



Medina County Fiber Network
ARPA Fiber Densification Project

Request for Proposal

Medina County Fiber Network (MCFN)

January 24, 2022

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1.0 Introduction

On October 20, 2003, by resolution of its Board of County Commissioners (Commissioners), Medina County, Ohio (County) created the Medina County Port Authority (MCPA) pursuant to Revised Code Sections 4582.21 *et seq.* (Port Act). MCPA is a governmental entity with the authority to assist the County in, among other things, promoting the creation of jobs and employment opportunities and encouraging projects to enhance aid and promote transportation, economic development, education, governmental operations, culture and research within the County. The Medina Economic Development Corporation (MCEDC) is an Ohio nonprofit corporation that provides certain economic development services to the County, MCPA and the community they serve.

Since the creation of MCPA, the County and MCPA have worked cooperatively, utilizing the services of MCEDC, to develop a plan for and then implement a regional Medina County Fiber Network (MCFN) to promote the mission of the MCPA. In 2006, the Commissioners announced their intent to make fiber broadband access more widely available throughout the County in support of governmental use (including to serve the County's needs as well as those of other governmental users, including municipalities, school districts, libraries and others), access for governmental and non-governmental providers of public services in the County (including educational, healthcare, research, cultural and other community institutions) and economic development (including retention and expansion of existing businesses, attraction of new businesses, facilitating job training and education). The MCFN is intended to provide a platform to promote all of those purposes at a cost that is acceptable to the County and the MCPA, effectively creating an e-Corridor linking the participants, not only to one another, but also to carrier facilities and carriers throughout the region and serving as a gateway to alternative networks and services.

Implementing a county-wide broadband infrastructure is the first phase of creating a technology-friendly economy to attract businesses and retain current companies as they grow. Medina County Port Authority constructed a 151-mile fiber backbone in 2011 within Medina County and parts of Cuyahoga and Summit Counties through a \$14.5M bond sale, for the purpose of adding telecommunications choices to the local geography, specifically enterprise companies. The network, called Medina County Fiber Network (MCFN), is an open network which means other carriers provide Internet, voice and data center services over the MCFN high-speed fiber backbone.

Open access networks reduce carrier's capital investment to bring their services into a certain geography by leasing transport services from the open access network provider, in this case MCFN. Today, the MCFN has fourteen (14) carriers connected, along with five (5) data centers, connecting over 250 mid-size to large companies within the fiber footprint. Since the inception of the MCFN, telecommunications prices have dropped 45% due to increased carrier competition through the open access network model.

Enterprise telecommunications is only one piece of fully utilizing an open access network. Small business and residential high-speed broadband services are highly needed especially in under-served areas. To address these needs, Medina County Port Authority is looking to form a public-private-partnership with a telecommunications company that specializes in residential and small business solutions. Using the existing MCFN backbone, the partner company will expand fiber to all other areas within Medina County where the MCFN does not serve. This proposal is part of that expansion, with the private partner matching, dollar for dollar, any ARPA funding from Medina County.

This Request for Proposals (RFP) is issued by the MCPA in order to receive proposals from respondents (Respondents) who are willing and able to provide the MCFN in accordance with the requirements of this RFP and who are willing to work with the County and MCPA toward a final design and contract for delivery of the MCFN that meets all requirements, whether stated herein or not of both the County and the MCPA, and that is accepted by both the Commissioners and the Board of Directors of the MCPA (Board), each in its sole and absolute discretion.

MCPA and the County specifically reserve the right to reject any and all Proposals, at any time and for any reason or no reason, the acceptance of any Proposal and the decision to continue with the MCFN being in the sole and absolute discretion of the County (acting through the Commissioners) and MCPA (acting through the Board).

As further described in this RFP, the County, MCPA and MCEDC will not be responsible for any costs incurred by any Respondent in preparing and submitting its Proposal or otherwise in respect of responding to this RFP. Respondents should take note that neither the County nor MCPA will fund any significant front-end costs included in any Proposal. In addition, to the extent that any Proposal calls for the construction of any building, structure or other improvement, MCPA and the County reserve the right to segregate each such portion of the Proposal from the balance thereof and submit such construction for competitive bids in accordance with applicable Ohio law.

2.0 Opening Instructions

Carefully read the information contained in this RFP and submit a complete response to all requirements, specifications, and questions to MCPA as directed herein or requested by MCPA or the County. The address of the Port Authority is as follows:

Medina County Port Authority
144 North Broadway, Room 119
Medina, OH 44256

Contact for this RFP:

David Corrado
Medina County Fiber Network
144 North Broadway, Room 119
Medina, Ohio 44256
Phone: 216.832.7059
dcorrado@fibercounty.com

3.0 Questions and Inquiries

Respondents who have questions about the RFP should e-mail such questions to the above-named Contact for this RFP (herein Contact) by the dates noted in the RFP schedule in section 3, table 1.

Every effort will be made to post all questions and answers within 1-2 working days using a distribution email list. Please add the email address in section 2.0 to your email white list.

Responses to questions which involve an interpretation or change to this RFP will be issued in writing by addendum and e-mailed to all parties recorded by MCPA as having received a copy of the RFP and having elected to proceed with responding to the RFP.

It is the responsibility of the Respondent to ensure MCPA has the correct contact information. All addenda issued prior to the time that proposals are received shall be considered part of the RFP. Only additional information provided by formal written addenda shall be binding. Anyone receiving a copy of this RFP other than directly from MCPA is responsible for notifying the Contact that they are in receipt of an RFP package and for providing a name, address and e-mail in the event an addendum is issued.

All materials submitted in response to this RFP will, upon receipt, become the sole property of MCPA and may become a part of any contract relating to the MCFN regardless of whether submitted by the contracting party. The Respondent by acceptance of this RFP agrees that any cost incurred in responding to this RFP, or in support of activities associated with this RFP, any response whether or not resulting in a Proposal, and any efforts of the Respondent, whether or not at the request of MCPA or the County in connection with the transactions contemplated by this RFP, in the absence of an express written contract approved by the Commissioners and the Board, shall be borne solely by the Respondent and cannot be billed to MCPA or the County. MCPA and the County will incur no obligation or liability whatsoever to anyone by reason of issuance of this RFP, or action by anyone relative thereto.

4.0 RFP Schedule of Events and Dates

All events and dates are subject to change. MCPA will give reasonable notice of changes via the website and notification to those continuing in the RFP process via email.

RFP Event	Projected Schedule
RFP Release	January 24, 2022
Intent to Respond Notification; All Questions Submitted by	February 10, 2022
MCPA-Issued Responses to All Respondent Questions by	February 24, 2022
Proposals Submitted to MCPA	March 4, 2022
Proposal Review Begins	March 7, 2022
Proposal Selection	March 11, 2022

Exhibit 1 - RFP Events and Dates

4.1 Response Requirements

The closing date and time for submitting a Proposal as noted in the RFP Schedule will be **March 4, 2022 at 5:00 p.m. EST via email**. Any responses received after that time on that closing date will not be accepted. All email submittals shall be tagged with a “read receipt”. The “read receipt” received by the Respondent via email denotes that the Respondent’s RFP has been received by the closing date and time and will be reviewed by the Medina County Port Authority.

4.2 Evaluation Process

The MCPA will review the accepted Proposals with the County based on the evaluation criteria listed below and the value to MCPA and the County. MCPA and the County will form a task force to review the Proposals and the task force will compare and rank the Proposals, based on the Evaluation Criteria below and using a point-based weighted ranking system, as set forth under “Evaluation Criteria” below. Once that objective evaluation is made, each Proposal will also be evaluated, and all Proposals will be ranked, based on the subjective criteria listed under “Value to Medina County” below. MCPA and the County reserve the right, at any time and for any reason or no reason, to reject any and all Proposals, to utilize a different approach to implementing the network or to abandon this RFP process.

4.3 Evaluation Criteria

Understanding of Scope of Work	25 Points
Administrative (Compliance) Requirements	25 Points
Contracting and Financing Options and Prices	75 Points
Operational and Project Management Requirements	25 Points
Technical Requirements & Proposal Checklist	100 Points
Presentation, Demonstration, References	<u>50 Points</u>
Total:	300 Points

4.4 Value to Medina County

- **PRACTICALITY:** The MCPA and the County will review Proposals to determine whether all aspects of each Proposal service can reasonably be implemented. All proposed technologies must have a demonstrated and demonstrable capacity to provide the proposed services to the identified portions of the County.
- **CONTROL OF FIBER:** The County and MCPA require Proposals that provide MCPA or the County with joint control of the fiber assets through a public-private partnership and provide the maximum amount of flexibility to the MCPA and the County for implementation and expansion of the MCFN in support of the MCPA mission and the Vision and Policy Goals described below. The MCPA will consider all reasonable and legal forms of consideration.

- **FINANCEABILITY:** To the extent that the Proposal calls for matching funds by the Respondent who is awarded this project, the Respondent will demonstrate sufficient means for providing the matching funds. The total distribution of ARPA funds is \$11M, with \$5.5M allocated for construction in 2022 and \$5.5M allocated for construction in 2023.
- **TIMING AND NUMBER OF USERS TO BE SERVED:** The County and MCPA are interested in extending services to the largest number of residential and commercial users to and within a reasonable distance of any existing fiber routes as quickly as practical, and will prefer Proposals that enhance that value.
- **FINANCIAL WHEREWITHAL:** The MCPA is concerned that any Respondent will have in hand financial support or adequate capital to initiate and complete all obligations of the Respondent under the Proposal. Successful Proposals must show adequate resources to complete all such obligations within the proposed timeframes. This information may be identified as confidential information and, to the extent permitted by law, will not be subject to general disclosure. Summary or preliminary information may be submitted initially with the Proposal, with further details to be provided upon request. This is in addition to the required security described above.
- **REFERENCES AND WARRANTY PROVISIONS:** The County and MCPA are interested in assurances of performance, especially as represented by experience or qualifications of key personnel, by references that the Respondent may provide of services provided elsewhere, and warranties of performance that the Respondents propose to provide. MCPA and the County reserve the right to require additional references and warranties at any time.

4.5 Further Proceedings

Unless all of the Proposals are rejected, the MCPA Board and County Commissioners will appoint one or more individuals as a Review Committee for preparation of recommendations to the Commissioners and the Board with respect to further proceedings. The Review Committee will evaluate all proposals in preparation of recommendations to the MCPA board and County Commissioners for negotiations with one or more of the Respondents' Proposals submitted. The Review Committee will continue discussions and preparation of recommendations may but need not include negotiations with one or more Respondents to determine whether such individuals are satisfied that the Respondent's (or Respondents') Proposal or Proposals are sufficiently precise, are in accordance with all applicable legal requirements, and are in accordance with the needs and expectations of the County and MCPA. If appointed and so satisfied, such individuals will submit a report to the County Commissioners and the MCPA Board, which report may include recommendations as to commencing negotiations with any such Respondent with a view to contracting for all or a portion of the items proposed by that Respondent.

The option of whether or not to initiate negotiations rests solely with the County Commissioners and the MCPA Board. If those Boards elect to initiate contract negotiations, these negotiations can involve changes in the MCPA's requirements or the Respondent's Proposal which could, by their nature, affect the basis of selection. The Respondent will remain responsible for all expenses during any contract negotiations.

The MCPA expect to enter into a cooperative agreement for the development or development and operation of the MCFN densification areas. The MCPA will evaluate submitted plans for the design, construction and operations of the MCFN. The County will provide \$11M in ARPA funding toward the financing of MCFN ARPA areas with the awarded respondent providing the remaining funding to complete the project. It is the responsibility of the awarded respondent to design and propose a revenue sharing plan with the MCPA supported by services provided by the awarded respondent.

5.0 Vision

The County and MCPA are engaged in this project to implement a fiber optic expansion from the existing MCFN network to meet the needs of the County; including county and municipal government, education, healthcare and other non-profit institutions in unserved and underserved geographies within Medina County. In addition to serving those needs, the fiber broadband network will serve as an economic development platform for attracting businesses to the County and serving the needs of the local business community. This project enhances the County's ability to deploy and apply new technology and services for the benefit of the community and to create and preserve jobs and employment opportunities throughout the County. The County's vision is to deploy a high availability, cost-effective fiber broadband network as a foundation for the further development of the County. The creation of the core fiber broadband network expansion will continue to support the key strategy for attracting business, and permitting collaborative business environments that the current MCFN infrastructure already provides.

The County intends to become the most efficient, effective and responsive county government in the nation - while stimulating economic development and promoting digital inclusion in the County. Availability of cost-effective broadband fiber access will:

- Reduce county, school district and municipal communications expenses – saving taxpayers money - and allowing the County and such other political subdivision to deliver more efficient, effective and responsive services;
- Stimulate economic development, job growth and increased competitiveness for the County - both nationally and internationally - attracting new human, financial, physical and technological capital to the region; and
- Promote digital inclusion in the County,

6.0 Overview

The remainder of this document outlines technical requirements necessary for a potential provider to provide not-to-exceed costs for long-haul and local access fiber segments, meet-me fees, cross connect fees, collocation fees, power fees, and all other costs to be charged to the MCPA up to \$11M over 24 months with the remaining funding to be provided by the awarded respondent. The Respondent will be asked to commit that no additional charges will be levied on the MCPA or its contractors for service.

7.0 Scope of Project

The growth of a fiber broadband network can take two forms, backbone expansion or densification. Backbone expansion is common for commercial networks but not for municipal networks which are geographically positioned. Densification of fiber trunks and products is the more common approach to growing the fiber infrastructure within the county. This RFP focuses on fiber expansion into three industrial parks and densification of two large residential areas. The original commercial fiber backbone design did not include all the industrial parks within Medina County, excluding Wolf Creek Trail, Lodi Industrial Park and the Medina Industrial Park. Historically, industrial parks have been an anchor for fiber services within Medina County as these businesses require a network infrastructure that can communicate around the world to company headquarters and subsidiaries.

7.1 Industrial Parks

Commercial anchor institutions need open, affordable, high-capacity broadband connections to the Internet to accomplish their mission and serve the public. High-speed Internet access is essential for workforce development, smart manufacturing facilities, supply chain logistics and a host of other industrial requirements for business success.

The Lodi Industrial Park extension is west of the existing commercial infrastructure. One of the smaller county industrial parks, there are a few large companies that have expressed interest in high-speed fiber services. The RED line, shown below, will be part of the backbone extension throughout the LMRE geography, discussed later. The construction and pricing of fiber drops from the street to a business is not part of this RFP.

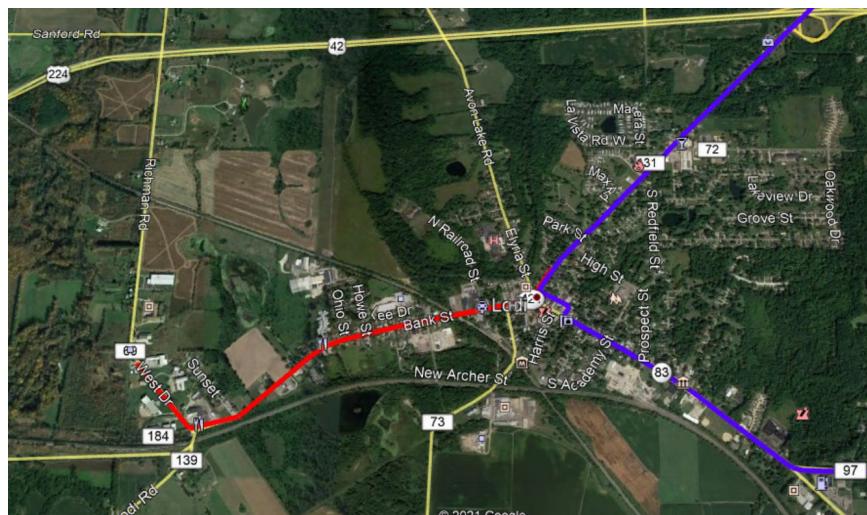


Exhibit 2 – Lodi Industrial Park

The Medina Industrial Park, situated southwest of the City of Medina, is home to dozens of industrial companies of varying market verticals. Most of the companies in this area are using cable modem services with relatively high voice cost voice services over legacy copper lines. The respondent's design should include fiber on both sides of the street, forming a closed loop from the park entrance off of Lake Road. The construction and pricing of fiber drops from the street to a business is not part of this RFP.

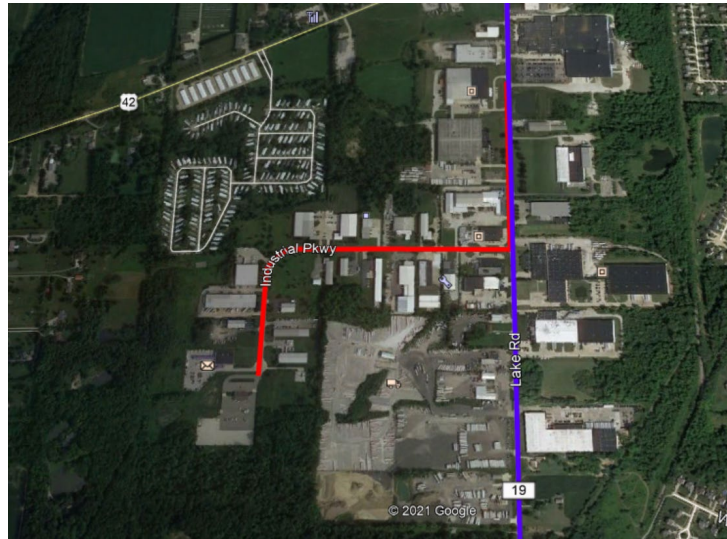


Exhibit 3 – Medina Industrial Park

The Sharon Corporate Park, located north of the City of Wadsworth has eleven (11) businesses, connected via aerial cable or copper DSL services. The respondent's design should include fiber on both sides of the street, forming a closed loop from the park entrance off of Route 94. The construction and pricing of fiber drops from the street to a business is not part of this RFP.

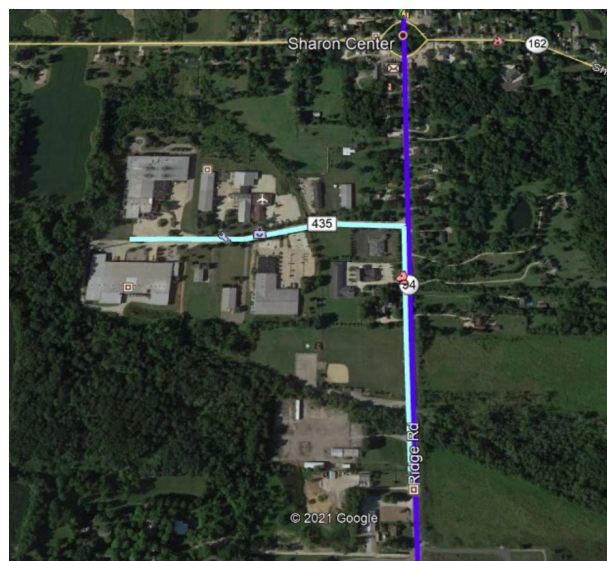


Exhibit 4 – Sharon Corporate Park

7.2 Residential and Small Business

The fourth construction area focuses on residential and small business located within two geographic areas that are underserved and/or unserved, as follows:

1. Western Medina County served by Lorain-Medina Rural Electric. **(Area 1)**
2. Sections of Guilford Township, Montville Township and Sharon Center that is predominantly east of I-71, north of Greenwich Road and west of Route 94. **(Area 2)**



Exhibit 5 – Eastern and Western ARPA Areas

Exhibit 5, shown above, outlines the two fiber construction areas addressed by this project. Each section will be described, in detail, as to the construction and service requirements within the next sections. As the \$11M of ARPA funds will cover the industrial park expansions completely, the remaining ARPA money will not be sufficient to complete the build requirements of these two densification areas. It is the responsibility of the awarded respondent to provide the remaining funds to complete the construction requirements outlined in this RFP in addition to a service plan, working with MCPA, to generate revenue from these two areas to cover the respondent's costs.

Area 1

Area 1, known as the "LMRE" (Lorain Medina Rural Electric) area for this RFP, covers the western portion of Medina County (refer to KMZ reference file). For this particular project, only homes that receive LMRE service will be included in the fiber design. There are three (3) fiber pieces to this build:

- Backbone
- Lateral
- Drops

The fiber drops from the street to the residence are not part of this project and should not be included in any designs or pricing. The backbone portion is an extension of the existing MCFN backbone, as shown in Exhibit 6 on the following page.

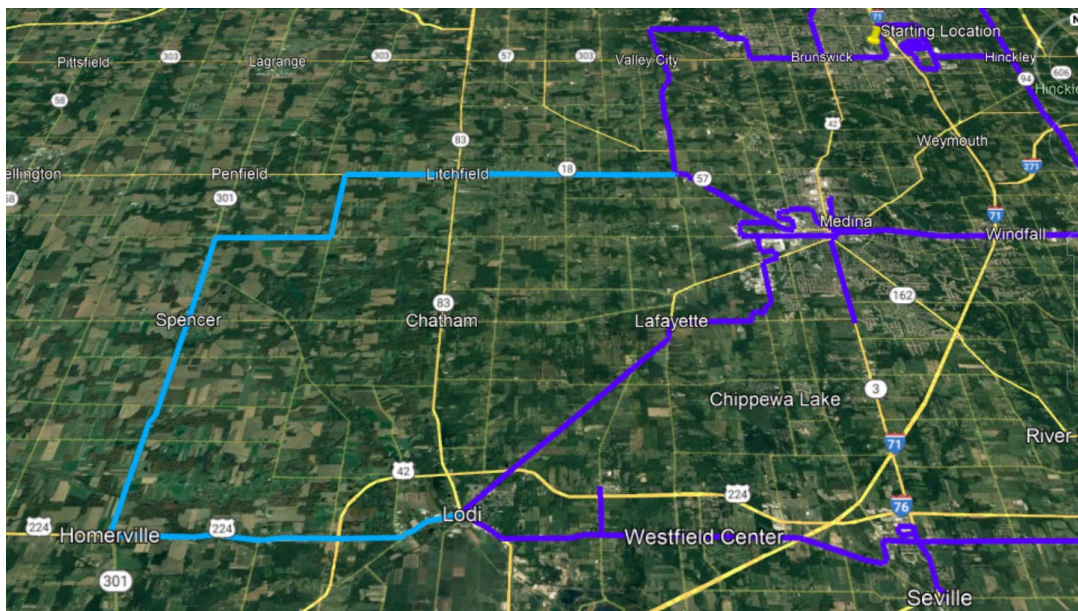


Exhibit 6 – MCFN Backbone Extension

Referring to Exhibit 6 above, the DARK BLUE lines denote the existing MCFN network. The AQUA BLUE line is the MCFN backbone extension that will be used to close the western loop of the MCFN network and provide additional capacity fiber for the LMRE residential project which is part of this ARPA RFP. In addition to extending the MCFN backbone, the respondent should include construction designs and pricing to include all distribution and lateral fiber and at least one fiber drop connection port for every home located within the LMRE service area inside Medina County for a future build of a separate fiber network for LMRE. It is the respondent's choice as to how to design a FTTH network within the LMRE territory plus a second network for LMRE that provides dark fiber connections for all LMRE homes that terminate in the City of Spencer (Spencer Road in the Spencer Industrial Park). The respondent shall design and price a backbone extension to support the LMRE build area.

LMRE will provide facilities at their new location for network equipment placement and for outside plant construction materials however the facility build may not be complete in time for fiber construction within the LMRE area so the respondent should assume warehousing and node design will be outside the new LMRE building.

The LMRE support areas and number of drops can be found at:

<https://ebill.lmre.org/maps/OutageWebMap/>

The outage map will also show the service areas as they relate to Medina County geography in which the respondent can overlay the MCFN existing backbone and projected new backbone on to the service area geographies.

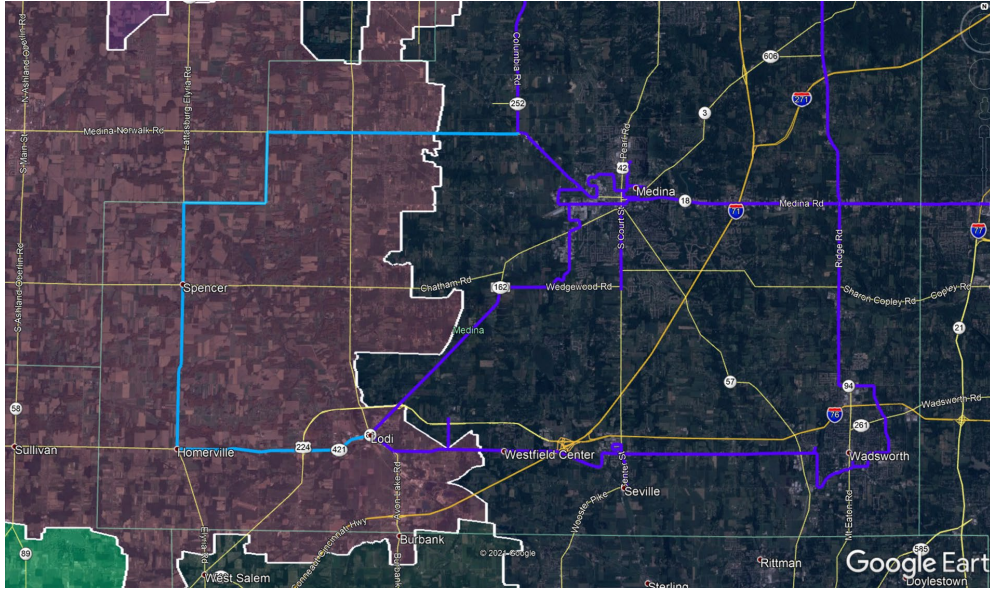


Exhibit 7 – LMRE Service Area in Medina County

Pricing for Area 1 should be shown using the following format:

MCFN Backhaul	# Units	Cost / Unit	Cost
MRE and MRC (35 poles per mile)		\$	-
Aerial Construction		\$	-
Aerial Materials		\$	-
Underground Construction		\$	-
Underground Materials		\$	-
		\$	-
MCFN Laterals			
MRE and MRC (35 poles per mile)		\$	-
Aerial Construction		\$	-
Aerial Materials		\$	-
Underground Construction		\$	-
Underground Materials		\$	-
		\$	-
Distribution Routes			
MRE and MRC (35 poles per mile)		\$	-
Aerial Construction		\$	-
Aerial Materials		\$	-
Underground Construction		\$	-
Underground Materials		\$	-
		\$	-
MCFN New Backhaul Miles			
MCFN New Lateral Miles			
Medina Fiber FTTH Miles			
Homes Passed By FTTH Network			
FTTH Network Homes per Mile			

Area 2

Area 2, known as the “Guilford” area for this RFP, covers a southeast portion of Medina County (refer to KMZ reference file). The respondent should include connectivity to as many homes as possible in this geography. The highest design points will be given to the respondent that can cover the most homes using the ARPA funding. There are three (3) fiber pieces to this build:

- Backbone (residential build)
- Lateral
- Drops

The fiber drops from the street to the residence are not part of this project and should not be included in any designs or pricing. Unlike the LMRE area, the Guilford area does not have a backbone extension of the existing MCFN. The residential build will need to include a new backbone, specifically designed for this portion of the ARPA project. Up to four (4) MCFN fibers will be donated by MCFN to assist in the creation of the Guilford backbone. Exhibit 8 shows the existing MCFN splice points to assist with the design and integration of the FTTH backbone.



Exhibit 8 – MCFN Splice Points in Guilford Area

The respondent can use any of the MCFN splice cannisters that are in the Guilford area in assisting the respondent in constructing the Guilford backbone. Depending on the design, MCFN will work with the respondent, who is awarded this project, regarding donated fiber in the Guilford area.

Pricing for Area 2 should be shown using the following format:

	<u># Units</u>	<u>Cost / Unit</u>	<u>Cost</u>
MCFN Backhaul			
MRE and MRC (35 poles per mile)		\$	-
Aerial Construction		\$	-
Aerial Materials		\$	-
Underground Construction		\$	-
Underground Materials		\$	-
		\$	-
MCFN Laterals			
MRE and MRC (35 poles per mile)		\$	-
Aerial Construction		\$	-
Aerial Materials		\$	-
Underground Construction		\$	-
Underground Materials		\$	-
		\$	-
Distribution Routes			
MRE and MRC (35 poles per mile)		\$	-
Aerial Construction		\$	-
Aerial Materials		\$	-
Underground Construction		\$	-
Underground Materials		\$	-
		\$	-
MCFN New Backhaul Miles			
MCFN New Lateral Miles			
Medina Fiber FTTH Miles			
Homes Passed By FTTH Network			
FTTH Network Homes per Mile			

8.0 Construction Requirements

- A. The Service Provider whom the MCPA chooses to contract with for this RFP shall be responsible for managing the relationship of agreements with the municipality, utilities and others on the use of right-of-way and construction and all items pertaining to the design and installation of the networks
- B. The Service Provider shall be responsible for managing the relationship of agreements with the municipality, utilities and others on the use of right-of-way and construction and all items pertaining to the design and installation of the Network.
- C. The Service Provide/ shall be responsible for all costs associated with entering into and, as part of the service agreement, any annual costs associated with a support structure agreement with the pole or duct owner, including, but not limited to, all upfront insurance, liability, make ready, annual feeds, records and drawings required by the support structure owner.

- D. The Service Provider shall be responsible for all costs associated with an access agreement.
- E. All aerial fiber shall be installed in the communication space of the existing poles.
- F. All aerial and conduit run fiber shall have 150-foot maintenance loops placed a minimum of every 1000 feet and at all major intersections.
- G. All underground optical fiber shall be a minimum depth of 30 inches under finished grade.
- H. The Service Provider shall be responsible for all trenching, permitting and site restoration necessary for underground optical fiber.
- I. All underground fiber that utilizes conduit shall have industry standard pull boxes installed on grade every 500 feet.
- J. Warning tape with a metallic tracer shall be furnished and installed over all direct burial underground cable.
- K. The Service Provider shall be required to verify, comply and register with all local and state requirements.
- L. The Service Provider shall fusion splice all connections and attempt to minimize the amount splicing on the network. The quantity of splice locations on the network shall not exceed the total network distance divided by 10,000 feet

- M. The Service Provider shall utilize a minimum .316 stainless steel type lashing with a tensile strength of 80-1 20kpsi and a minimum break load of 1 50lbs. All aerial fiber optic shall be supported with a minimum of 6M-messenger strand. The Service Provider shall verify and comply with all local and state requirements regarding messenger strand and lashing.
- N. The system shall utilize a network of trunk and lateral cables. Cables and terminations shall be provided as necessary to provide the Network. All cable and terminations shall be identified at all COUNTY locations. All cables shall be terminated in an alphanumeric sequence at all termination locations according to the drawings. All cable, terminations and testing shall comply with Industry Standards. All cables shall terminate on rack mounted panels in the primary facility.
- O. All grounding and bonding required for this project to comply with the National Electrical Code (NEC®) as well as local codes which specify additional grounding and/or bonding requirements shall be furnished and installed by the Service Provider.
- P. All work shown on the Drawings and not specifically included in the Specifications shall be considered part of the Contract work. All work included in the Specifications and not included on the Drawings shall also be considered a part of the Contract work.

9.0 Service Provider Requirements

1. The Service Provider shall be experienced in all aspects of this work and shall be required to demonstrate direct experience on recent systems of similar type and size. The Service Provider shall own and maintain tools and equipment necessary for successful installation and testing of Fiber Optic Networks.
2. The Service Provider selected to provide the service shall have been in business a minimum of four (4) years or provides proof of experience on similar systems.
3. The Service Provider selected for this project must adhere to the engineering, installation and testing procedures of the manufacturers.
4. The Service Provider shall have a service call number that is answered 24 hours a day, 365 days per year for maintenance and trouble calls.
5. The Service Provider shall obtain and pay for all permits and inspections necessary for the execution of any and all work pertaining to the network.
6. Should any change in drawings or Specifications be required to comply with governmental regulations, the Service Provider shall notify the Port Authority prior to execution of the work. The work shall be carried out according to the requirements of such code in accordance with the instructions of the engineer and at no additional cost to the County.
7. The Service Provider shall obtain and pay for all permits and inspections necessary for the execution of any and all work pertaining to the network.

10.0 Product Specifications and Handling

1. All singlemode fiber shall be mechanically strippable, color coded per EIA/TIA 598A, and compatible with all current industry standard connectors.
2. All strands shall be loose tube dry water blocking construction for ease of cable re-entry and splicing. Gel filled loose tube construction will be considered as an alternate.
3. The fiber jacket shall be black UV and moisture-resistant polyethylene (PE)
4. The fiber jacket shall have sequential meter markings
5. All single mode optical fiber shall comply with the ITTU-T G.655 for non-zero dispersion characteristics.

Core Diameter:	8.3 um
Cladding Diameter:	125 um + 2 um
Coating Diameter:	245 um + 10 um
Maximum Fiber Attenuation:	.40dB/km @ 1310 nm .37dB/km @ 1380 .22dB/km @ 1550 nm .25dB/km @ 1625nm
Point Discontinuity at 1 550nm	<= 0.10dB
Water Peak Atten. at 1380nm	<= 0.37dB/km

6. Construction and storage shall comply to the following.

Bend Radius	Install: 20 x Cable Diameter Operating: 10 x Cable Diameter
Temperature Ratings	Operating: -40°C to 70°C Storage: -40° C to 70°C

11.0 Proposal Submission Requirement

Cover Page

Proposals must include the telephone numbers and email of a contact person regarding the proposal.

The Respondent must provide a brief description of its organization including history; number of years the organization has been in business; type of services it provides; legal status of Respondents organization, i.e., corporation, partnership, sole proprietor; Federal employer ID number.

A Respondent representative authorized to make contractual obligations must sign the cover letter.

Table of Contents

Provide sufficient detail so reviewers can locate all the important elements of the proposal readily.

Identify each section of the proposal as outlined in the proposal package.

- Executive Summary
- Project Understanding
- Project Methodology
- Project Financial and Pricing Schedules
- Respondents Credentials
- Contracting Requirements

Technical Details:

- Provide overall fiber segment distances and projected or measured losses
- Provide a map of the fiber with the addresses or locations of each running line or access point on the network
- Provide detail maps of the areas surrounding sites of interest to the MCPA and the County, or preferably provided a full detail map of the entire infrastructure.
- Detail all fiber types on each segment
- Describe power and redundancy standards for all facilities and any exceptions

Pre-Construction Documentation

Respondent will supply pre-construction documentation package prior to beginning construction to include;

- Scope of work
- Project plan
- Engineering plan identifying route, paths/entrance, pole attachments and manholes
- Construction specifications
- Materials used during construction

In addition, respondent is to provide quarterly information sufficient for filing a status report with the Federal government.

As-Built Documentation Respondent will supply;

- All written permit applications filed
- Updated scope of cabling and structure as installed
- Drawing sheet identifying finished depths of construction
- Digital copies of as-built documentation
- Drawing detail sheets, pole attachments and manhole details