

Cemetery Mapping

Liberty & Toole Counties



Montana Land Information Act Fiscal Year 2014

February 15, 2013

Toole County

226 1st Street South

Shelby, MT 59474

APPLICATION FOR GRANT FUNDING

STEP 1 – Applicant and Partner Information

Primary Applicant (Required):

Name of principle individual: Ben Ober, Toole County Commission Chair

Name of agency/entity: Toole County

Street: 226 1st Street South

City: Shelby

County: Toole

State: Montana

Zip Code: 59474

Contact email address: mriphenburg@toolecountymt.gov

Contact fax address: (406) 424-8301

Contact phone: (406) 424-8403

Organizational Unit (if applicable)

Department:

Division:

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

Name of contact: Russ Tempel

Name of Agency: Liberty County

Street: PO Box 459

City: Chester

County: Liberty

State: Montana

Zip Code: 59522

Contact email address: alitfun@itstriangle.com

Contact phone: 406-759-5395

Date Submitted (Required): February 15, 2013

Date Received by State:

Descriptive Title of Applicant's Project (Required):

Cemetery Mapping Liberty & Toole Counties

STEP 2 – Relevance and Public Benefit

The proposed project by Toole and Liberty Counties will create a GIS map of the 19 cemeteries located in the two counties. If awarded the necessary funds the Counties will sign a letter of agreement with MaPS, Inc. to facilitate the project.

Because Yellowstone County, MT is already conducting gravesite mapping, to facilitate standardized information, the project will use their “Gravesite Locator Information” as a guide (Sample attached). It is understood that not all fields/attributes noted on the Yellowstone Co. gravesite locator form can be acquired in the field [e.g. Gender, Age, Date of Death or Internment (DOD/DOI), Place of Birth, Last Residence, Marital Status, Cause of Death, Funeral Home, etc.].

Each County would eventually like to deploy an interactive mapping webpage to allow users to reference County GIS data, including the gravesite information developed herein (e.g. users could query a deceased relative’s name to automatically zoom to their gravesite in the map, view the grave’s marker photo, reference an obituary, etc.). Each County would eventually like to have a public access terminal in each Courthouse that would contain all their GIS data, including the cemetery/gravesite information, to facilitate genealogy and other research.

The Cemetery mapping of Liberty and Toole Counties adheres to B2.2 of the MLIA Grant Categories by making County and Public GIS data more accessible, user friendly and understandable to County Agencies, the public, and other organizations. This system will be maintained to update recent additions to the cemeteries. The cemetery districts will greatly benefit from the new diagrams and indexes that they will be supplied at the completion of this project. This data will be digitized to make it more easily accessible to anyone.

STEP 3 – Scope of Work Narrative

Goals and Objectives:

1. **Create a polygon for each County.** This project is designed with 3 phases for ultimate completion of the project with ongoing maintenance planned. Phase 1 will include the initial research for the project. MaPS, Inc. will work with County and local officials to acquire a list of the eleven (11) cemeteries in Toole County and the eight (8) in Liberty County as well as any existing maps/diagrams. MaPS, Inc. will then work with County and local officials to determine an approximate location of each cemetery within the current GIS data. MaPS, Inc. will create two simple polygon feature classes (one for each county), digitizing each cemetery's extent/area using high resolution aerial imagery, existing cadastral data and/or the existing maps/diagrams. Each cemetery polygon will be attributed with the cemetery name, physical address, useful contact information (e.g. Names, phone numbers, addresses, etc. for the Cemetery Board, maintenance, etc.) and County name. Any existing maps/diagrams will also be scanned and hot-linked to each polygon so they can be accessed for future reference.
 - a. Acquire existing maps/diagrams. To be completed by August 2013
 - b. Determine approximate location of each cemetery within the current GIS data. To be completed by September 2013.
 - c. Create simple polygon digitizing cemeteries and attributing the name, physical address, and useful contact information. To be completed by September 2013.
 - d. Scan existing maps/diagrams to be linked to maps. To be completed by September 2013.
2. **Collect data for GPS/GIS mapping and create maps.** Phase 2 is the GPS/GIS Mapping phase. MaPS, Inc. will travel to each County and visit each of the nineteen (19) cemeteries to conduct GPS verification and mapping. There are an estimated 7,600 gravesites in the proposed project area. Toole County has approximately 5,100 graves and Liberty County has approximately 2,500. Centerlines of each cemetery's interior access roads will be mapped and attributed. Each individual grave/marker therein will also be mapped as a coordinate location (X,Y) or point. MaPS, Inc. will utilize a sub-meter DGPS receiver to record an averaged GPS point (e.g. coordinate locations are recorded every second while data is being typed in and the resulting points are averaged to provide a highly accurate final point) of each grave. Each grave point will be attributed with:

Type: (Picklist containing choices for the type of grave or structure – e.g. below ground, above ground vault, mausoleum, family vault, cremation repository, etc.)

Name(s): of the deceased (Last Name, First Name, Middle Name, Suffix – e.g. “JOHNSON, EARL V III”)

Dates: (“DOB-DOD” expressed as YYYY MM DD – e.g. “1910 10 12 – 1977 12 17”)

Location: Information (Cemetery Name, Section/Block, Plot/Lot or Grave Number, etc.)

Status: (Picklist containing choices for the status of the gravesite and/or record) NTV – for “need-to-verify” – flag to indicate the point needs additional attribution/attention because an attribute above was not readily apparent/observable; OK – gravesite was properly mapped and attributed; REPAIR – flag to indicate a grave marker is damaged, sunken, leaning or vandalized and needs attention/remediation.

Remarks: (e.g. notes regarding the status or unusual or interesting details) MaPS, Inc. will utilize the field data above to create point feature classes of gravesites for each County. Cremation remains repositories or vaults with multiple remains may be mapped as one point in the field (e.g. estimated offset distance and direction to the approximate center of the structure) and drawers or vaults within will be added and attributed later (as stacked points to allow indexing and queries for research). MaPS, Inc. will also take a digital photograph of each grave marker (color, front view and framed or zoomed in/out to show sufficient detail in 640x480 .jpg image size/resolution) to be hot-linked/hyper-linked to each GPS point via a unique identification number.

a. Visit 19 cemeteries and mark each gravesite attributing each with type, name, dates, location, status and remarks. To be completed by June 2014.

b. Take digital photo of each grave marker. To be completed by June 2014.

- 3. Disseminate information and products.** Final digital color layouts for each cemetery will be created (at a scale appropriate to sufficiently portray detailed information, but still print/plot on standardized paper and/or plotter sizes) including labeling (e.g. each section or block and each grave’s occupant name and/or grave number). Each layout will also contain a simple locator map (e.g. where the cemetery is within the County, City or Town), title, legend, scale and gravesite indexes (e.g. alphabetical list of names with location information). Each layout will be utilized to export final color .pdf map diagrams of each cemetery to be submitted electronically to each County. The status field of the gravesite points will be used to create a report (color-coded points in a .pdf map diagram with a MS Excel spreadsheet detailing all NTV and REPAIR points with REMARKS). Said reports will be distributed to each County and the respective cemetery contact to assist research. MaPS, Inc. expects one report exchange with local cemetery officials to update/modify the data attribution and/or statuses of flagged gravesites to attempt to update each point with a status of “OK”. Ongoing updates to this information fall under ongoing maintenance.

Both Liberty and Toole Counties have websites to which links will be established referencing the final .pdf map diagrams for each cemetery, as well as gravesite indexes. Both Counties understand that the resulting GIS data will need to be submitted by MaPS, Inc. to the state of MT as part of the MLIA program, including valid metadata.

- a. Prepare digital color layouts for each cemetery. To be completed by August 2014.
 - b. Create report using status field and distribute to Counties and cemetery contact. To be completed by August 2014.
 - c. Link finalized maps to County websites. To be completed by August 2014.
4. The final phase of the project is the ongoing maintenance of the project. Both Counties intend to maintain the wealth of information collected above, by retaining MaPS, Inc. (or trained and equipped County staff) to annually conduct GPS maintenance mapping sweeps of each cemetery by coordinating with each cemetery's contact to identify and record new gravesites and take additional digital images. MaPS, Inc. will update the GIS data stored at each County with any new graves. MaPs, Inc. will update each cemetery's map layout, export new .pdfs and redistribute and/or re-link any affected .pdf map diagrams and gravesite indexes. It is unknown at this time how many new graves could be expected annually.
- a. Annually update cemetery information to include new gravesites. This will be completed annually after the completion of the project as maintenance.

Tasks and Activities:

1. **Finalize project details and sign a Letter of Agreement with MaPS, Inc.**
MaPS, Inc. will be providing all of the equipment, software, and services for this mapping project and will be overseen by the grant administrator, Liberty County Commissioners and Toole County Commissioners. After the agreement is signed MaPS, Inc. will complete the project with the assistance from the Counties as outlined above. To be completed by July 2013.

Project Schedule:

The project is contingent upon the award of Montana Land Information Act funding. The schedule for this project could be implemented as follows:

Scheduled Completion Date	Activity
June 2013	Projected date for receiving grant funds.
July 2013	Sign Letter of Agreement with MaPS, Inc.
August 2013	Collect existing maps/diagrams for the cemeteries.
September 2013	Create the polygon and add attributes. Scan existing maps/diagrams into digital format.
June 2014	Visit all cemeteries marking each grave and assigning attributes. Take digital photo of all grave markers. (This project will begin in the fall and will be completed in the spring.)
August 2014	Prepare digital color layouts for each cemetery. Create report using status field and distribute to Counties and cemetery contact. Link finalized maps to County websites.
September 2014	Estimated Completion of project.
Annually	Update cemetery information to include new gravesites.

STEP 4 – Project Management and Organizational Capability Narrative

It is proposed that this project be contracted to MaPS, Inc. and managed by Toole County. The grant administrator will be Mallory Riphenburg, the Economic Development Director. Mallory has her MBA as well as her undergraduate degrees in Accounting and Business Administration. She is new to the position and will be mentored by the former Economic Development Director and Toole County Commissioner Deb Brandon. Deb successfully wrote and managed grants for Toole County for the previous five years. Other project management experience includes the Toole County Transit Facility that was purchased and remodeled into a facility to house the Toole County Transit with ARRA funding and Department of Commerce funding to replace windows in the Historic Shelby High Community Center.

Upon funding of this project we will contract with MaPS, Inc. to complete the project. Mapping and Planning Specialists, Inc. (MaPS, Inc.) was organized as a sole proprietorship in 2000 to assist several Counties in Montana to complete their unfinished mapping and E-911 implementations. MaPS, Inc. was incorporated in 2002 and has become a premiere provider of professional E-911 and GPS/GIS consulting and implementation services in the region. MaPS, Inc.'s personnel have over 30 years of combined experience in GPS field data collection, GIS development and E-911 implementation and have worked on over forty projects in many states across the nation. MaPS Inc. has been working with Toole County since 2001, successfully completing an E-911 system that had been previously started and subsequently maintaining it.

Key Personnel for MaPS, Inc include Matthew Pearce the President and Founder of the company. Matt is a graduate of the University of Minnesota with a B.S. in Geography with GIS/Cartography emphasis. He has been working in the field for 20 years and is a certified Emergency Numbering Professional (ENP) and a member of the National Emergency Numbering Association. MaPS, Inc. is currently providing E-911 and GPS/GIS mapping and addressing services for a significant number of MT counties, including Toole, Pondera, Chouteau, Valley, Powell, Granite, Anaconda-Deer Lodge, Mineral and Sanders. To service their MT clients, MaPS, Inc. has a local field office in Helena, MT.

STEP 5 – Budget Justification Narrative and Tables

The projected cost of the project for completion of phases 1, 2 and 3 comes to a total of \$37,103.00. Phase 1 is estimated to cost \$2,370 and will include labor for information gathering/research, scanning, digitizing, and attribution. An on-site visit is not included as it is the assumption that all maps/diagrams and information can be gathered via mail and/or e-mail with assistance from County and local authorities.

Phase 2 is estimated to cost \$28,413. This value includes all labor and expenses (e.g. travel time, mileage, lodging, per diem, etc.). It is estimated that this project will take 6 to 8 weeks to complete the on-site portion of the work. As the contractor has other obligations they will only be able to spend 1-2 weeks per month to the project. The costs reflect this.

Phase 3 costs are currently estimated at \$6,320 and include labor for map and report production. On-site visits are again not included under the assumption that the necessary information can be shared electronically.

The final stage of this project is the maintenance. Each County will be responsible for the maintenance costs of their cemeteries. Maintenance is a difficult number to calculate. The cost per grave site to Map a new grave has been estimated at \$19 per grave. For the purpose of budgeting it was assumed that there would be a growth rate of 1% to 2% annually, ongoing GPS mapping could cost an estimated \$1,425 to \$2,850 per year. Split proportionately between Toole and Liberty Counties based on their current estimated gravesites, Toole County could incur approximately 67% of the growth or 50 to 100 new graves annually at a cost of \$950 to \$1,900; Liberty County would incur 33% of the growth or 25 to 50 new graves annually at a cost of \$475 to \$950. Costs to update all the map layouts, .pdf regeneration, etc. will likely require 1 to 2 hours per cemetery or 20-40 hours; based on a GIS Specialist rate of \$69/hr., the cost could be \$1,380 to \$2,760 annually – or \$920 to \$1,840 for Toole Co. and \$460 to \$920 for Liberty Co. Overall estimated maintenance costs for each County could run \$1,870 to \$3,740 for Toole County and \$935 to \$1,870 for Liberty County. These values were included at the high end of the estimates as other costs being incurred by the Counties for this project.

Additional costs to the county include in-kind donation of personnel time. It was estimated each county would incur 40 hours of work. This is for the grant administration being done by Toole County as well as the numerous calls that will be fielded throughout the project helping people access information and answer questions. This was calculated using the grant administrator's rate of pay at \$17.38 an hour. The fringe benefits were calculated at 30% of wage.

Applicant budget summary

Category	MLIA Share	Applicant Share In-Kind	Other Share	Total
a. Personnel	\$0.00	\$1,390.40		\$1390.40
a.1 Fringe Benefits	\$0.00	\$417.12		\$20.00
b. Travel	\$0.00	\$0.00		\$0.00
c. Equipment	\$0.00	\$0.00		\$0.00
d. Supplies	\$0.00	\$0.00		\$0.00
e. Contractual	\$37,103.00	\$0.00		\$37,103.00
f. Other	\$0.00	\$5,610.00		\$5,610.00
Totals	\$37,103.00	\$7,417.52		\$44,520.52

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	Partner 1	Partner 2	Partner 3	Total
a. Personnel	\$695.20	\$695.20		\$1,390.40
a.1 Fringe Benefits	\$208.56	\$208.56		\$417.12
b. Travel				\$0.00
c. Equipment				\$0.00
d. Supplies				\$0.00
e. Contractual				\$0.00
f. Other	\$1,870.00	\$3,740.00		\$5,610.00
				\$0.00
Totals	\$2,773.76	\$4,646.76		\$7,417.52

STEP 6 – Statements of Support

Please see attached.

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.

Name (print or type)

Title (print or type)

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

Date _____