Rural Broadband I.D. Trust Fund Program

Applicant Name: Eagle Ridge Property Owners Association

Applicant Address: c/o John Parke
27 Golden Eagle Dr.
Paron, AR 72122

Applicant Phone Number: 501-831-1703

Applicant Email Address: johnparke@gmail.com

Applicant Tax ID or EIN Number: 47-4919420

Key Contact Person: John Parke

Total Amount Requested: $75,000

Project Description:

The project will study the feasibility of providing commercial broadband service in western Pulaski County, Arkansas, and adjacent areas. The applicant represents a neighborhood located in unincorporated Pulaski County and, likewise the proposed service area exists entirely in unincorporated Pulaski County. Technical expertise will be contracted to manage the project, study existing service, review available technologies for broadband service, and recommend solutions.
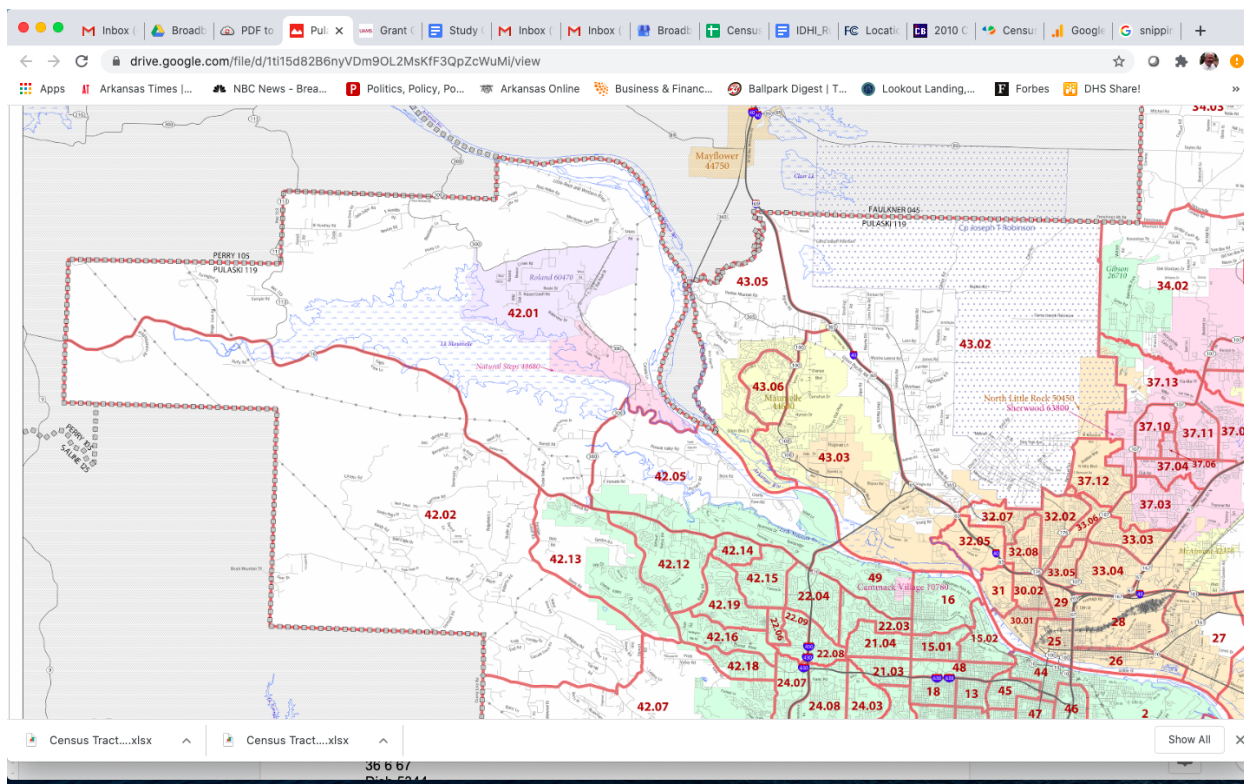
Project Narrative

INTRODUCTION

Proposed Service Area

The project will serve an area of western Pulaski County covered by U.S. Census tracts 42.01 and 42.02. The service area straddles Highway 10, approximately from the Pinnacle Mountain State Park area reaching westward to the county border; see map, below. Small communities within these tracts include Roland, Natural Steps, Pinnacle, Northpoint, and large swaths of unincorporated rural areas.
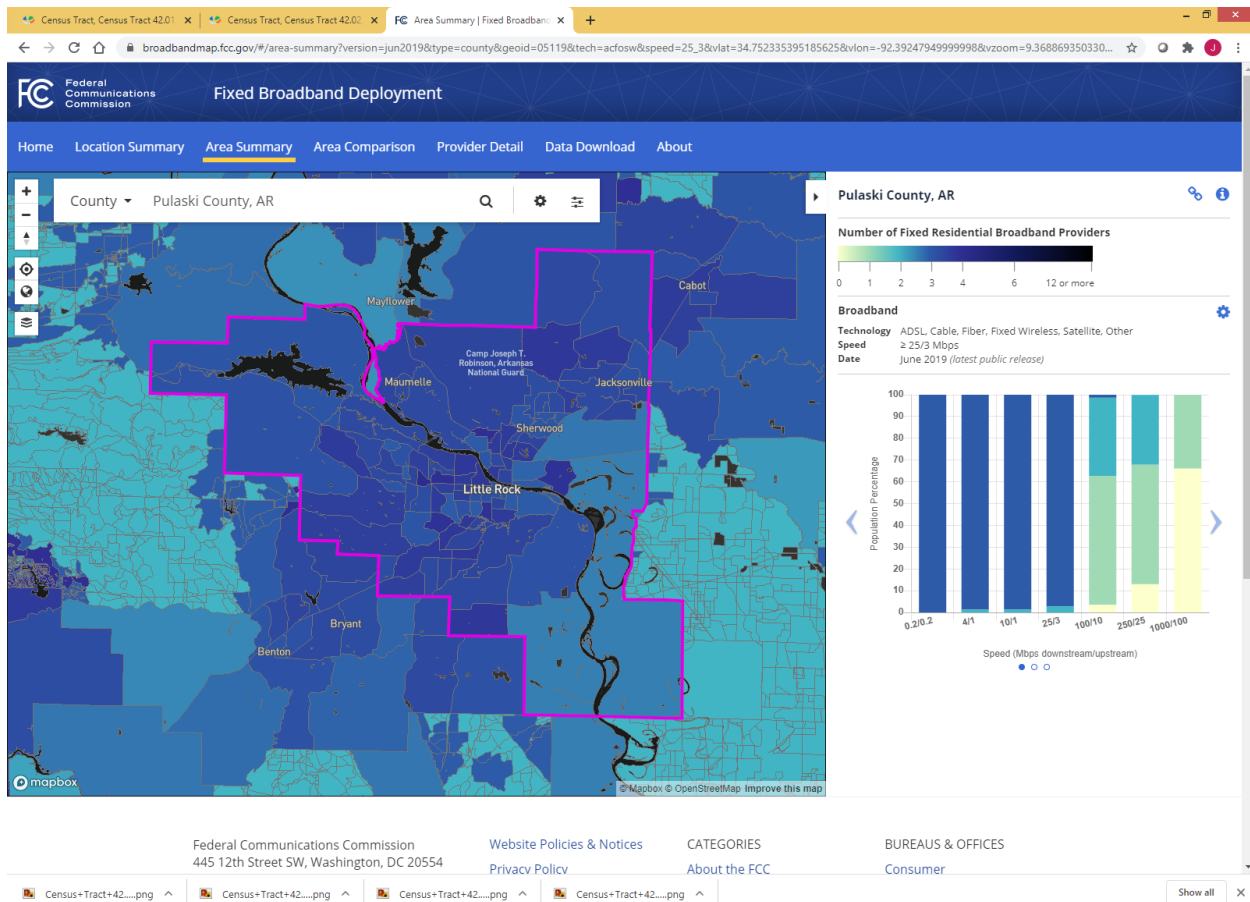
Eagle Ridge Estates consists of approximately 40 single-family homes. While this grant proposal is being made by the Eagle Ridge Property Owners Association (POA), the benefit will reach beyond our homeowners to the larger, unincorporated rural areas surrounding us. We recognize the need for a broadband solution that is commercially viable, which would be very difficult for this small of a footprint. To increase the number of potential customers, we are proposing to define our boundary map to consist of the two census tracts that make up the majority of unincorporated western Pulaski County.

Percent of your proposed service area that is unserved by 25/3 broadband

The following map illustrates Pulaski County, Arkansas, with census tracts 42.01 and 42.02 visible in the upper left corner of the county map, above. The map suggests that broadband service is available widely in the service area, however, the practical experience of many

residents is quite different. A typical service may be 13.1 Mb download and 1.7 Mb upload speeds. Some locations may not have service at all. This rural area, in reality, has very limited broadband infrastructure.

While the map indicates 25/3 MB service, within the two-census tract service area the only internet service available west of Ferndale Cutoff is HughesNet or ViaSat, both which are satellite-based services. We do not believe the map to be accurate.

Total population, number of residents who are rural and urban
The population of tract 42.01 is 2,355, and tract 42.02 is 3,797, for a total service area population of **6,152**.
(https://data.census.gov/cedsci/table?g=1400000US05119004201,05119004202&tid=ACSST5Y2018.S0101&hidePreview=false)
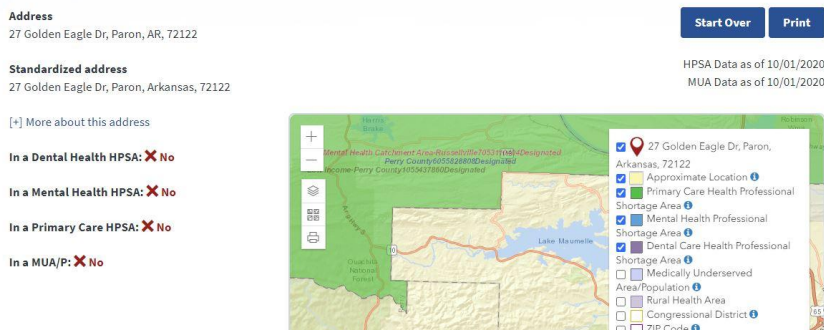
Percent of individuals in your proposed service area who are living in poverty
The percent of individuals below the poverty level in tract 42.01 is 6.0% (or 142 people) and in tract 42.02 is 5.3% (or 200 people).
(https://data.census.gov/cedsci/table?g=1400000US05119004201,05119004202&tid=ACSST5Y2018.S0101&hidePreview=false)

Medically underserved

The following map generated from *data.hrsa.gov/tools/shortage-area/mua-find* illustrates the general service area, with the address of Eagle Ridge POA indicated. Since the service area is primarily rural, practicalities of access are important. Remote sections of the service area may require drive times of 30 mi[n]... the map is not an accurate ill[ustration]... reality may be more similar t[o]...

Address
27 Golden Eagle Dr, Paron, AR, 72122

Standardized address
27 Golden Eagle Dr, Paron, Arkansas, 72122

[+] More about this address

In a Dental Health HPSA: ✖ No

In a Mental Health HPSA: ✖ No

In a Primary Care HPSA: ✖ No

In a MUA/P: ✖ No

HPSA Data as of 10/01/2020
MUA Data as of 10/01/2020

The following table, generated from

Discipline	MUA/P ID	Service Area Name	Designation Type	Primary State Name	County	Index of Medical Underservice Score	Status	Rural Status	Designation Date	Update Date
Primary Care	1053470285	Central Little Rock Service Area	Medically Underserved Area	Arkansas	Pulaski County, AR	53.8	Designated	Non-Rural	07/06/2018	07/06/2018
Primary Care	07533	Jacksonville Service Area	Medically Underserved Area	Arkansas	Pulaski County, AR	61.1	Designated	Non-Rural	07/27/2006	07/27/2006
Primary Care	00212	Pulaski Service Area	Medically Underserved Area	Arkansas	Pulaski County, AR	53.1	Designated	Non-Rural	05/11/1994	05/11/1994
Primary Care	00213	Pulaski Service Area	Medically Underserved Area	Arkansas	Pulaski County, AR	50.4	Designated	Non-Rural	05/11/1994	05/11/1994
Primary Care	00214	Pulaski Service Area	Medically Underserved Area	Arkansas	Pulaski County, AR	53.1	Designated	Non-Rural	05/11/1994	05/11/1994
Primary Care	07481	Southwest Little Rock Service Area	Medically Underserved Area	Arkansas	Pulaski County, AR	56.3	Designated	Non-Rural	05/24/2005	05/24/2005

data.hrsa.gov/tools/shor[tage-area]... of which are adjacent to the[...]

The following two tables list the service areas in Perry County and Saline County, which are immediately adjacent to the service area. Referring to the map, above, Perry County is designated as a medically underserved area.

Discipline	MUA/P ID	Service Area Name	Designation Type	Primary State Name	County	Index of Medical Underservice Score	Status	Rural Status	Designation Date	Update Date
Primary Care	00186	Perry County	Medically Underserved Area	Arkansas	Perry County, AR	42.6	Designated	Non-Rural	11/01/1978	11/01/1978

Discipline	MUA/P ID	Service Area Name	Designation Type	Primary State Name	County	Index of Medical Underservice Score	Status	Rural Status	Designation Date	Update Date
Primary Care	00201	Saline County	Medically Underserved Area	Arkansas	Saline County, AR	57.4	Designated	Non-Rural	05/11/1994	05/11/1994

DESCRIPTION OF NEED

Staffing needs:

Eagle Ridge POA has no paid staff and is managed by volunteer board members. As such, the POA will depend largely on external support (i.e. Winrock International) to conduct technical aspects of the project, while the basic work of executing contracts and monitoring progress will be handled by POA board members.

Population needs:

As noted in *Total Population* section above, the project target area has 6,152 residents in approximately 2,634 households. Approximately 21% of the population is of school age (5-19 years). The race of residents is estimated at 95 percent white, and 5 percent minority (African American, American Indian, Asian, two or more races, etc.), while people of Hispanic origin comprise about 10 percent of the population.

Demographic information related to census tract 42.01 was retrieved from
http://www.usboundary.com/Areas/Census%20Tract/Arkansas/Pulaski%20County/Census%20Tract%2042.01/434822
Demographic information related to census tract 42.02 was retrieved from
http://www.usboundary.com/Areas/Census%20Tract/Arkansas/Pulaski%20County/Census%20Tract%2042.02/434672

The service area includes Chenal Elementary School. The Joe. T. Robinson Elementary, Middle and High Schools are in a census tract that borders the service area but serve many students who live in the service area.

There are no healthcare services located in the service area, which makes telemedicine of great potential benefit to many residents, especially elderly residents. The lack of healthcare services is not unusual in a rural area, but some of the residents live in remote locations where access can take significant time.

The ability to perform e-commerce in the service area is significantly limited due to the restricted broadband service capacity.

For residents who have more conventional employment, with the onset of the pandemic many have shifted to telecommuting arrangements. Limited broadband service can severely limit their ability to fully engage in work activities, trainings, meetings, and other requirements as described, above.

Over 21 percent of the population is of school age as noted earlier. High-speed internet access is needed for most, if not all, distance learning courses, and for carrying out research projects and connecting to their instructors.

Eagle Ridge POA needs broadband to carry out all the same tasks that most other citizens in Pulaski County enjoy. Residents need to take advantage of the technological advances made over the past few years so we can participate in matters such as video conferencing, remote education, entertainment, remote worksites, and e-commerce just like other citizens in Arkansas.

Residents of Eagle Ridge were asked to report the broadband measurements at their homes using the program Speedtest. The results are as follow:

Test Location	Download Speed	Upload Speed
A	2.73 Mbps	0.89 Mbps
B	1.75	0.15
C	0.8	1.2
D	0.52	0.54
E	3.95	2.74
F	15.2	0.75
G	9.0	4.72
H	30.2	3.38
I	0.26	0.60

Admittedly, this is an unscientific survey, but it gives a strong indication of the level of existing broadband service in our area.

Members of the community have experienced a range of problems related to limited broadband service, with implications for daily tasks which fall, generally, into these categories.
- Education:
    Children are required to engage in online classes for their schooling, with much content now shifting to electronic format, especially during the pandemic. Slow internet speeds hamper access to online school platforms, and ultimately, can hinder learning. Missed educational opportunities are suspected, but difficult to quantify.
- Business/Work from Home:
    Many residents either run small businesses or are telecommuting for company jobs. Slow speeds limit their ability to serve customers online (potential loss of business) with contemporary website or video productions, or reduce their capacity to engage in company activities (e.g. video conference meetings, which have become a standard meeting structure). Professional trainings online are the norm now but may be unavailable without broadband service (Zoom doesn't work on slow internet).
- Research/Study/Storage:

Contemporary functions of academic research and professional studies rely on good broadband connections for access to databases, team collaborations and interactions. Several residents indicate these functions are limited or unavailable. Additionally, electronic storage of photos, documents, etc., is increasingly common, which relies on access to cloud-based services.

- Entertainment/Leisure/Personal:
  Many residents indicate that slow internet speeds limit their access to streaming videos, TV/movies, Youtube, and streaming of any kind. Library closures, and increased distances of travel to other facilities, increase demand for online access which requires good bandwidth. In addition to entertainment, property values are also affected by lack of good internet access.
- Cost/Adaptive Approaches:
  As internet service is limited on geography or variable across the time of day, some residents have attempted to patch services together to meet their needs. Some people use cellular service, which can be very expensive and have data limits on the plans. Such alternatives are used out of lack of options, not accessing optimal service.

Several residents of the POA shared comments on how limited broadband service is affecting their lives; a few examples are included here. These stories illustrate typical frustrations faced by residents in the service area regarding the challenges of living in an area with limited broadband service and options. These frustrations underpin the necessity of this grant-funded project.

"I'm a stay at home mom that homeschools my children. During the day the speed is a little better and closer to 2-3 Mbps. It can be really difficult to use online sources to teach. I'd love to see a faster option for internet access." –POA resident, Amber

"Things we can't do with our current ViaSat internet (which is also the most efficient/quality option we have found for internet in this area, and expensive for what it is as well): cannot stream more than 1 movie or 1 tv show in a months' worth of allotted speeds. And all of these also take 30 min or more to download/buffer. Trying to fill out applications to go back to school was a pain in the but because the pages took forever to load as well. We can do very basic stuff, albeit slowly, but not much more.

As a result, we use our cell phone data and cell phones for things like social media and the like. We don't even bother using a regular computer or iPad for that kind of stuff because it would take forever to just scroll through a newsfeed.

Our general usage of our internet goes to updating computers and cell phones and video games. After that the slowdown is just too much to use without getting frustrated. But at least our devices got updated." –POA resident, Megan

"We run an e-commerce business and need broadband access to add products to our website. The small bandwidth makes this impossible to do from home. It's also difficult to process orders from home - we find it easier to drive to our store to make the changes there."

We are unable to stream video in high-definition; it frequently buffers. We have tried using a cell-based substitute but we don't have cell coverage that's adequate to support data usage."
–POA resident, John

"Both me and my husband are working from home. Our current strategy is a combination of Verizon MiFi with 40GB (monthly payment about $300 on an average month. Highest bill was $600), Verizon iPad with 20GB of shared Wi-Fi, Verizon iPhone with 20GB of shared Wi-Fi (another $200). I have at least 8 hours a week of video conferences and training for new software I am installing at work. I am also a web developer and use even more data building websites.

Professionally, I'm missing out on:
• Unlimited video conference time with coworkers and vendors
• Inability to watch training videos on demand as needed for my job
• Inability to upload new staff training videos I am creating for new software
• Continuing education opportunities to advance technical knowledge

Personally, I'm missing out on:
• Video chats with grandchildren
• TV entertainment options
• YouTube videos for hobbies
• Wi-Fi security cameras
• Alexa for music and commands
• Flexibility to use IoT technology
• Saving money due to high connectivity costs
• Resale value on my home"
--POA resident, Pat

Internet Service Provider relationship needs:

No Internet Service Providers have made any effort to provide service in this proposed area except for the southeastern corner of census tract 42.01 which is somewhat more densely populated than the remainder of the service area. Comcast does make service available in this area but at an inflated price - $100.00 per month for high-speed internet.

Other parts of the proposed service area have had no contact from any internet service provider. AT&T was contacted regarding service in Ferndale, west of Ferndale Cutoff and their attendant responded: "We'll never provide internet service way out there." Eleven years later and the statement is still true.

Financial needs:

Eagle Ridge POA charges annual dues of $50.00 per household. Annual revenue is approximately $2,000.00. These funds are used to maintain a video system to deter crime in the neighborhood and to maintain the neighborhood sign and other common areas. There is no funding available to develop a broadband solution.

Community relationship needs:

The governing Board of Eagle Ridge POA supports this project. The lack of good broadband service is a prime topic of conversation once residents move in and experience satellite internet. Universal complaints are raised about the service and some people do sell their homes to move to an area with adequate service. POA members will support this project.

DESCRIPTION OF PLAN

The Eagle Ridge POA will use this grant to study existing and potential upgraded broadband services for the project area. The POA has identified activities that will explore broadband service solutions.

The POA will work with Winrock International (Winrock) in a sole-source subcontract to manage and implement the project. If a grant is awarded, the POA immediately will execute an agreement with Winrock, and monitor their progress throughout the period of performance.

The POA has identified several needs, as discussed above. The following activities are designed to address those needs.

- Survey residents:
  The project will conduct a survey of local residents in the target service area to assess demographic and geographic characteristics of the area; service locations that exist today and potentially in the future; existing service levels; and overall broadband demand in the area. This information will document and illustrate the population living in the service area, as well as the scope of broadband internet demand, and allow for expected growth in the area and its associated internet demands. This data will be the basis for service providers to formulate plans for infrastructure investments. Understanding the extent of residential locations and the ways they use internet service are necessary starting points for developing a broadband business plan.

- Assess existing broadband providers:
  The project will investigate and document the existing broadband services available in the service area. It is critical to have a clear picture of what is available in order to develop robust alternative services that are cost-competitive at the retail level, as well as feasible to develop the associated infrastructure.

- Last mile technologies:
  The project will examine current, state-of-the-art technologies that can serve the 'last mile,' or the connecting infrastructure that links the main and branch line internet systems to retail customers. New service infrastructure may be needed to address a potential gap in broadband service. Examining these technologies is necessary to this project in order apply technological solutions that are appropriate to the setting, demand and cost structures.

- Financial modeling:

The project will develop financial models and business plans that apply the appropriate technology to serve the existing and anticipated residential or business demand in the area. The models will be valuable, if not necessary, to find funding for infrastructure development or to negotiate with new service providers.

The project will be implemented in the sequence as described above, although some elements may overlap in timing. The POA will be responsible for the prime grant award and communicating with UAMS and will monitor the subcontractor's work.

The POA will contract with Winrock International as a single subcontract for this project. Winrock is an established nonprofit development organization based in Little Rock, Arkansas, and is known locally and world-wide as a trusted and effective community development expert. The POA will leverage Winrock's expertise and management skills to generate clear and actionable information for us. The POA has chosen to create this sole-source subcontract to ensure efficient, effective, and objective results from this grant project.

Activity	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
Eagle Ridge POA execute subcontract with Winrock International (WI)	x					
Eagle Ridge POA monitor progress	x	x	x	x	x	x
Survey residents (WI)		x				
Assess existing broadband providers (WI)		x				
Last mile technologies (WI)			x	x		
Financial modeling (WI)			x	x		
WI develop and deliver report with analysis and recommendations					x	
Eagle Ridge POA review recommendations, and report to funder						x

After completing this feasibility study, and assuming the recommendations are suitable, the POA will use the information, data and knowledge gained to begin discussions with internet service providers that have the capacity to build new systems for the service area. Service providers, using the information from this study, may pursue grants from two likely sources: the AR Rural Connect grant program, and the U.S. Department of Agriculture's Rural Connect grant program.

The project will result in a comprehensive report to include these products:
- An assessment, documentation and mapping of the service area, its residents and service needs.

- Documentation of existing of broadband service providers and detailed, accurate description of services.
- Analysis of technologies needed or applicable to the service needs of the area, infrastructure construction costs, and recommendations.
- Financial models to support infrastructure development and on-going retail service business, with recommendations.

BUDGET

Budget Categories	Cost
Personnel	$0
Fringe Benefits	$0
Travel	$0
Equipment	$0
Supplies	$0
Contractual	$68,500
Other	$ 6,500
Total Request	**$75,000**

BUDGET JUSTIFICATION

Eagle Ridge POA will subcontract project work and management to one contractor, as described in the **Description of Plan**, above. As such, the Budget has two line items: *Contractual* and *Other*.

Expenses have been budgeted for *Contractual* services in this project, to provide project management, coordination, facilitation and communication, and technical and business expertise which are necessary for the deliverables as described. The POA, as a volunteer and minimally-staffed organization, does not have adequate staff time or expertise to conduct critical elements of the project, and therefore, external expertise is required. The costs associated with the subcontract were determined to be reasonable by the POA based on market research into services available in the area, and for the period of performance.

Expenses have been budgeted for *Other* costs which are related to general administration, compliance and reporting. In particular, we anticipate auditing expenses to be a significant part of these additional costs, along with purchasing a surety bond, and generating reporting data such as GIS maps. These costs are necessary elements of the project administration and are required in the budget. The costs have been estimated by market research on local audit, insurance, or GIS firms that could provide these services during the period of performance. The costs associated with this line item were determined to be reasonable by POA leadership.

SUPPORTING DOCUMENTS
See attached letters.