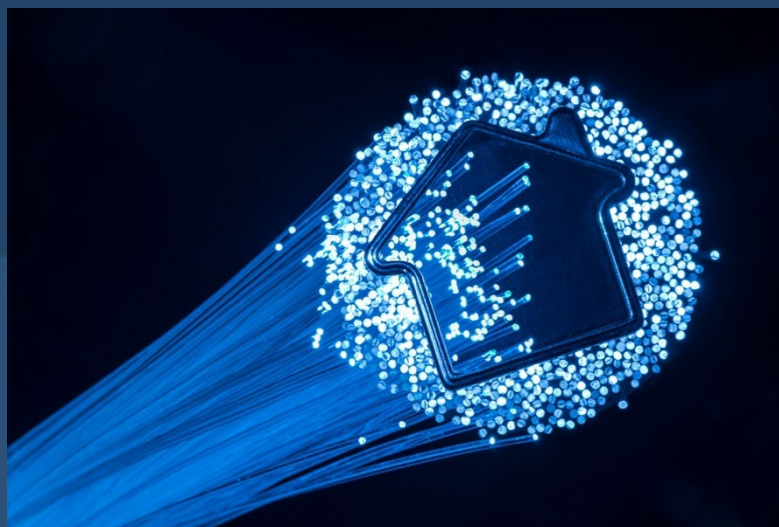


HERNANDO COUNTY, FLORIDA



Fiber Master Plan

Prepared for:
George Welsted
Director of Information
Technology
gwelsted@hernandoclerk.org

Prepared by:
Courtney Violette, COO
Magellan
cviolette@magellanbroadband.com
386-931-3520
magellanbroadband.com



About Magellan

Magellan is the leading turnkey broadband development firm for municipalities and utilities. We specialize in planning, designing and building fiber to the home networks for communities that need faster, more reliable high-speed internet. With over 19 years in business and over 400 municipal clients, Magellan is the most experienced firm for munis that want to enhance economic development, education, healthcare and the quality of life of their communities through world-class broadband.

Our staff understands the goals of local governments that recognize broadband as a policy issue. In our feasibility studies, we help educate, inform and direct municipalities to the most feasible options for solving local broadband issues. We work with internal and external stakeholders to build a profile of your community to determine the current state of broadband and identify key issues. Based on real-world solutions, we help you determine the best opportunities to close gaps and position your community for the future.

We are the only firm that creates custom tailored broadband networks to achieve municipal objectives. Our networks deliver the fastest internet services at the lowest cost, while giving municipalities a platform to deploy smart city innovations that help them manage their communities. We've led the planning, funding, construction and management of over 50 fiber broadband networks passing over 1 million households and connecting more than 1,000 schools, hospitals, government offices and community organizations and totaling \$1 billion in investments. Magellan has helped more communities successfully plan, implement and manage broadband networks than any other firm in the market.

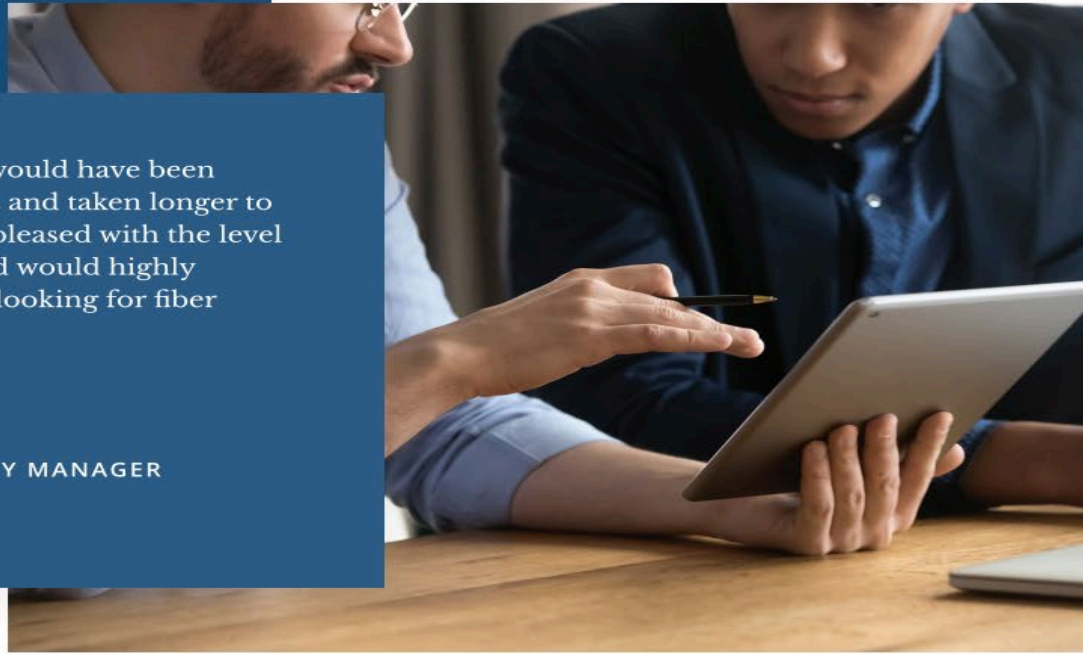
Magellan is an active partner in the Florida Association of Counties (FAC), the only organization representing the interests of all 67 counties in the state. Through FAC, Magellan has shared its extensive broadband expertise directly with county decision makers responsible for the technology infrastructure decisions in their communities. FAC has provided Magellan with the opportunity to understand communities' needs and forge the successful business relationships that have resulted in improved connectivity throughout many communities.





“Without Magellan, our network would have been double the estimated project costs and taken longer to complete. We could not be more pleased with the level of service and professionalism and would highly recommend Magellan to any city looking for fiber solutions for their community.”

City of Mont Belvieu
NATHAN WATKINS, ASSISTANT CITY MANAGER



BENEFITS + SOLUTIONS

Community-Focused Fiber & Broadband Services



Broadband Planning

Feasibility studies, fiber master plans and business plans that give you real-world guidance and results you can count on when deploying fiber and broadband.



Grants & Funding

Funding strategy, grant writing and compliance for all major federal and state fiber and broadband grant programs.



Design Engineering

Cutting edge fiber and broadband engineering to connect more sites, more devices and more customers at the speed of light.



Turnkey Implementation

A single, trusted partner to manage your entire network implementation, with over 50 fiber and broadband deployed networks across the US.



Launch & Startup Support

From network integration, to billing, to customer service to tech support, we provide you with the most experienced resources to manage your fiber networks.



Retail ISP Support

LightSpeed, powered by Magellan Advisors serves your community with fast, reliable and affordable internet services, built on a culture of delivering superior service.

Scope of Services

TASK 1: COMPREHENSIVE PLAN

Project Kick Off

Magellan’s team will initiate the project with a formal project kick-off meeting with the Hernando County team. The purpose of this meeting is to review and update the project plan to ensure alignment of our team with yours and that the final deliverables will meet your expectations. During the meeting we will collect information from the County about strategic initiatives, as well as deliver a formal data request that allows us to collect information on the County’s current fiber network and assets if available.

Magellan’s project team will meet on a bi-weekly basis with Hernando County’s project team to discuss the status of the project, major milestones and deliverables, and ensure alignment on project goals. Our team will lead these meetings, providing meeting agendas, preparing meeting handouts, and taking notes to prepare meeting minutes.

Project Timeline

[* Meeting ♦ Milestone]

Task	Month			
	1	2	3	4
1. Comprehensive Plan	*			
2. Evaluate County’s Current Fiber Network		*♦		
3. Broadband Market Analysis	*	*♦		
4. Conceptual Network Design			*♦	
5. Technical Specifications and Cost Summary			♦	
6. Financials and Funding Sources			*♦	
7. Final Report and Presentation				*♦

TASK 2: EVALUATE CURRENT FIBER NETWORKS IN THE COUNTY

We will conduct a comprehensive asset inventory of the County's public assets and any current network to determine its usefulness for new applications and where gaps in the network exist. This assessment will give Hernando County a realistic assessment of the any current capabilities and opportunities to use it as a foundation for future fiber development. We believe that the following components should be analyzed at a minimum:

- Underground conduit, innerduct, empty and available conduit
- Fiber cables, strand counts, splice points, terminations and utilized strands
- Vault and handhole locations
- Towers and Vertical Assets
- Construction and placement method policies
- Current as-builts and documentation
- Terminating locations and County facilities
- County GIS maps including County-owned property, right of way, easements

We will evaluate the network's capabilities for meeting the needs of the internal departments and possible businesses and anchors in Hernando County that could leverage it for economic development. We will also determine how the bandwidths and speeds, performance, redundancy and scalability requirements and solution-specific requirements for Hernando County will be met.

Magellan will provide the County with a comprehensive report on the network and accompanying GIS files. This report will provide the inventory of available fiber assets that the County should consider formalizing into its Fiber Master Plan as it develops.

Needs Assessment

Magellan will hold interviews with each group identified by the County to gain an understanding of their current and future connectivity and technology needs. The format for these may be one-on-one in some cases or group in other cases depending on the size of each organization or department and importance to the project.

A. County Departments

This phase will focus on the long-term needs of the County itself for expanded fiber infrastructure to support transportation, communications, technology, wireless, disaster recovery, emergency communications, and Smart City/County applications. We propose to hold interviews with the County's various departments - minimum of 4, to gain a thorough understanding of their needs and document them in the planning process. We would like to

meet with the departmental directors within each of the relevant County departments that would have needs for expanded fiber infrastructure. We suggest holding one-on-one meetings with each director so we can gain a comprehensive view of their needs and develop a conceptual network design to accommodate them.

We will analyze the requirements of each department/organization and identify what resources that they will need to meet their departmental requirements and prioritize them in the Fiber Master Plan. We will document the current state of each department and how an expanded fiber and wireless infrastructure will achieve long-term needs, in terms of new capabilities and reduced costs.

B. Economic Development/Industry Interviews

Magellan will hold interviews with economic development and industry organizations identified by the County to gain an understanding of their current and future broadband and technology needs. The format for these may be one-on-one in some cases or group in other cases depending on the size of each organization and importance to the project.

C. Smart County Assessment

A smart county controls costs and improves performance by empowering citizens to participate in governance. Digital technology enables cities to methodically collect and openly share data without degrading security or undermining privacy. Many municipal systems can be economically evolved into “smart city” applications with foresight and planning.

A new fiber-optic network is a long-term investment that will be judged on its impacts and return. A “smarter Hernando County” would capitalize on the network to deliver greater value and new services to citizens and visitors. Through County department interviews and via outreach to local businesses and institutions, Magellan will have a unique opportunity to engage the community in a discussion about “smart county” practices, and community benefit that can be derived through strategic investments in technology.

Magellan Advisors will assess needs, opportunities, and requirements for Hernando County to “get smarter.” We will look at how county departments’ digital initiatives, whether done in a collaborative or siloed fashion, can be linked via the network and opened up to citizens. A “smart city seminar” for county and/or community leaders will inform decision-makers about the how’s and whys of smart counties. Information about issues addressed by smart counties—affordable housing, civic participation, education, health & wellness, power consumption, public safety, traffic flows, transportation, etc.—will be methodically gathered during discussions and interviews. We will analyze information about the County’s systems, community issues, and

decision-makers' priorities to identify key results and steps for economically deploying effective smart county applications.

TASK 3: BROADBAND MARKET ANALYSIS

Competitive Market Assessment

Magellan will work with the County to determine the current broadband environment, including updated maps of broadband availability, speeds and providers. The competitive market assessment will determine the services that are available, providers, service level, pricing, and access. We will document all publicly owned and privately-owned networks in the County and build a comprehensive GIS-based broadband map to illustrate how the County is served by broadband and what providers currently serve the market. We will include details on all download and upload capacity and inventory on all physical transport. This will give the County an understanding of the current broadband environment and if the County's network should be leveraged to deliver additional capacity for key economic development zones.

Policy and governance

Magellan will engage public works and review the County's current policies and capital improvement projects that could impact or enhance fiber buildout including dig once, ROW access and joint build opportunities including those with DOT. We will provide the County with best practices and "broadband friendly policy" guidelines that will enhance fiber and broadband service opportunities in the County.

TASK 4: CONCEPTUAL NETWORK DESIGN

Based on the mapping information and an understanding of community needs across Hernando County, Magellan will develop a conceptual design for fiber and possibly wireless covering the County, creating a strategic plan for the County's fiber network. Magellan's team will leverage as much of the County's current assets that could reduce construction and overall costs for the County.

This task will entail network design elements for middle-mile connectivity focusing on County sites and facilities first and foremost and to develop a strategy for the middle-mile connectivity and interconnection points within the County's fiber network. We should identify any data centers or colocation facilities in Hernando County and determine if and how the County's network can interconnect to them.

We believe that the network should employ the concept of an open architecture, able to accommodate a range of technologies and applications. This open architecture should be carried through the entire network design, so the network is deployed consistently and affords

maximum compatibility with the County's systems, other public networks and any future broadband applications. As part of Magellan's proposed network design, we will provide a comprehensive set of development standards that should be employed in the final engineering design for the fiber network.

We will also design the network for multi-service capabilities to meet a variety of end user needs. As the network is designed, we will provide documentation on the allocations of network capacity for different users, across County, utility, community anchor and possible broadband applications. This capacity plan will ensure that the County creates the necessary fiber allocations for all potential users on the network and maintains enough reserve capacity for other future needs. The capacity plan will give the County a systematic way to assign, identify and manage the fiber network, which, as the network grows will become a critical process to ensure the County maintains accurate records.

TASK 5: TECHNICAL SPECIFICATIONS AND COST SUMMARY

The overall network design will be based on the needs of the sites and anchors that will utilize it. This will determine the bandwidths and speeds, performance, redundancy and scalability requirements and solution-specific requirements. At a minimum, we believe that the network should be capable of supporting the following:

- Gigabit-capable with a path to 10 Gbps and 100 Gbps
- High-performance, dedicated connectivity
- Reliable and redundant
- Flexible to support multiple technologies
- Scalable to support future growth, density and bandwidth requirements
- Multi-service in design – voice, video, data, with the necessary Quality of Service management
- Administratively lean, fitting well within the County's operational environment

Based on the network design, Magellan will provide estimates to Hernando County for cost of network construction, including design, construction, equipment, testing and certification as well as ongoing annual costs to operate and maintain the network. Our significant work managing broadband construction projects will allow for accurate estimation of the costs Hernando County will bear in this process. We will incorporate these cost estimates into our financial planning tools used in the project.

TASK 6: FINANCIALS AND FUNDING SOURCES

Magellan proposes using our Financial Sustainability Model to ensure that Hernando County has a full understanding of the business and financial sustainability of various fiber initiatives. Using

these tools will allow Hernando County to evaluate different business models and make informed decisions on which are most adequate for the County and its communities.

Our financial models have been specifically developed for fiber utilities and are very similar to electric utility rate studies. Our models are widely used tools to model feasibility and financial performance for over 50 municipal broadband providers. Magellan’s financial modeling tools have been utilized to plan and manage broadband network investments for over \$500 million in fiber network projects nationwide.

Magellan will also screen and identify feasible grant and loan programs for Hernando County. Our analysis will look at the federal FCC, USAC, EDA, and HUD programs as well as use of ARPA funds, and possible State of Florida programs that fund such projects. We will identify the program size, details, qualifications, requirements, and other key information for the County to determine the opportunity to fund some of its service area with federal or state funds.

Based on the financial analysis, we will be able to provide the following information to the County determine the best vehicles and organizational structures to be used for the project. Some of the areas we will analyze include:

- State of Florida and Federal grant programs
- Joint build and joint contribution projects
- Organizational structures available, for profit, non-profit, economic development corporations, joint powers authorities and joint ventures
- Public/private contribution models
- Total amount of funding needed for the project
- Capital versus operational funding needed for the project
- Funding term, identifying short-term and long-term portions of funding
- Optimizing public and private funding sources

TASK 7. RECOMMENDATION AND MASTER PLAN

The culmination of the study will lay out the core strategies for Hernando County in development of its Fiber Master Plan. The plan will craft the most effective strategies for Hernando County to adopt to bring next-generation fiber network connectivity to its community, leveraging the County’s infrastructure, smart public policies and key partnerships among community organizations. Magellan will work with Hernando County to determine what resources, policies and funding will be required to achieve these strategies and develop a phased approach to achieving the County’s objectives over a 5-year period. We will help Hernando County develop short, mid and long-term milestones to achieve and create a long-term project plan to meet these milestones. This will help the County, stakeholders and partners identify what goals must be achieved and the resources needed to meet these goals.

Magellan will incorporate all planning activities into the Fiber Master Plan final report that lays out Hernando County direction for expansion of its fiber infrastructure and services. The Master Plan will describe the over-arching needs, requirements, benefits, costs and goals of Hernando County moving forward with its municipal and community smart city and/or broadband initiatives. The Fiber Master Plan will provide a roadmap for Hernando County to implement its network initiatives with clear timelines and milestones over short, mid and long-term projects. We will present the Final Report to the Hernando County team.

OPTIONAL AREAS FOR ENGAGEMENT

Magellan is a full “turnkey” provider that can help communities from the initial feasibility phase all the way through partnership development, financial modeling, funding, grants, governance, design-engineering, project management, construction management, standup, marketing, launch and operations. Below is a list of some of Magellan’s most requested service offerings. Upon request Magellan will provide a detailed scope and cost for each optional task and service. In many cases Magellan becomes the “Owners” representative through the entire life cycle of the project.

Optional Tasks:

- Detailed Construction ready Design-Engineering and P.E. Stamps, Permitting
- Project Management-Construction Management
- Grant Identification, Application and Assistance
- Partnership Development and or Management

Cost Proposal

The total cost to the Hernando County’s Fiber Master Plan is \$102,000 and includes all work to be completed by Magellan as stated in this proposal at an hourly rate of \$210.

Magellan will bill \$25,500.00 in four (4) equal monthly payments. Magellan will bill on the first day of the month for the current month’s services.

Travel and incidental expenses will be billed as incurred, if approved and will include a 10% administration fee. Invoices are payable on net 30 terms from the date of invoice.

Task	Hours	Cost
1. Comprehensive Plan	40	\$8,400
2. Evaluate County’s Current Fiber Network	120	\$25,350
3. Broadband Market Analysis	90	\$18,900
4. Conceptual Network Design	120	\$25,200
5. Technical Specifications and Cost Summary	40	\$8,400
6. Financials and Funding Sources	25	\$5,250
7. Final Report and Presentation	50	\$10,500
Total Project		\$102,000
Total Travel Expense Budget Not-to-Exceed		\$0
Project Total		\$102,000

ADDITIONAL SERVICES AND RATES

Labor Classification	Hourly Rate
Project Executive	\$210
Licensed Professional Engineer	\$250
Broadband Consultant	\$210
Project Manager	\$185
GIS Engineer	\$140
Broadband Designer	\$135
Design Lead	\$170
Field Engineer	\$100
Project Coordinator	\$120
Permitting Coordinator	\$120
Make Ready Engineer	\$120
Lead Construction Manager / Inspector	\$140
Additional Inspector	\$105
Electronics Engineer	\$195
Broadband Integration Specialist	\$195
Broadband Operations Lead	\$195
Broadband Sales & Marketing Lead	\$195
Description	Cost
Underground Engineering Design	\$1.40 / foot
Aerial Engineering Design	\$1.10 / foot
Existing Conduit Design	\$0.85 / foot
Construction As-builts	\$0.20 / foot
P.E. Stamps	Pages 1-10 - \$190 each Pages 11 - 20 - \$175 each Pages 21+ - \$160 each

Signature & Acceptance

Signature of this Proposal by Client warrants that all components of this Proposal are acceptable to the County of Hernando, FL and that the person(s) signing this Proposal has the right, power and authority to execute the Proposal.

Magellan Advisors, LLC
999 18th Street, Suite 3000
Denver, CO 80202

Hernando County, FL

Print Name: Courtney S Violette

Print Name:

Title: COO

Title:

Signature:



Signature:

Date: February 14, 2023

Date: