Grant Request Number	GRN-000503
Funding Program Name	Middle Mile Broadband Infrastructure Grant Program
Funding Request Name	QSH Parent Holdco LLC - Middle Mile - GRN-000503
Applying Organization	QSH Parent Holdco LLC
Applicant Name	Michael McHale

Primary Applicant Type

Identify the primary applicant type:

Single Entity

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Primary Entity Type

Type of entity: Primary entity type, (A) a State, political subdivision of a State, Tribal government, technology company, electric utility, utility cooperative, public utility district, telecommunications company, telecommunications cooperative, nonprofit foundation, nonprofit corporation, nonprofit institution, nonprofit association, regional planning council, Native entity, or economic development authority; or (B) a partnership of two (2) or more entities described in (A).

What is the primary applicant's entity type?

Telecommunications Company

———

Is parent/owner of applicant a foreign entity?

No

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Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - Ada Maduakor; Quintillion Subsea Operations; Market Development Manager ; AMaduakor@quintillionglobal.com
KeyPersonnel_Resume_Ada_Maduakor

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Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - Ariel Burr; Quintillion Subsea Operations; Senior Manager of Federal Programs; ABurr@quintillionglobal.com
KeyPersonnel_Resume_Ariel_Burr

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Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - Ben Cuttriss; Quintillion Subsea Operations; Vice President, Strategic Initiatives; BCuttriss@quintillionglobal.com
KeyPersonnel_Resume_Ben_Cuttriss

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Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - Cheri McConnell; QSH Parent Holdco LLC; Community Liaison; CMcConnell@quintillionglobal.com
KeyPersonnel_Resume_Cheri_McConnell

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Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - Clover McNeil; Quintillion Subsea Operations; Chief Financial Officer; CMcNeil@Quintillion.com

KeyPersonnel_Resume_Clover_McNeil

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Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - Dan Kerschbaum; Quintillion Subsea Operations; Vice President, Engineering and Operations; DKerschbaum@quintillionglobal.com
KeyPersonnel_Resume_Dan_Kerschbaum

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Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - George Tronsrue; Quintillion Subsea Operations; Chief Executive Officer (CEO); gtronsrue@quintillionglobal.com
KeyPersonnel_Resume_George_Tronsrue

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Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - Lance Dubsky; Quintillion Subsea Operations; Chief Security Officer (CSO); ldubsky@quintillionglobal.com
KeyPersonnel_Resume_Lance_Dubsky

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Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - Matthew Peterson; Quintillion Subsea Operations; Chief Technology Executive (CTO); MPeterson@quintillionglobal.com
KeyPersonnel_Resume_Matthew_Peterson
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Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - Michael McHale; Quintillion Subsea Operations; President; MMcHale@quintillionglobal.com
KeyPersonnel_Resume_Michael_McHale
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Organizational Charts

Each applicant shall submit any necessary organizational chart(s) detailing all of its parent companies, subsidiaries, and affiliates.

Quintillion NTIA MMG - Quintillion Organizati-09-28-2022 07-29-QSH Parent Holdco LLC-GRN-000503.pdf, Quintillion NTIA MMG - Employee Handbook 2021-10-06-2022 05-23-QSH Parent Holdco LLC-GRN-000503.pdf, Quintillion NTIA MMG - Letters of Support & I-10-13-2022 01-17-QSH Parent Holdco LLC-GRN-000503.pdf, Quintillion NTIA MMG - National Security Agre-04-11-2023 03-43-QSH Parent Holdco LLC-GRN-000503.pdf, Quintillion NTIA MMG - Quintillion Organizati-04-11-2023 03-43-QSH Parent Holdco LLC-GRN-000503.pdf, Quintillion NTIA MMG - Grain Management Acqui-04-11-2023 03-45-QSH Parent Holdco LLC-GRN-000503.pdf
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Organizational Details

Each applicant must also provide a narrative describing the applicant's readiness to manage a middle mile broadband network. This narrative should describe the experience and qualifications of key management set to undertake this project, the applicant's experience undertaking projects of similar size and scope, recent and upcoming organizational changes including mergers and acquisitions, relevant organizational policies, and ownership information consistent with 47 CFR § 1.2112.

This narrative shall denote who will own the assets at the end of award period. This response is limited to 6000 characters as an open field narrative.

Quintillion is the first and only telecommunications operator to build a subsea and terrestrial fiber optic network in the geopolitically significant U.S. Arctic region. Spanning over 1,700 miles, Quintillion's

US-owned, carrier-grade system currently provides Gig-E data transmission capacity at incomparable levels of security in the most remote, rugged, and culturally diverse geographic region of the country. Quintillion's existing network, operational since 2017, currently serves the Alaska markets of Nome, Kotzebue, Point Hope, Wainwright, Utqiagvik (Barrow), Oliktok Point, and Prudhoe Bay/Deadhorse, as well as the oil and gas infield delivering high-quality and effective fiber-based broadband network services to state and federal government, commercial entities, and commercial telecom providers allowing multiple broadband access providers in markets where there was previously no competition, thereby incentivizing improved products, price, and services for end users.

Quintillion's approach comes from an unparalleled understanding of Alaska, maintaining strategic relationships with Alaska Native corporations, and the experience gained from successfully building and delivering reliable communications in some of the harshest environments in the world. Quintillion is an expert at bringing together the right combination of vendors and partners to deliver what customers need and the detailed project management experience to manage this delivery.

The Quintillion Leadership Team combined has well over two centuries of telecommunications and broadband experience including technology innovation, building, and growing companies, and managing turn-around companies. The Team's expertise ranges from information technology, network design, construction, and management of fiber networks, microwave, and satellite systems, with enhanced security architecture. Quintillion leverages our leadership and strategic advisor's telecommunications and broadband experience to understand regional and world markets, analyzing and meeting customer needs, innovating solutions for specific circumstances, and assessing/mitigating risks to critical communications infrastructure. Our team has relevant and proven Alaska and Arctic environment experienced personnel, and proven middle mile, subsea, terrestrial, and satellite ground experience for projects beyond the size and scope of this proposed project.

Quintillion's customer performance and experience are upheld with detailed service level agreements supported by mature project management, network management, provisioning, billing, and customer care procedures and support systems to guarantee our customers across Alaska stay connected and have the robust communications, services, and security they need. Quintillion uses innovative tools and processes to deliver high fidelity communications with 99.999% reliability through superior network design, use of the right technology, strategic redundancy, and expert engineering and support. Our expertise spans the subsea and terrestrial, and includes and understanding of the cyber threat environment, security architecture enhancement and risk reduction. We have an excellent record of community outreach to garner support with Alaska Native and rural markets, permitting agencies, and other stakeholders essential to the success of deploying telecommunications systems in the Arctic.

Quintillion's management has extensive federal contracting and grant/loan application experience across a variety of sectors to meet mission critical requirements including managing the delivery of communications and security projects across the United States in the tens to hundreds of millions of

dollars, experience designing, installing, and operating Arctic based and global telecommunications systems. Our CTO and VP Engineering, serve as the principal interface communicating with current and prospective customers to understand fully the nature of the middle mile requirements, follow through to document needs, collaborate with partners and leadership, and swiftly address established and new requirements.

Quintillion attracts and retains the best people by providing challenging work in an environment that stimulates, respects, and rewards creativity and productivity in the satisfaction of customer needs. As detailed in our Fair Labor Practices section, we honor diversity and comply with all relevant labor and workforce regulations. As seen in our Highly Skilled Workforce section, the entire team has the appropriate education, training, and experience to perform their specific job to the utmost. Further, the team has a passion for innovation, are skilled communicators, with a detailed understanding of each other's strengths and capabilities.

Several Quintillion personnel have been vetted, received background investigations, and have held top secret clearances for large parts of their careers. This enables Quintillion's management team to discuss sensitive projects with the DoD and Intelligence Community with our enhanced understanding of classified communications requirements. Quintillion also employs three strategic advisors, two retired four-star generals and an executive who built the first trans-Pacific undersea fiber cable.

[redacted]

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Form CD-511 (Certification Regarding Lobbying)

The applicant must upload a completed form that certifies that Federal funds have not and will not be used for lobbying in connection with this request for Federal financial assistance. A fillable Form CD-511 can be found in the MMG ZIP folder.

Quintillion NTIA MMG - Standard Form CD511 Lo-09-27-2022 06-53-QSH Parent Holdco LLC-GRN-000503.pdf, Quintillion NTIA MMG - Standard Form CD511 Lo-11-18-2022 07-12-QSH Parent Holdco LLC-GRN-000503.pdf

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Standard Form-LLL (Disclosure of Lobbying Activities)

Standard Form-LLL must be completed and submitted for those applicants that need to disclose lobbying activities that have been secured to influence the outcome of a Federal action. A fillable Form SF-LLL can be found in the MMG ZIP folder.

Quintillion NTIA MMG - Standard Form LLL Lobb-09-28-2022 07-31-QSH Parent Holdco LLC-GRN-000503.pdf

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SAM.gov Registration

Applicants are asked to upload a screenshot of their SAM.gov registration.

Quintillion NTIA MMG - QSH Parent Holdco LLC -09-01-2022 08-46-QSH Parent Holdco LLC-GRN-000503.pdf

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Additional Waiver Upload

Please upload, as applicable.

Quintillion NTIA MMG - Timeline Milestone Wai-10-12-2022 03-35-QSH Parent Holdco LLC-GRN-000503.pdf

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Executive Summary

Please describe how the applicant's proposal will advance the objectives of the MMG Program, as well as the specific objectives of outlined in the Notice of Funding Opportunity (NOFO);

An overview of the proposed route or service area(s), including information regarding rurality and socio-economic indicators in the area to be served by the proposed project.
This response is limited to 12000 characters as an open field narrative.

The State of Alaska, home to the most remote, rugged, and culturally diverse geographic areas in the United States, has challenges and difficulties faced by no other state. As a result, it faces unique predicaments due to the geography, topology, weather, lack of contiguous roads, transportation, accommodations in towns, and demographics of the State. Alaska ranks at the bottom for Internet connectivity availability compared to the rest of the nation and where available, broadband services are offered at substantially higher costs. It doesn't help that many of Alaska's rural communities are not interconnected by roads or fiber backbones, but are remote, separated by vast distances, and are often Alaskan Native villages with further disadvantages. These facts, along with the geographical and climatological challenges, make Alaskan broadband projects especially difficult and expensive. In addition, the global pandemic has further aggravated these circumstances and driven Alaska's citizens and institutions to be even more dependent on good connectivity.

QSH Parent Holdco LLC ("Quintillion" or "Applicant") is a leading integrated digital infrastructure provider founded in 2016 and headquartered in Anchorage, Alaska with a vision of bringing world-class telecommunications services to the Arctic to support economic development and improve the quality of life. Quintillion is the first and in many cases only provider to bring world-class telecommunications infrastructure to many areas of the Alaskan Arctic through our subsea and land-based fiber optic cable networks. As the wholesaler or "middle mile" provider, we sell access to our network to a variety of regional telecommunication service providers enabling them to provide better products, pricing, and services to their customers. Quintillion also directly provides high-speed broadband to selective government and enterprise institutions.

Quintillion's Phase 1 system, operational since 2017, delivers gigabit and higher bandwidth services on a 1,182-mile subsea and 505-mile terrestrial fiber optic network to Alaska's Northwest and North Slope Arctic regions, including to the remote markets of Nome, Kotzebue, Point Hope, Wainwright, Utqiagvik (Barrow), Oliktok Point, and Prudhoe Bay/Deadhorse, as well as the oil and gas infield extending along the Dalton Highway to Fairbanks where it connects with the Continental United States (CONUS) in cooperation with regional telecommunications companies.

The transmission latency from Nome to Seattle via Quintillion interconnected through Alaska Communications Systems (ACS) fiber remains quite stable and is currently some 61.8 mS, predicted to improve to 51.2 mS as well as achieve higher levels of resiliency with the addition of the proposed Nome to Homer Express Route. The capacity and performance of GCI's TERRA microwave network currently serving much of Western Alaska and requiring some 12-18 hops for backhaul to Tier 1 services is in practice quite congested with intentional throttling, resulting in high latency and jitter for end users due to multi-hop microwave systems with many choke points and very limited capacity to share among a variety of applications. With this project, Quintillion will bring high-capacity open access low latency middle mile to all ISPs wanting to serve the communities of Emmonak, Naknek, King Salmon, Igiugig, and Homer as well as surrounding areas driving high performance competitive last mile offerings.

Quintillion is applying to the NTIA for an Enabling Middle Mile Grant (MMG) for funding to support its proposed Nome to Home Express Route Project extend its existing subsea and terrestrial network south from Nome to Emmonak, continuing along the Yukon-Kuskokwim Delta coast to Naknek, and then terrestrially and submerged about 230 miles to King Salmon, Igiugig, and on to Homer. There, it can interconnect with multiple regional providers for a diverse, resilient, lower latency, competitive pathway to U.S. and global interconnectivity and cloud services. Quintillion commits to offer wholesale broadband service at reasonable rates on a carrier neutral basis across its entire network going forward. Closing Quintillion's Alaska loop with a redundant fiber ring will improve network resiliency for all carriers and end users, greatly enhancing Alaska's diverse broadband access to the world at large.

The communities covered in the proposed service area (Direct) are Nome, Emmonak, Naknek, King

Salmon, Igiugig and Homer. Communities along the fiber route where connections can be completed with future funding (Indirect) include Hooper Bay, Toksook Bay, Eek, Oscarville, Napaskiak, Bethel, Goodnews Bay, Togiak, Dillingham and Levelock. The population to be covered by this project across the six Direct communities is 10,695. For the eleven Indirect communities, where the connection to the subsea fiber to be stubbed in and completed under future funding, the population is 13,052. The socio-economic status of the Direct communities is 17% (or 1 of six) considered at the poverty level according to NTIA map of Indicators of Broadband Need. For the Indirect communities, the level of poverty is 73% (8 of 11). As for Broadband service, 66% of the Directly serviced communities are either unserved or underserved (33% each). For the Indirect communities that percent goes up to 100% (45% unserved and 55% underserved). Furthermore, although communities have express interest in creating ISPs either singly or as a coop, they haven't done so due to the lack of regional middle mile fiber.

The pandemic has brought with it a historic wave of federal recovery funding for economic stimulus and infrastructure investment, with a tsunami of new broadband funding in the pipeline to the States, territories, and Tribes, as well as directly to community and provider projects. This project will initially connect five Western Alaska communities (Emmonak, Naknek, King Salmon, Igiugig, and Homer) with world-class resilient open-access middle mile backhaul and enable last mile providers to extend and improve broadband services to government, institutions, businesses, homes, and visitors to these unserved and underserved communities. Quintillion, once underway with deploying this Internet superhighway from Nome to Homer, plans to pursue development and funding of multiple additional projects, connecting additional nearby communities with branch connections, as well as offramps from the broadband superhighway, to also deliver robust open access middle mile capabilities to them.

Broadband service availability will be life changing and lifesaving to the residents, and transformational to the institutions in these currently unserved and underserved communities. Students, K-12 and college alike, who consistently fall behind compared to their counterparts in Alaska's urban areas (as well as the rest of the country), will have a new world of educational and training opportunities to build a foundation of success for higher education and future employment. The current limited or remote healthcare facilities and services lead to lower-than-average health statistics and outcomes but will significantly improve with increased telehealth access to physicians, psychologists, and specialists. Consistent and reliable communication will improve public safety response time, coordination with officials in regional and State offices, and help drive economic growth and sustainability. Broadband is not just a luxury that will improve lifestyles, but truly a necessity for the economic growth, safety, health, and quality of life for residents of these unserved, disadvantaged, and isolated Alaska communities. Quintillion's future Phase 2 plans are to connect that network directly to Japan, while Phase 3 will traverse Arctic waters reaching Greenland, Iceland, and the UK, providing a geographically unique and low latency pathway from Asia to Europe while adding further resiliency to its core Alaska network.

Quintillion's Nome to Homer Express Route project will have a significant national security impact by addressing connectivity shortcomings to defense installations and critical facilities locations, as well as

overall Alaska network resiliency and Arctic presence providing Gig-E and beyond data transmission capacity at incomparable levels of security in a remote, yet geopolitically significant region. Quintillion currently provides unique fiber infrastructure to existing North Warning System (NWS) radar stations along Alaska's coast, as well as diversity for the $250M Coast Guard base/port planned for Nome, and to the planned USAF base in King Salmon. This project will bring new resilient middle mile capacity to the vicinity of other military bases including Fort Wainwright, Fort Greely, and Eielson AFB, a half dozen Alaska Army National Guard bases, and several Alaska Coast Guard stations.

Quintillion's state of the art networks and scalable broadband transport infrastructure stand ready to accelerate the speed of information access to support next-generation warfighters and weapon systems, proactive early-warning monitoring and sensing, maritime communications, oil & gas production, and continuity in crisis situations when public networks may be congested or inaccessible through its high-speed subsea fiber and satellite ground stations.

Quintillion's satellite ground station teleport at Utqiagvik (Barrow) at 72°N is the northernmost satellite ground station location on U.S. soil, thus ideal for critical High Latitude Data Acquisition (HiLDA) applications. This uniquely located teleport closes critical space security gaps and reliance on foreign-owned satellite downlink facilities, achieving redundant, resilient backhaul through this proposed middle mile project's realization.

Through its 30 TBPS fiber optic system, scalable up to much higher data rates, Quintillion's pioneering technologies and infrastructure investments are laying the groundwork for serving an array of Alaska's unserved and underserved communities as well as enabling government, defense, competitive telecom providers, global financial, cloud, maritime communications, and oil and gas clients to innovate without limits.

A key feature of this project will be to complete a transformative, foundational, and resilient fiber ring covering from Oliktok Point near Prudhoe Bay heading west to the North Slope, Northwest Arctic, Western Coast, the Yukon Kuskokwim Delta and through to Homer on the Kenai Peninsula. From Oliktok point south the network connects to Fairbanks where we are interconnected with leased fiber services the remainder of the route to Homer.

This project will require approximately $150.8M over a four-year period and Quintillion will be providing just over a 41% match of the funds as detailed below:

Total Project Costs: $150,799,819.89

Total Federal Grant Request: $88,896,493.83

Total Matching Funds (Cash): $36,942,076.06

Total Matching Funds (In-Kind): $24,961,250.00

Total Matching Funds (Cash + In-Kind): $61,903,326.06

Total Matching Funds (Cash + In-Kind) as Percentage of Total Project Costs: 41.05%

[redacted]

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Level of Need

A description of the level of need in the proposed service area(s), including but not limited to communities considered unserved and/or underserved in the proposed service area(s), discussion of the competitive landscape in the area, variations among service areas if there are any, or the general economic conditions in the proposed funded service area.

This response is limited to 12000 characters as an open field narrative.

The State of Alaska Governor's Task Force on Broadband in their 2021 report stated, "Of all U.S. states, Alaska is, by almost any measure, the most challenging place to ensure the ubiquitous delivery of high-quality broadband services. This is true both in the assessment of broadband needs and the closure of coverage gaps once those needs are identified. Because of Alaska's status as the largest U.S. state by area, the challenge of extending robust broadband infrastructure to every community is substantial." Further underscoring that, "The COVID-19 pandemic has emphasized the urgent need for reliable, high-speed connectivity for all Alaskans. Closing Alaska's digital divide is now more important than ever to meet an exponentially growing demand for bandwidth to support basic government and domestic functions including commerce, healthcare, education, economic development, innovation, and addressing quality of life issues for Alaskans."

The State of Alaska has challenges faced by no other state as home to the most remote, rugged, and culturally diverse environments in the U.S., facing unique challenges from geography, topology, weather, lack of contiguous roads, transportation, accommodations in towns, and demographics of the State. Alaska is vast, stretching 2,500 miles across, as wide as the entire continental U.S. with one of the lowest populations in the nation, ranking dead last overall in broadband availability with only some 61% wired and fixed wireless broadband coverage at significantly higher cost when available. Many of Alaska's rural communities are remote, separated by vast distances, not interconnected by roads or

fiber backbones, and often Alaska Native villages with many residents practicing subsistence lifestyles.

These challenges make Alaska's broadband projects incredibly difficult and expensive while its small, dispersed population and limited number of business and institutional customers present economic hurdles in justifying the expenditure of private capital on broadband infrastructure. The global pandemic has magnified the disparity because while the lower forty-eight could mostly work from home, that was not the case in Alaska. Broadband service availability driven by increased middle mile capacity will be life changing and lifesaving to the residents and transformational to the institutions in Alaska's currently unserved and underserved communities. Broadband is not just a luxury that will improve lifestyles, but truly a necessity for the economic growth, safety, health, and quality of life for residents of these unserved and underserved, disadvantaged, and isolated Alaska communities.

K-12 and college students who consistently fall behind their counterparts in the rest of the country will have a new world of educational and training opportunities upon which to build a foundation of success for higher education and future employment. Online educational tools and services will be better utilized enabling current and future students and workers in these communities to have an equal opportunity for learning and success, helping stem the outflow of youth from rural communities and the fishing industry to more urban areas.

The current limited or remote healthcare facilities and telehealth services lead to lower-than-average health statistics and outcomes but will significantly improve with this project enabling increased telehealth access to nurses, physicians, psychologists, and specialists. Patient access to broadband in their homes and at community centers, libraries, clinics, and pharmacies will open telemedicine opportunities for evaluation, diagnosis, and care that currently require travel out of one's community at significant expense. Through early diagnosis and more reliable care, broadband access is expected to have a significant impact on health outcomes for the citizens of Western Alaska.

For the proposed service area, four of the communities that will be reached are truly unserved with only satellite and microwave backhaul currently, inherently limiting last mile services where available at all to extremely low performance levels from Bristol Bay Telephone Cooperative (BBTC), GCI Communication Corp (GCI), and/or Hughes Satellite Systems (Hughes). BBTC, the ILEC for Naknek, King Salmon, Igiugig, and other nearby communities has recently been awarded a $34.9M USDA ReConnect grant to deploy a FTTP network serving seven Bristol Bay communities including three reached by this project. From BBTC's Letter of Intent, "Quintillion's proposed project will provide important new fiber optic infrastructure to support communities within our service region with a diverse, resilient, low latency, competitive pathway to U.S. and global interconnectivity and cloud services. Partnering with Quintillion will enable us to deliver robust bandwidth connectivity in some areas currently without any adequate backhaul, and benefit from a competitive environment with much improved network resiliency in other portions of our service region."

The fifth community reached, Homer (served), is the final destination for the proposed project where it

will connect to competitive Tier 1 backhaul to the continental U.S. completing its loop having originated from Quintillion's existing Nome facilities, an underserved community. Local broadband infrastructure for all six communities and their surrounding areas will dramatically increase broadband capacity and resiliency, achieving material reductions in latency. FCC coverage notes for these communities follow, complemented by maps included in the Competitive Landscape Supplement:

Emmonak (1,065 Pop.): Unserved with GCI 10/2 Mbps fixed wireless and Hughes 2/.2 Mbps satellite services.

Naknek (370 Pop.): Unserved with BBTC 10/2 Mbps ADSL and Hughes 2/.2 Mbps satellite services.

King Salmon (327 Pop.): Unserved with only Hughes 2/.2 Mbps satellite service.

Igiugig (60 Pop.): Unserved with BBTC 10/2 Mbps ADSL, GCI 10/2 Mbps fixed wireless, and Hughes 25/3 Mbps satellite services.

Homer (5,830 Pop.): Served by GCI 1000/50 Mbps cable, SPITwSPOTS 150/50 Mbps fixed wireless, Alaska Communications Systems (ACS) 15/1 Mbps ADSL, and Hughes 25/3 Mbps satellite services.

With speeds of 2/.2 Mbps for most, the Hughes satellite solution can hardly be called broadband, being inherently slow but also costly, and carrying throttling data limit caps with stiff overage fees. GCI's TERRA network is a multi-hop microwave network sharing it's limited backhaul with local cellular traffic causing quality of service to suffer for all. Current extraordinarily high-end user costs from existing providers operating without sufficient backhaul capacity are detailed in our Competitive Landscape narrative and supplemental submission.

Quintillion as a middle mile provider of wholesale broadband services to all last mile providers in the region will have the necessary bandwidth and open access posture to accommodate all households, businesses, institutional, and governmental entities. Though Quintillion won't have control over the pricing, service levels or data limits which last mile providers may offer, they will be getting substantially better and more reliable service than their current backhaul solutions at a much lower cost as part of a newly competitive middle mile solution set that is expected to drive end user cost reductions.

There will be substantial benefits for these economically challenged areas and the tribal communities they represent. The communities to be reached directly by the project include Nome, Emmonak, Naknek, King Salmon, and Igiugig, all unserved and Homer. With respect to poverty only Emmonak is categorized as meeting the criteria. Though Quintillion will employ existing rights of way when traversing communities as practical, due to the lack of transportation corridors, will carefully design for the most efficient and environmentally sensitive means to address the unmet needs of the area. When complete, the planned coastal subsea deployment will create opportunities for incremental funding and projects with spur connections to about a dozen nearby unserved coastal communities, most of

which meet poverty criteria. Most all of the communities, both direct and indirect are tribal by federal agency definition.

Specific last mile providers who have expressed a substantial interest in utilizing the proposed network to provide last mile service include [redacted] See Letters of Intent included with our submittal. Several other last mile providers have been engaged and briefed on the project with discussions continuing including GCI. All have indicated that increased availability and declining middle mile costs are expected to flow through to consumer broadband prices. Quintillion is committed to being transparent with their prices, and to provide reasonable and affordable transport services over its open access middle mile infrastructure to all interested ISPs on a fair and non-discriminatory basis.

For the projected number of users, the population of the five destination communities excluding Nome where Quintillion already provide service is 1,822 (2020) for the four unserved communities and 5,830 (2020) for the served community of Homer. Once the proposed network comes online to resolve last mile providers' capacity and reliability issues, it should be servicing the entire population. As for eleven indirect communities who could eventually benefit, their population totals 13,052 (2020).

Prior to construction of the proposed network, Quintillion intends to enter into Community Benefits Agreements (CBAs) with the five communities to be newly reached by the proposed network. Quintillion commits to negotiate in good faith with the relevant communities to execute such CBAs, ensuring each locality is duly represented by a community group and that mutual benefits.

Quintillion's network will be prepared to support increased demand, whether it be from added users in new areas where previous connectivity did not exist, future demand scaling or in crisis situations when public networks become congested or inaccessible. This additional capacity and reliability will benefit households, schools, libraries, community centers, and other CAIs as well as support workforce development and retention, and business and government operations with sufficient capacity and scalability to meet their current and future needs across the proposed service areas. Special care is being taken in the network design for the strategic placement of interconnect points along the route with last mile partnerships, connections to CAIs, and other opportunities in mind.

Jobs will also be created because of access to broadband from enabling work from home to the selling of goods online. Residents in these isolated, currently unserved communities will be able to use online education for upskilling and reskilling. Quintillion is dedicated to local high tech workforce development and will work with Alaska Native Corporations to provide services where practical.

Quintillion is committed to compliance with Fair Labor Practices, Highly Skilled Workforce, Advancing Equitable Workforce Development, and Job Quality Objectives, and Civil Rights and Non-Discrimination Law Compliance as well as Quintillion's ability to demonstrate the climate resilience of the project are detailed throughout this submission.

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State Collaboration Acknowledgement

NTIA strongly encourages prospective non-state applicants to coordinate and consult with the State Broadband Office or other coordinating body located in the jurisdiction in which the eligible entity proposes to deploy middle mile infrastructure to ensure that the proposal is consistent with the state's broadband plan and priorities. Please confirm collaboration and consultation.

Do you confirm collaboration and consultation with the appropriate organization?

Yes

———

State and Local Collaboration Narrative

Please provide information on the applicant's coordination with applicable State, Territory, Tribal, and local governments, including their awareness of the proposed project and any potential impact to respective service areas; and

Information regarding the applicant's involvement and coordination with community organizations or other relevant partners in the proposed service area.

This response is limited to 6000 characters as an open field narrative.

Quintillion, headquartered in Anchorage, worked closely with the State of Alaska as it built over 1,700 miles of subsea and terrestrial middle mile fiber launching in 2017, and has maintained close collaborative relations since. Michael McHale, President of Quintillion, made three trips to Alaska's Capitol Juneau during the first half of 2022 to advise legislators and administrative officials on the Nome to Homer Project and advocate in favor of House Bill 363 establishing a State Broadband Office. Mr. McHale held meetings with twenty-four legislators and three separate meetings with the Governor's office staff. Quintillion leadership and staff also worked closely with the State Broadband Task Force whose detailed recommendations form the foundation the State's Broadband Strategic Plan. Quintillion was consistently recognized as technology agnostic and open to broad collaboration.

House Bill 363 was passed and signed creating the State Broadband Office to which Thomas Lochner was appointed as its first State Broadband Director. Following his appointment, Mr. McHale briefed him along with State Administration officials, Tyson Gallagher (Chief of Staff to Governor Dunleavy), Commissioner Julie Sande (Department of Commerce, Community and Economic Development), and Commissioner Tamika Ledbetter (Department of Labor and Workforce Development) on Quintillion's

Nome to Homer Project. Subsequently, the State Broadband Director provided a letter of support for the project as have most legislators representing the districts between Nome to Homer.

Last year, the State of Alaska applied for a NTIA Broadband Infrastructure Grant in partnership with Quintillion and in cooperation with a number of regional collaborators to bring new last mile wireless broadband to the unserved isolated communities of Prudhoe Bay, Utqiagvik (Barrow), Wainwright, Point Hope, and Kotzebue. Going forward, Quintillion is committed to continued support of efforts initiated by the State and the State's Broadband Office, and with this project provide open access middle mile to a broad swath of southwestern Alaska ISPs who will in turn deliver last mile broadband to a number of unserved and underserved communities.

Most of Alaska's Indigenous people, known as Alaska Natives, are enrolled in federally recognized Alaska Native tribal entities and affiliated with one of 229 federally recognized Alaska Native Villages representing a predominance of native interests and governance unique in the United States. The proportion of Alaska Natives constitute more than 20% of Alaska's estimated 736,990 (2020) population representing the highest rate of any state.

Thirteen Alaska Native Regional Corporations were established in 1971 by Congress to administer land and financial claims, who along with a variety of other Alaska Native Corporations (ANCs) focus on native economic development and employment, often having a number of commercial service and supplies operations providing a wide range of service and product offerings to their members, the public, and the business community for the benefit of their native stakeholders. Quintillion has a long history and excellent track record of partnering with Alaska's Native Villages and ANCs, utilizing their commercial operations where appropriate, engaging communities and regional corporations to garner support, and working with permitting agencies and other stakeholders essential to the success of deploying telecommunications systems in the Arctic.

For this proposed project, Quintillion executed a robust strategic plan for local collaboration and community involvement. Over the summer, Quintillion visited several villages including Nome, Emmonak, King Salmon, Naknek, and Igiugig. Only two of these locations can be reached by commercial airlines, the rest require a private charter to reach. The goal was to inform stakeholders of the project, open channels of communication, and build trust with each community.

In Nome, we met with Kawerak, Sitnasuak Native Corp, Bering Straits Native Corporation, and Nome Eskimo Community, and Norton Sound Health Corp, and Nome Public Schools as well as attending the Bering Straits Leadership Team meeting. In Emmonak, we held a well-attended community meeting that included Yukon Kuskokwim Health Corp, Lower Yukon School District, Yukon Delta Fisheries, Chuloonawick Native Village, Ryan Air, Emmonak Tribal Council, Emmonak Corporation, City of Emmonak, Emmonak Women's Shelter, Alaska Commercial Co., Kwikpak Fisheries, and Yuyaru.

In Naknek, we met with Paug-Vik, the local native corporation and with Bristol Bay Borough. We also

had conversations with [redacted] And finally, in Homer we met with the city and the local tribal government. Everyone we met with was thankful to be briefed and consulted, indicating their support of the proposed project.

In late 2020, Quintillion submitted an USDA Community Connect grant application for middle and last mile broadband deployment to the then underserved (now unserved) community of White Mountain in cooperation with the Bering Straits Native Corporation (BSNC). Last year, Quintillion submitted an NTIA Tribal Broadband Grant application to deploy subsea middle mile fiber from Nome to St. Lawrence Island and last mile wireless services to the two small remote unserved native villages in cooperation with Kawerak Inc., an application still under consideration by NTIA.

Prior to construction of the proposed network, Quintillion intends to enter into Community Benefits Agreements (CBAs) with the five communities reach by the network. Quintillion commits to negotiate in good faith with the relevant communities to execute such CBAs and ensuring each locality is duly represented by a community group.

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Will the project connect middle mile infrastructure to last mile networks that provide or plan to provide broadband service to households in unserved areas?

Yes

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Is the project connecting non-contiguous trust lands?

No

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Please describe:

Dummy response.

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Do you commit to offering wholesale broadband service at reasonable rates on a carrier-neutral basis?

Yes

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The eligible entity adopts fiscally sustainable middle mile strategies. This strategy should be described in the Budget Narrative.

Do you attest to this?

Yes

———

The eligible entity commits to offering non-discriminatory interconnect to terrestrial and wireless last mile broadband providers and any other party making a bona fide request. This policy will be described in the Interconnect Policy.

Do you attest to this?

Yes

———

The eligible entity identifies specific terrestrial and wireless last mile broadband providers that have(i) expressed written interest in interconnecting with middle mile infrastructure planned to be deployed by the eligible entity; and ii) demonstrated sustainable business plans or adequate funding sources with respect to such interconnection. This may be demonstrated in the Level of Need narrative of the Exec Summary.

Do you attest to this?

Yes

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The eligible entity has identified supplemental investments or in-kind support (such as waived franchise or permitting fees) that will accelerate the completion of the planned project. Such acceleration may be described in the Project Timeline narrative.

Do you attest to this?

No

———

The eligible entity has demonstrated that the middle mile infrastructure will benefit national security interests of the United States and the Department of Defense. The benefits may be explained in the Benefitting National Security Interests Narrative.

Do you attest to this?

Yes

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Please describe:

[redacted]

[redacted]

[redacted]

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Project Duration

Number of Years

4

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Project Timeline Narrative

The narrative requires the Applicant to describe a project with critical path, including key milestones for implementation of the project, preparations, and risk factors; and a capital investment schedule evidencing that the applicant will complete build-out and the initiation of service within five years of the date on which the entity receives the grant and will meet interim buildout requirements set forth herein and in any other binding document.
If the project is able to be accelerated with supplemental investments or in-kind support to meet a statutory purpose, this should be explained.

This response is limited to 6000 characters as an open field narrative.

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Project Timeline File

Applicants are asked to upload a timeline which will denote key milestones for implementation of the project, including but not limited to field survey, network design, equipment/material procurement, environmental assessment, permitting, construction, network testing, network activation and completion.

Quintillion NTIA MMG - Project Timeline File-10-08-2022 04-46-QSH Parent Holdco LLC-GRN-000503.pdf, Quintillion NTIA MMG - Project Timeline File -04-11-2023 03-57-QSH Parent Holdco LLC-GRN-000503.pdf

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Is an extension being requested?

No

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Special Rules for Tribal Governments and Native Entities

The Infrastructure Investment and Jobs Act permits the Assistant Secretary, in consultation with Tribal governments and Native entities, to waive, or specify alternative requirements, in connection with most directives governing the MMG Program if the Assistant Secretary finds that waiver or modification of the requirement is necessary for (a) the effective delivery and administration of middle mile grants to Tribal governments or (b) the construction, improvement, or acquisition of middle mile infrastructure on trust land.

Is a waiver or alternative requirements requested?

No

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Fair Labor Practices

Applicants must have a demonstrated record of and plans to be in compliance with federal labor and employment laws as described in III.H in the NOFO. This will help ensure that projects are carried out in accordance with the law, assist NTIA in ensuring that a prospective awardee is capable of carrying out activities funded by an award in a competent manner in compliance with all applicable federal, state, and local laws; and promote the effective and efficient completion of high-quality middle mile broadband infrastructure projects by ensuring a reliable supply of skilled workers and minimizing disruptive and costly delays.

This response is limited to 6000 characters as an open field narrative.

Quintillion demonstrates and is committed to the principles of equal employment and compliance with all federal, state, tribal, and local laws providing equal employment opportunities, and all other applicable employment laws and regulations. It is our intent to maintain a work environment free of harassment, discrimination, or retaliation because of sex, gender, race, religion, color, national origin, physical or mental disability, genetic information, marital status, age, sexual orientation, gender identity, military service, veteran status, or any other status protected by federal, state, tribal or local laws. Quintillion emulates in its culture and is dedicated to the fulfillment of this policy regarding all aspects of employment, including but not limited to recruiting, hiring, placement, transfer, training, promotion, rates of pay, and other compensation, termination, and all other terms, conditions, and privileges of employment.

Quintillion has a stellar record of compliance with all applicable labor and employment laws and can

carry out activities funded by an NTIA award in a competent manner in compliance with all applicable federal, state, tribal, and local laws. Quintillion has undertaken several broadband deployment projects in the last 3 years and has materially complied with federal and state labor and employment laws in carrying out these construction projects, including, but not limited to, those pertaining to equal employment opportunities, fair employment practices, employment discrimination, immigration, compensation, classification of workers, and health and safety. Quintillion has continued its compliance with these practices without incident and to the best of our knowledge our contractors are equally compliant pending under any law relating to employees, independent contractors, or employment practices or with respect to breaches of any such law, nor has Quintillion been involved in any such proceedings in the previous 3 years. See also the separately submitted Certification of Labor Law Compliance.

Quintillion agrees to abide by federal and state employment laws, including: (i) all applicable provisions of the Federal Fair Labor Standards Act (FLSA); (ii) Title VI and VII of the Civil Rights Act of 1964 (42 U.S.C. 2000e), which prohibits discrimination against any employee or applicant for employment or any applicant or recipient of services, on the basis of race, religion, color, or national origin; (iii) Executive Order No. 11246, as amended, which prohibits discrimination on the basis of sex; (iv) the Age Discrimination in Employment Act (ADEA) and 45 CFR 90, which prohibit discrimination on the basis of age; (v) Section 504 of the Rehabilitation Act of 1973, or the Americans with Disabilities Act (ADA) of 1990, which prohibits discrimination on the basis of disabilities; (v) the Family and Medical Leave Act (FMLA); (vi) the Occupational Safety and Health Act (OSHA); (vii) the Alaska Wage and Hour Act sets the state's minimum wage higher than the federal rate; (viii) the Alaska Human Rights Act (AHRA) which prohibits discrimination and harassment based on protected characteristics and sets overtime pay policies; and (ix) Alaska safety and health programs covering the private sector under the State plan approved by OSHA.

Quintillion will competitively procure services from a variety of qualified contractors to complete the proposed project including for environmental consulting, engineering and design, and construction. Quintillion currently pays at or above Davis Bacon prevailing wages for its employees and will contractually require Davis Bacon wages and certified payroll for any subcontractors for this project. Quintillion pays overtime as required by the FLSA and State law and will require appropriate overtime policies and procedures from its subcontractors. Quintillion will require that each subcontractor candidate include documentation from the US Department of Labor’s Data Enforcement website on any past labor or employment law violations and a certification attesting to the results. Quintillion will also require that its contractors immediately report any violation of federal labor or employment law, including but not limited to OSHA and the FLSA.

Quintillion will include Tribal Employment Rights Office (TERO) compliant language into the project’s construction and services contracts on Tribal land as well as in any native community benefit agreements that it develops. Quintillion will coordinate with the TERO identified for each applicable tribal jurisdiction, furthermore, based on skillsets needed, require preference to qualified local Alaskan

native tribal members in various disciplines of employment, contracting, and other business activities.

Quintillion is developing and will implement Quality Unlocking Innovation (QUI), a comprehensive plan for developing a world-class workforce and to meet compliance obligations pursuant to NTIA's requirements under federal labor and employment laws. Components of our QUI plan will include Davis Bacon prevailing wages, certified payroll, collaborative working relationship with relevant unions, educational institutions and workforce development organizations, an extensive training and continued professional development program for its employees, and appropriate certification, licensure and classifications in support of quality jobs with opportunities to advance along career paths, and ensure the implementation of workplace safety committees that are authorized to raise health and safety concerns in connection with the delivery of deployment projects. Quintillion further agrees to abide by any other laws, regulations, or orders that prohibit the discrimination of any kind by any of its contractors' employees. This plan is evidence of Quintillion's binding commitment to strong labor standards and protections for the project's workforce.

———

Officer Certification

In order for NTIA to evaluate an applicant's demonstrated record of and plans to be in compliance with federal labor and employment laws, each applicant must provide examples of items described in III.H in the NOFO. Applicants are asked to upload a Certification from an Officer/Director-level employee (or equivalent) of the applicant evidencing consistent past compliance with federal labor and employment laws by the applicant, as well as contractors and subcontractors.

Quintillion NTIA MMG - Certification of Labor-10-06-2022 05-28-QSH Parent Holdco LLC-GRN-000503.pdf

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Highly Skilled Workforce

To ensure that applicants have the technical and operational capacity to carry out the project, applicants must submit a plan for ensuring that the project workforce will be an appropriately skilled and credentialed workforce (including by the applicant and each of its contractors and subcontractors). The plan for a highly skilled workforce should include the information described in III.I in the NOFO.

This response is limited to 6
000 characters as an open field narrative.

The backbone of Quintillion's success is a highly skilled workforce and equally highly skilled contractors and subcontractors. All staff are degreed and have certifications and appropriate experience in their relevant areas, but also the demonstrated ability to deliver projects on schedule and on budget. Quintillion has an established process in place for hiring appropriately skilled and credentialed

workforce. The executive management team: Chief Executive Officer, President and Chief Financial Officer all have appropriate degrees. The Chief Security Officer has the requisite degrees, certifications, and technical experience to lead an information security program. The Technical and Operational team are highly skilled in their area of specialty with demonstrated experience of delivering successful projects in subsea/terrestrial cable in the Arctic. Finally, the marketing and business development team; VP of Strategic Initiatives, Market Development Manager and Senior Manager of Government Programs, have extensive industry experience, knowledge, and decades of experience delivering projects in Alaska. See the submitted Organizational Charts document for an Education & Skills by Employee Title table as well as the uploaded Key Personnel Resumes for more details.

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Once the grant is awarded Quintillion will trigger and initiate the workforce development program which will include, but will not be limited to the following topics:

1. Work Plan
2. Phases
3. Timeframe
   a. Year-round/Seasonal
   b. Rotational Work/Differing Schedules
4. Initial estimates of the total workforce needed and their generalized field of expertise
5. Wage scales applicable to each class of worker involved in the project
6. Health and safety reporting and action policy
7. Classification of workers
   a. Union/non-union
   b. Apprentice/pre-apprentice
   c. Direct hire/subcontractor
8. Compliance Management (local, state, and federal laws and regulations)
9. Certifications required of each subcontractor/field
10. The vetting process when hiring subcontractors
11. Ensuring all subcontractors maintain certification
12. Equal opportunity
13. Advancement opportunities within the program
14. Records Management
15. Compliance Reporting

[redacted]

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Advancing Workforce Development

A skilled workforce is critical to meeting infrastructure buildout timelines under the Infrastructure Act and connecting households across the country to reliable, affordable, high-speed broadband. A well-trained workforce will also allow for the safe deployment of sustainable networks. To meet the workforce needs of the MMG Program, applicants must make appropriate investments to develop a skilled, diverse workforce. Each applicant must provide as part of its application examples of items described in III.J in the NOFO.

This response is limited to 6000 characters as an open field narrative.

Quintillion's Quality Unlocking Innovation (QUI) program is being developed to create a universal workforce plan for "Connecting Alaska to the World," driving the development of a world-class workforce and helping Quintillion meet compliance obligations pursuant to NTIA's requirements under federal labor and employment laws. Integrated into the foundation of our effort in developing a world-class workforce ready for tomorrow's innovative future, Quintillion's investment in collaborative partnerships with Alaskan companies, Tribal organizations, workforce development organizations, and educational institutions demonstrate our continuous commitment moving forward.

Our current team is comprised of a highly skilled workforce, as noted in the Highly Skilled Workforce section. Our company is well positioned in its ability to adapt quickly to technological advances and market forces through robust training programs managed within each individual department and personalized for each staff members' needs in support of quality jobs with opportunities to advance along career paths. Our key employees regularly attend and are engaged in professional development activities and training as well as attending conferences relevant to the operations and management of the organization's key network infrastructure and operations.

Quintillion's standard policies and regulations for all subcontractors require that they be engaged in equitable hiring practices and have specific plans to recruit historically underrepresented populations facing labor market barriers. Many of our communities in rural Alaska are represented in those categories and we strive to hire, engage, and improve equitable hiring in Alaska.

The State of Alaska, Department of Labor and Workforce Development (SOA DOLWD) is a public entity that we work closely in partnership with. The State of Alaska's Alaska Job's Center, Workplace Alaska, and Alaska Vocational Technical Education Center (AVTEC, https://avtec.edu/training-program-summary) will all be essential entities for Alaska's broadband future. AVTEC is a vocational training

center based in Seward, Alaska that creates a quality skilled workforce in numerous career technical areas and looks forward to the implementation of innovative programs for Quintillion's broadband future.

We are also honored to be a proud partner with Ilisagvik College (https://www.ilisagvik.edu/), the only tribal college in Alaska. We have been working with Ilisagvik College for five years to create programs for participation and using those skilled local workforces as a priority hiring pool. We will continue to seek out opportunities for investment and partnerships with them and similar entities throughout Alaska going forward.

[redacted]

[redacted]

In prioritizing the hiring of local workers Quintillion has engaged with the SOA DOLWD to share our present and future workforce needs at their monthly Job x meetings, a well-attended weekly event with business professionals and partner agencies in the labor market. Quintillion speaks to this group of people who help individuals find and keep jobs. These people represent jobseekers from all different backgrounds such as veterans, youth in transition, minorities, older Alaskans, and people with disabilities. Additionally, we have specific plans in place to promote our positions at jobs.alaska.gov going forward.

Finally, the planned use of a periodic demographic data report on the workforce engaged in the Quintillion's Middle Mile Grant project is a key tool that would be utilized internally and made public. To ensure that we are reporting accurate demographic data, this tool will pull reporting from our contractors and subcontractors and will aggregate a diversity report from underlying data categorized by racial, ethnicity, gender, LGBTQI+ people, persons with disabilities, veterans, and other groups.

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Climate Resiliency

Please demonstrate that the applicant has sufficiently accounted for current and future weather- and climate-related risks to new MMG Program infrastructure projects. In particular, each applicant should clearly demonstrate how it is conducting the items listed in III.K in the NOFO.

This response is limited to 6000 characters as an open field narrative.

Alaska is already experiencing the effects of climate change. As climate change continues, critical infrastructure is expected to become more susceptible to hazards, increasing risks to residents and resulting in potentially substantial economic impacts. Improving rural Alaskan communities' capacity to respond to climate-related environmental hazards is a significant need that this project, in part, seeks to address.

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Civil Rights and Nondiscrimination Law Compliance

Prior to distributing any MMG Program funding to a prospective awardee, NTIA will require the prospective awardee to agree, by contract or other binding commitment, to abide by the non-discrimination requirements set forth in III.J in the NOFO.

Do you agree to abide by the non-discrimination requirements?

Yes

———

Certification of Technical Capability

Each applicant must supply a certification attesting that it is technically qualified to complete and operate the proposed project.

Quintillion NTIA MMG - Certification of Techn-09-23-2022 04-05-QSH Parent Holdco LLC-GRN-000503.pdf

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Interconnect Policy

The Applicant must describe in detail the nondiscrimination, interconnection, and network management practices that would be adopted for the project facilities. The Applicant should describe how it will comply with nondiscrimination and interconnection obligations, particularly with connectivity to the public Internet and physical interconnection for the exchange of traffic. In addition to describing network management practices, the Applicant should disclose any practices in place to block access to illegal or harmful content.

This response is limited to 6000 characters as an open field narrative.

Quintillion is committed to being transparent with their prices, and to provide reasonable and affordable open access middle mile connectivity services in perpetuity to all interested Internet Service Providers (ISPs) and any other parties making bona fide requests on a fair and non-discriminatory basis. Quintillion will negotiate in good faith and coordinate with any telecom provider making a legitimate request for an interconnection agreement or for wholesale backhaul services, offering them the ability to ride atop the network in any practical manner including the purchase of backhaul capacity within reasonable technical and business limits to be negotiated with requesting parties to enable their operations and enable them to create affordable packages for service as ISPs to any customer base in

their targeted service areas.

Quintillion's current and planned network is constructed and operated on industry standards-based solutions and an open architecture model to allow for future upgrades and highly scalable deployments including both the ability to connect to the public Internet and physical interconnection for traffic exchange, capable of delivering 1Gbps and above symmetric services. These and any other future Quintillion network facilities will be made available on a wholesale open access basis to existing or future service providers. Today's investment in Quintillion's open access middle mile network will thus scale and evolve as the needs of the served communities and nearby populations continue to grow and advance.

Any considerations in pricing or volume discounts, business arrangements, capacity limits, financial terms, and technical conditions will be based on business or marketing advantage and not based on any discriminatory approach. Quintillion will install pull or breakout boxes and other infrastructure facilities strategically along its terrestrial routes for periodic interconnectivity points. Quintillion further agrees to provide fiber connectivity anywhere along the route between from the interconnect points via ring splicing to other middle mile and last mile partners. Quintillion will use standards-based networking practices to manage interoperability with other wired and wireless networks and will allow for both wholesale and retail use of network facilities.

Existing and new network facilities will be made available in perpetuity on a wholesale basis to existing or future service providers so they can offer competitive alternate services to community anchor institutions, businesses, and residences. Where Quintillion negotiates contractual covenants with broadband service providers to deploy or operate the network facilities, we will ensure that the network nondiscrimination and interconnection obligations are incorporated to their contractual terms and conditions. Quintillion as a middle mile backhaul provider does not have any practices in place to block access to illegal or harmful content and plans to leave that to its last mile provider partners to implement and manage. Above interconnection policy can be found on our website at https://www.quintillionglobal.com/system/INTP and it's our practice is to provide written notices of any policy amendments to customers within 30 days.

———

Technical Overview

Please describe targeted last mile service objectives, including last mile service provider letters of commitment, agreements, or contracts; and a description of the proposed service offerings, including the pricing of the services to be offered over the proposed facility.

This response is limited to 6000 characters as an open field narrative.

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Applicants are encouraged to upload supplemental documentation.

Quintillion NTIA MMG - Technical Overview Sup-10-06-2022 05-44-QSH Parent Holdco LLC-GRN-000503.pdf

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Competitive Landscape

The Applicant should describe existing middle mile offerings in the area, if any, including competitor data if applicable. This should include a description of the proposed service offerings, including the pricing and technology of the services to be offered over the proposed facility. Where possible,

Applicant's project should be able to demonstrate a decline in middle mile costs that are likely to flow through to consumer broadband prices.

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Applicants are encouraged to upload supplemental documentation.

Quintillion NTIA MMG - Competitive Landscape -10-13-2022 01-50-QSH Parent Holdco LLC-GRN-000503.pdf

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Type of technology to be used in proposal:

Fiber Optic Technology

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Each applicant of an award to build middle mile infrastructure using fiber optic technology shall certify that the proposed project, upon completion, will include direct interconnection facilities that will facilitate the provision of lit broadband service, at speeds not less than 1 Gigabit per second for downloads and 1 Gigabit per second for uploads to anchor institutions located within 1,000 feet of the middle mile infrastructure, as detailed in the Template CAI below.

Do you agree to certify to the above?

Yes

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Upload Template CAI. Required for Fiber Optic Technology, optional for Wireless or Other.

Quintillion NTIA MMG - Community Anchor Insti-10-08-2022 04-50-QSH Parent Holdco LLC-GRN-000503.xlsx

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An eligible entity applying for a middle mile grant may seek, and the Assistant Secretary may grant, a waiver of the requirements set out in the previous paragraph, in full or in part, to the extent the eligible entity demonstrates that the requirement is not technically or economically feasible.

Do you plan to apply for a waiver? If yes, please attach the waiver application in the Application Workspace, the Application Information section, Required Documents under Required Document Question 4 "Additional Waiver Upload".

No

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Network Route Maps

Applicants should provide a physical network map that includes the following (if applicable):

The Project Area and those unserved and underserved areas which it will enable.
Applicant‘s pre-existing service area that demonstrates current service levels.
The physical path of the network‘s transmission medium (e.g., backbone and lateral cable routes, microwave links), transmission type, technology, operating bandwidth, capacity (e.g., dark vs. lit strand count), and cable placement (e.g., aerial, burial) should be displayed.
Points of interconnection (purely passive and non-environmentally controlled nodes, e.g., splice points are optional):Provider Facilities
Collocation Facilities
Private Interconnection Points with partnering service provider/private network

Wireless towers and associated coverage areas.
Anchor institutions within 1,000 feet, if desired.
Additionally, the maps should delineate between network and facilities that are:Part of the Applicant's/key partners' existing network;
Proposed as part of this project;
Leased from a third party;
Utilized under some alternative arrangement; or
Relevant to interconnection with either Last Mile or Middle Mile service providers.

PLEASE NOTE: Only ESRI Shapefiles will be accepted and uploaded.

Quintillion NTIA MMG - Network Route Maps-10-08-2022 04-50-QSH Parent Holdco LLC-GRN-000503.zip

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Data Submission Specification

There is a template "Upload Template Data Submission Specification" which shall be uploaded. Applicants must complete the table with information for all interconnection points proposed for the network. This table has three required fields: Point Name, Latitude and Longitude. This should accommodate all of the points of interconnection (passive, non-environmentally controlled points of interconnection, e.g., splice points, may be excluded), collocation facilities, central offices, head ends, and other centralized facilities, network access points to Last Mile service providers, Internet peering points, and towers.

Quintillion NTIA MMG - Interconnection Points-10-08-2022 04-50-QSH Parent Holdco LLC-GRN-000503.xlsx

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Network Logical Diagram

The Applicant must provide network diagrams to be uploaded for the project including all of the network elements and the capacity, facilities, and mileage between each element. The diagram must clearly denote which of the network elements already exist. The diagrams must also explicitly show:

The links between the network nodes. The types of facilities used in connecting all the network elements (fiber, copper, microwave, etc.).
Internet peering points, access to local exchange carriers and central offices and cable head ends.
The proposed aggregation node facilities that will provide the egress point(s) from the broadband backbone to the networks of the selected service provider(s), Last Mile service providers, and the selected Internet Service Provider(s) and any other value-added services that may be provided in the new infrastructure.
The points of interconnection and collocation facilities.

The Applicant should show how traffic originates on the network and flows through the network, delineating which protocols are used on each link, and which technologies and standards are used at each junction. The diagram should include capacity constraints for each network element.

Quintillion NTIA MMG - Network Logical Diagra-10-08-2022 04-51-QSH Parent Holdco LLC-GRN-000503.pdf

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Environmental Narrative

Any project-related activity that may adversely affect the environment must not be undertaken prior

to the completion of the environmental review process prescribed by NTIA. Doing so may jeopardize consideration of the application.

All Applicants for MMG projects must comply with the National Environmental Policy Act, the National Historic Preservation Act, and the Endangered Species Act, and other applicable environmental regulations.

Please provide a service-area environmental description that describes the physical project area and its surroundings (e.g., disturbed or developed land vs. open space; adjacent natural resources, such as rivers, wetlands, or forestlands; and any protected lands or resources in or near the project area), including site photographs and aerial photographs (e.g., Google Earth or Google Maps images), if the project includes construction and/or ground disturbing activities.

This response is limited to 12000 characters as an open field narrative with image files to be uploaded.

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Upload Map Images:

Quintillion NTIA MMG - Environmental Suppleme-10-12-2022 03-42-QSH Parent Holdco LLC-GRN-000503.pdf

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Negotiated Indirect Cost Rate Agreement

This is a document published to reflect an estimate of indirect cost rate negotiated between the Federal Government and a Grantee's organization which reflects the indirect costs (facilities and administrative costs) and fringe benefit expenses incurred by the organization. This must be completed, if applicable.

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Template Table of Funded Partners and Unfunded Collaborators

List all funded and unfunded project collaborators, including partners, subrecipients, match providers, major contractors/supplies, details on role/scope of work for project. A fillable Template of Funded Partners and Unfunded Collaborators can be found in found in the MMG ZIP folder.

Quintillion NTIA MMG - Funded Partners & Unfu-10-11-2022 07-04-QSH Parent Holdco LLC-GRN-000503.xlsx

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Certificate of Operational Capability

Each applicant must supply a certification from an officer-level employee (or individual of comparable rank) attesting to the applicant's operational capability to complete and operate the proposed project.

If the applicant has provided a voice and/or broadband internet access service, it must supply a

certification from an officer-level employee (or individual of comparable rank) attesting that it has filed FCC Form 477s and the Broadband DATA Act submission, if applicable, to the extent required during this time period and otherwise complied with the Commission's rules and regulations. Alternatively, the applicant must explain any pending or completed enforcement action, civil litigation, or other matter in which it was alleged to have failed to comply with Commission rules or regulations.

If the applicant has operated only an electric transmission or distribution service, it must submit qualified operating or financial reports that it has filed with the relevant financial institution for the relevant time period along with a certification that the submission is a true and accurate copy of the reports that were provided to the relevant financial institution.

If applicable, the applicant must submit a certification from an officer-level employee (or individual of comparable rank) that is has operated a middle mile broadband network for at least two years or that it is a wholly owned subsidiary of such an entity and must specify the number of years the applicant or its parent company has been operating.

Quintillion NTIA MMG - Certificate of Operati-09-23-2022 04-08-QSH Parent Holdco LLC-GRN-000503.pdf

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Certification of Financial Capability

Each applicant must supply a certification from an officer-level employee (or individual of comparable rank) attesting that it is financially qualified to meet the obligations associated with a project, that they will have available funds for all project costs that exceed the amount of the grant, and that they will comply with all MMG Program requirements, including service milestones.

Quintillion NTIA MMG - Certification of Finan-09-23-2022 04-08-QSH Parent Holdco LLC-GRN-000503.pdf

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Letter of Credit

During the application process, each applicant must submit a letter from a bank meeting eligibility requirements consistent with those set forth in 47 C.F.R. § 54.804(c)(2) committing to issue an irrevocable stand-by letter of credit, in the required form, to the applicant. The letter shall at a minimum provide the dollar amount of credit offered and the issuing bank's agreement to follow the terms and conditions of NTIA's model letter of credit. NTIA shall publish on its website a model letter of credit substantially similar to the model letter of credit established by the Federal Communications Commission in connection with the Rural Digital Opportunity Fund (RDOF - Rural Digital Opportunity Fund Order, 35 FCC Rcd at 773-77, Appx. C.).

NTIA will ensure, prior to issuing a middle mile grant award, that each eligible entity obtains an acceptable, irrevocable standby letter of credit in a value of no less than 25 percent of the award amount.

Each eligible entity shall provide with its letter of credit an opinion letter from its legal counsel clearly stating, subject only to customary assumptions, limitations, and qualifications, that in a proceeding under Title 11 of the United States Code, 11 U.S.C. § 101 et seq. (the "Bankruptcy Code"), the bankruptcy court would not treat the letter of credit or proceeds of the letter of credit as property of the winning bidder's bankruptcy estate under Section 541 of the Bankruptcy Code.

[redacted]

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Audited Financial Statement (Previous 3 Years)

Each applicant shall submit financial statements from the most recent fiscal year that are audited by an independent certified public accountant. If the applicant is not audited in the ordinary course of business, in lieu of submitting audited financial statements it must submit unaudited financial statements from the three prior fiscal years and certify that it will provide financial statements from the three prior fiscal years that are audited by an independent certified public accountant by an NTIA specified deadline.

***You must provide 3 years of audited financial statements.**

Quintillion NTIA MMG - Audited Financial Stat-10-11-2022 07-01-QSH Parent Holdco LLC-GRN-000503.pdf

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Historical Financial Statements (Previous 3 Years)

Each applicant shall submit financial statements from the three prior fiscal years that are audited by an independent certified public accountant. If the applicant is not audited in the ordinary course of business, in lieu of submitting audited financial statements it must submit unaudited financial statements from the three prior fiscal years and certify that it will provide financial statements from the three prior fiscal years that are audited by an independent certified public accountant by an NTIA specified deadline.

***You must provide 3 years of historical financial statements.**

Quintillion NTIA MMG - Historical Financial S-10-11-2022 07-01-QSH Parent Holdco LLC-GRN-000503.pdf

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Budget Narrative

Applicants will create and submit a budget narrative that adequately describes all proposed activities and costs for their grant-funded project. Applicants must complete the file template, fill in all required information, and upload the file
. The file must be uploaded as a Word file, and not converted to a PDF. You can find additional guidance in the MMG Application Guidance.

Quintillion NTIA MMG - Budget Narrative Final-10-13-2022 03-18-QSH Parent Holdco LLC-GRN-000503.pdf, Quintillion NTIA MMG - Budget Narrative V2-11-18-2022 07-17-QSH Parent Holdco LLC-GRN-000503.pdf, Quintillion NTIA MMG - Budget Narrative V3 04-04-11-2023 04-04-QSH Parent Holdco LLC-GRN-000503.pdf, Quintillion NTIA MMG - Budget Narrative V3B F-04-11-2023 05-44-QSH Parent Holdco LLC-GRN-000503.pdf, Quintillion NTIA MMG - Budget Narrative V3C F-04-11-2023 09-33-QSH Parent Holdco LLC-GRN-000503.pdf

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Template Detailed Budget Justification

The Detailed Budget Justification spreadsheet must reflect the cost categories that appear on the SF-424 and SF-424C and include itemized calculations for each cost placed under those categories. A fillable Template Detailed Budget Justification can be found in found in the MMG ZIP folder.

Quintillion NTIA MMG - Detailed Budget Justif-10-10-2022 04-23-QSH Parent Holdco LLC-GRN-000503.xlsx, Quintillion NTIA MMG - Detailed Budget Justif-04-11-2023 04-04-QSH Parent Holdco LLC-GRN-000503.xlsx

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Any other funding provided for this project?

No

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Template Pro Forma

Pro forma financial projection and analysis related to the project's sustainability, inclusive of subscriber (e.g., last mile network connections, other wholesale services), across an eight-year forecast period. A fillable Template Pro Forms can be found in the MMG ZIP folder.

Quintillion NTIA MMG - Pro Forma Template Fin-10-11-2022 07-02-QSH Parent Holdco LLC-GRN-000503.xlsx, Quintillion NTIA MMG - Pro Forma Final V4B 04-04-11-2023 04-04-QSH Parent Holdco LLC-GRN-000503.xlsx

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