

Liberty County GIS-Expansion Grant Application Montana Land Information Act Fiscal Year 2016



September 2014

Mount Royal, Sweet Grass Hills, Northern Liberty County, Montana
Elevation 6,914 Feet

APPLICATION FOR GRANT FUNDING

STEP 1 – Applicant and Partner Information

Primary Applicant (Required):

Name of principle individual: Gail Shatkus, Larry Hendrickson

Name of agency/entity: Liberty County GIS

Street: 111 First Street East, PO Box 111

City: Chester

County: Liberty

State: Montana

Zip Code: 59522

Contact email address: gail.shatkus@gmail.com; or com@liberty.co.mt.us

Contact fax address:

Contact phone: 406-265-5365

Organizational Unit (if applicable)

Department: C/O Commissioners Office

Division:

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

Name of contact: Gail Shatkus

Name of Agency: N/A

Street: PO Box 951

City: Havre

County: Hill

State: MT

Zip Code 59501

Contact email address gail.shatkus@gmail.com

Contact phone: 570-954-8007

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

Name of contact: Bryce Scala

Name of Agency: Selbys

Street: 525 Professional Drive

City: Bozeman

County: Gallatin

State: MT

Zip Code 59718

Contact email address bscala@selbys.com

Contact phone: 406-587-8782

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

Name of contact:

Name of Agency: Highline Communication

Street: 202 N. Central Avenue

City: Cut Bank

County: Glacier

State: MT

Zip Code 59427

Contact email address

Contact phone: 406-873-2984

Date Submitted (Required): February 15, 2015 Date Received by State:

Descriptive Title of Applicant's Project (Required):

Liberty County GIS-Expansion

STEP 2 – Relevance and Public Benefit

This grant will expand GPS radio signal from Chester to Mount Royal (25 Miles) through the installation of a repeater and antenna on the top of Mount Royal, Sweet Grass Hills, Northern Liberty County. Professional training, technical support and installation of this equipment will do the following:

- 1) The installation of this repeater will expand the signal capability 25 linear miles, which is projected to provide a signal to approximately 60% or more of Liberty and the Northeastern and Northwestern fringes of Hill and Toole County. (High School students achieved centimeter accurate signal at 25 miles from town.)
- 2) Improve the local county GIS office which was established as a result (unintended consequence) of the 2014 MLIAC Liberty County GIS School and Community Partnerships grant.
- 3) Provide the funds for technical support and education.
- 4) Upon acceptance of the data, the current base station has conditional approval to become a Continuously Operating Reference Station (CORS). The repeater would then provide a CORS signal over a greater geographic area.
- 5) Provide additional areas for students to conduct authentic learning through community service projects. The GIS student solutions have already mapped city infrastructure, county airport water lines, and continue learning through service projects.
- 6) This grant provides a “grass roots” solution to the county GIS infrastructure and will benefit the agriculture community.
- 7) To date, students have gathered data, created maps, and done problem solving through service for the city and county. The adults provided infrastructure support.

Conclusion: Awarding this grant wholly meets section B2 Local and Regional GIS Capacity building.

STEP 3 – Scope of Work Narrative

Scope of Work (Required) – Provide a detailed narrative (up to 4 pages) of the work that needs to be accomplished in order to complete a successful project. The statement must include:

Goals and Objectives

1. **Goal**
 - a. To expand the GPS signal coverage to include more Liberty County and portions of Northern Hill and Toole County to serve the community which includes agriculture. When the project is completed the GPS signal will reach 25 linear miles to Mount Royal and cover 60% or more of the county geographic area. The current base station is being prepared to submit data to be considered a Continuously Operating Reference Station. This project has the potential to have a CORS signal covering 60% (estimating 70%) or more of the county. (contingent upon data)
2. **Objective 1:** Verify FCC License, Purchase Radio- July 1, 2015 – July 30, 2015
 - a. **Task:** Verify Existing FCC license meets the frequency requirements of the project; if not, modify the license. (\$600 Mliac) Highline Communications
 - b. **Task:** Upon license verification, purchase radio (\$2,795 – MLIAC- Selbys) and have the radio tuned to the proper frequency.
3. **Objective 2** Evaluate/Design/Build the Antenna Mount for the building on top of the Mountain By September 15, 2015
 - a. **Task:** To have Highline Communications Build the Antenna and cable. Estimated cost of \$1,100 (MLIAC-Coordinated with Selbys)
 - b. **Task:** Get land owners permission to travel to the top of MT. Royal
 - c. **Task:** Organize Personnel
 - d. **Task:** Stage Trucks, trailers and 4 wheelers to climb the mountain (Estimated travel and evaluation time, 5 hours) (Estimated County Cost \$750- County)
 - e. **Task:** Purchase materials and build the mount. (metal, screws, etc.) (\$300 Mliac)
 - f. **Task** Build the Mount (County Employees- (3 hours))
4. **Objective 3 :** Install repeater and Antenna on top of Mount Royal- High Line Communication by September 30, 2015
 - a. **Task** Gather tools and equipment to install the repeater and antennae
 - b. **Task:** Organize Personnel
 - c. **Task:** Stage Trucks, trailers and 4 wheelers to climb the mountain
 - d. **Task:** Install repeater and antenna on top of the mountain, install line conditioner (\$154 Selbys- MLIAC) to protect the repeater radio. Estimated time 7 hours. (Estimated County Cost \$750)
5. **Objective 4:** To tie in the radio repeater by September 30, 2015.
 - a. **Task** Selbys will provide technical support.
 - b. **Task** Install the Line Conditioner in the GIS office (Selbys \$154.00)
 - c. **Task** Schedule travel and meeting time.
6. **Objective 5** Technical and educational support to be completed by October 30, 2015.
 - a. **Task:** Selbys- This can be concurrent with objective 4.
 - i. **Total Budgeted for Selbys Tech Support and Training (\$2,630)**
7. **Objective 6:** Travel, time and Grant Reporting by January 30, 2015 (\$415)
 - a. **Task:** Conduct meetings with the partners to finalize the report.

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8. **Objective 7:** Grant Money Handling

- a. **Task:** All bills and awards will be processed through the Liberty County Treasurer Office. (County treasurer cost- \$500)

Equipment Purchase Justification: The equipment purchase and installation will significantly increase the geographic coverage of the base station signal. The repeater radio will match the base station radio ensuring equipment compatibility. This will provide additional GIS problem solving capability for the community partnerships. We are anticipating more than 60% signal availability across Northern Liberty County and the Northeastern and Northwestern edges of Toole and Hill Counties. If the data is good and we achieve CORS status, CORS approval will take the local GIS solution and move it to a state and national GIS solution.

b. Project Schedule –

Project Timeline		
July 1, 2015	July 30, 2015	Verify FCC License
		Build Antenna-Travel to top of Mt. Royal
		Purchase radio,
		Line Conditioners
July 30, 2015	September 15, 2015	Travel to the top of the mountain- Evaluate, design and build the antenna mount, and cables.
September 15, 2015	September 30, 2015	Install Antennae & Power Cords
		and Radio on Top of Mount Royal
September 15, 2015	October 15, 2015	Overall Check of Base Station and radios
		Training and Technical Support
July 1, 2015	January 30, 2016	Grant Coordination and Travel- 6 visits
		Reporting.

****In this section applications will be evaluated on whether the proposal demonstrates adequate research and preparation, and clearly and concisely describes how the goals, objectives and tasks will be accomplished. – (100 points total weighted at 30% of the total score)***

STEP 4 – Project Management and Organizational Capability Narrative

Project Management and Organization Capability –

Liberty County GIS Community Partnerships completed an ambitious and successful MLIAC grant that delivered training, recreation, resource, and survey grade equipment to the community. This grant provided students with the opportunity to learn through service while solving community GIS problems like airport waterline placement, location of city infrastructure. The most important deliverable was the training to teachers and students. Students from across the curriculum participated in geocaching, locating fire hydrants, manhole covers and more.

The previous grant timeline was impacted for a couple of reasons. From the time of the grant writing to award of the grant, there was a change in administrative leadership at the school which caused a delay in ordering and receiving equipment. The project team recovered and was able to meet the deliverables and then some, however, not at the projected time.

The initial scope of the project included mapping the cemetery, city assets, and setting up learning activities for the teachers and students. The student leadership team took this one step further and helped set up the county GIS office, gathered data for the County airport, (communicated with the project engineer in Helena) and collected city infrastructure data, and assisted with the design and installation of the base station mount on the courthouse.

The initial MLIAC grant was for \$45,256 dollars which was leveraged into a project that included additional grants, donations, and awards with a final total of \$110, 502.

Honors: This project was presented at the ESRI Education Conference 2014 in San Diego, California.

While the project team was successful in leveraging the grant amount, the most important part of the project was student impact.

Key Personnel

Gail Shatkus, Project Manager

Gail is an Assistant Professor in Design Drafting at Montana State University Northern. Presenter at the ESRI Education conference 2014. Gail was a high school Career and Technical Educator for over 16 years delivering projects to the community with student service through learning activities. Highlights: Former Quality Engineer and Supervisor working on the Space Shuttle program, Superior Performer 1992, Thiokol Corporation, Manned Flight Awareness Award, Acting Configuration Program Manager for the Challenger Investigation, and most importantly, a teacher providing opportunities for students.

Liberty County Commissioners have over 30 years' experience running the county government, hospital, grants and awards.

Bryce Scala, Selbys

Experienced in providing GIS solutions around the state of Montana.

Selbys

Selbys supplies engineering and survey equipment throughout the state of Montana.

Highline Communications

They build antennas and provide communications across the highline.

Liberty County Office of the Treasurer

The office of the Treasurer has broad experience of handling the finances for the county which includes, but is not limited to, the county offices, county schools, the weed department, the clerk and recorder's office, nursing home and hospital.

STEP 5 – Budget Justification Narrative and Table

Total Miliac Request: \$8,309

The county in kind.

The county will donate a total of \$13,321 of In-Kind. This will include personnel time through accounting (\$500), travel to and from Mount Royal (\$1500), previous computer equipment used to supply the GIS office (\$9,921) and electrical cabling (\$200).

Highline Communications-(MLIAC) \$1,700 projected that includes building the Antenna and Cable (\$1,100) and Tech support in coordinating the FCC License and frequency (\$600).

Selbys-(MLIAC)

Radio and Cables- \$2,795; Line Conditioners \$308; Travel- \$630; and \$2,000 in tech support and additional training.

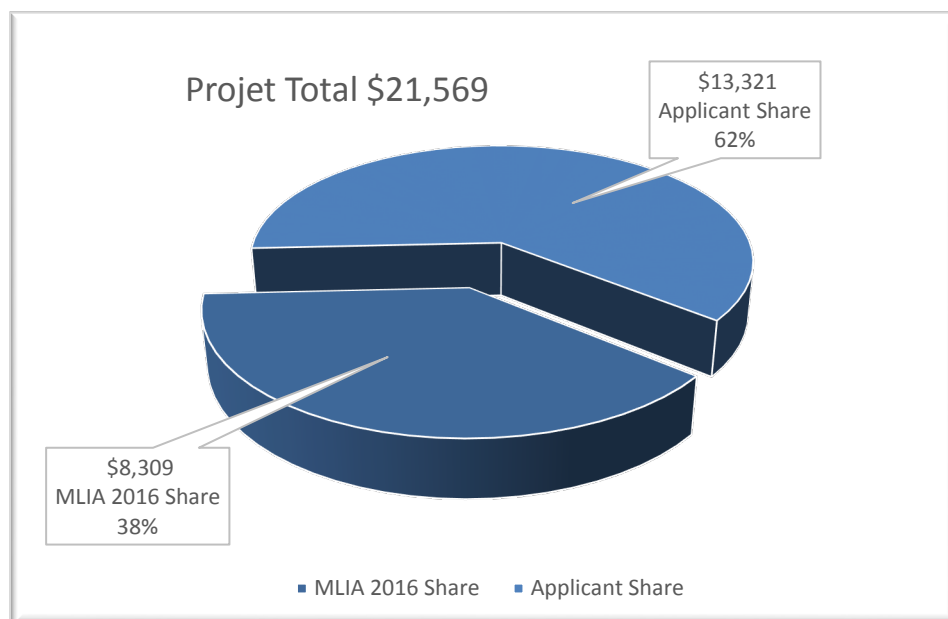
County (MLIAC)

\$300 in mounting hardware and brackets for the Antenna on top of Mount Royal; \$100 in supplies for printing.

Grant Management

\$415 for writing and administering the grant.

Long Term Funding- The commissioners have a rural initiative plan that will provide necessary monies to fund this project into perpetuity. We have also had interest from a future partner as the county goes forward with this project.



Applicant budget summary

Category	MLIA Share	Applicant Share	Total
a. Personnel	415	2000	2476
a.1 Fringe Benefits			
b. Travel	630	800	1430
c. Equipment	4,503	9921	14424
d. Supplies	100	200	300
e. Contractual			
f. Other	2,600	400	3000
Totals	8309	13321	21569

Project Partner budget summary

Category	Partner 1 (Liberty County)	Partner 1-County-MLIAC Share	Partner 2 (MLIAC) (Gail Shatkus)	Partner 4 High Line Communication- Paid through Selbys	Selbys	Total
a. Personnel	2000		415			2,476.65
a.1 Fringe Benefits						0
b. Travel	800				630	1830
c. Equipment	9,921	300		1100	3103	49424
d. Supplies	200	100				300
e. Contractual						0
f. Other	400			600	2000	3000
Totals	13321	400	415	1700	5733	21569

Detailed Budget Summary

	County-In Kind	Highline Communication	Selbys	County Mliac	Grant Management	Total
Personel	\$ 2,000				415	\$ 2,415
Travel	\$ 800		\$ 630			\$ 1,430
Equipment-Previous	\$ 9,921			\$ 300		\$ 10,221
Antennea Cable		\$ 1,100				\$ 1,100
Electraical Cable	\$ 200					\$ 200
Radio			\$ 2,795			\$ 2,795
Line conditioners'			\$ 308			\$ 308
Supplies				\$ 100		\$ 100
Other- Tech Support-FCC	\$ 400	\$ 600	\$ 2,000			\$ 3,000
Total	\$ 13,321	\$ 1,700	\$ 5,733	\$ 400	\$415	\$ 21,569

**In this section applications will be evaluated on how well the proposal demonstrates that the project can be completed within the proposed budget, fully justifies all project expenditures, and explains long term funding plans. (100*

STEP 6 – Statements of Support

Statement of support from Gail Shatkus;

The development of this project would not be possible without all of the grant partners that have put time, money, and heart into this project. MLIAC combined with the funding of this and the previous project shows what Heart the MLIAC, Liberty County students, school, city, and county have to dream big and see where it takes you. Students would not have had any of this opportunity without the MLIAC and the wisdom and strength to give the community and kids a chance.

The Liberty County Commissioners will send in an email comment.

STEP 7 – Renewable Grant Accountability Narrative

Long Term Funding- The commissioners have a rural initiative plan that will provide necessary monies to fund this project into perpetuity. We have had interest from another future partner as the county goes forward with this project. "Build it. They will come.", Field of Dreams.

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.

Larry Hendrickson
Name (print or type)

Liberty County Commissioner
Title (print or type)

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

2-13-15
Date