STEP 1 – Applicant and Partner Information

Primary Applicant (Required):
Name of principle individual: Tom Hyndman, Mayor
Name of agency\entity: Town of Twin Bridges
Street: PO Box 307
City: Twin Bridges
County: Madison
State: Montana
Zip Code: 59754
Contact email address: Townoftb@3rivers.net
Contact fax address: 406.684.5299
Contact phone: 406.684.5243
Organizational Unit (if applicable)
Department: Public Works
Division:

Other Project Partners – complete for each partner (copy box as needed):
Name of contact: Dan McCauley
Name of Agency: Great West Engineering
Street: 2501 Belt View Drive
City: Helena
County: Lewis & Clark
State: Montana
Zip Code: 59604
Contact email address: dmccauley@greatwesteng.com
Contact phone:406-449-8627

Date Submitted (Required): **Date Received by State:**

Descriptive Title of Applicant's Project (Required):

Twin Bridges Water and Sewer Asset Management Project

STEP 2 – Relevance and Public Benefit

The purpose of the Montana Land Information Act is to develop a standardized, sustainable method to collect, maintain, and disseminate information in digital formats concerning the natural and artificial land characteristics of Montana. Land information changes continuously and is needed by businesses, citizens, governmental entities, and others in digital formats to be most effective and productive (MCA 90-1-402). The Town (Town) of Twin Bridges project parallels the aforementioned purpose as it provides the opportunity to develop a GIS database Asset Management System for the public water and wastewater systems.

The addition of technological equipment and methodologies to the Town Public Works Department is vital. The Public Works Director, a 26 year employee of the Town, has extensive experience and great knowledge of the Town's infrastructure systems. Currently, this knowledge is stored in paper files and the collective memory of the Director. This project provides the opportunity to elevate the management and operations of the Department by converting this impressive, but somewhat fragmented body of knowledge, into a consolidated current location GIS based Asset Management System. This Asset Management System will enable the Town to produce the outcome described in MLIA Priority B2.2, which is the ability to produce "localized GIS solutions that demonstrate the value of GIS in improving the quality of life for Montana Citizens and build a grass roots support for location based services."

The data collected through the Town Public Works Department data collection project will be integrated into the Town Asset Management System. This Project will enhance communication and collaboration between departments through a GIS based system. All Town Departments will share data, technical assistance, and training opportunities to maintain this critical data. This project will provide the opportunity to keep rates and taxes as low as possible by maximizing the effectiveness of the Public Works Department. The GIS database Asset Management System will provide enhanced maintenance systems, project costing, and the ability to project future infrastructure needs that directly impact the Town. This new system will greatly improve the efficiency of the Department and ensure accurate and retrievable records long after the current director and his staff are gone. Accurate, retrievable information is essential for emergency responses. This new system will also result in a more thorough understanding of the condition of the water and wastewater system and thus better capital improvement decisions. The Public Works Department will ultimately have superior information to effectively protect the health and safety of the community. This information will also result in better utilization of scarce public funds.

This project is an investment in the infrastructure of the Town and coincides with the priority of the MLIA grant category B2: Local, Regional, and Tribal GIS Support. The Montana Land Information Act Grant will enable the Town to digitally represent all aspects of its infrastructure including wastewater, water, meters, fire hydrants and eventually roads, signage. The Asset Management Project will assure that the Town's critical infrastructure is in proper working condition and will remain so. This is vital to the Town in the event of an emergency or catastrophe. Access to this information will be critical as the community grows and expand as the water and wastewater system data is essential for land use planning, municipal, and economic development planning.

Tracking job and maintenance costs provides valuable information for use towards establishing the value of capital improvements. Future Infrastructure information will be accurate, detailed, and easily accessible once the data is collected and entered into the Asset Management System. It is the Town's intent to continue building this database by expanding into other infrastructure types (storm drainage, roads, signage, cadastral, communications, etc.) and provide increasing detail within the water and wastewater infrastructure database.

STEP 3 – Scope of Work Narrative

Goals:
The goal of this important Town project is to install, populate and utilize PubWorks software to develop a modernized GIS based Asset Management System for all municipal services within the city limits. This initial geodatabase will include the collection of feature data points for water and wastewater infrastructure. The use of readily available data, whether it is electronic or paper records, will create the baseline for all GIS datasets.

Objective:
The primary objective of this goal is to develop an asset database for the water and wastewater infrastructure. This will include data points such as wells, valves, meters, meter pits, fire hydrants, lift stations, manholes and mains that will be integrated into a mapping system. The GIS Asset Management System will be utilized for future maintenance, upgrades, 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/wastewater system upgrades.

Tasks:

Task 1. Water and wastewater system design concept. The project will be initiated with a meeting, between the GIS consultant and the Town, to begin developing a geodatabase framework for the Town's existing water and wastewater systems. In this meeting the GIS consultant and the Town staff will identify key features, feature attributes and data themes as well as develop scale ranges.

Task 2. Finalize Geodatabase design. The GIS consultant, working with the Town, will finalize the water and wastewater 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 and wastewater 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 the 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 Town. The Town will provide this data to the GIS Consultant for the creation of a base map.

Task 5. Project Work Session. A work session will be held to assess the data provided by the Town. The Town and the GIS Consultant will review all features and attributes required for this project.

Task 6. Data Entry. The GIS consultant retained by the Town will enter all water and wastewater system features into the Geodatabase framework. This data will include all features and attribute fields agreed upon in the finalization of the 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 Town will test the GIS Database Asset Management System to confirm proper operation.

Task 9. PubWorks Software Training. PubWorks software will provide on-site training to the Town. 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 Town in order to finalize the GIS Database Asset Management System. This meeting is to ensure the project was completed to the upmost satisfaction of the Town.

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 for utilizing the data collected.
2. Training:
    a. PubWorks Software Training for the Town Public Works Department.
    b. PubWorks Staff will provide PubWorks software training on-site. The training will cover the asset management software utilization. Training will be held immediately upon completion of the data entry and after PubWorks has been interfaced with the GIS data.
3. Data Collection:
    a. Town 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 and public works staff will enter all data into the GIS system and add attributes to each feature.
    b. By June 2014, all data points will be collected and entered into the database system to utilize on all future jobs/projects.

Water and wastewater System Project Schedule:

ID	Task Name
1	**TASK 1: Water and wastewater system design concept**
2	Develop Geodatabse Framework
3	Identify key data themes
4	Develop specific scale ranges
5	**TASK 2: Finalize Geodatabase design**
6	Finalize database desing
7	Finalize attribute fields and domain lists
8	**TASK 3: Build Geodatabase**
9	GIS Consultant to create geodatabase
10	**TASK 4: Collect data**
11	Town of Twin Bridges 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 Town of Twin Bridges
22	**TASK 10: Finalize GIS Asset Management System Design**
23	Finalize asset management system

Project: Twin project.mpp
Date: Tue 2/12/13

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress
Split
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 Town has extensive experience and is very capable of managing and implementing the proposed project. Mr. Sam Novich is the Public Works Director and has over 26 years of experience and is registered with the State of Montana as both a certified water and wastewater operator. Mr. Novich will be assisted by staff as needed with the management, implementation and data entry associated with this project.

The Town currently uses a work order system for conducting operation, maintenance, and improvement projects within the Public Works Department. Records are manually filed with the occasional use of Excel spreadsheets. The proposed project will result in a system where all the records are in one place, easily upgraded, and easily retrievable. This new system will greatly improve the efficiency of the Department and ensure accurate and retrievable records. Accurate retrievable information is essential for responses to emergency situation. This new system will also result in better capital improvement decisions and a more thorough understanding of the condition of the water system. The Town will have superior information to protect the health and safety of the community effectively. This information will result in better utilization of scarce public funds.

Sam Novich will primarily be responsible to oversee the data collection for the water and wastewater systems. Mr. Novich will verify the components of the system as they are mapped.

Although the GIS Consultant, Great West Engineering, will be working in a consulting role on this project through its current on-call contract with the Town of Twin Bridges, the sole coordination and effort for the project will be the responsibility of the Town. The consultant has extensive GIS/GPS experience and will collaborate on this project as needed for data entry, technical assistance, training, and support.

The Town is very familiar with managing projects and grants such as this. The Town is currently wrapping up a $4 million wastewater project of which funding was utilized from CDBG, TSTP, Rural Development and local monies. The Town is currently conducting an update to its Growth Policy utilizing a consultant with funding from a Big Sky Trust grant. These are just a couple of examples of the recent projects the Town has managed that includes consultants and outside monies.

STEP 5 – Budget Justification Narrative and Tables

The total cost for this Project is $58,575.77. The Town is requesting $49,498.00 through the MLIA program. The remaining 9,077.77 is pledged as a match of in-kind services including staff time and Professional Land Surveyor costs. The Town is pledging up to $5,000.00 to hire a Professional Land Surveyor to research and collect legal survey data as part of this project. The survey data collected will include major property corner locations to be used in establishing tight property control in the Town. This work will be paid for by the Town from its existing budget and is included herewith as part of in kind service.

A. Personnel: Salaries and Wages

The Public Works Department Staff are the individuals primarily responsible for all activities in this project. Mr. Sam Novich, Director, will oversee the entirety of the project. The wages and benefit value (4,077.77) based on 208 contributed hours and the employees hourly wage rates is being considered as in-kind contribution by the Town

Mr. Sam Novich, while managing the project, will also be trained on the entirety of the Asset Management system along with his staff. He and his staff will focus on the water and wastewater distribution systems data framework. He will work with his staff throughout the entirety of the project to ensure the completion of data collection, entry, validity and accuracy of data. He has dedicated 2 hours/ week over the course of the project (52 weeks) for a total contribution of $2,836.08

Mr. Jordan High, assistant to Mr. Novich, will be trained and begin working on the project for 2 hours/week. Mr. High will help verify components of the system as mapped with a dedicated 2 hours/ week over the course of the project (52 weeks) for a total contribution of $1,243.84

B. Travel

Travel for the project is calculated using FEMA rates for an unoperated vehicle at $44/day or $5.50/ hour for the hours of data collection (assuming that is ½ of the total hours spent on the project (208/2=104) to gather data.
The total travel cost is estimated at $572

C. Equipment

Computer 1: The PubWorks program is a large database program that necessitates a dedicated computer. The computer will be purchased through the Town purchasing process. A current quote of $2700 has been obtained for an *HP Z420 Workstation(LJ449AV).*

Total Equipment Cost: $2700

D. Supplies

The PubWorks Software Components:

AM&CA Core:	$6,750
Asset Data Collector:	$1,750
Map Viewer:	$3,500
SQL Module	$1,750
Software Total	$13,750

Pub Works Support/Maintenance: $2475 (18%of $13,750)

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: $17,225

E. Contractual

PubWorks and ESRI based systems are 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

June 2013 – June 2014

GIS Consultant - data entry of Water Infrastructure:

GIS Consultant Fees	$4,000
Data collection	$3,400
Field Survey /GPS	$1,700
Data Entry / GIS Attributes	$1,934
Computer w/ GIS Fee	$ 630
Water Infrastructure Total	$11,664

June 2013 – June 2014

GIS Consultant - data entry of Wastewater Infrastructure:

GIS Consultant Fees	$4,000
Data collection	$3,400
Field Survey /GPS	$1,700
Data Entry / GIS Attributes	$1,108
Computer w/ GIS Fee	$ 630
Wastewater Infrastructure Total	$10,838
Total Contractual	**$29,002**

Application Budget Summary:

Category	Hours	MLIA Share ($)	Town of Twin Bridges Share ($)	Total ($)
A. Personnel Salaries and Wages				
Public Works Director	104		$2,068.56	$2,068.56
Water / Wastewater Operator	104		$1,040.00	$1,040.00
Total Salaries and Wages	208		$3,108.56	$3,108.56
A.1 Fringe Benefits				
Public Works Director			$765.37	$765.37
Water / Wastewater Operator			$203.84	$203.84
Total Fringe Benefits			$969.21	$969.21
Total Wage and Benfits			$4,077.77	$4,077.77
B. Travel		$572.00		$572.00
C. Equipment		$2,700.00		$2,700.00
D. Supplies		$17,225.00		$17,225.00
E. Contractual		$29,001.00	$5,000.00	$34,001.00
F. Other				
TOTALS		$49,498.00	$9,077.77	$58,575.77

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.

Tom Hyndman
Name (print or type)

Mayor
Title (print or type

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

Date