

Application for Federal Assistance SF-424		
* 1. Type of Submission: <input type="checkbox"/> Preapplication <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application	* 2. Type of Application: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision	* If Revision, select appropriate letter(s): <input type="text"/> * Other (Specify): <input type="text"/>
* 3. Date Received: <input type="text" value="08/17/2021"/>	4. Applicant Identifier: <input type="text"/>	
5a. Federal Entity Identifier: <input type="text"/>	5b. Federal Award Identifier: <input type="text"/>	
State Use Only:		
6. Date Received by State: <input type="text"/>	7. State Application Identifier: <input type="text"/>	
8. APPLICANT INFORMATION:		
* a. Legal Name: <input type="text" value="Logan, County of"/>		
* b. Employer/Taxpayer Identification Number (EIN/TIN): <input type="text" value="55-6000343"/>	* c. Organizational DUNS: <input type="text" value="7863992380000"/>	
d. Address:		
* Street1: <input type="text" value="300 Stratton St"/>	Street2: <input type="text" value="Ste 101"/>	
* City: <input type="text" value="Logan"/>	County/Parish: <input type="text"/>	
* State: <input type="text" value="WV: West Virginia"/>	Province: <input type="text"/>	
* Country: <input type="text" value="USA: UNITED STATES"/>	* Zip / Postal Code: <input type="text" value="25601-3924"/>	
e. Organizational Unit:		
Department Name: <input type="text"/>	Division Name: <input type="text"/>	
f. Name and contact information of person to be contacted on matters involving this application:		
Prefix: <input type="text"/>	* First Name: <input type="text" value="Roscoe"/>	
Middle Name: <input type="text"/>	* Last Name: <input type="text" value="Adkins"/>	
Suffix: <input type="text"/>	Title: <input type="text"/>	
Organizational Affiliation: <input type="text"/>		
* Telephone Number: <input type="text" value="3046872518"/>	Fax Number: <input type="text"/>	
* Email: <input type="text" value="radkins@lccwv.us"/>		

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

B: County Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

National Telecommunications and Information Admini

11. Catalog of Federal Domestic Assistance Number:

11.031

CFDA Title:

Broadband Infrastructure Program

*** 12. Funding Opportunity Number:**

NTIA-BROADBAND-INFRASTRUCTURE-PROGRAM-21

* Title:

BROADBAND INFRASTRUCTURE PROGRAM

13. Competition Identification Number:

NTIA-BROADBAND-INFRASTRUCTURE-PROGRAM-21

Title:

Broadband Infrastructure Program

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment

Delete Attachment

View Attachment

*** 15. Descriptive Title of Applicant's Project:**

Logan & Mingo Counties Fiber to the Premises Project

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant

* b. Program/Project

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment

Delete Attachment

View Attachment

17. Proposed Project:

* a. Start Date:

* b. End Date:

18. Estimated Funding (\$):

* a. Federal	<input type="text" value="19,682,933.06"/>
* b. Applicant	<input type="text" value="5,448,000.00"/>
* c. State	<input type="text" value="0.00"/>
* d. Local	<input type="text" value="0.00"/>
* e. Other	<input type="text" value="0.00"/>
* f. Program Income	<input type="text" value="0.00"/>
* g. TOTAL	<input type="text" value="25,130,933.06"/>

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

a. This application was made available to the State under the Executive Order 12372 Process for review on

b. Program is subject to E.O. 12372 but has not been selected by the State for review.

c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

Yes No

If "Yes", provide explanation and attach

Add Attachment

Delete Attachment

View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: * First Name:

Middle Name:

* Last Name:

Suffix:

* Title:

* Telephone Number: Fax Number:

* Email:

* Signature of Authorized Representative: * Date Signed:

BUDGET INFORMATION - Construction Programs

NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified.

COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	\$ 100,000.00	\$ 0.00	\$ 100,000.00
2. Land, structures, rights-of-way, appraisals, etc.	\$ 5,448,000.00	\$ 0.00	\$ 5,448,000.00
3. Relocation expenses and payments	\$	\$	\$
4. Architectural and engineering fees	\$ 768,350.80	\$ 0.00	\$ 768,350.80
5. Other architectural and engineering fees	\$ 50,000.00	\$	\$ 50,000.00
6. Project inspection fees	\$	\$	\$
7. Site work	\$	\$	\$
8. Demolition and removal	\$	\$	\$
9. Construction	\$ 16,310,334.26	\$	\$ 16,310,334.26
10. Equipment	\$ 2,054,248.00	\$	\$ 2,054,248.00
11. Miscellaneous	\$	\$	\$
12. SUBTOTAL (sum of lines 1-11)	\$ 24,730,933.06	\$ 0.00	\$ 24,730,933.06
13. Contingencies	\$ 400,000.00	\$	\$ 400,000.00
14. SUBTOTAL	\$ 25,130,933.06	\$ 0.00	\$ 25,130,933.06
15. Project (program) income	\$	\$	\$
16. TOTAL PROJECT COSTS (subtract #15 from #14)	\$ 25,130,933.06	\$ 0.00	\$ 25,130,933.06
FEDERAL FUNDING			

17. Federal assistance requested, calculate as follows:
 (Consult Federal agency for Federal percentage share.)
 Enter the resulting Federal share.

Enter eligible costs from line 16c Multiply X %

\$ 19,682,933.06

\$ 0.00

11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.
13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction subagreements.
14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).
16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq).
18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.
20. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL Roscoe Adkins	TITLE County Administrator
APPLICANT ORGANIZATION Logan, County of	DATE SUBMITTED 08/17/2021

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THE LOGAN & MINGO COUNTIES FIBER TO THE PREMISE PROJECT
NTIA Broadband Infrastructure Program Grant Proposal

A. Executive Summary

The Logan County Commission, Mingo County Commission, and GigaBeam Networks, LLC have joined together in a Covered Partnership to seek \$19,682,933 in National Telecommunications and Information Administration (NTIA) Broadband Infrastructure Program grant funds with \$5,448,000 in match for the Logan and Mingo County Fiber to the Premises (FTTP) project. Appalachian Electric Power (AEP) is investing \$61.3 million in constructing over 400 miles of middle-mile fiber to modernize its grid for the electrical service AEP provides in Logan and Mingo Counties. With NTIA Broadband Infrastructure Program funds, GigaBeam will work with Logan and Mingo Counties to construct an FTTP network utilizing this AEP middle-mile fiber and an additional 83 miles in fiber extensions that will establish highspeed broadband access for over 13,000 unserved locations in Logan and Mingo Counties. The proposed FTTP network will utilize XGS-PON (10 Gbps Symmetrical Passive Optical Network) technology to offer four speed tiers ranging from 100 Mbps symmetrical up to 1 Gbps symmetrical. According to the 2021 Broadband Assessment for Logan and Mingo Counties conducted by AEP and Blue Ridge Advisory Services Group (BRASG), the proposed project will provide highspeed broadband access to 13,019 unserved residences, 218 unserved businesses, 16 unserved educational institutions, 32 unserved government buildings, 6 unserved health care facilities, 11 unserved utility sites, and 130 unserved churches in Logan and Mingo Counties.

Project Need: According to the Federal Communications Commission (FCC) in its 2019 Broadband Deployment Report, the percentage broadband coverage in Logan and Mingo Counties that meets the 25/3 Mbps standard is only 63% and 67%, respectively. These coverage rates, which are overestimations according to more precise speed data, are low compared to coverage rates for similar rural counties in West Virginia – one of the least broadband-connected states in the country. Lack of broadband service has a crippling effect on the economy and quality of life in Logan and Mingo Counties, where income, educational attainment, and labor participation are persistently low following years of decline in the coal industry. The COVID-19 public health crisis has generated new urgency to solve the digital divide, as rural residents without broadband availability lack the ability to work, learn, or access health services remotely in Logan and Mingo Counties. Highspeed broadband access is needed to improve education and workforce development for residents, spur growth in outdoor recreation and heritage tourism, and promote economic recovery from the impacts of coal closures and COVID-19.

Project Background: AEP, an investor-owned utility serving 31,900 residential and commercial customers in Logan and Mingo Counties, worked with BRASG to conduct a robust broadband coverage assessment, which determined that at least 40% of AEP customers in both counties do not have 25/3 Mbps broadband service. AEP has experienced losing prospective industrial and commercial customers when an area lacks quality internet service. With the utility poles already in place near homes and businesses throughout the challenging terrain in southwestern West Virginia, AEP is well-positioned to help expand broadband access in rural parts of its service area. Over the next few years, AEP is installing fiber optic cable to link AEP's transmission assets in Mingo and Logan Counties, including substations that have transmission assets (transmission

substations), in order to improve the reliability of AEP's electric grid. Utilizing a portion of the strands in that fiber optic cable to construct a high-speed broadband middle-mile and FTTP network will create valuable efficiencies in the effort to provide broadband access to unserved sites, reducing installation time and reducing project costs.

West Virginia lawmakers passed legislation in 2019 allowing electric utilities to submit broadband feasibility studies for approval by the Public Service Commission (PSC) of West Virginia. AEP submitted a feasibility study that was unanimously approved by the West Virginia Broadband Enhancement Council later that year. Further legislation passed in 2020 specified the PSC's role in approving plans and associated cost recovery of middle-mile broadband projects submitted by electric public utilities in the state. In June of 2021, the PSC approved AEP's proposed \$61.3 million project, which includes installing 430 miles of middle-mile fiber optic cable infrastructure needed to expand high-speed broadband access to unserved and underserved areas.

The project plan calls for internet service provider GigaBeam Networks of Bluefield, Va., to own, install and operate the last-mile infrastructure needed to deliver broadband services to customers in the project area. With NTIA grant funding, GigaBeam will partner with Logan and Mingo Counties to construct the FTTP network, accessing AEP's middle-mile facilities in phases as construction progresses. The phased-in approach will allow GigaBeam to coordinate its equipment installations with middle-mile construction and connect new broadband service customers on a rolling basis throughout AEP's fiber construction process. GigaBeam will also construct 83 miles in fiber extensions needed to reach unserved customers who are not located along the AEP path.

Project Benefits: High speed broadband access will expand access to online education, job training, remote work opportunities, and telemedicine for Logan and Mingo County residents who otherwise must travel long distances for college courses, job training, and medical treatment. High speed broadband will also help to boost tourism development initiatives, including the Hatfield-McCoy Trails project, a network of outdoor recreational trails, amenities, and tourism destinations serving fourteen economically distressed counties in southern West Virginia. The project will help support local farms and agricultural entrepreneurs, creating new direct-to-producer markets and agricultural tourism opportunities. The project also will improve public safety and resilience, as key emergency communications centers in the project area lack reliable broadband access.

Covered Partnership: The Covered Partnership comprises the Logan County Commission, Mingo County Commission, and GigaBeam. Region 2 Planning & Development Council will administer the grant if awarded. Additional project collaborators include AEP, the Logan County Economic Development Authority, the Mingo County Redevelopment Authority.

Alignment with NTIA: The Logan and Mingo Counties FTTP project meets NTIA's priorities:

1. Provide broadband service to more than 13,000 unserved sites in Logan and Mingo Counties.
2. Provide broadband service in an unserved, rural area that is wholly within two counties with populations under 50,000 (Logan: 32,019; Mingo: 24,290) and not part of any urbanized area adjacent to a city or town of more than 50,000 inhabitants.
3. Provide cost-effective service by leveraging the innovative AEP middle-mile fiber network and creating efficiencies with AEP's grid modernization project.
4. Provide broadband service that offers minimum speeds of 100 Mbps symmetrical service.

B. Covered Partnership

- i. **Table of Project Participants and Unfunded Informal Collaborators** - Attached.
- ii. **Resumes of Key Personnel** – Attached.

The Covered Partnership for the Logan and Mingo County FTTP project includes the Logan County Commission, the Mingo County Commission, and GigaBeam Networks, LLC. Logan County and Mingo County are eligible members of the Covered Partnership as political subdivisions of the State of West Virginia. GigaBeam is eligible as a provider of fixed broadband service. This Covered Partnership will be directly supported by Logan County Economic Development Authority, Mingo County Redevelopment Authority, Region 2 Planning & Development Council, and the West Virginia Broadband Enhancement Council. Please see the attached *Covered Partnership Letters* for detailed commitments/responsibilities of each partner.

Logan County Commission: The Logan County Commission will serve as the lead applicant on the NTIA Broadband Infrastructure Program proposal. The Logan County Commission is the three-member governing body of Logan County (population 32,019). Commission President Danny Godby will serve as the key contact for the project. Danny Godby has served on the Logan County Commission since 1989. He is now one of the longest-serving County Commissioners in the State of West Virginia. Upon grant award, Logan County will enter into a formal Partnership Agreement with Mingo County and GigaBeam, detailing how the Parties and collaborators will work individually and together to build broadband facilities in Logan and Mingo Counties, meeting applicable NTIA requirements, DOC Standard Terms and Conditions, and CFR 200 requirements. As the primary applicant, Logan County Commission will enter into a grant agreement with NTIA and assume primary operational and financial responsibility for completing the project. Logan County Commission, in partnership with the Logan County Economic Development Authority and Region 2 Planning & Development Council, has extensive experience in managing federal and state grants for capital projects and other community projects, including recent grants from the Community Development Block Grant program for broadband planning, US Department of Justice COPS Hiring Program to bring in three new deputies, and West Virginia Statewide Implementation, Enhancement, and Evaluation Projects (SIEEP) program to establish telehealth receiving sites in Logan, Boone, Lincoln, and Mingo Counties. Logan County Commission will coordinate directly with the Region 2 Planning & Development Council, who will administer the grant, to flow the grant funds to the Covered Partnership. Logan County will provide all relevant information to Region 2 needed to meet the NTIA reporting requirements. Logan County is prepared to work with AEP and GigaBeam as necessary to ensure all regulatory approvals are met as the project proceeds to construction. Logan County Commission will also work with the Logan County Economic Development Authority and community groups to conduct efforts to increase awareness, digital literacy, and adoption among Logan County residents.

Mingo County Commission: The Mingo County Commission is the three-member governing body of Mingo County (population 24,290). Mingo County Commission President Thomas Taylor will serve as Mingo County's key contact for the project. Commissioner Taylor was elected to the Mingo County Commission in January of 2017. Commissioner Taylor has extensive experience managing federal and state grant-funded projects for Mingo County (see attached resume for detail). Upon grant award, Mingo County will enter into a formal Partnership Agreement with

Logan County and GigaBeam. Mingo County Commission will provide all relevant information to Region 2 Planning & Development Council needed to meet the NTIA reporting requirements. Mingo County is also prepared to work with AEP and GigaBeam as necessary to ensure all regulatory approvals are met as the project proceeds to construction. Finally, Mingo County Commission will work with the Mingo County Redevelopment Authority and community groups on initiatives to increase awareness, digital literacy, and adoption among Mingo County residents.

GigaBeam Networks, LLC: GigaBeam Networks is an ISP offering broadband services based on fixed wireless technology which allows internet communications by radio. GigaBeam entered the Internet service business in 1999. In 2004, GigaBeam expanded into fixed wireless broadband services. In 2009, it purchased the assets of Four Seasons Wireless of Bluefield, Virginia, expanding its coverage area throughout Mercer County, West Virginia and Tazewell County, Virginia. In 2010, GigaBeam entered into its first public-private partnerships in Tazewell and Bland Counties, Virginia. GigaBeam built the Hollybrook community network in 2016 with funding from the Virginia Telecommunication Initiative. In 2018, GigaBeam partnered with the City of Bluefield, West Virginia to build the area's first wireless network capable of 1,000 Mbps speeds. Today, GigaBeam provides Internet connectivity to eight counties throughout southwest Virginia, southern West Virginia and eastern Kentucky. It is building its first fiber-to-the-premise networks in Bland and Greyson Counties, Virginia. GigaBeam has been honored with several awards from BroadbandNow's Service Provider Awards Program. Michael Clemons, President of Gigabeam Networks, LLC, will serve as GigaBeam's key contact for the project. Mr. Clemons has served as President of GigaBeam Networks/WVVA.net Inc for more than 24 years. Mr. Clemons extensive experience in deploying and operating highspeed broadband networks, as well as partnering with localites to expand broadband access in unserved areas, including with grant funds.

GigaBeam will serve as a subrecipient to Logan County Commission for this NTIA project. GigaBeam will have primary responsibility for engineering, constructing, installing, maintaining, and all ownership of the new FTTP system to the unserved premise in the project area. GigaBeam will provide financial data, construction updates, and performance information to the Region 2 Planning & Development Council throughout the project to meet the NTIA reporting requirements.

AEP issued an RFP for last-mile serve providers in Mingo and Logan Counties on May 1, 2020. AEP contracted with GigaBeam to serve as the last-mile ISP based on input from an Advisory Committee consisting of representatives from the West Virginia Broadband Enhancement Council's staff, Mingo and Logan Counties, Region 2, and the PSC. The Advisory Committee participated in a two-phase evaluation process based on several factors including the bidders' financial, technical and managerial qualifications, the amount of revenue the ISP would provide AEP through the fiber lease agreement and the affordability of the ISP's services. The West Virginia Broadband Enhancement Council approved the terms of the lease agreement between AEP and GigaBeam on October 8, 2020. On January 20, 2021, AEP and Wheeling Power Company, filed their written plan for PSC approval, which was granted. GigaBeam has entered into a lease with AEP for access to a portion of the middle-mile fiber AEP is constructing. GigaBeam will use AEP's middle-mile fiber, as well as an additional 83 miles of middle-mile fiber extensions, as part of its buildout of the last-mile broadband fiber to reach unserved areas in Logan and Mingo Counties. GigaBeam will operate and maintain all fiber drops and last-mile connections. The fiber drops will extend from a customer's residence or business to GigaBeam's equipment

installed on AEP's distribution poles. GigaBeam will connect to the middle-mile infrastructure as each phase is completed by AEP, allowing GigaBeam to begin providing service to customers on a rolling basis as construction progresses. Following construction, GigaBeam will provide access to highspeed broadband service to all unserved customers in Logan and Mingo Counties.

GigaBeam will market the services using radio, social media, door hangers, flyers, yard signs and by sponsoring local events. Based on its experience, GigaBeam expects 60% of Mingo and Logan Counties' unserved residents and 90% of unserved businesses will sign up for service. GigaBeam will take steps to ensure that customers who seek to enroll for service qualify as unserved as defined in the West Virginia Code. GigaBeam expects to hire two to six installers in Logan and Mingo Counties to complete the FTTP build out. Following construction, GigaBeam will hire an additional two to four employees for customer support, network building, and maintenance.

Region 2 Planning & Development Council: Region 2 Planning & Development Council will administer the NTIA grant on behalf of the Covered Partnership if awarded. Region 2 Planning & Development Council was created by the West Virginia Legislature through the Regional Planning and Development Act of 1971, which mandated that West Virginia be divided into 11 regions to serve as "development districts," and to assist local communities in an effective and efficient manner. Region 2 is the Appalachian Regional Commission-designated Local Development District for the southwestern West Virginia counties of Cabell, Lincoln, Logan, Mason, Mingo, and Wayne. The Planning & Development Councils are structured as locally oriented, public corporations. They are directed by elected officials and local appointees to form a cross-section of the region's social and economic institutions. Each Council retains a professional staff adept in public administration, regional and community planning, and economic development. In recent years, the Council has derived a large portion of its operating expenses from grant administration. Most local governments in West Virginia lack the trained staff necessary to deal with the regulations and requirements of federal and state grants. Region 2 provides staff who have the experience and expertise to provide grant administration services, and who have the opportunity and capability to work with federal and state agencies on behalf of local governments and institutions. In addition to the high levels of success in securing funding for a variety of projects, the Region 2 staff are highly proficient in the management of said funds relative to compliance with the sources' policies and reporting requirements, and in managing projects from conception to completion for timely achievement of the desired outcome.

Region 2 is highly qualified to administer the NTIA grant on behalf of the Covered Partnership of Logan County, Mingo County, and GigaBeam. The Council staff has administered projects that involved funding from various federal and state entities including the Appalachian Regional Commission, US Economic Development Administration, US Department of Agriculture, US Environmental Protection Agency, US Army Corps of Engineers, US Department of Housing and Urban Development, WV Infrastructure and Jobs Development Council, WV Water Development Authority, WV Department of Environmental Protection, WV Bureau for Public Health, and WV Division of Homeland Security and Emergency Management. Over the past six years, Region 2 has helped secure more than \$40,000,000 in federal and state grants. Additionally, Region 2 leveraged those grant funds to obtain more than \$57,000,000 in federal and state low-interest loans for the local communities. Currently, Region 2 is administering 27 projects worth more than \$73,000,000, with funding from several of the above-mentioned grant sources.

Appalachian Electric Power Company: AEP will serve as an unfunded collaborator for the Logan and Mingo Counties FTTP project, which builds upon and leverages the company's \$61.3 million investment in middle-mile fiber. Jon Webster, the External Affairs Manager at AEP, will serve as the key contact for this project. AEP has thirty years of experience in deploying and operating a fiber network. AEP owns the poles and other infrastructure required to deploy middle-mile fiber in Logan and Mingo Counties. AEP is installing the middle-mile fiber in the power zone of the poles and connecting transmission assets in the Counties with a fiber optic communication platform. AEP will work with GigaBeam under the existing lease agreement to provide access to distribution poles to extend fiber drops from customers' residences or businesses. AEP will perform the continued operations and maintenance for the middle-mile fiber for the life of the fiber.

Logan County Economic Development Authority: The Logan County Economic Development Authority is committed to promoting the economic well-being and enhancing regional economic development of Logan County. Rocky Adkins, the Executive Director of Logan County Economic Development Authority, will serve as the key contact for the project. Rocky has extensive experience in publicly-funded infrastructure projects having fulfilled the roles of both Executive Director of the Economic Development Authority and the County Administrator for 17+ years. Logan County Economic Development Authority will serve as a liaison to businesses and industries in the project area in Logan County throughout project implementation. Following construction, Logan County Economic Development Authority will assist the County and GigaBeam with efforts to publicize the availability of broadband services, including to help attract new businesses and industries to the area.

Mingo County Redevelopment Authority: The Mingo County Redevelopment Authority is a public organization established to promote and encourage the economic and civic welfare of Mingo County. The mission is to develop, attract and retain businesses, industries and commerce within Mingo County in order to create employment opportunities and increase the county's tax base. Leasha Johnson, the Executive Director for Mingo County Redevelopment Authority since 2015, will serve as Mingo County Redevelopment Authority's key contact for the project. Leasha has been employed by the Authority since 2004. Leasha is a member of the Southern Economic Development Council, the WV Economic Development Council Board of Directors, the Hatfield-McCoy Regional Recreation Authority Board of Directors, the Tug Valley Chamber of Commerce, and the Vice Chair of the Williamson Health and Wellness Center Board of Directors. She also serves as a board member for the Coalfield Community Action Partnership, Williamson Memorial Hospital, and Turnrow Farm Collective. Mingo County Redevelopment Authority will serve as a liaison to businesses and industries in the project area in Mingo County throughout project implementation. Following construction, Mingo County Redevelopment Authority will assist Mingo County and GigaBeam with efforts to publicize the availability of broadband services, including to help attract new businesses and industries to the area.

West Virginia Broadband Enhancement Council: The West Virginia Broadband Enhancement Council represents diverse users of broadband throughout the State. The Council is a strong supporter of the Logan and Mingo Counties FTTP project and will provide technical assistance and guidance as needed throughout project implementation.

C. Broadband Services

With NTIA Broadband Infrastructure Program grant funds, GigaBeam will construct a last-mile FTTP network utilizing XGS-PON technology (described below) to provide highspeed broadband service to more than 13,000 of the unserved homes, businesses, and institutions served by AEP in Logan and Mingo Counties. GigaBeam will also construct approximately 83 miles in fiber extensions necessary to reach 1,861 of the 13,000+ unserved customers who are not in range of the AEP middle-mile path (most of these customers are located in northern Logan County). The assumed project take rate is 60% for households and 90% for businesses.

AEP is investing \$61.3 million in the construction and installation of 430 miles of middle-mile fiber to support their “smart grid” infrastructure for electrical service in Logan and Mingo Counties. This network will be overbuilt, and, under this proposed NTIA project, the excess fiber will be leased by GigaBeam to provide internet connectivity to unserved locations throughout both counties. AEP will build the middle-mile infrastructure including fiber, splicing and MTD’s. GigaBeam will built the 83 miles in fiber extensions and will supply the drops and necessary electronics for the entire FTTP network.

Table 1. Summary of Unserved Sites

	Logan	Mingo	Project Area
Residential	5,387	7,632	13,019
Commercial	82	136	218
Education	5	11	16
Government	19	13	32
Health Care	4	2	6
Utility	7	4	11
Church	67	64	130
Total	5,570	7,862	13,432

Upon completion of the NTIA grant-funded project, GigaBeam will offer four tiers of broadband service to unserved households, businesses, and institutions at the following proposed prices:

Table 2. Speed Tiers

Speed Tiers	Price
100 Mbps x 100 Mbps	\$59
250 Mbps x 250 Mbps	\$79
500 Mbps x 500 Mbps	\$99
1 Gbps x 1 Gbps	\$129

This pricing is competitive compared to existing broadband services in the served areas of the census blocks outside of the proposed service area. Equipment is included in the above rates; there will be no equipment to buy or rent and no other fees added. Some optional services, such as virus protection, phone service, etc. will be available for purchase. In comparison, for similar rural deployments, Point Broadband is proposing the following rates in the Mount Rogers

Planning District in southwestern Virginia: 100x50 Mbps - \$70.95; 200x100 Mbps - \$80.95; 500x250 Mbps - \$100.95; and 1Gig x 500Meg - \$130.95.

XGS-PON Technology: The proposed network design for Logan and Mingo County Project is an FTTP network utilizing XGS-PON (10Gbps Symmetrical Passive Optical Network) technology. XGS-PON is an updated standard for Passive Optical Networks (PON) that can support higher speed 10 Gbps symmetrical data transfer and is part of the family of standards known as Gigabit-capable PON, or G-PON. G-PON stands for Gigabit PON or 1 Gigabit PON. The “X” in XGS represents the number 10, and the letter “S” stands for symmetrical, XGS-PON = 10 Gigabit Symmetrical PON. An earlier, non-symmetrical 10 Gigabit PON version (XG-PON) was limited to 2.5 Gbps in the upstream direction.

PON technology originated in the 1990’s and has continued to develop through multiple iterations with differing wavelengths, speeds and components emerging as the technology has improved. The common denominator of all fiber optic PON networks remains the unpowered or passive state of the fiber and its splitting or combining components, i.e. no active elements such as optical amplifiers, which would require power, are present in the network. With streaming, high definition, 5G and other emerging technologies continually pushing bandwidth demands, the development of XGS-PON and other standards has proven to be essential.

Simultaneous upstream and downstream transmission over the same fiber is made possible through wavelength division multiplexing (WDM). This technology allows one XGS-PON wavelength or color of light transmission for upstream and another for downstream.

The International Telecommunication Union (ITU) standard released in 2016 defines XGS-PON as 10-Gigabit-capable symmetric passive optical access network for residential, business, mobile backhaul and other applications. Although the physical fiber and data formatting conventions for XGS-PON technology remain unchanged from the original G-PON standard, the wavelengths have shifted. XGS-PON operates at a downstream wavelength of 1577 nm and the upstream wavelength of 1270 nm. The main reason for this is to allow multiple PON services to co-exist on the same PON and allow for seamless service upgrade/migration or to allow different service providers to use the same PON or to offer different levels of service (e.g. business verses residential). The wavelengths for XGS-PON differ from other standards such as G-PON and NG-PON2, although the overall PON transmission window of 1260 to 1650 nm is capable of accommodating G-PON, XGS-PON and NG-PON2 standards over the same fiber network simultaneously. As XGS-PON was an update to the XG-PON standard in order to deliver symmetrical capacity, XG and XGS-PON operate at the same wavelengths upstream and downstream, this is the only case where there is reuse of the same wavelengths. Today the majority of operators looking at deploying 10G services opt for XGS-PON.

For all PON standards including XGS-PON, the starting point is the optical line terminal (OLT) installed in a service providers local office. The OLT is the active (powered) hardware used to convert and transmit data from the service provider and coordinate multiplexing of the optical network terminals (ONT) end of the network. The XGS-PON OLT broadcasts the same data to all ONT in the network due to operation of the passive downstream optical splitters. It is up to each ONT to determine which data is intended for them. Virtualized OLT can be programmed to deliver

traffic over multiple PON technologies such as XGS-PON and NG-PON2 with the same hardware used for added flexibility. OLT split ratio flexibility allows a single XGS-PON OLT to operate multiple PON optical distribution networks (ODNs).

The Small Form-factor Pluggable (SFP) is a hot-swappable transceiver connected to the SFP port of a network switch which converts electrical signals to optical signals at the chosen wavelength, and vice versa. SFPs used to facilitate XGS-PON transmission must be designed to support 10 Gbps speeds and support simultaneous upstream Tx and downstream Rx through the use of internal WDM couplers. Despite the small form factor, XGS-PON SFPs utilize advanced electronics to stabilize output power during upstream transmission.

Through the use of single or cascaded optical splitters the OLT downstream wavelength can be split to provide service to as many as 128 end devices (ONT). The Institute of Electrical and Electronics Engineers (IEEE), which created the equivalent E-PON and 10G-EPON standards, refers to the ONT as the optical network unit (ONU). Recent innovations in packaging, optics and chip design have dramatically reduced 10G ONT cost to levels approaching that of 1G ONT/ONUs. Economies of scale will continue to drive efficiencies as XGS-PON deployment accelerates. More flexibility has also been integrated into newer generation XGS-PON ONTs, so that FTTP, business and 5G applications can share more common hardware elements.

The symmetrical 10 Gbps speed and compatible architecture of XGS-PON has made it a viable option for high-speed data, voice and Internet requirements for years to come. Services like video conferencing, gaming and cloud storage are all gaining popularity, making the demands on upstream delivery speed equally relevant. Other applications such as 5G front/mid-haul can also reap the performance and efficiency benefits of symmetrical XGS-PON. Since XGS-PON can co-exist on the same fiber plant as G-PON without changes to the passive architecture and is capable of higher split ratios, it provides a logical and cost-effective expansion option. NG-PON2 deployment can raise the speed and bandwidth bar even higher, provided the more stringent optical loss and tunable transceiver requirements can be met. The value of PON has been proven out for over twenty years based on simplicity and backwards-compatibility. XGS-PON has continued this legacy while pushing the envelope into new and unprecedented territory.

Project Technical Details: In addition to the 430 miles of middle-mile fiber, AEP is also constructing the head end (central office) building that will be included in the lease of fiber. The fiber will be constructed in the “power space” of the pole which allows for faster installation at a lower cost with make ready not needed to construct. Fiber also leased from AEP will connect the head end to GigaBeam’s current network infrastructure, providing connectivity to data centers in Asburn and Richmond, VA. Initially 10 Gigabit transport (upgradable to 100 Gigabit when the demand requires it) will be terminated to the service router at the head end.

The service router will be connected to each OLT (origination point) located throughout the network via 10 Gigabit connections (also upgradable to 100 Gigabit). OLT’s – much like network switches – contain cards with ports, with each port representing a PON. 10 Gigabits of available broadband traffic is spread amongst cards containing from four to eight individual PON ports. For this project, GigaBeam has chosen to keep customer per PON ratio at 32:1 in a distributed split network design. This distributed split allows for minimum fiber count usage to optimize the usage

of AEP fiber for the network. The 32:1 standard allows 32 customers per PON port and capability of sharing 10 Gbps of traffic per 32 customers. Traffic flows from these PON ports connecting to a passive optical splitter(s) located close to the customer withing a fiber cabinet. Each of the 32 splitter ports connects directly to a customer premise device or optical network terminal (ONT). ONT's are attached directly to the customer's premise location. A single fiber connects to the ONT and from the ONT via ethernet to a wireless router or customer network. The ONT facilitates the transmission of data into customer's devices. Each customer can receive up to 10 Gbps service.

Network Layout/Design: In agreement with AEP, GigaBeam is standardizing a network design involving plug and play multiport terminals to connect drop cables to the AEP fiber infrastructure. This simplifies the installation of the drop cables, minimizes splicing necessary to do the drop and decreases the timeframe to complete the drops. See the attached *Network Diagrams & System Design* that depict the basic layout for network construction.

Project Budget: The project budget of \$25,130,933 includes \$19,682,933 in NTIA grant funds and \$5,448,000 (78% of the project cost) in match (22% of the project cost), which includes:

- **Design/Engineering:** Finalize last-mile network design and access fiber extension engineering
- **Access Fiber Extension Construction:** Materials, labor, and make ready for 82.75 miles
- **Fiber Lease:** 20-year Indefeasible Rights of Use (IRU) fiber lease from AEP
- **Headend/OLT Cost:** Headend + 52 Cabinet locations total
- **Fiber Drop Costs:** Materials and labor for 8,060 drops (60% take rate for 13,432 locations)
- **Subscriber Equipment & Installation:** Materials and labor for 8,060 locations

The 22% match from GigaBeam includes the cost of a twenty-year Indefeasible Rights of Use (IRU) fiber lease. This match is in addition to the \$61.3 million in investment from AEP in the middle-mile network, which was not included in the budget for this project. The budget excludes areas where GigaBeam was awarded RDOF funding to provide service to unserved locations. The proposed NTIA Broadband Infrastructure Project costs include only the costs for the last-mile FTTP network and the 83 miles in fiber extensions. See the attached *Project Budget* and *Budget Narrative* for detailed budget information.

Pro Forma Financial Information: Attached.

Need for Federal Assistance: Federal assistance is needed to provide last-mile infrastructure to Logan and Mingo Counties because the counties are predominantly rural and low-income with challenging terrain. NTIA Broadband Infrastructure Program grant funding will enable the Covered Partnership to carry forward the momentum from the PSC's approval of the middle-mile project by providing the funding necessary to construct XX miles of last-mile fiber that will connect approximately 13,000 unserved businesses and residences. While GigaBeam had initially planned to reach unserved locations that are not along AEP paths by installing a hybrid fixed wireless/fiber network, NTIA funds will enable GigaBeam to connect all unserved customers completely with fiber. Without NTIA Broadband Infrastructure Program funding, the construction of last-mile fiber drops may be delayed and greater costs will be passed on to the consumer in some of the poorest areas in the State of West Virginia. This project is essential to ensuring that the area is well prepared for managing the challenges that the COVID-19 pandemic has created, ensuring that families have options to work, learn, seek telehealth, etc. as soon as possible.

D. Service Area

The project service area includes unserved and underserved areas in Logan and Mingo Counties, West Virginia. Logan and Mingo Counties are two adjacent counties within AEP’s West Virginia electric service territory located in southwestern West Virginia. See the attached *Service Area Map*, which includes the AEP fiber, the proposed 83 fiber extension, areas covered by RDOF that are not included in this NTIA request, and the unserved/underserved areas as identified by the robust AEP and Blue Ridge Advisory Services assessment. This NTIA-funded project will deliver service availability to over 13,000 unserved sites in Logan and Mingo Counties.

Businesses: According to the assessment conducted by AEP and BRASG, the project will serve 82 unserved businesses in Logan County and 136 unserved businesses in Mingo County. The largest industries in Logan and Mingo Counties include Health Care & Social Assistance, Retail Trade, Mining, Quarrying & Oil & Gas Extraction, Utilities, and Agriculture.

Educational Facilities: According to the assessment conducted by AEP and BRASG, the Logan and Mingo FTTP project will establish highspeed broadband access for five unserved educational institutions in Logan County and eleven unserved education institutions in Mingo County. The project will also benefit educational facilities Logan and Mingo Counties that are already served with broadband access, but where portions of students, faculty, and staff remain unserved, creating barriers to remote learning, use of digital education tools, email communications, and more. Expanded highspeed broadband access will benefit the following educational facilities located in unserved communities the project area:

Mingo	Logan
<ul style="list-style-type: none"> • Burch PK-8 School (Delbarton) • Kermit PK-8 School (Kermit) • Dingess Elementary School (Dingess) • Gilbert PK-8 School (Gilbert) • Lenore PK-8 School (Williamson) • Matewan PK-8 School Matewan) • Mingo Central High School (Delbarton,) • Tug Valley High School (Naugatuck) • Mingo County Extended Learning Center (Delbarton) • WV Southern Community & Technical College (Williamson) 	<ul style="list-style-type: none"> • Buffalo Elementary School (Accoville) • Chapmanville Primary School, Chapmanville Intermediate School, Chapmanville Middle School, & Chapmanville Regional High School (Chapmanville) • Holden Central Elementary School (Holden) • Logan Elementary School, Logan Middle School, Logan High School (Logan) • Man Elementary School, Man Middle School, Man High School (Man) • Omar Elementary School (Logan) • South Man Elementary School (Man) • Verdunville Elementary School (Verdunville) • Ralph R. Willis Career & Technical School (Stollings) • WV Southern Community & Technical College (Mount Gay)

Health Care Facilities: According to the AEP and BRASG assessment, the project will provide access to highspeed broadband to four unserved healthcare facilities in Logan County and two unserved healthcare facilities in Mingo County. The project will benefit additional healthcare facilities by creating the ability to offer and/or expand access to telemedicine services by establishing highspeed broadband access to patients who live in the project area. Healthcare facilities that will benefit from this project include:

Mingo	Logan
<ul style="list-style-type: none"> • OVP Health (Williamson) • Trinity Healthcare of Mingo (Williamson) • Williamson Health & Wellness Center (Williamson) • Valley Health Steeptown (Kermit) • Three River Family Practice (Kermit) • Lenore VA Outreach Clinic (Williamson) • Mingo Medical Associates (Delbarton) • Logan Mingo Area Mental Health (Chattaroy) • Family Healthcare Associates (Gilbert) 	<ul style="list-style-type: none"> • Southern WV Health System (Man) • Family Healthcare Associates (Man) • Logan Regional Medical Center (Logan) • Southern WV Health System (Logan) • Logan Regional Cancer Center (Logan) • All Med (Logan) • OVP Health (Logan) • WV Family Medicine (West Logan) • Coalfield Health Center (Chapmanville) • Logan Regional Primary Care Network (Chapmanville)

Government Entities: According to the AEP and BRASG assessment, the project will provide access to highspeed broadband to 19 unserved government facilities in Logan County and 13 unserved government facilities in Mingo County. Government facilities that are already served by highspeed broadband access will benefit from the project because providing service to businesses and residents will facilitate enhanced service delivery, capacity to host remote civic meetings, more efficient communications with constituents, and ability to use digital tools. Government facilities that will benefit from expanded highspeed internet access in the project area include:

Mingo	Logan
<ul style="list-style-type: none"> • Delbarton Town Hall (Delbarton) • Gilbert Town Hall (Gilbert) • Kermit Town Hall (Kermit) • Matewan Town Hall (Matewan) • Williamson City Hall (Williamson) • Mingo County Courthouse (Williamson) • Mingo County 911 Center (Williamson) • Department of Motor (Williamson) • Mingo County Housing Authority (Delbarton) • Mingo County Health Department – Williamson, WV (Mingo) • County of Mingo Library (Delbarton) • Williamson Public Library (Williamson) • Matewan Public Library (Matewan) • Kermit Public Library (Kermit) • Gilbert Public Library (Gilbert) 	<ul style="list-style-type: none"> • Chapmanville Town Hall (Chapmanville) • Logan City Hall (Logan) • Man Town Hall (Man) • Mitchell Heights Town Hall (Mitchell) • West Logan Town Hall (West Logan) • Logan County Courthouse (Logan) • Logan County Emergency Ambulance Authority (Logan) • Department of Motor Vehicles (Logan) • Logan County Health Department (Logan) • Logan Area Public Library (Logan) • Chapmanville Public Library (Chapmanville) • Buffalo Creek Memorial Library (Man)

The project will serve nearly 95% of the unserved population in a total of 151 census blocks. The remaining 5% are outside of the defined service area. Please see the attached *Service Area Map* and *List of Census Blocks to be Served*.

E. NTIA Funding Priorities

Alignment with NTIA: The Logan and Mingo Counties FTTP project meets all of NTIA's priorities for funding:

1. The project provides broadband service to over 13,000 unserved households, businesses, and institutions in the project service area of Logan and Mingo County. This represents nearly 100% of the potential unserved AEP customers in Logan and Mingo Counties.
2. The project provides broadband service in an unserved, rural area that is wholly within two counties with populations under 50,000 (Logan: 32,019; Mingo: 24,290) and not part of any urbanized area adjacent to a city or town of more than 50,000 inhabitants. No part of the project is within any urbanized area or adjacent to a city or town of more than 50,000 inhabitants.
3. The project is highly cost-effective because it leverages the existing AEP middle-mile buildout to bring last-mile to the residents and businesses in the project service area at the lowest cost and disruption. Utilizing a portion of the strands in the fiber optic cable that will be installed to link transmission assets in Mingo and Logan Counties to construct the middle-mile and last-mile FTTP network will realize efficiency benefits in both a reduction in installation time and reduced project costs.
4. The project will enable GigaBeam to offer broadband service that offers minimum speeds of 100 Mbps symmetrical service.

F. Evaluation Criteria

Description of Project Beneficiaries: Project beneficiaries include residents and business owners in Logan and Mingo Counties who are currently unserved with internet service reaching speeds above 25/3 Mbps. The service area for the Logan & Mingo County FTTP project is with low-income, high poverty, and sustained population and job loss due to coal decline. The Appalachian Regional Commission (ARC) has designated both Mingo and Logan Counties as distressed counties affected by the decline of the coal industry. Key economic indicators in these counties, such as unemployment, per capita market income, and poverty rates have demonstrated the need to stimulate economic growth and improve the standard of living through technology-related avenues. According to 2019 US Census Data, the median household income for Logan County is just \$36,168 and for Mingo County is just \$32,764, compared with \$46,711 for the State of West Virginia. The poverty level in Logan and Mingo Counties is 25.4% and 28.7%, respectively. Creating pathways out of poverty in the project area will require highspeed broadband that

provides access to low-cost online education and workforce training programs, telemedicine services, and federal and state assistance.

Constructing an FTTP network in Logan and Mingo Counties will help to prevent the digital divide from deepening existing disparities based in rurality and race in southwestern West Virginia. Using estimates from 2014-2018 census data, ACLU-WV created map images showing Internet access, device ownership, income level and racial makeup of Black and Hispanic/Latino people by county in West Virginia. Findings determined that rural, lower-income households were disproportionately impacted by a lack of access to both the Internet and computers, smartphones, and tablets. Furthermore, minority groups, such as Black and Hispanic/Latino people, live in these rural, low-income areas in higher concentrations. The ACLU-WV [maps](#) show that Logan and Mingo Counties have among the highest concentrations of Black and African American residents in the state; lowest median household incomes; highest percentage of households without access to computer, smartphone, or tablet; and high percentage of households with no internet access.

Service Area Level of Need: In preparation for seeking approval from the PSC for the middle-mile project in Logan and Mingo Counties, AEP worked with Blue Ridge Advisory Services Group to complete a broadband assessment that could produce unimpeachable results with respect to unserved and underserved communities in Logan and Mingo Counties. The scope of work included diagnostic interviews with county leaders and key stakeholders; online survey and data collection, and a list of unserved communities and areas. Results from the assessment indicate 40% of AEP customers in Logan and Mingo County are unserved by broadband that meets the 25/3 Mbps threshold.

The assessment determined that overall service throughout Logan County is “poor.” Reliability was identified as a primary issue but so were upload speeds. The online survey generated 651 responses in Logan County. Of 623 respondents who indicated that they have internet service, 60% have cable modem and 27% have DSL. Only 19% of Logan County respondents indicated that speed tests showed internet speeds of greater than 25/3 Mbps, while 27% showed speeds of less than 10/1 Mbps and 38% could not run a speed test. Asked to rate the reliability of internet service on a scale of 1 to 10, with 10 being “Very Reliable,” 68% of respondents rated their reliability a 5 or less. Respondents indicated that typical internet services can range up to several hours, with over 20% of respondents indicating that typical internet outages last more than a day.

Existing providers in the Logan County area include: Suddenlink, which offers faster speeds that are generally considered unreliable for residential segment, with frequent outages; Shentel, which is new to Logan County and more reliable but with slower speeds and less affordability; and Frontier, which is slow and unreliable, with its fastest speed only 12 Mbps, even at the 911 Center.

The total number of unserved communities in Logan County totals 55. There are several areas of Logan County that are sparsely populated and underserved. These include the Hatfield McCoy Trail System, trailheads, lodging, and supporting businesses; Chief Logan State Park; and approximately 48 old coal camp communities.

In Mingo County, the assessment determined that availability, reliability, and affordability were all key issues. The total number of unserved communities in Mingo County is 40. Outlying rural

areas are unserved. The online survey generated 659 responses in Mingo County. Of 77 respondents who indicated that they have internet service, 61% have cable modem, 27% have DSL, and 11% have satellite. Only 24% of Logan County respondents indicated that speed tests showed internet speeds of greater than 25/3 Mbps, while 22% showed speeds of less than 10/1 Mbps and 35% could not run a speed test. Asked to rate the reliability of internet service on a scale of 1 to 10, with 10 being “Very Reliable,” 52% of respondents rated their reliability a 5 or less. Respondents indicated that typical internet services can range up to several hours, with nearly 20% of respondents indicating that typical internet outages last more than a day.

Suddenlink and Frontier provide service in Mingo, but both are considered unreliable. Most of the schools are in low-income areas, where many of the poorest students are being raised by grandparents. There is a high level of frustration with the inability to do remote and online learning.

Project Sustainability: GigaBeam will operate and maintain all fiber drops and last-mile connections beyond the one-year award period. GigaBeam has provided the attached *Pro Forma Financial Information*, which includes balance sheets, income statements, statements of cash flows, and market projections that demonstrate the sustainability of the proposed project. GigaBeam estimates a take-rate of 60% of unserved residents and 90% of unserved businesses in Logan and Mingo Counties.

GigaBeam is committed to providing a non-federal cost-share of 22% of the eligible project costs as reflected in the proposed project budget. This proposed NTIA project will leverage AEP’s \$61.3 million investment in middle-mile infrastructure, ensuring the most cost-effective and efficient approach for reaching customers with broadband services.

Project Outcomes: The Logan & Mingo Counties FTTP project will generate the following benefits for the project service area:

Workforce Development: New businesses and industries overlook Logan and Mingo Counties due to lack of connectivity and lack of a strong and reliable workforce. Workforce West Virginia and other state and local workforce development groups have a wealth of online resources for jobseekers, including links to free and low-cost remote job training and certification programs for a variety of family sustaining jobs. However, unemployed residents in more than 13,000 unserved households in the project area are unable to access these resources from their homes. The project will enable job training organizations such as Coalfield Development Corporation and Generation WV to increase their online training, expand their small business and social enterprise technical assistance, and update their digital infrastructure to meet the needs of a 21st century economy.

Economic Development: Existing small business owners, including owners of inns, restaurants, retail, craft businesses, and agricultural operations, face difficulty processing transactions or reaching wider markets online. These same challenges prevent new businesses from locating in Logan and Mingo Counties, which contributes to sustained population loss from the area. During COVID-19, small businesses in Logan and Mingo Counties struggled to access timely information about federal assistance and to submit online applications to secure such assistance. The Logan & Mingo Counties FTTP project will help to support existing small businesses, attract new businesses, and retain and grow jobs in the distressed project area. The new FTTP network will

also provide the highspeed broadband access needed to spur tourism along the Hatfield-McCoy Trail System, helping to boost online marketing efforts, support heritage and outdoor recreation tourism entrepreneurship, and facilitate digital tourism innovations. Better internet connectivity to outdoor recreation businesses in the region will also increase safety for employees and visitors by ensuring business owners can connect with authorities and emergency medical help in the event of an incident or injury or receive timely updates on evolving disaster situations.

Remote Learning: Even in the absence of COVID-19, students living in the project area miss out on remote learning resources, such as free grade-level resources for students (such as [wideopenschool.org](https://www.wideopenschool.org)) online prep courses for college entrance exams, and online submission access for applications to college and vocational training programs. During the pandemic, students had to drive to school parking lots to access online resources and submit assignments. In September 2020, when schooling was fully remote in Logan County, the Logan County School District superintendent estimated that as many as 40% of K-12 students in the county lacked internet at home. As reported by the [Wall Street Journal](#), students in Logan County had to drive to school parking lots to avoid having their service drop out during lectures. Other students were traveling a half-hour away to relatives' homes or going with their parents to work in order to attend school each day. In addition to providing access to 16 unserved educational facilities in the project area, this FTTP project will connect students attending schools in the project area to highspeed broadband access (see list of schools on pages 12 and 13). Expanding access to highspeed broadband will expand opportunities for remote learning, which will help to improve educational outcomes for rural areas and reduce disparities between rural and urban students.

Telehealth: In December of 2020, Logan County Commission received \$250,000 in West Virginia SIEEP grant funds to establish telehealth receiving sites in Logan, Boone, Lincoln, and Mingo Counties. Harman Behavioral Health, Inc. also received \$600,000 in West Virginia SIEEP funds to establish a telehealth broadcasting site providing services to Boone, Braxton, Brooke, Calhoun, Clay, Gilmer, Hancock, Lewis, Lincoln, Logan, Marshall, Mingo, Monongalia, Ohio, Tucker, Tyler, Upshur, Webster, Wetzel, and Wirt counties. Improving residential access to highspeed broadband will enable residents to access and benefit from expanded technology assisted treatment and prevention services. Establishing a FTTP broadband network in Logan and Mingo Counties will help promote access to live-saving and cost-efficient telehealth services. Expanded access to healthcare will help to reduce racial and rural health disparities and to fight the opioid epidemic with convenient and lower-cost treatment options.

Public Safety & Resilience: The AEP and Blue Ridge Advisory Services Group assessment determined that the Logan County 911 Center lacks reliable internet service. As the first line of communication in an emergency in Logan County, Logan County 911 Center needs highspeed broadband access to ensure public safety. Highspeed broadband access will promote fast and reliable communications and response from local service providers. Highspeed broadband access throughout the project service area will enable emergency service providers to use social media to disseminate information quickly in the event of disasters. The Logan County 911 struggled to effectively communicate with the public during COVID-19, as well as during the disastrous ice storm that struck the County in February of 2021. This FTTP will help improve safety and awareness for residents and businesses in the project area during disaster events.

G. Capacity to Scale

The project is designed as an FTTP network utilizing XGS-PON technology capable of delivering 10Gbps x 10Gbps speeds to each split and the network is based on a 32:1 split. Initial speeds of up to 1Gbps symmetrical will be offered. With XGS-PON deployed speeds can be offered up to 10Gbps for future speeds increases without any infrastructure modifications or equipment upgrades.

The Logan and Mingo Counties FTTP project and the AEP middle-mile build out are establishing a robust communications platform to facilitate enhancement of the reliability of electric service and broadband service in Logan and Mingo Counties and are creating capacity for the deployment of advanced grid modernization technologies such as Advanced Metering Infrastructure and Distribution Automation Circuit Reconfiguration.

As described, AEP has embarked upon a program of distribution grid modernization designed to improve the reliability of their customers' electric service. It would be possible to modernize the distribution grid currently without the use of a fiber optic cable communications system. While the fiber optic system is more costly than other available options, building out the fiber optic system will provide a more robust, secure and "future-proof" (i.e. longer lasting) communications system. AEP's middle-mile approach has extra capacity built into to scale service overtime to meet new demand. AEP typically uses a portion of a 48-strand bundle of fiber optic cable and reserves a portion for future use and spares. AEP is installing 96-strand cable throughout Logan and Mingo Counties, meaning that AEP will have 48 strands available for use as middle-mile broadband infrastructure, 36 of which are being offered for lease to ISPs and other third parties. AEP will hold twelve strands in reserve as spares. GigaBeam plans to use at least 6 strands per mile to deploy last-mile service. The extra fibers will facilitate new drops as new houses are built.

GigaBeam is building on XGS-PON 10 Gbps symmetrical, which will improve the network for decades. AS described above, XGS-PON is the next generation ultra-fast capability for G-PON providers, designed to coexist with installed G-PON user equipment on the same network, creating capacity to adhere to Nielsen's law, which predicts demand for data downloads to double every year. Utilizing XGS-PON will ensure that growing demand for "triple play" services of video, data, and voice and the growth in internet cloud services do not exceed the capacity of the bandwidth that GigaBeam will be able to provide into the future. Examples of bandwidth-intensive applications that are growing in use include IPTV, video-conferencing, interactive video, peer-to-peer networking, IP video surveillance, and cloud applications where remote storage and computing resources provide online service on demand to users with thin-client local systems. Cloud applications could take advantage of in-country content hosting, and XGS-PON may encourage explosive development of innovative services that become feasible as users move to faster connections.

Business continuity systems may also take advantage of 10GPON to enable cost-effective real-time backup/recovery/replication of critical business systems across multiple sites. Other businesses may just need to connect several sites as a virtual private network, effectively a virtual office, or may have e-commerce services that require business partners to have sufficient connectivity for constant database access.

K. Strong Labor Standards

The Covered Partnership will adhere to all relevant local, state, and federal labor standards for the NTIA project. As described above, GigaBeam expects to hire two to six installers in Logan and Mingo Counties to complete the FTTP build out. Following construction, GigaBeam will hire an additional two to four employees for customer support, network building, and maintenance. GigaBeam Networks incorporates labor standards practices for staffing in all aspects of its operations. GigaBeam's goals in hiring our workforce include:

- Hire Local – GigaBeam focuses on hiring local talent whenever possible and work with local colleges and vocational programs in building training programs to develop our workforce to our needs.
- Wage Rates – All hiring is done at or above prevailing rates for the state our operations are in and referenced to state publicized rate sheets.
- While GigaBeam plan to hire several employees for this project, GigaBeam also plans to utilize contractors to expedite the buildout of this project and complete it within the 1 year timeframe. The contractors are also required by GigaBeam to hire local when possible and to follow prevailing rates.

Examples of our planned starting wage rates for this project are: Installation Technicians - \$25/hour; Level 1 Technical Support - \$25/hour; Level 2 Technical Support Engineer - \$40/hour.

LOGAN & MINGO COUNTIES FIBER TO THE PREMISES PROJECT

Table of Project Participants and Unfunded Informal Collaborators

Organization	Address	Role	Scope of Work	Funding Amount
Appalachian Power (AEP)	Suite 800, Laidley Tower 500 Lee Street East Charleston, WV 25301	Collaborator	<ul style="list-style-type: none"> Invest \$61.3 million in construction and installation of 430 miles of middle-mile fiber to unserved areas in Logan and Mingo Counties. Work with GigaBeam under the existing lease agreement to provide access to AEP's distribution poles to extend fiber drops from customers' residences or businesses. Perform the continued operations and maintenance for the middle-mile fiber for the life of the fiber. 	\$ -
GigaBeam	405 Old Virginia Avenue Rich Creek, VA 24147 601 Virginia Avenue Bluefield, VA 24605	Subrecipient	<ul style="list-style-type: none"> Serve as ISP and subrecipient to Logan County. Enter into Project Agreement with Covered Partnership. Have primary responsibility for engineering, constructing, installing, maintaining, and all ownership of the new FTTP system to the unserved premise in the project area. Construct the FTTP plant within the budget provided the NTIA Grant application. Provide broadband service with minimum 100 Mbps symmetrical service to all unserved sites. Provide financial, status and performance information to the Region 2 Planning & Development Council to meet the NTIA reporting requirements. 	\$19,582,933.06 in NTIA funds, \$5,448,000 in match
Logan County Commission	300 Stratton Street Logan, WV 25601	Applicant	<ul style="list-style-type: none"> Serve as lead applicant. Enter into grant agreement with NTIA and assume primary operational and financial responsibility for completing the project should an award be made. Enter into Project Agreement with Covered Partnership Coordinate with Region 2 Planning & Development Council, who will administer the grant, to flow funding to the Partnership. Conduct campaign to increase awareness, digital literacy, and adoption among Logan County residents. Provide all relevant information to Region 2 Planning & Development Council to meet the NTIA reporting requirements. 	\$ -

LOGAN & MINGO COUNTIES FIBER TO THE PREMISES PROJECT

Logan County Economic Development Authority	PO Box 240 Logan, West Virginia 25601	Collaborator	<ul style="list-style-type: none"> • Serve as liaison to local business community throughout grant implementation • Conduct activities to increase awareness, digital literacy, and adoption among Logan County residents 	\$ -
Mingo County Commission	78 E 2nd Ave #308, Williamson, WV 25661	Subrecipient	<ul style="list-style-type: none"> • Serve as subrecipient to Logan County • Enter into Project Agreement with Covered Partnership • Conduct activities to increase awareness, digital literacy, and adoption among Mingo County residents • Provide all relevant information to Region 2 Planning & Development Council to meet the NTIA reporting requirements. 	\$ -
Mingo County Redevelopment Authority	1657 E. Fourth Avenue Williamson, WV 25661	Collaborator	<ul style="list-style-type: none"> • Serve as liaison to local business community throughout grant implementation • Conduct activities to increase awareness, digital literacy, and adoption among Logan County residents 	\$ -
Region 2 Planning & Development Council	400 Third Avenue Huntington, WV 25701	Subrecipient	<ul style="list-style-type: none"> • Serve as the grant administrator for the NTIA Broadband grant. • Enter into Project Agreement with Covered Partnership • Coordinate with Logan County Commission to flow grant funds to Covered Partnership • Conduct all grant administration activities and reporting • Monitor project progress • Serve as project liaison to federal and state agencies • Ensure that the project complies with the applicable DOC Standard Terms and Conditions, and CFR 200 requirements. 	\$100,000 in NTIA funds
West Virginia Broadband Enhancement Council	1900 Kanawha Boulevard East Building 3, Suite 600 Charleston, WV 25303	Collaborator	<ul style="list-style-type: none"> • Provide technical assistance and guidance throughout project implementation 	\$ -

Danny Godby - Bio

President of Logan County Commision

I am the son of (b) (6) and (b) (6) and the brother of (b) (6). I am married to (b) (6) and the (b) (6), (b) (6) and (b) (6). I am a 1964 graduate of Chapmanville High School. I obtained my under-graduate degree from Bowling Green State University in 1968 and my post-graduate degree from Marshall University.

During my career at Chapmanville Regional High School, I also served as Basketball Coach and Baseball Coach as well as Athletic Director. I also served as Basketball Coach for two years at Logan High School. I retired from teaching in 2012.

I was elected to the County Commission in 1989, and I currently serve as President of the Commission. I am now one of the longest-serving County Commissioners in the State of West Virginia.

Thomas E. Taylor

Mingo County Commissioner

Elected to Mingo County Commission

- Sworn into office Jan. 1, 2017
- Elected president Jan. 6, 2021

Grant-Funded Projects (Federal) Experience

- Community Development Block Grant (CDBG) to study broadband expansion in and around the Gilbert community (complete)
- Small Cities Block Grant (SCBG) to extend public water to the Beech Creek Community (in progress)
- Homeland Security Grant (HSG) to purchase radios, license plate readers, gas detectors, and other equipment for the Mingo County Sheriff's Department and new equipment for the Mingo County E9-1-1 center (complete)
- U.S. Dept. of Justice Body Worn Camera Grant (BWC) to purchase body cameras for the Mingo County Sheriff's Department (ongoing)
- U.S. Dept. of Justice Bulletproof Vest Program (BVP) to purchase vests for the Mingo County Sheriff's Department (complete)
- U.S. Dept. of Justice Victims' of Crime Act Grant (VOCA) to employ victims' advocates in both the Mingo County Sheriff's Department and Mingo County Prosecutor's Office (ongoing)
- U.S. Drug Enforcement Agency (DEA) High Intensity Drug Trafficking Areas (HIDTA) to employ a member of its task force (ongoing)
- U.S. Dept. of Agriculture Grant to purchase police cruisers for the Mingo County Sheriff's Department (in progress)
- CARES Act Grant to assist in recovery from COVID-19 pandemic (complete)
- American Rescue Plan Act (ARPA) Grant to assist in the recovery from COVID-19 pandemic (ongoing)
- U.S. Dept. of Justice Violence Against Women Act (VAWA) Grant to fund a prosecutor whose main focus is domestic violence cases and provide for the serving of emergency protective orders by the Mingo County Sheriff's Department (ongoing)
- U.S. Army Corps of Engineers Grant to renovate a sewer treatment facility in the Chattaroy community (in progress)

Grant-Funded Project (State) Experience

- West Virginia Division of Culture & History Records Management & Preservation Grant (RMPG) – Equipment and Special Projects
- West Virginia Courthouse Facilities Improvement Authority (WVCFIA) – Repairs and Upgrades to Mingo County Courthouse
- West Virginia Division of Justice & Community Services (DJCS) – Repairs and Upgrades to court security system
- West Virginia Department of Agriculture Spay/Neuter Grant – Provide no-cost spay/neuter procedures for pet owners residing in Mingo County (completed)

Michael Clemons

Experience

03/1997 - Present GigaBeam Networks / WVVA.net Inc Rich Creek, VA

President and CTO

- Started business with a \$2500 loan and no employees as a part time venture for a retirement fund.
- Built a dialup ISP operation known as WVVA.net in 1999
- Deployed the company's first fixed wireless broadband network in 2004
- Engineered and designed the network infrastructure, construction of communication towers
- Expanded to Bluefield region in 2009 with the acquisition of Four Season's Wireless
- Expanded the fixed wireless network to serve 8 counties in 3 states from 2004 – 2019.
- Currently designing and building fiber optic networks throughout southwest Virginia and southern West Virginia including networks in the counties of Grayson, Bland, Montgomery, Giles, Monroe, Greenbrier, Summers, Logan, and Mingo.
- Primary functions in the company are now in government relations, network design and serve at the company's chief technical officer overseeing engineering, technical support and emerging technologies.

01/1998-06/2000 Radford City Public Schools Radford, VA

Network Technician

- Network and computer support for local school system

08/1996 – 01/1998 Giles County Public Service Authority Pembroke, VA

Director of Recycling and Solid Waste

- Managed a multimillion-dollar non-profit operation
- Overseen 15 person staff

Education

May, 1996 Virginia Polytechnic Institute & State University Blacksburg, VA

B.S. Environment Science

Other

Member of the Board of Directors for the Appalachian Council for Innovation
Member of the Board of Directors for the Bluefield Baseball Club

References

References are available on request.

Chris Chiles

Executive Director of Region 2 Planning & Development Council

Chris Chiles is the Executive Director of Region 2, as well as the Executive Director of Region 2's sister agency, KYOVA Interstate Planning Commission. KYOVA is a transportation planning agency, and the designated Metropolitan Planning Agency (MPO) for the Tri-State Area that includes Cabell and Wayne Counties in West Virginia, and three counties in Ohio and Kentucky. Chris has served as Executive Director since 2016. With Chris leading the organization, Region 2 helped secure more than \$40,000,000 in federal and state grants for Region 2 communities. Additionally, Region 2 has helped to leverage those grant funds to obtain more than \$57,000,000 in federal and state low-interest loans for our local communities. Currently, under Chris's lead, Region 2 is administering 27 projects worth more than \$73,000,000, with funding from various federal and state entities including the Appalachian Regional Commission, US Economic Development Administration, US Department of Agriculture, US Environmental Protection Agency, US Army Corps of Engineers, US Department of Housing and Urban Development, WV Infrastructure and Jobs Development Council, WV Water Development Authority, WV Department of Environmental Protection, WV Bureau for Public Health, and WV Division of Homeland Security and Emergency Management. Chris oversees eleven full-time staff members, including multiple Project Administrators, a Community Development Specialist, Civil Engineer, GIS specialist, and Finance Managers.

Kathy Elliott is Region 2's Deputy Director. Kathy has more than 20 years' experience in project planning, development, and implementation. Through the course of her tenure, she has successfully secured and managed both grant and loan funding from local governments, and state and federal agencies. The projects she has overseen encompass a wide range of subjects, including public utility infrastructure, economic development and job creation, community resiliency, slum and blight elimination, and tourism.

Lisa Wells is a Project Administrator for Region 2. Lisa has been with agency for 4 years, and has assisted Chris and Kathy on numerous projects that included ARC and CDBG funding. Prior to working for Region 2, Lisa worked 10 years for the WV Development Office as a Community Development Specialist and 5 years for the WV Film Office as a Business Development Specialist.

Leasha Johnson

(b) (6)

(b) (6)

Phone: (b) (6)

Email: ljohnson@developmingo.com

Resume

EDUCATION

West Virginia University | Morgantown, West Virginia

Bachelor of Science Business Administration | Class of 1988 Magna Cum Laude

EMPLOYMENT

Mingo County Redevelopment Authority.....April 2004 to Present

Williamson, West Virginia

Positions: Executive Director (January 2015 to present)

Deputy Executive director (April 2004 to December 2014)

Responsibilities: Manage, direct and supervise daily operations of the Authority, as well as the roles of all Authority employees; develop and implement long terms goals and strategies for the Authority which are consistent with its mission as an economic development entity; dictate, oversee and direct the financial performance of the Authority; prepare annual budgets; identify, complete, and submit grant applications for funding necessary to meet strategic objectives (Note: \$20+ million in federal and state grant awards administered administer grant awards in accordance with state and federal funding agency guidelines; present executive reports during monthly board meetings; maintain a working knowledge of and engage with appropriate county, state and federal agencies and officials with whom the Authority is affiliated.

Massey Energy CompanySeptember 1991 to March 2004

Belfry, Kentucky

Position: Lease Manager / Special Projects Manager

Responsibilities: Managed 2,000 coal and surface leases; developed financial analyses of lease revenue; calculated and directed minimum and production royalty payments to thousands of lessees; assisted with development of annual budget; facilitated communications with state and local regulatory authorities regarding the company's permitting requirements; directed and supervised Massey Energy Company's community development projects.

HONORS & ENGAGEMENTS

WVU Dean's List

WVU Student Banking & Finance Association

Vice Chair, Williamson Health & Wellness Center Board of Directors

Board Member, West Virginia Economic Development Council

Board Treasurer, Hatfield-McCoy Trails Authority

Board Member, Coalfield Community Action Partnership

Board Member, Greater Williamson Community Development Corporation

Board Member, Turnrow Appalachian Farm Collective

Member, Tug Valley Chamber of Commerce

Member, Southern Economic Development Council

Advisory Board Member, West Virginia Land Stewardship Corporation

Member, Congresswoman Carol Miller's Trade and Investment Advisory Board

Environmental & Historical Documentation – Logan & Mingo Counties FTTP Project

A. BENEFICIARIES

See Project Narrative.

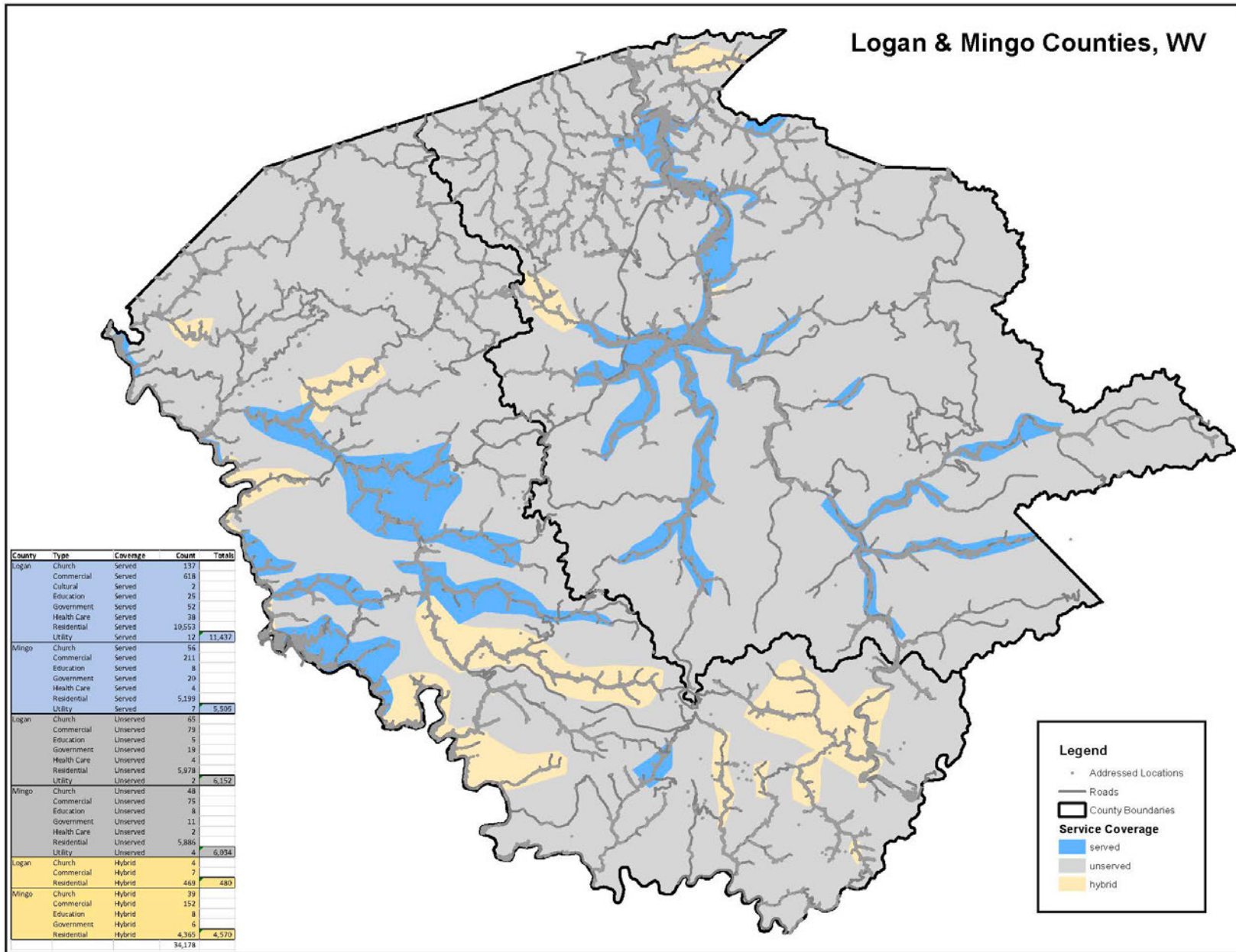
B. PROJECT DESCRIPTION

1. **Proposed Construction**

The Logan County Commission, Mingo County Commission, and Gigabeam Networks, LLC have joined together in a Covered Partnership to seek \$19,682,933 in National Telecommunications and Information Administration (NTIA) Broadband Infrastructure Program grant funds with \$5,448,000 in match for the Logan and Mingo County Fiber to the Premises (FTTP) project. Appalachian Electric Power (AEP) is investing \$61.3 million in constructing over 400 miles of middle-mile fiber to modernize its grid for the electrical service AEP provides in Logan and Mingo Counties. With NTIA Broadband Infrastructure Program funds, GigaBeam will work with Logan and Mingo Counties to construct an FTTP network utilizing this AEP middle-mile fiber and an additional 83 miles in fiber extensions that will establish highspeed broadband access for over 13,000 unserved locations in Logan and Mingo Counties. The proposed FTTP network will utilize XGS-PON (10 Gbps Symmetrical Passive Optical Network) technology to offer four speed tiers ranging from 100 Mbps symmetrical up to 1 Gbps symmetrical. (See *Technical Project Description*.) According to the 2021 broadband assessment conducted by AEP and Blue Ridge Advisory Services Group (BRASG), the proposed project will provide highspeed broadband access to 13,019 unserved residences, 218 unserved businesses, 16 unserved educational institutions, 32 unserved government buildings, 6 unserved health care facilities, 11 unserved utility sites, and 130 unserved churches in Logan and Mingo Counties.

The proposed fiber route is anticipated to be constructed solely in the rights-of-way of existing state and county owned roads on existing utility poles. If awarded funding, all necessary details (regarding construction and otherwise) would be shared with the NTIA and all other necessary organizations.

Environmental & Historical Documentation – Logan & Mingo Counties FTTP Project



Environmental & Historical Documentation – Logan & Mingo Counties FTTP Project

2. Alternative to the Proposed Project

Three alternatives are considered in this brief environmental review. These are the Preferred Alternative (aerial construction), the Underground Alternative, and the No Action Alternative. A fourth alternative (“Wireless”) was excluded from consideration prior to analysis because it fails to satisfy project purposes and is generally impractical for the goals of the proposed project. The remaining three alternatives are described below.

The Preferred Alternative is described in section B.1 of this document and includes aerial construction. No new buildings or structures will be constructed. No construction will be needed on either tribal lands or public lands managed by the federal government. Fiber optic cable would typically be attached to existing utility poles with new pole attachments. This approach would satisfy many of the project needs and is a viable option for installing fiber where utility poles already exist. In fact, rights-of-way regulations typically require pole owners to lease space for installation of additional cable.

The Underground Alternative is similar to the Preferred Alternative with respect to project route and intended end users. The principal difference is the lack of flexibility to save money on underground construction when able/viable aerial options are available and the elimination of negligible aesthetic impact of attaching to existing utility poles. Underground construction also requires minor ground disturbance.

The No Action Alternative was also considered. Under this approach, fiber installation would not be pursued, and unserved locations would either not be able to get broadband connectivity, or a combination of new constructions and existing broadband fiber would have to be leased or negotiated—for example, through service agreements for managed service with carriers or Indefeasible Right of Use (IRU) agreements with cable carriers or providers. The environmental impact of this alternative is unknown because it would depend on how commercial vendors—if some of them became interested in offering fiber—install it. The absence of action could have significant and growing adverse social and economic impacts as residents would be cut off from increasingly critical services available through reliable, fast, and affordable broadband connections – assuming no future providers would step in to offer services. If they did, it would be through costly and duplicating efforts that would be significantly more expensive and have higher adverse environmental impact.

3. Mitigation

In order to reduce adverse impacts from construction, a variety of mitigation measures will be implemented. Local, state, and federal environmental laws and regulations will be closely followed in order to minimize adverse impacts associated with the construction of the fiber proposed by this project. Local, state, and federal agencies will be contacted in order to ensure compliance with such laws and regulations. Best management practices will be followed in order to minimize the environmental impacts of project implementation.

C. HISTORIC/ARCHEOLOGICAL RESOURCES

There are no known historic or archeological resources within the project routes. The planned route construction will take place in the rights-of-way and will not impact any historical or archeological resources. The County will, at the direction of the NTIA, be in touch with the State Historic Preservation Officer (SHPO), Mr. Randall Reid-Smith of the West Virginia Division of Culture & History Historic Preservation Office. There are no known tribal areas within the project scope.

Environmental & Historical Documentation – Logan & Mingo Counties FTTP Project

D. AFFECTED ENVIRONMENT

1. **Affected Area**

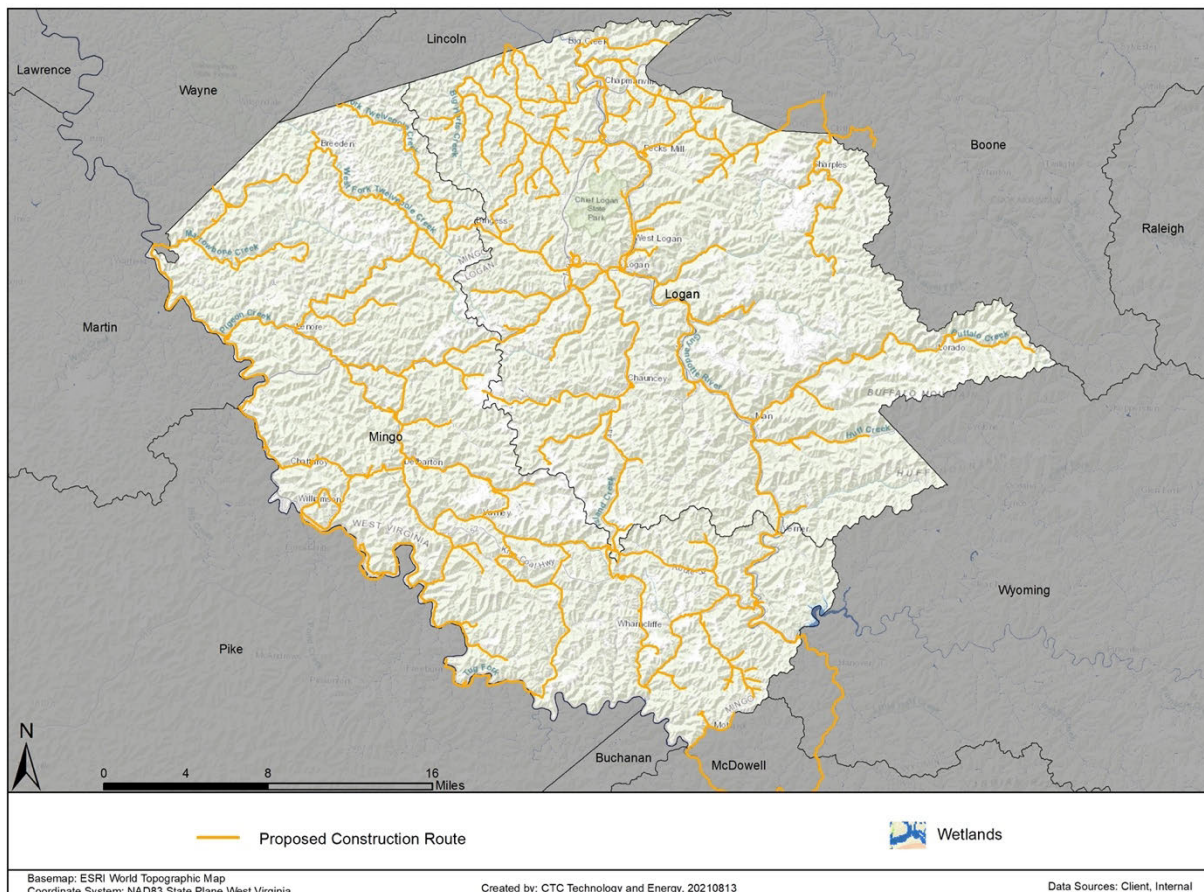
The proposed project routes go throughout Logan and Mingo Counties, both on the Allegheny Plateau. Logan, the eastern of the two, is roughly 455 square miles and has historically been a large coal mining and logging hub.¹ Mingo, which split from Logan in the 1800s, is similarly sized at 424 square miles. They both have an average elevation of about 2,650 feet above sea level, and they are each known for their bituminous coal deposits.

2. **Shorelines, Estuaries, Beaches and Dunes**

There are no shorelines, beaches, dunes, or estuaries within or adjacent to the proposed project site. Additionally, there are no proposed overwater structures that could impact navigable waters. Consequently, this project will have no impact on any shorelines, estuaries, beaches, and dunes, as the project will occur on existing roads and in existing rights-of-ways.

3. **Wetlands**

Figure 1: Wetlands Around the Project Site



¹ Logan County, West Virginia. “Logan County, West Virginia.” <https://logancounty.wv.gov/about/Pages/default.aspx>

Environmental & Historical Documentation – Logan & Mingo Counties FTTP Project

Mingo and Logan Counties each have several wetlands. The project has no anticipated impact on these wetlands, as the project will follow existing roads and make use of the right-of-way, and no construction will be done on such wetlands. The classification codes in the National Wetlands Inventory for these nearby wetlands can be found in Table 1.

Table 1: Wetland Codes Around the Project Site²

FRESHWATER EMERGENT WETLAND	FRESHWATER FORESTED/SHRUB WETLAND	FRESHWATER POND	LAKE	RIVERINE
PEM1Ex	PFO1A	PUBHh	L1UBHh	R4SBC
PEM1C	PFO1/SS1Ch	PUBK		R3UBH
PEM1A	PFO1Eh	PUBFx		R3USC
PEM1E	PSS1A	PUBHx		R4SBA
PEM1Fh	PFO1E	PUBFh		R3USA
PEM1B	PFO1Ch	PUSCx		R2USA
PEM1Eh	PSS1C	PUBF		
PEM1R	PSS1Eh	PUSAx		
	PSS1F			
	PFO1C			

4. Floodplains

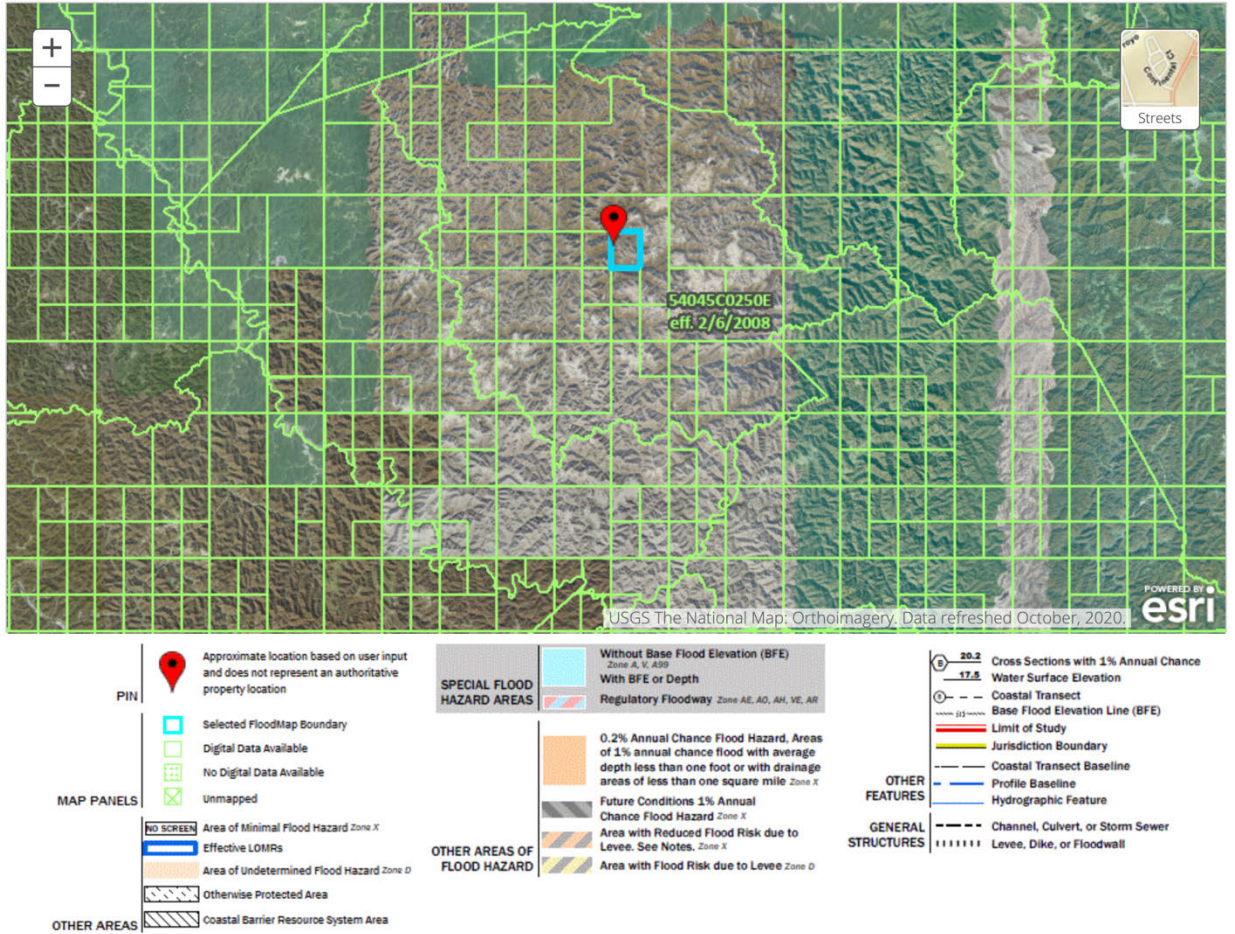
The floodplain map obtained from FEMA indicates that the area on which the proposed project will be built is an area of minimal flood hazard.

Figure 2: Floodplain Map of Mingo and Logan Counties, West Virginia³

² U.S. Fish & Wildlife Service. "Information for Planning and Consultation." *U.S. Fish & Wildlife Service*, ecos.fws.gov/ipac.

³ ³ Federal Emergency Management Agency. "FEMA Flood Map Service Center: Search By Address." *Federal Emergency Management Agency*, msc.fema.gov/portal/.

Environmental & Historical Documentation – Logan & Mingo Counties FTTP Project



5. Vegetation and Wildlife Resources

There is no native vegetation or wildlife in the proposed project area and the proposed project has no anticipated impact on surrounding native vegetation or wildlife, as project construction will occur on the existing right-of-way along county and state roads. No Wilderness Areas nor wild and scenic rivers are located on or near the proposed project site. Therefore, this project will also have no impact on Wilderness Areas or wild and scenic rivers.

6. Endangered Species

The Gray Bat is a relatively large bat that is designated as endangered. It lives in caves and human made structures such as under bridges. It has no defined critical habitats⁴, and will not be impacted by the project.

The Indiana bat is an endangered species that typically lives in river and stream corridors with well-developed riparian woods or woodlots close to rivers and streams. The Indiana bat also tends to hibernate in caves or mines.⁵ The proposed location for the project is outside of the critical habitat for this species. As a result, this project will have no impact on the Indiana bat.

⁴ U.S. Fish & Wildlife Service. "Gray Bat." https://www.fws.gov/asheville/htmls/listed_species/Gray_bat.html.

⁵ U.S. Fish & Wildlife Service. "Indiana Bat (Myotis sodalis)." www.fws.gov/midwest/endangered/mammals/inba.

Environmental & Historical Documentation – Logan & Mingo Counties FTTP Project

The Northern Long-Eared bat is a threatened species that hibernates in caves and mines, inhabiting the surrounding wooded areas in autumn and the upland forests in the spring and summer. There has been no critical habitat designated for this species.⁶ This species only needs to be considered if the project will clear 15 or more acres of trees, which this project will not do. Thus, the proposed project will have no impact on the Northern Long-Eared bat.

The Virginia Big-eared Bat is an endangered medium sized bat that occupies caves year-round. It has a designated critical habitat, but it does not extend into Garrett County, Maryland.⁷ Therefore, the project will have no impact on the species.

There are two Crustaceans that reside around the proposed project site. The first, the Big Sandy Crayfish, is a threatened species, with a proposed critical habitat in Mingo County.⁸ The second, the Guyandotte River Crayfish, is labeled as endangered, and has a proposed critical habitat in Logan County.⁹ While neither of these critical habitats have been finalized yet, there should be no need to wait as the proposed construction would only occur on the right-of-way of existing state and county owned roads. The species will not be impacted by this project.

The only endangered flowering plant in the project area is the Northeastern Bulrush. A member of the sedge family of plants, the Bulrush is found mostly in wetlands and has no designated critical habitats.¹⁰ It will not be impacted by the project.

Table 2: Federally Listed Endangered and Threatened Species Near Project Site¹¹

Common Name	Scientific Name	Status
MAMMALS:		
Gray Bat	<i>Myotis grisescens</i>	E
Indiana Bat	<i>Myotis sodalis</i>	E
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	T
Virginia Big-eared Bat	<i>Corynorhinus townsendii virginianus</i>	E
CRUSTACEANS:		
Big Sandy Crayfish	<i>Cambarus callainus</i>	T
Guyandotte River Crayfish	<i>Cambarus veteranus</i>	E
FLOWERING PLANTS:		
Northeastern Bulrush	<i>Scirpus ancistrochaetus</i>	E

Endangered = E Threatened = T

⁶ U.S. Fish & Wildlife Service. "Northern Long-Eared Bat (*Myotis septentrionalis*)."
www.fws.gov/midwest/endangered/mammals/nleb/.

⁷ U.S. Fish & Wildlife Service. "Virginia big-eared bat." <https://www.fws.gov/southeast/pdf/fact-sheet/virginia-big-eared-bat.pdf>.

⁸ U.S. Fish & Wildlife Service. "Information for Planning and Consultation." Ibid.

⁹ Ibid.

¹⁰ U.S. Fish & Wildlife Service. "Northeastern Bulrush." <https://www.fws.gov/northeast/pdf/bulrush.pdf>.

¹¹ U.S. Fish & Wildlife Service. "Information for Planning and Consultation." Ibid.

Environmental & Historical Documentation – Logan & Mingo Counties FTTP Project

7. Land Use and Zoning

The current land use of the specific project site is along roadways in the rights-of-way. This project will have no impact on land use and/or zoning on and around the project site.

8. Solid Waste Management

No waste will be produced by the project. Waste utility services are not required for fiber operation, such as this project. The proposed project will involve the construction of fiber along existing rights-of-way, a process which is not associated with the production of solid waste. Consequently, this project will have no impact on the presence of solid waste in the project area.

9. Hazardous or Toxic Substances

There are no toxic, hazardous, or radioactive substances that will be utilized or produced by the proposed project. As a result, a plan for the storage, usage and/or disposal of such substances is not necessary. The proposed project will have no impact on the presence of hazardous or toxic substances in the project area. If the project is awarded funding, applicants will submit a signed Applicant Certification Clause.

10. Water Resources

There are several wetlands around the project site. These wetlands are all surface-level water resources and are not underground. The proposed project routing has no anticipated impact on these wetlands, as the path of the project will follow the existing road, making use of the existing right-of-way, and no construction will be done on the wetlands. There is no anticipated change regarding local surface water runoff patterns nor are there any anticipated pollutants to contaminate runoff. Accordingly, this project will have no impact on the water resources on and around the proposed project site.

11. Water Supply and Distribution System

There is no anticipated need for a local water supply for the proposed project. As a result, no water resources will be utilized in the construction, maintenance, or daily activity of this project. The proposed project will have no impact on nearby water supply and distribution systems.

12. Wastewater Collection and Treatment Facilities

There are no anticipated discharges associated with the proposed project. As a result, the usage of wastewater treatment facilities is not necessary for this project. The project will have no impact on nearby wastewater collection and treatment facilities.

13. Environmental Justice (Executive Order 12898)

The proposed project will have no disproportionate adverse impact on minority and low-income populations. The proposed project will be constructed on the side of an existing road and will use the existing right-of-way; therefore, the construction/maintenance associated with the project will have no negative impact on the surrounding area. In fact, the lower-income populations would likely benefit from the construction of the proposed infrastructure, as they would benefit from access to broadband internet.

14. Transportation (Streets, Traffic and Parking)

As the proposed project will be constructed along the side of the road, using the right-of-way, and will not interfere with the road itself, there is no anticipated impact on local traffic patterns associated with this project.

Environmental & Historical Documentation – Logan & Mingo Counties FTTP Project

15. Air Quality

There are no significant anticipated emissions associated with the proposed project or its construction. Any emissions would be negligible compared to the emissions produced by the nearby vehicles and would be temporary in that such emissions would completely terminate upon the conclusion of the project's construction. No topographical or meteorological conditions have a foreseeable impact on the dispersal of air emissions. As a result, this project will have no impact on the air quality in and around the proposed project site.

16. Noise Pollution

The proposed project will be built along an existing road and will use the existing right-of-way. As a result, the noise produced due to the project construction will have little impact on local ambient noise, as the area at which the project will take place already experiences ambient vehicular noise and road maintenance noise. Consequently, the project will have no impact on the ambient noise levels in and around the proposed project area.

17. Permits

If awarded the grant, we will contact necessary offices and to comply with NTIA direction as well as any and all applicable Federal, State, and Local permits.

18. Public Notification/Controversy

Due to the timeline of the release of this application, the project team has not yet publicized project details to the community. It is important to note that the project team does not anticipate controversy for installation of fiber for expanded broadband access in the existing public right-of way. The project team will publicize the project in the event it is selected for funding.

19. Direct, Indirect, and Cumulative Effects

This project is stand alone and does not build upon other notable projects nor does it contain future phases. That being said, the network architecture and fiber that will be used to construct the project is highly scalable. As such, the network will be well-positioned to support customer growth and increasing data usage for the foreseeable future, leading to economic stimulation as well as greater access to necessary resources for Mingo and Logan County residents.

Due to the nature of construction of fiber on right-of-way of existing roads, minimal environmental impacts are anticipated for this project. Furthermore, this project will not contribute to future cumulative or indirect environmental effects should the county choose to expand or append to this project.

Budget Narrative and Detailed Budget Justification

Budget Summary

The Logan County Commission, Mingo County Commission, and Gigabeam Networks, LLC have joined together in a Covered Partnership to seek \$19,682,933.06 in National Telecommunications and Information Administration (NTIA) Broadband Infrastructure Program grant funds for the Logan and Mingo County Fiber to the Premises (FTTP) project. With NTIA grant funds, Gigabeam will deploy Fiber-to-the-premises to make highspeed broadband service available to 13,432 unserved households, businesses, and community anchor institutions in Logan and Mingo Counties in rural West Virginia. The Covered Partnership will provide match in the amount of \$5,448,000.00. The total project cost is estimated at \$25,130,933.06.

Budget Categories

Table 1 provides a summary of all expenses, corresponding with the budget items outlined by SF424C.¹

Table 1: SF424C Budget Items

COST CLASSIFICATION	Federal Portion	Match Portion	Total
1. Administrative and legal expenses	\$ 100,000.00	\$ -	\$ 100,000.00
2. Land, structures, rights-of-way, appraisals, etc.	\$ -	\$ 5,448,000.00	\$ 5,448,000.00
3. Relocation expenses and payments	\$ -	\$ -	\$ -
4. Architectural and engineering fees	\$ 768,350.80	\$ -	\$ 768,350.80
5. Other architectural and engineering fees	\$ 50,000.00	\$ -	\$ 50,000.00
6. Project inspection fees	\$ -	\$ -	\$ -
7. Site work	\$ -	\$ -	\$ -
8. Demolition and removal	\$ -	\$ -	\$ -
9. Construction	\$ 16,310,334.26	\$ -	\$ 16,310,334.26
10. Equipment	\$ 2,054,248.00	\$ -	\$ 2,054,248.00
11. Miscellaneous	\$ -	\$ -	\$ -
12. SUBTOTAL (sum of lines 1-11)	\$ 19,282,933.06	\$ 5,448,000.00	\$ 24,730,933.06
13. Contingencies	\$ 400,000.00		\$ 400,000.00
14. SUBTOTAL	\$ 19,682,933.06	\$ 5,448,000.00	\$ 25,130,933.06
15. Project (program) income	\$ -	\$ -	\$ -
16. TOTAL PROJECT COSTS (subtract #15 from #14)	\$ 19,682,933.06	\$ 5,448,000.00	\$ 25,130,933.06
	78.32%	21.68%	100.00%

¹ The online version of the SF 424C only allows for whole integers to be entered. As such we have provided an accurate Form 424C with the Detailed Budget Justification spreadsheets that reflects the request for 78.35% of the total project budget as enumerated in this Budget Narrative.

Mingo & Logan Counties Fiber to the Premises Project – Budget Narrative

Administrative & Legal Expenses

Budgeted	Federal Allocation	Matching Share
\$ 100,000.00	\$ 100,000.00	\$ --

The administrative and legal expenses of \$100,000.00 will be incurred as necessary effort for oversight and administrative management of the proposed project. The Region 2 Planning & Development Council will provide the administrative services for the grant. Administrative expenses include salary, fringe, travel, office supplies, for Region 2 Planning & Development Council. Participating staff will include the Executive Director, Senior Project Administrator, two Project Administrators, and the Finance Assistant. See FTEs and fringe for the participating staff and a cost breakdown for travel and office supplies below.

Administrative and legal expenses

Item	Total
Administrative services	
<i>Salaries for Region 2 PDC Grant Administration</i>	
Region 2 PDC, Executive Director, 0.15 FTE @ \$ [REDACTED]	\$ [REDACTED]
Region 2 PDC, Senior Project Administrator, 0.097 FTE @ [REDACTED]	\$ [REDACTED]
Region 2 PDC, Project Administrator, 0.25 FTE @ \$ [REDACTED]	\$ [REDACTED]
Region 2 PDC, Project Administrator II, 0.16 FTE @ \$ [REDACTED]	\$ [REDACTED]
Region 2 PDC, Finance Assistant, 0.20 FTE @ \$ [REDACTED]	\$ [REDACTED]
<i>Fringe for Region 2 PDC Grant Administration</i>	
Fringe Benefits @ 41.1% fringe rate per salary about (total \$42,135 x 41.1%)	\$ 17,321.00
<i>Other</i>	
Travel for Region 2 PDC staff - mileage - \$0.56 per mile @ 5,000 miles	\$ 2,800.00
Travel for Region 2 PDC staff - 25 days of per diem - \$155/day total; includee \$96 per night hotel and \$55 per day for meals	\$ 3,875.00
Office supplies - miscellaneous supplies for grant administration	\$ 605.00
<i>Indirect</i>	
Indirect (see attached indirect cost rate allowing for Region 2 PDC to request up to 50.04% of direct costs, totaling \$66,735)	\$ 33,265.00
Total	\$ 100,000.00

Mingo & Logan Counties Fiber to the Premises Project – Budget Narrative

Land, Structures, Rights-of-Way, Appraisals, etc.

Budgeted	Federal Allocation	Matching Share
\$ 5,448,000.00	\$ --	\$ 5,448,000.00

Gigabeam will provide an in-kind match in the form of a long-term lease of fiber optic strands. The valuation of \$5,448,000.00 for the fiber optic strands is the contractual cost of the lease. The covered project will utilize six strands per mile over approximately 400 miles. The total lease is \$1,250 per fiber per mile for 20 years. The lease includes Point of Presence Cross-Connect fees that include \$48,000 for the use of the building for the headend and annual maintenance fees calculated at \$300 per mile for 400 miles for a term of 20 years. If requested, an independent valuation of the IRU can be generated.

Land, structures, rights-of-way, appraisals, etc.

Item	Quantity	Cost	Total	Role	Notes
IRU for 6 strands of fiber	1	\$ 5,448,000.00	\$ 5,448,000.00	Dark Fiber Lease	Estimating 6 strands per mile for the approximately 400 mile project; Total Lease is \$1250/fiber/mile for 20 years (approximately 400 miles x 6 strands x \$1250) = \$3 Million; POP Cross-Connect Fees: \$48,000 (use of building for headend); Annual Maintenance Fees: \$300 x 400miles x 20 years= \$2.4 Million
Total			\$ 5,448,000.00		

Relocation Expenses & Payments

Budgeted	Federal Allocation	Matching Share
\$ --	\$ --	\$ --

Relocation expenses and payments are not necessary for the proposed project and will not affect total project costs.

Mingo & Logan Counties Fiber to the Premises Project – Budget Narrative

Architectural & Engineering Fees

Budgeted	Federal Allocation	Matching Share
\$ 768,350.80	\$ 768,350.80	\$ --

Gigabeam will contract with engineering firm Ledcor. Ledcor will perform last mile network design at a cost per passing of \$25 for an estimated 13,432 passings for a total of \$335,800.00. Additionally, the Ledcor team will engineer the Access Fiber Extension for 82.75 miles at a per foot cost of \$.99 per foot for an estimated total of \$432,550.80. Permitting fees total \$50,000 based upon a cost of roughly \$0.11 per foot.

Architectural and engineering fees

Item	Quantity	Cost per Unit	Total	Role	Notes
Last Mile Network Design	13432.00	\$ 25.00	\$ 335,800.00	Contractor	Cost per passing for design services
Access Fiber Extension Engineering	436920.00	\$ 0.99	\$ 432,550.80	Contractor	Cost per foot for design services for 87.5 miles
Total			\$ 768,350.80		

Other Architectural & Engineering Fees

Budgeted	Federal Allocation	Matching Share
\$ 50,000.00	\$ 50,000.00	\$ --

Permitting fees total \$50,000 based upon a cost of roughly \$0.11 per foot for 436,920 ft..

Other Architectural and engineering fees

Item	Quantity	Cost per Unit	Total	Role	Notes
Permitting	436920.00	\$ 0.11	\$ 50,000.00	Labor	Average per foot cost for permitting is approximately \$.11 per foot
Total			\$ 50,000.00		

Mingo & Logan Counties Fiber to the Premises Project – Budget Narrative

Project Inspection Fees

Budgeted	Federal Allocation	Matching Share
\$ --	\$ --	\$ --

Project Inspection Fees are not necessary for the proposed project and will not affect total project costs. Quality Control and Assurance and Construction Project Management Services are included in the Construction Budget.

Site Work

Budgeted	Federal Allocation	Matching Share
\$ --	\$ --	\$ --

The project does not require funding for site work.

Demolition & Removal

Budgeted	Federal Allocation	Matching Share
\$ --	\$ --	\$ --

The project does not require any demolition and removal services.

Mingo & Logan Counties Fiber to the Premises Project – Budget Narrative

Construction

Budgeted	Federal Allocation	Matching Share
\$ 16,310,334.26	\$ 16,310,334.26	\$ --

The covered partnership requests \$16,310,334.26 in grant funding for construction costs related to the proposed project. This represents approximately 65% percent of the proposed project costs.

Construction pricing estimates were provided by the Gigabeam team and all work will be completed by Gigabeam contractors. The estimates include labor and materials for the Access Fiber Extension, installation of the headend and OLT’s, customer drops, and installation of subscriber equipment. Details of the outlay of expenses are included in the table below and in the Detailed Budget Justification table.

Construction						
Item	Quantity	Cost/Unit	Total	Type	Notes	
Access Fiber Construction for Extension						
<i>Hardware</i>						
Fiber Optic Cable	436920.00	\$ 0.75	\$ 327,690.00	Materials	Dielectric Self-Supporting 12 Strand	
ADSS Trunnion Assembly	1250.00	\$ 35.00	\$ 43,750.00	Materials		
LG-500 Splice Enclosure	118.00	\$ 140.00	\$ 16,520.00	Materials		
LG-500 Mounting Bracket	118.00	\$ 29.00	\$ 3,422.00	Materials		
1x8 Splitter/tray	59.00	\$ 200.00	\$ 11,800.00	Materials		
1x4 Splitter/tray	59.00	\$ 175.00	\$ 10,325.00	Materials		
Titan Multiport RTD 4 port 100' Flat	59.00	\$ 300.00	\$ 17,700.00	Materials		
Titan Multiport RTD 8 port 100' Flat	59.00	\$ 350.00	\$ 20,650.00	Materials		
Multiport Terminal Mounting Bracket	118.00	\$ 29.00	\$ 3,422.00	Materials		
<i>Labor</i>						
Installation of MPT Tails	93050.00	\$ 7.50	\$ 697,875.00	Labor		
Installation of Access Fiber	436920.00	\$ 4.50	\$ 1,966,140.00	Labor		
Multiport RTD splicing	466.00	\$ 1,038.57	\$ 483,973.62	Labor		
Access Fiber Splicing	52.00	\$ 1,038.57	\$ 54,005.64	Labor		
Make Ready (82.75 miles)	82.75	\$ 5,000.00	\$ 413,750.00	Labor	Based upon the average make ready cost per mile for 82.75 extension miles	

Mingo & Logan Counties Fiber to the Premises Project – Budget Narrative

Construction, Cont.

Item	Quantity	Cost/Unit	Total	Type	Notes
Headend/OLT's					
Headend					
Software Licensing, Misc Cables & Materials	1.00	\$ 28,979.00	\$ 28,979.00	Materials	
Labor & Project Management	1.00	\$ 35,000.00	\$ 35,000.00	Labor	
OLT Cabinets					
Pad Construction - Prep, Concrete, Labor	52.00	\$ 6,500.00	\$ 338,000.00	Materials	
SFP 10G Transport	104.00	\$ 958.00	\$ 99,632.00	Materials	
Labor & Project Management	52.00	\$ 25,000.00	\$ 1,300,000.00	Labor	Labor and project management services related to installation and configuration of the Headend and OLTs.
Customer Drops					
Hardware					
Trident ADSS Drop Cable	8060.00	\$ 185.00	\$ 1,491,100.00	Materials	
Fast-SC-Connector	8060.00	\$ 15.00	\$ 120,900.00	Materials	
Mounting Supplies	8060.00	\$ 100.00	\$ 806,000.00	Materials	
OptiNID Duo	8060.00	\$ 15.00	\$ 120,900.00	Materials	
SC Adapter	8060.00	\$ 3.00	\$ 24,180.00	Materials	
Labor					
Drop cable installation to Optinid	8060.00	\$ 450.00	\$ 3,627,000.00	Labor	
Subscriber Equipment & Installation					
Materials					
GP1100x GigaPoint ONT	8060.00	\$ 125.00	\$ 1,007,500.00	Materials	
GigaBlast V6.2 Wifi 6 Router	8060.00	\$ 172.00	\$ 1,386,320.00	Materials	
Fiber Drop Cable - 50' (Connect Optinid to ONT)	8060.00	\$ 30.00	\$ 241,800.00	Materials	
Installation of MDU Drop Cable & Setup of Electronics	8060.00	\$ 200.00	\$ 1,612,000.00	Labor	
Total			\$ 16,310,334.26		

Mingo & Logan Counties Fiber to the Premises Project – Budget Narrative

Equipment

Budgeted	Federal Allocation	Matching Share
\$ 2,054,248.00	\$ 2,054,248.00	\$ --

Equipment costs for the construction, installation, and lighting of the fiber total \$2,054,248.

Equipment					
Item	Quantity	Cost per Unit	Total	Type	
Headend/OLT's					
<i>Headend</i>					
Routing: Juniper JNP204/MX204	1.00	\$ 43,900.00	\$ 43,900.00	Equipment	
Switching: Juniper EX4600	1.00	\$ 29,430.00	\$ 29,430.00	Equipment	
PON: E7-2 10G AXOS XGS-PON	1.00	\$ 20,206.00	\$ 20,206.00	Equipment	
<i>OLT</i>					
ODC Cabinet Package	52.00	\$ 17,500.00	\$ 910,000.00	Equipment	
E7-2 10G AXOS XGS-PON	52.00	\$ 20,206.00	\$ 1,050,712.00	Equipment	
Total			\$ 2,054,248.00		

Miscellaneous

Budgeted	Federal Allocation	Matching Share
\$ --	\$ --	\$ --

The covered project does not require miscellaneous costs allocated as part of this grant request.

Mingo & Logan Counties Fiber to the Premises Project – Budget Narrative

Contingencies

Budgeted	Federal Allocation	Matching Share
\$ 400,000.00	\$ 400,000.00	\$ --

A contingency of \$400,000 is included with this grant request.

Project (Program) Income

Budgeted	Federal Allocation	Matching Share
\$ --	\$ --	\$ --

We do not anticipate any project or program income for the proposed project relevant to this funding request. For details on projected income as a result of the project, but outside of the period of performance, please see pro forma projections attached to the application materials and reference the project sustainability section of the main application narrative.

Forecasted Cash Needs

Forecasted Cash Needs (Year 1)						
	Total	Q1	Q2	Q3	Q4	
Non-Federal (Cash)	\$ 5,448,000.00	\$ 1,362,000.00	\$ 1,362,000.00	\$ 1,362,000.00	\$ 1,362,000.00	\$ 1,362,000.00
Federal	\$ 19,682,933.06	\$ 4,920,733.27	\$ 4,920,733.27	\$ 4,920,733.27	\$ 4,920,733.27	\$ 4,920,733.27
Total	\$ 25,130,933.06	\$ 6,282,733.27	\$ 6,282,733.27	\$ 6,282,733.27	\$ 6,282,733.27	\$ 6,282,733.27

COST CLASSIFICATION	Federal Portion	Match portion	Total
1. Administrative and legal expenses	\$ 100,000.00	\$ -	\$ 100,000.00
2. Land, structures, rights-of-way, appraisals, etc.	\$ -	\$ 5,448,000.00	\$ 5,448,000.00
4. Architectural and engineering fees	\$ -	\$ -	\$ -
9. Construction	\$ 18,414,582.26	\$ -	\$ 18,414,582.26
12. SUBTOTAL	\$ 18,514,582.26	\$ 5,448,000.00	\$ 23,962,582.26
13. Contingencies	\$ 400,000.00	\$ -	\$ 400,000.00
14. SUBTOTAL	\$ 18,914,582.26	\$ 5,448,000.00	\$ 24,362,582.26
16. TOTAL PROJECT COSTS	\$ 18,914,582.26	\$ 5,448,000.00	\$ 24,362,582.26
Cost Share Percentages	77.64%	22.36%	100.00%

1. Administrative and legal expenses

Item	Total
Administrative services	
Salaries	\$ 42,134.00
Fringe	\$ 17,321.00
Other	\$ 7,280.00
Indirect	\$ 33,265.00
Total	\$ 100,000.00

2. Land, structures, rights-of-way, appraisals, etc.

Item	Quantity	Cost	Total	Role	Notes
IRU for 6 strands of fiber	1	\$ 5,448,000.00	\$ 5,448,000.00	Dark Fiber Lease	Estimating 6 strands per mile for the approximately 400 mile project; Total Lease is \$1250/fiber/mile for 20 years (approximately 400 miles x 6 strands x \$1250) = \$3 Million; POP Cross-Connect Fees: \$48,000 (use of building for headend); Annual Maintenance Fees: \$300 x 400miles x 20 years= \$2.4 Million
Total			\$ 5,448,000.00		

4. Architectural and engineering fees

Item	Quantity	Cost per Unit	Total	Role	Notes
Last Mile Network Design	13432.00	\$ 25.00	\$ 335,800.00	Contractor	Cost per passing for design services
Access Fiber Extension Engineering	436920.00	\$ 0.99	\$ 432,550.80	Contractor	Cost per foot for design services for 87.5
Total			\$ 768,350.80		

9. Construction

Item	Quantity	Cost per Unit	Total	Type	Notes	Column I
Access Fiber Construction for Extension						
<i>Hardware</i>						
Fiber Optic Cable	436920.00	\$ 0.75	\$ 327,690.00	Materials	Dielectric Self-Supporting 12 Strand	
ADSS Trunnion Assembly	1250.00	\$ 35.00	\$ 43,750.00	Materials		
LG-500 Splice Enclosure	118.00	\$ 140.00	\$ 16,520.00	Materials		
LG-500 Mounting Bracket	118.00	\$ 29.00	\$ 3,422.00	Materials		
1x8 Splitter/tray	59.00	\$ 200.00	\$ 11,800.00	Materials		
1x4 Splitter/tray	59.00	\$ 175.00	\$ 10,325.00	Materials		
Titan Multiport RTD 4 port 100' Flat	59.00	\$ 300.00	\$ 17,700.00	Materials		
Titan Multiport RTD 8 port 100' Flat	59.00	\$ 350.00	\$ 20,650.00	Materials		
Multiport Terminal Mounting Bracket	118.00	\$ 29.00	\$ 3,422.00	Materials		

Labor						
Installation of MPT Tails	93050.00	\$	7.50	\$	697,875.00 Labor	
Installation of Access Fiber	436920.00	\$	4.50	\$	1,966,140.00 Labor	
Multiport RTD splicing	466.00	\$	1,038.57	\$	483,973.62 Labor	
Access Fiber Splicing	52.00	\$	1,038.57	\$	54,005.64 Labor	
Make Ready	82.75	\$	5,000.00	\$	413,750.00 Labor	82.75. This is the average make ready cost per mile.
Permitting	436920.00	\$	0.11	\$	50,000.00 Labor	Average per foot cost for permitting is approximately \$.11 per foot.
Headend/OLT's						
Headend						
Routing: Juniper JNP204/MX204	1.00	\$	43,900.00	\$	43,900.00 Materials	
Switching: Juniper EX4600	1.00	\$	29,430.00	\$	29,430.00 Materials	
PON: E7-2 10G AXOS XGS-PON	1.00	\$	20,206.00	\$	20,206.00 Materials	
Software Licensing, Misc Cables & Materials	1.00	\$	28,979.00	\$	28,979.00 Materials	
Labor & Project Management	1.00	\$	35,000.00	\$	35,000.00 Labor	
OLT Cabinets						
ODC Cabinet Package	52.00	\$	17,500.00	\$	910,000.00 Materials	
Pad Construction - Prep, Concrete, Labor	52.00	\$	6,500.00	\$	338,000.00 Materials	
SFP 10G Transport	104.00	\$	958.00	\$	99,632.00 Materials	
E7-2 10G AXOS XGS-PON	52.00	\$	20,206.00	\$	1,050,712.00 Materials	
Labor & Project Management	52.00	\$	25,000.00	\$	1,300,000.00 Labor	Labor and project management services related to installation and configuration of the Headend and OLTs.
Customer Drops						
Hardware						
Trident ADSS Drop Cable	8060.00	\$	185.00	\$	1,491,100.00 Materials	
Fast-SC-Connector	8060.00	\$	15.00	\$	120,900.00 Materials	
Mounting Supplies	8060.00	\$	100.00	\$	806,000.00 Materials	
OptiNID Duo	8060.00	\$	15.00	\$	120,900.00 Materials	
SC Adapter	8060.00	\$	3.00	\$	24,180.00 Materials	
Labor						
Drop cable installation to Optinid	8060.00	\$	450.00	\$	3,627,000.00 Labor	
Subscriber Equipment & Installation						
Materials						
GP1100x GigaPoint ONT	8060.00	\$	125.00	\$	1,007,500.00 Materials	
GigaBlast V6.2 Wifi 6 Router	8060.00	\$	172.00	\$	1,386,320.00 Materials	
Fiber Drop Cable - 50' (Connect Optinid to ONT)	8060.00	\$	30.00	\$	241,800.00 Materials	
Installation of MDU Drop Cable & Setup of Electroni	8060.00	\$	200.00	\$	1,612,000.00 Labor	
Total				\$	18,414,582.26	



UNITED STATES DEPARTMENT OF COMMERCE
Economic Development Administration
Washington, DC 20230

07/22/2019

Christopher Chiles
Executive Director
Region 2 Planning and Development Council
PO Box 939/400 Third Avenue
Huntington, WV 25712

RE: Indirect Cost Rate Certificate

Christopher:

With this letter, the Economic Development Administration (EDA), a component of the Department of Commerce and your cognizant agency, acknowledges receipt of your Indirect Cost Rate Certificate for FY 2020 dated 07/10/2019. As a unit of state or local government that receives less than \$35 million in annual cumulative direct Federal funding, you are not required to submit an indirect cost rate proposal to EDA and, consequently, EDA will not review your submission at this time. For more information on this requirement, see 2 C.F.R. part 200, App. VII § D.1.b.

Your organization is required to develop an indirect cost rate proposal in accordance with 2 C.F.R. part 200 and retain it with related supporting documentation for audit. For more information on this requirement, see 2 C.F.R. part 200, App. VII § D.1.b. and 2 C.F.R. § 200.333. EDA reserves the right to review this or future indirect cost rate proposals at a later time to ensure conformity with the requirements of 2 C.F.R. part 200. Typically, EDA will exercise this right if there is a relevant audit finding, a concern is raised by another government agency concerning a particular indirect cost rate, and/or if EDA finds an anomaly in an indirect cost rate proposal. In such circumstances EDA may review such an indirect cost rate proposal itself or through another Federal agency.

Please contact my office at (b) (6) if you have any questions or concerns.

Sincerely,

A handwritten signature in black ink that reads "Bernadette Grafton". The signature is written in a cursive style.

Bernadette Grafton
Program Analyst
Economic Development Administration

U.S. Department of Commerce, Economic Development Administration
1401 Constitution Avenue, NW
Washington, DC 20230

CERTIFICATE OF INDIRECT COSTS

This is to certify that I have reviewed the indirect cost rate proposal prepared and maintained herewith and to the best of my knowledge and belief:

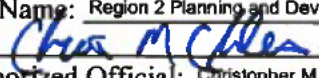
(1) All costs included in this proposal dated 07/10/2019 [identify date indirect cost rate proposal was finalized] to establish indirect costs rate(s) for 7/1/2019 - 6/30/2020 [identify start/end dates for the fiscal year covered by the indirect cost rate] are allowable in accordance with the requirements of the Federal award(s) to which they apply and OMB Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (codified at 2 C.F.R. Part 200) Unallowable costs have been adjusted for in allocating costs as indicated in the cost allocation plan.

(2) All costs included in this proposal are properly allocable to Federal awards on the basis of a beneficial or causal relationship between the expenses incurred and the agreements to which they are allocated in accordance with applicable requirements. Further, the same costs that have been treated as indirect costs have not been claimed as direct costs. Similar types of costs have been accounted for consistently and the Federal Government will be notified of any accounting changes that would affect the predetermined rate.

(3) The indirect cost rate calculated within the proposal is 50.04% [identify rate(s)], which was calculated using a direct cost base type of total direct salary & fringe [identify type of direct cost base – Salary & Fringe, MTDC, etc.]. The calculations were based on actual costs from fiscal year 2018 to obtain a federal indirect cost billing rate for fiscal year 2020.

(4) All documentation supporting the indirect cost rate identified above must be retained by the Recipient. This rate should be reviewed and validated as part of the Recipient's annual financial audit.

Subject to the provisions of the Program Fraud Civil Remedies Act of 1986, (31 USC 3801 et seq.), the False Claims Act (18 USC 287 and 31 USC 3729); and the False Statement Act (18 USC 1001), I declare to the best of my knowledge that the foregoing is true and correct.

Organization Name: Region 2 Planning and Development Council
Signature: 
Name of Authorized Official: Christopher M. Chiles
Title: Executive Director
Email Address and Phone: cchiles@region2pdc.org 304-529-3357
Date of Execution: _____

COUNTY OF LOGAN

COMMISSIONER:
DANNY R. GODBY
PRESIDENT



COMMISSIONERS:
DANNY ELLIS
DIANA BARNETTE

OFFICE OF THE COUNTY COMMISSION

ROOM 103 • LOGAN COUNTY COURTHOUSE
300 STRATTON STREET
LOGAN, WEST VIRGINIA 25601
(304) 792-8626 FAX (304) 792-8511

COVERED PARTNERSHIP COMMITMENT LETTER Logan County

August 9, 2021

Michael D. Clemons
President & CEO of Gigabeam
405 Old Virginia Avenue
Rich Creek, Virginia
24147

Roscoe Adkins, II
Executive Director
Logan County Development Authority
325 Stratton Street
Logan, WV 25601

Gentlemen:

On behalf the Logan County Commission ("Logan County"), I am writing to express [Logan County's commitment to form a Covered Partnership with the Mingo County Commission ("Mingo County") and Gigabeam Networks, LLC ("Gigabeam") and to apply to receive grant funding from the U.S. Department of Commerce's National Telecommunications and Information Administration's ("NTIA") Broadband Infrastructure Program ("BIP") to construct a Fiber to the Premise ("FTTP") network to provide qualifying broadband service to unserved territory in Logan County and Mingo County, West Virginia.

1. SCOPE OF COMMITMENT

- 1.1. This Commitment Letter is to document the commitment of Logan County, Mingo County, and Gigabeam to enter into a formal Partnership Agreement if their NTIA Infrastructure Applications is awarded. The Partnership Agreement will detail how the Parties will individually and together meet the requirements of the NTIA Infrastructure Program to build broadband facilities in Logan and Mingo Counties, comply with the

applicable DOC Standard Terms and Conditions, and CFR 200 requirements. Logan County has the authority to enter this arrangement according to the Chapter 7 of the *West Virginia Code*, particularly in §7-1-3.

2. Description of Project

2.1. The Logan and Mingo Counties Fiber to the Premises Project will construct Fiber to the Premise (FTTP) to over 13,000 unserved premises in Logan and Mingo Counties, West Virginia. GigaBeam will build the FTTP off of Appalachian Power's 430 mile middle-mile buildout. GigaBeam will construct 83 miles in access fiber extensions to reach 1,867 of the 13,000+ customers who are located off of the AEP path. A XGS-PON architecture will be used. This architecture will be able to grow as bandwidth demands increase over time. Broadband service of up to 1 G/IG will be offered to customers in the project area. The total cost of the project is estimated to be \$25.1 million. Region 2 Planning & Development Council will administer the grant in accordance with the protocols of the West Virginia Broadband Enhancement Council for administration of federal broadband funds in the State of West Virginia.

3. Responsibilities of Logan County

- 3.1. Logan County shall be the lead applicant as required by the Notice of Funding Opportunity (NOFO)
- 3.2. Logan County will enter into the grant agreement with NTIA and assume primary operational and financial responsibility for completing the project should an award be made. Logan County will partner with Region 2 Planning Development Council, which will administer the grant if awarded.
- 3.3. Logan County will coordinate with Region 2 Planning and Development Council flow the grant funding to the Partnership to pay for the budget developed in the application.

Logan County is pleased to support this proposed Logan and Mingo Counties FTTP Project application for funding through NTIA's BIP. Logan County will work collaboratively with Mingo County and Gigabeam to ensure our goals are aligned with the goals of the project proposal further detailed in the grant application. Logan County's support and commitment will significantly improve the availability of high-speed broadband within the rural, unserved proposed project area. As a member of the covered partnership, Logan County looks forward to working with Mingo County and Gigabeam on this endeavor to expand Appalachian access to better broadband.

Sincerely,

LOGAN COUNTY COMMISSION


Danny R. Godby, President
325 Stratton Street
Logan, WV 25601



MINGO COUNTY COMMISSION

78 East 2nd Avenue, Rm. 308 Williamson, WV 25661
Phone (304) 235-0378 Fax (304) 235-0365



August 11, 2021

Michael D. Clemons
President & CEO
Gigabeam
405 Old Virginia Avenue
Rich Creek, VA 24147

Dear Mr. Clemons:

On behalf of the Mingo County Commission ("Mingo County"), I am writing to express Mingo County's commitment to form a covered partnership with the Logan County Commission ("Logan County") and Gigabeam Networks, LLC ("Gigabeam") and to apply for grant funding from the U.S. Department of Commerce's National Telecommunications and Information Administration's ("NTIA") Broadband Infrastructure Program ("BIP") for the construction of a Fiber to the Premise ("FTTP") network to provide qualifying broadband service to unserved territory in Logan County and Mingo County, West Virginia.

1. Scope of Commitment

1.1. This Commitment Letter is to document the commitment of Logan County, Mingo County, and Gigabeam to enter into a formal Partnership Agreement if their NTIA Infrastructure Applications is awarded. The Partnership Agreement will detail how the Parties will individually and together meet the requirements of the NTIA Infrastructure Program to build broadband facilities in Logan and Mingo Counties, comply with the applicable DOC Standard Terms and Conditions, and CFR 200 requirements. Mingo County has the authority to enter this arrangement according to the Chapter 7 of the *West Virginia Code*, particularly in §7-1-3.

2. Description of Project

2.1. The Logan and Mingo Counties Fiber to the Premises Project will construct Fiber to the Premise (FTTP) to 13,000 unserved premises in Logan and Mingo Counties, West Virginia. These new last mile facilities will be connected to Gigabeam's existing FTTP network and back their main equipment location and ultimately to the Internet. Fiber will be constructed through the very rural area using primarily aerial construction. The project will utilize XGS-PON technology to deliver symmetrical speeds of up to 10Gbps with minimum speeds of 100Mbps symmetrical. This architecture will be able to grow as bandwidth demands increase over time. Region 2 Planning & Development Council

will administer the grant in accordance with the protocols of the West Virginia Broadband Enhancement Council for administration of federal broadband funds in the State of West Virginia.

3. Responsibilities of Mingo County

- 3.1.** Mingo County will coordinate with Logan County (primary applicant) and Region 2 Planning and Development Council (grant administrator) to accept and deploy any grant funds as a direct subrecipient.

Mingo County is pleased to support this proposed Logan and Mingo Counties FTTP Project application for funding through NTIA's BIP. Mingo County will work collaboratively with Logan County and Gigabeam to ensure our goals are aligned with the goals of the project proposal further detailed in the grant application. Mingo County's support and commitment will significantly improve the availability of high-speed broadband within the rural, unserved proposed project area. As a member of the covered partnership, Mingo County looks forward to working with Logan County and Gigabeam on this endeavor to expand Appalachian access to better broadband.

Sincerely,



Thomas Taylor
President
Mingo County Commission



387 Old Virginia Avenue
Rich Creek, VA 24147
540-726-2317

704 Bland Street
Bluefield, WV 24701
866-988-2638

August 16, 2021

Mr. Rocky Adkins
Executive Director
Logan County Economic Development Authority
Logan, West Virginia 25601

Mr. Adkins,

On behalf of GigaBeam Networks, LLC (“GigaBeam”), I am writing to express Gigabeam’s commitment to form a Covered Partnership with the Logan County Commission and Mingo County Commission and to apply to receive grant funding from the U.S. Department of Commerce’s National Telecommunications and Information Administration’s (“NTIA”) Broadband Infrastructure Program (“BIP”) to construct a Fiber to the Premise (“FTTP”) network to provide qualifying broadband service to unserved territory in Logan and Mingo Counties, West Virginia.

1. SCOPE OF COMMITMENT

- 1.1.** This Commitment Letter is to document the commitment of GigaBeam, Logan County, and Mingo County to enter into a formal Partnership Agreement if their NTIA Infrastructure Applications is awarded. The Partnership Agreement will detail how the Parties will individually and together meet the requirements of the NTIA Infrastructure Program to build broadband facilities in Logan and Mingo Counties, comply with the applicable DOC Standard Terms and Conditions, and CFR 200 requirements.

2. Description of Project

- 2.1.** The Logan and Mingo Counties Fiber to the Premise Project will construct Fiber to the Premise (FTTP) to 13,432 unserved premise locations in Logan and Mingo Counties, West Virginia. These new last mile facilities will be connected to Gigabeam’s existing FTTP network and back their main equipment location and ultimately to the Internet. Approximately, 483 miles of fiber will be constructed through the very rural area using aerial construction. A XGS-PON 10Gbps capable FTTP architecture will be used. This architecture will be able to grow as bandwidth demands increase over time. Broadband service of up to 1Gbps symmetrical will be offered to customers in the project area. The total cost of the grant project is approximately estimated to be \$19.3 million. Region 2 Planning & Development Council will administer the grant in accordance with the protocols of the West Virginia Broadband Enhancement Council for administration of federal broadband funds in the State of West Virginia.

3. Responsibilities of GigaBeam

- 3.1.** GigaBeam will have primary responsibility for engineering, constructing, installing, maintaining, and all ownership of the new FTTP system to the unserved premise in the project area.
- 3.2.** GigaBeam will provide broadband service 1Gbps symmetrical to all unserved premises.
- 3.3.** GigaBeam shall be responsible from constructing the FTTP system within the NTIA Grant timeline.
- 3.4.** GigaBeam shall be responsible for constructing the FTTP plant within the budget approximately \$19 million provided the NTIA Grant application.
- 3.5.** GigaBeam shall be responsible for any indirect costs that are not covered by the grant funding.
- 3.6.** GigaBeam shall provide financial, status and performance information to the Partnership to meet the NTIA reporting requirements.

GigaBeam is pleased to support this proposed project and the Logan and Mingo Counties FTTP Project application for funding through NTIA's BIP. GigaBeam will work collaboratively with Logan County and Mingo County to ensure our goals are aligned with the goals of the project proposal further detailed in the grant application. Gigabeam's support and commitment will significantly improve the availability of high-speed broadband within the rural, unserved proposed project area. As a member of the covered partnership, GigaBeam looks forward to working with Logan and Mingo Counties on this endeavor to expand Appalachian access to better broadband.

Sincerely,



Michael D. Clemons
President & CTO
GigaBeam Networks, LLC



August 13, 2021

Danny Godby, President
Logan County Commission
325 Stratton St,
Logan, WV 25601

RE: Project Participant on the Logan and Mingo Counties Fiber to the Premises Project

Dear Commissioner Godby,

I am writing to express Region 2 Planning & Development Council's (Region 2) commitment to serving as a Project Participant for the Logan and Mingo Counties Fiber to the Premises (FTTP) project. With National Telecommunications and Information Administration's (NTIA) Broadband Infrastructure Program grant funds, Logan County Commission, Mingo County Commission, and GigaBeam Networks, LLC, will construct an FTTP network to provide highspeed broadband service in underserved and unserved areas on Logan and Mingo Counties.

As the Appalachian Regional Commission (ARC)-designated Local Development District for southwestern West Virginia, Region 2 serves the counties of Cabell, Lincoln, Logan, Mason, Mingo, and Wayne. The mission of Region 2 is to strengthen regional communities, and thereby the regional economy. In working with local communities, we have become acutely aware of the regional challenges to economic development. This Logan and Mingo FTTP project will establish the highspeed broadband service necessary to help small businesses expand, attract new businesses, promote online learning, connect residences and businesses to federal assistance, boost tourism development, and expand access to telemedicine services.

Region 2 commits to serving as the Grant Administrator should NTIA funds be awarded to the project. Region 2 will work with the Logan County Commission to flow grant funds to the Covered Partnership. Region 2 will collect the necessary information from all project partners to adhere to NTIA reporting requirements and to conduct evaluations of project progress. Further, Region 2 commits to serve as a strategic partner by providing technical support to the Covered Partnership and acting as a liaison with local residents and state and federal agency officials. Should you have questions or require additional information, please do not hesitate to contact me at 304-529-3357 or cchiles@region2pdc.org.

Sincerely,

A handwritten signature in blue ink that reads "Chris M. Chiles".

Chris Chiles, Executive Director

Jeffrey Lusk
Chairman

Christopher M. Chiles
Executive Director

*Region 2 Planning &
Development Council*

*400 Third Avenue
Huntington, WV 25701
Tel: (304) 529-3357
Fax: (304) 529-7229*

Appalachian Power
Suite 800, Laidley Tower
500 Lee Street East
Charleston, WV 25301

Chris Beam
President & COO
304-348-4152
ctbeam@aep.com



August 13, 2021

Danny Godby, President
Logan County Commission
325 Stratton St.
Logan, WV 25601

RE: Project Collaborator on the Logan and Mingo Counties Fiber to the Premises Project

Dear Commissioner Godby:

I am writing to express Appalachian Power's commitment to serving as an Unfunded Collaborator for the Logan and Mingo Counties Fiber to the Premises (FTTP) project. With National Telecommunications and Information Administration's (NTIA) Broadband Infrastructure Program grant funds, the Logan County Commission, Mingo County Commission, and GigaBeam Networks, LLC, will construct an FTTP network to provide high speed broadband service in underserved and unserved areas of Logan and Mingo counties.

This proposed last-mile project will leverage Appalachian Power's \$63.1 million middle-mile expansion project in Logan and Mingo counties, in which we will construct and install 361 miles of fiber to unserved and underserved areas. We conducted a Request for Proposals in 2020, resulting in the selection of GigaBeam to serve as the last-mile service provider for Appalachian's middle-mile project in the two counties. We have 30 years of experience in deploying and operating a fiber network. The company owns the poles and other infrastructure required to deploy the 361 miles of middle-mile fiber in Logan and Mingo counties, and we have entered into a lease agreement with Gigabeam for access to a portion of the middle-mile fiber we are constructing to build out the last-mile broadband fiber included in this project. We are installing the middle-mile fiber in the power zone of the poles and connecting transmission assets in the counties with a fiber optic communication platform.

We are ready to be engaged and supportive of the Covered Partnership between Logan County, Mingo County and GigaBeam. We will work with GigaBeam under the existing lease agreement to provide access to Appalachian's distribution poles to extend fiber drops from customers' residences or businesses. We will perform the continued operations and maintenance for the middle-mile fiber for the life of the fiber.

Appalachian Power looks forward to supporting this important initiative. Please do not hesitate to contact me with any questions.

Sincerely,



August 13, 2021

Danny Godby, President
Logan County Commission
325 Stratton St,
Logan, WV 25601

RE: Project Collaborator on the Logan and Mingo Counties Fiber to the Premises Project

Dear Commissioner Godby,

I am writing to express Logan County Development Authority's commitment to serving as an Unfunded Collaborator for the Logan and Mingo Counties Fiber to the Premises (FTTP) project. With National Telecommunications and Information Administration's (NTIA) Broadband Infrastructure Program grant funds, Logan County Commission, Mingo County Commission, and GigaBeam Networks, LLC, will construct an FTTP network to provide highspeed broadband service in underserved and unserved areas on Logan and Mingo Counties.

The Logan County Development is committed to promoting the economic well-being of the community and enhance regional economic development. Logan County Development Authority strongly supports the Logan and Mingo Counties FTTP project because In the Information Society of the 21st century, states and counties must make the necessary investments to enable their citizens to participate in and benefit from the digital economy and globally-spread innovation – or risk exclusion. In particular, broadband enabled technologies are stimulating fresh innovation and inspiring a new generation of digital entrepreneurs to create new applications, services, and content. Broadband moves innovation into people's hands and homes, allowing end users to take on new roles as entrepreneurs. The continued growth of the Hatfield McCoy Trail system will be dependent on reliable access for marketing, transactions and digital tourism innovations.

Logan County Development Authority is ready to be engaged and supportive of the Covered Partnership between Logan County, Mingo County, and GigaBeam. Logan County Development Authority commits to serving as a liaison to the local business community throughout project implementation. Logan County Development Authority will also work to publicize available broadband service and promote adoption following completion of construction.

Logan County Development authority looks forward to supporting this important initiative. Please do not hesitate to contact me with any questions.

Sincerely, 

LOGAN COUNTY DEVELOPMENT AUTHORITY

Roscoe Adkins, II, Executive Director



August 13, 2021

Danny Godby, President
Logan County Commission
325 Stratton St.
Logan, WV 25601

RE: Project Collaborator on the Logan and Mingo Counties Fiber to the Premises Project

Dear Commissioner Godby,

I am writing to express the Mingo County Redevelopment Authority's ("MCRA") commitment to serving as an Unfunded Collaborator for the Logan and Mingo Counties Fiber to the Premises (FTTP) project. With National Telecommunications and Information Administration's (NTIA) Broadband Infrastructure Program grant funds, Logan County Commission, Mingo County Commission, and GigaBeam Networks, LLC, will construct an FTTP network to provide highspeed broadband service in underserved and unserved areas on Logan and Mingo Counties.

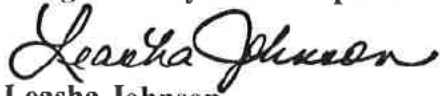
The MCRA is Mingo County's lead economic development agency. The cornerstone of the MCRA's mission is to promote and encourage the economic and civic welfare of Mingo County. Our mission is to develop, attract and retain businesses, industries and commerce within our county in order to create employment opportunities and increase the county's tax base and improve the livelihood of citizens. Likewise, the FTTP Project's objective is in direct alignment with our redevelopment initiatives by implementing broadband to recruit industries and support existing businesses.

The MCRA strongly supports the Logan and Mingo Counties FTTP project because highspeed broadband access is critical to attracting new businesses to locate in our economically distressed communities. Additionally, the lack of reliable broadband access makes it difficult for local business owners to process transactions, access federal assistance, and reach wider markets online. Also, highspeed broadband access is critical to the success of the Hatfield McCoy Trail System tourism development initiative, which will require online marketing, transactions, and digital tourism innovations. Highspeed broadband access is key to our state's economic recovery from the impacts of COVID-19, as well as the generational impacts of coal industry's decline.

The MCRA is ready to be engaged and supportive of the Covered Partnership between Logan County, Mingo County, and GigaBeam. The MCRA commits to serving as a liaison to the local business community throughout project implementation. The MCRA will also work to publicize available broadband service and promote adoption following completion of construction.

The MCRA looks forward to supporting this important initiative. Please do not hesitate to contact me with any questions.

Sincerely,
Mingo County Redevelopment Authority



Leasha Johnson
Executive Director

August 13, 2021

Mr. Rocky Adkins
Executive Director
Logan County Economic Development Authority
Logan, West Virginia 25601

Dear Mr. Adkins:

It is my pleasure to provide a letter of support for the Logan County Economic Development Authority's application to the National Telecommunications and Information Administration (NTIA), U.S. Department of Commerce, Broadband Infrastructure Program.

It is my understanding that the Logan County Economic Development Authority has formed a covered partnership with GigaBeam to expand broadband connectivity throughout unserved and underserved areas of Logan County and Mingo County, West Virginia.

According to the NTIA Notice of Funding Opportunity, "...NTIA encourages political subdivisions of a State that are contemplating forming a covered partnership with one or more providers of fixed broadband service to coordinate and consult with the State's Broadband Office or other coordinating body to ensure that the proposal is consistent with a State's broadband plan or priorities. Such coordination enables the State to evaluate the proposed covered broadband projects presented for consideration and ensure the submission of top priority projects for funding under the Broadband 3 See id. and 2 C.F.R. § 200.306. 4 See 2 C.F.R. § 200.306. 5 See id. Notice of Funding Opportunity – 11 Infrastructure Program."

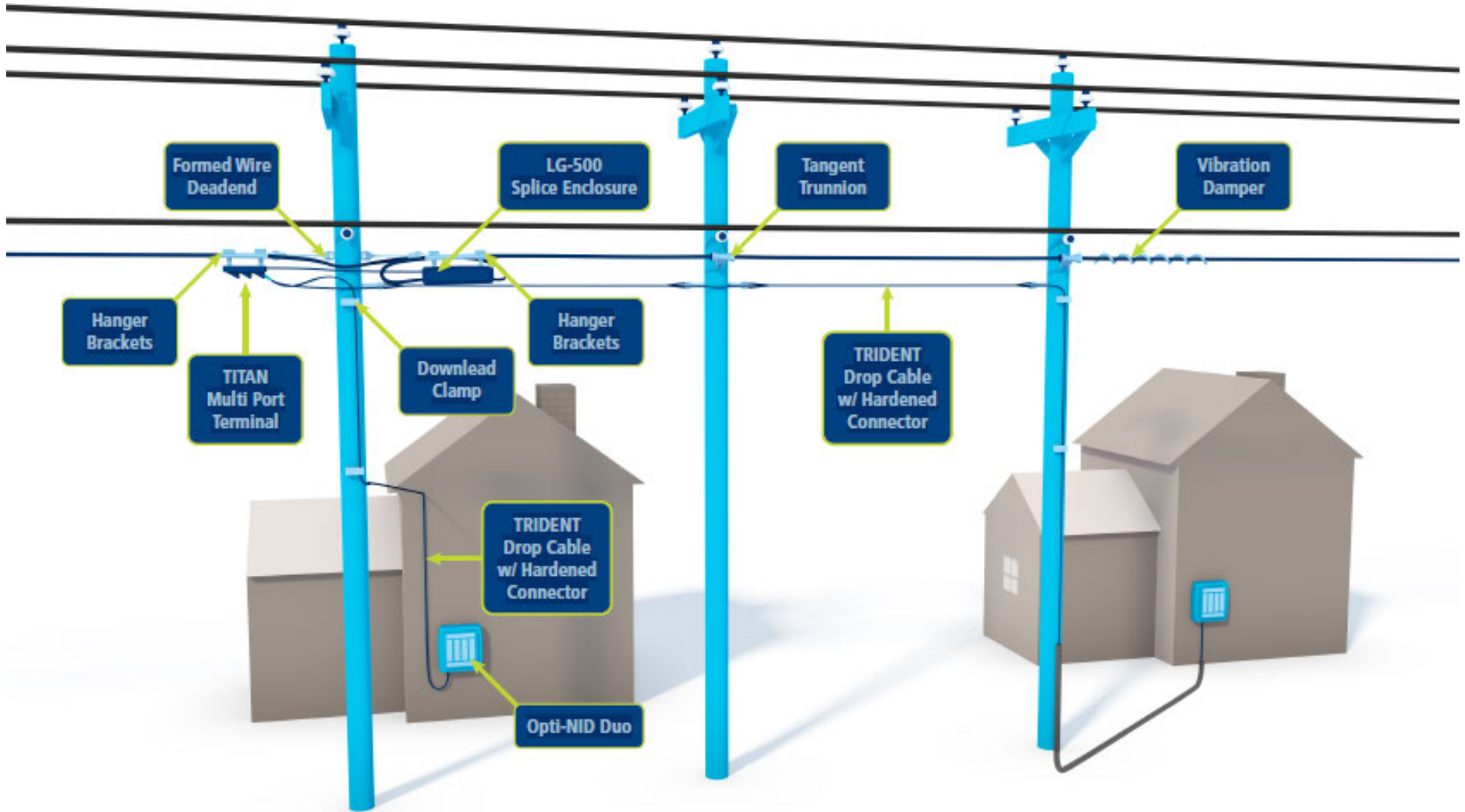
This application has the full support of the West Virginia Office of Broadband and is consistent with its mission to expand broadband connectivity to unserved and underserved areas of West Virginia. Our office commends your leadership and requests the full consideration of NTIA for this worthwhile project. Should you need additional information, please do not hesitate to contact me at 304-389-4882 or send email to kelly.a.workman@wv.gov.

Sincerely,

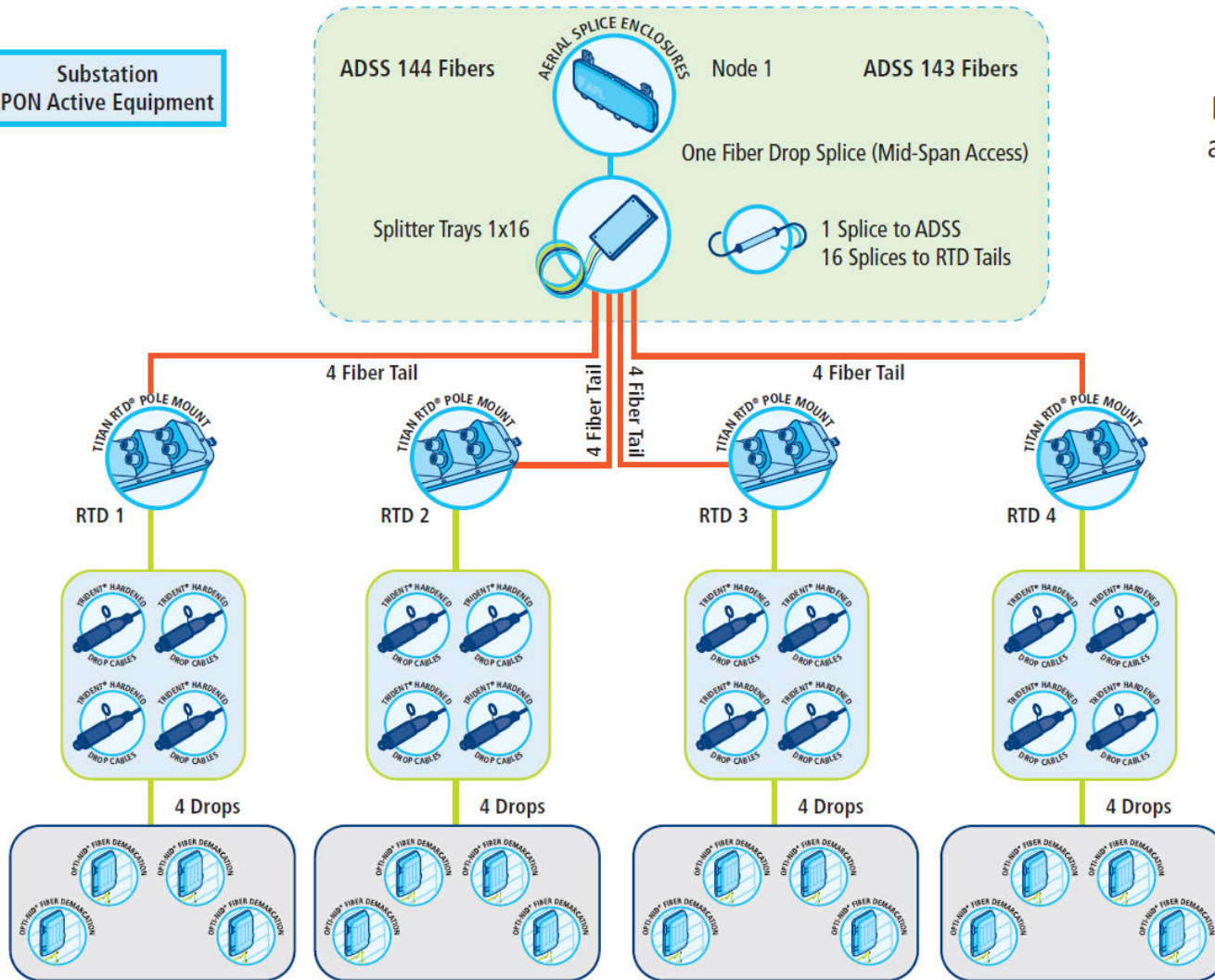


Kelly Collins Workman, Director
Office of Broadband
West Virginia Department of Economic Development

Network Layout & System Design
Logan & Mingo Counties Fiber to the Premises Project



Substation
PON Active Equipment



Primary Option
LG-500 with Splitter Trays
and Titan & Trident system