize the GIS Database Asset Management System. The above stated meeting is to ensure the project was completed to the upmost satisfaction for the City of Glendive.

Activities:

1. Purchase Equipment:
 - a. Computer with SQL software dedicated to PubWorks program.
 - b. PubWorks Software for the dedicated computer including the following components:
 - i. Asset Management and Job Costing Core,
 - ii. Asset Data Collector,
 - iii. Map Viewer.
 - c. ESRI Arc Engine Licensed Software, utilized by PubWorks software.
 - d. ESRI ArcView
2. Training:
 - a. PubWorks Software Training for the City of Glendive Public Works Department.
 - b. This training will be provided on site by PubWorks Staff. The training will cover the asset database software utilization. The training will be held immediately upon purchase of the software and hardware required to ensure the project is initiated correctly from the beginning. Once the project commences and a measureable amount of data collection and entry has taken place, PubWorks staff will return to the site to provide training on more intricacies of the software program.
 - c. ESRI ArcView online training for ArcView 10.1. This training will be provided on site by ESRI online. This training will be scheduled by the City of Glendive.

3. Data Collection:

- a. City of Glendive Public Works staff will assemble all readily available data, whether it is electronic or paper records, and provide it to the GIS Consultant. The GIS consultant will enter all data into the GIS system and add attributes to each feature.
- b. By January 2014 all data points will be collected and entered into the database system to utilize on all future jobs/projects.

Project Schedule:

ID	Task Name	May	June	July	August	September	October	November	December	January	February	March	April	May	June	July
1	TASK 1: Water system design concept															
2	Develop Geodatabase Framework															
3	Identify key data themes															
4	Develop specific scale ranges															
5	TASK 2: Finalize Geodatabase design															
6	Finalize database design															
7	Finalize attribute fields and domain lists															
8	TASK 3: Build Geodatabase															
9	GIS Consultant to create geodatabase															
10	TASK 4: Collect data															
11	City of Cut Bank to provide data to consultant															
12	TASK 5: Project work session															
13	Review all features and attributes required for this project															
14	TASK 6: Data Entry															
15	Enter GIS features in to geodatabase															
16	TASK 7: PubWorks Interface with GIS Geodatabase															
17	Add unique field to GIS data to interface with PubWorks															
18	TASK 8: Test the GIS Asset management system															
19	Test asset management system															
20	TASK 9: PubWorks Software Training															
21	PubWorks onsite training for City of Cut Bank															
22	TASK 10: Finalize GIS Asset Management System Design															
23	Finalize asset management system															

Project: Grandis project.mpp
Date: Tue 2/7/13

Task Progress Milestone

Summary Rolled Up Task Rolled Up Milestone

External Tasks

Project Summary Group By Summary

Deadline

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STEP 4 – Project Management and Organizational Capability Narrative

The public works staff serving the City of Glendive has extensive experience and is very capable of managing and implementing the proposed project. Jack Rice is the Public Works Director and has over 25 years of experience and is certified by the State of Montana as an operator. Mr. Rice will be assisted with the management, and implementation associated with this project by the Assistant Public Works Director.

The City of Glendive currently uses a verbal work order system for conducting operations and maintenance on their utility infrastructure. There are a limited number of work orders filed and with the use of Excel spreadsheets to track fire hydrant replacement and road maintenance. This proposed project will result in a system where all the records are in one place, easily upgraded, and easily retrievable. This system will greatly improve the efficiency of the department and ensure accurate and retrievable records. Accurate and retrievable information is essential to the operations of the public works department. This will improve the use of the department's limited resources and improve the efficiency of the public works department. In addition, it will result in better capital improvement decisions and a better understanding of the condition of the system. This will also allow the Public Works Department to protect the health and safety of the community effectively and result in better utilization of scarce public funds.

Jack Rice will primarily be responsible for oversight of the data for the water systems. He will verify the components of the system as they are mapped. Jack will be assisted by the **Assistant Public Works Director**.

GIS Consultant will be working in a consulting role on this project through the contract with the City of Glendive. This project is the sole coordination and effort of the City of Glendive. The consultant has extensive GIS/GPS experience and will collaborate on this project as needed for data entry, technical assistance, training, and support.

STEP 5 – Budget Justification Narrative and Tables

The City of Glendive Project total cost is **\$79,970** The City of Glendive is requesting **\$69,170** through the MLIA program. The remaining **\$10,800** is pledged as a match of in kind services including staff time.

A. Personnel: Salaries and Wages

The Public Works Department Staff are the individuals primarily responsible for all activities in this project. **Jack Rice**, Director, will oversee the entirety of the project. The wages and benefit value (**\$10,800**) based on 312 contributed hours and each specific employees wage hourly rate is being considered as in-kind contribution by the City of Glendive.

Jack Rice, while managing the project, and will also be trained on the Asset Management software with his staff. He will collaborate with water and wastewater staff specialists on this project and will personally focus on the water distribution system data framework. He will work with staff to answer questions, and ensure the completion of data collection. He has dedicated 2 hours/ week over the course of the project (52 weeks) for a total contribution of \$2,600

Assistant Public Works Director will initially be trained and working on the project 4 hours per week. The Assistant public works director will oversee the collection of data. The Assistant public works director will verify the components of the system as mapped with a dedicated 4 hours per week over the course of the project (52 weeks) for a total contribution of \$4,368

B. Travel

Travel for the Glendive Water Asset Management Project is calculated using FEMA rates for an un operated vehicle at \$44/day or \$5.50/ hour for the hours of data collection and verification (assuming that is ½ of the total hours spent on the project (312/2=156) to gather and verify data.

Total travel cost: **\$858**

C. Equipment

- Computer 1: The PubWorks program is a very large database program that necessitates a dedicated computer. The computer will be purchased through the City of Glendive purchasing process. A current quote: **\$2,700** (*HP Z420 Workstation*)

Total Equipment Cost: \$2,700

D. Supplies

The PubWorks Software Components:

AM&CA Core:	\$6,750
Asset Data Collector:	\$1,750
Map Viewer:	\$3,500
SQL Module	\$1,750
ArcView	\$2,500

Software Total \$16,250

Pub Works Support/Maintenance:	\$2,475 (18%of \$13,750)
ESRI ArcView Maintenance	\$1,000
ESRI Arc Engine License	\$1,000

This is necessary to operate the ESRI Arc Map and Arc Map Reader and integrate the data collected into PubWorks software.

Total Supplies Cost: \$20,725

E. Contractual

PubWorks and ESRI based systems are very complex. Utilizing them efficiently from the commencement of the project requires significant training.

PubWorks Training by PubWorks Professional Training Staff:

Software Installation and Training:	\$3,900
Configuration of PC:	\$500
PubWorks Staff Travel:	\$2,100

PubWorks Training \$6,500

ESRI ArcView Online Training, ArcGIS I: Introduction to GIS

ArcView online Training \$1,010

June 2013 – June 2014

GIS Consultant - data entry of Water Infrastructure:

GIS Consultant Fees	\$4,800
Data collection	\$6,800
Field Survey /GPS	\$3,400
Data Entry / GIS Attributes	\$19,217
Computer Fee	\$3,160

Water Infrastructure Total \$37,377

Total Contractual Cost: \$44,887

Application Budget Summary:

<u>Category</u>	<u>Hours</u>	<u>MLIA Share (\$)</u>	<u>City of Glendive Share (\$)</u>	<u>Total (\$)</u>
A. Personnel Salaries and Wages				
Jack Rice, Public Works Director	104		\$2,600.00	\$2,600.00
Assistant Public Works Director	208		\$4,368.00	\$4,368.00
<u>Total Salaries and Wages</u>	312		\$6,968.00	\$6,968.00
A.1 Fringe Benefits				
Jack Rice			\$1,430.00	\$1,430.00
Assistant Public Works Director			\$2,402.40	\$2,402.40
Wastewater Operator			\$0.00	\$0.00
Total Fringe Benefits			\$3,832.40	\$3,832.40
<u>Total Wage and Benefits</u>			\$10,800.40	\$10,800.40
B. Travel		\$858.00		\$858.00
C. Equipment		\$2,700.00		\$2,700.00
D. Supplies		\$20,725.00		\$20,725.00
E. Contractual		\$44,887.00		\$44,887.00
F. Other				
TOTALS		\$69,170.00	\$10,800.40	\$79,970.40

STEP 6 – Statements of Support

Not applicable

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.

Jack Rice

Name (print or type)

Public Works Director

Title (print or type)

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

Date _____