

# **Affordable Housing Connectivity Program**

## **Request for Applications**



**Issued: December 6, 2023**

**Updated: May 13, 2024**

Contact: [ahcp@esd.ny.gov](mailto:ahcp@esd.ny.gov) using the subject line "AHCP RFA"

**This Request for Applications ("RFA") is posted on the Empire State Development website:**  
<https://broadband.ny.gov/affordable-housing-connectivity-program>

**Applications must be submitted through the New York State Consolidated Funding Application (CFA). Applications will be accepted through the CFA beginning January 2, 2024. Visit <https://apps.cio.ny.gov/apps/cfa/>.**

### **APPLICATIONS DUE DATE AND TIME:**

Note: Review of Section One Applications will begin February 16, 2024. Applications submitted by this date are assured the opportunity to review all eligible Property Portfolios.

Rolling application process will end on January 30, 2026, at 5:00 PM EST.

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## Overview

### Objective

The mission of Empire State Development (“ESD”) is to promote a vigorous and growing state economy, encourage business investment and job creation, and support diverse, prosperous local economies across New York State through the efficient use of loans, grants, tax credits, real estate development, marketing, and other forms of assistance. To support broadband access for communities who live in affordable housing, Empire State Development’s ConnectALL Office (“CAO”) has issued this Request for Applications (“RFA”) for the [Affordable Housing Connectivity Program](#) (“AHCP”).

Through this RFA, CAO intends to support broadband access for residents of affordable housing in New York State, leveraging funding from the U.S. Department of Treasury Capital Projects Fund (“CPF”). The objective of this RFA is to improve broadband access in regulated affordable housing rental units, by providing funding to Internet Service Providers (“ISPs”), broadband infrastructure developers, and other entities with broadband deployment capacity to deploy new and/or upgraded fiber-based or comparable broadband infrastructure to and within affordable housing properties (“Properties”). AHCP-funded infrastructure may include fiber drops, new/upgraded in-building wiring, and additional network components and equipment required to deliver upgraded broadband service to residents of affordable housing Properties. By subsidizing deployment of broadband infrastructure to and within affordable housing Properties, the AHCP will connect thousands of low-income households to reliable, affordable, high-speed broadband service. The program will increase affordability of service options by changing broadband delivery economics for ISPs and Property Owners and by lowering the barrier for ISPs to access broadband infrastructure to and within these Properties for the purposes of providing service to end-users.

## Background

### Program Background and Overview

The ConnectALL Initiative, announced by Governor Kathy Hochul in January 2022, is an ambitious set of programs and activities aimed at addressing New York State’s digital divide, transforming the state’s digital infrastructure, and ensuring that all New Yorkers have access to reliable and affordable high-speed broadband internet service. Upon project completion, the infrastructure funded through the Affordable Housing Connectivity Program (“AHCP”) is designed to deliver service that reliably meets or exceeds symmetrical download and upload speeds of 100 Mbps. ConnectALL programs are designed and administered by the ConnectALL Office (“CAO”), which is housed within the New York State Urban Development Corporation d/b/a Empire State Development (“ESD”).

The U.S. Department of Treasury has awarded \$100 million to the State of New York through the American Rescue Plan’s Capital Projects Fund to support broadband access for communities who live in affordable housing. As part of the ConnectALL Initiative, CAO, in consultation with New York Homes and Community Renewal (“HCR”), is offering the AHCP, aimed at improving broadband access in affordable housing rental units, by providing funding to deploy new and/or upgraded broadband infrastructure to and within affordable housing Properties. The design of the AHCP has been informed by a comprehensive research and program design effort involving input from HCR, the New York City Department of Housing Preservation and Development (“HPD”), the New York State Association for Affordable Housing (“NYSFAH”), public and non-profit housing organizations, and other stakeholders to identify and quantify the broadband access and digital equity challenges specific to affordable housing Properties. This analysis demonstrated that 54% of State-regulated affordable housing units are underserved (lacking sufficient infrastructure to achieve broadband service speeds of 100/20 Mbps); 44% of affordable housing

Properties have no direct access to fiber-optic broadband service; and affordable housing residents experience disproportionately low rates of broadband adoption.<sup>1</sup>

CAO will be the administrator of the AHCP (see [AHCP Grant Program Guidelines](#), approved by the Empire State Development board of directors, April 2023). As such, CAO or its duly authorized representative will determine program structure and requirements, evaluate Applicant information, monitor Grantees for project completion and satisfactory performance, collect Grantee data to ensure compliance with all program requirements and verify allowable uses of funds, and approve disbursement of grant funds to selected Grantees.

AHCP Program Applicants (“Applicants”) who are successful in the selection process will be funded to deploy new and/or upgraded broadband infrastructure to and within Properties. Eligible affordable housing Properties are those that have directly expressed to CAO their interest in participating as a Property primarily via an [online survey form](#) available via the websites of CAO and HCR. Applicants that seek to serve specific properties should inform those Property Owners to complete the survey. Survey respondents may indicate an existing partnership with an eligible entity, but such an indication is not binding on the Applicant, the Property Owner, or CAO. CAO will request that interested Property Owners complete a **Building Conditions Self-Assessment** (“BCSA”) via an [online form](#) provided by CAO to obtain information about their Properties and broadband needs.

CAO will review the information provided by Property Owners and other information including federal and state broadband maps to prioritize Properties for participation in this program. After this prioritization process, CAO will aggregate Property data to assemble Portfolios of Properties. Portfolios may include only the highest priority properties or priority Properties may be combined with other locations to create an optimal opportunity for deployment and project success.

Applications will be submitted in a two-step process. In AHCP Application Section One, Applicants will describe their capabilities and general approach, indicate the geographic areas they are seeking to serve (Service Area), and specify the minimum number of units they would need to have to serve the area (i.e., if they do not already offer service in the area) and the maximum number of units they have capacity to bring to completion by the end of 2026. Service Areas are based on established metropolitan areas in New York. Applications will be reviewed based on organizational capacity, quality of plan, and scale and scope of geographic area proposed. The geographic areas and number of units indicated will not factor into scoring.

Applicants who are successful in the Section One selection process will be eligible to submit an application for Section Two. Section Two Applications will provide deployment proposals based on CAO assembled Portfolios of Properties.

Portfolios will be specific to the geographic Service Area(s) identified by Applicants in Section One. CAO may include properties that are not within any of the established metropolitan areas in any Portfolio for any Service Area or in a separate Portfolio.

All successful Section One Applicants will be eligible to submit Section Two Applications for all Portfolios in the Service Area(s) selected in their eligible Section One Application. Section Two Applications will address the entire Portfolio. Applicants will not be able to specify individual Properties they seek to serve. An Applicant that does not respond to a Portfolio will still be eligible to respond to any future Portfolios in the identified Service Areas.

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<sup>1</sup> New York State Association of Affordable Housing (NYSFAFH), “Affordable Housing Broadband Initiative (AHBI),” March 2022. [Link](#).

## Funding Sources

New York State received \$100 million in federal funding from the U.S. Department of Treasury through the American Rescue Plan Act to construct high-speed broadband infrastructure to and in affordable housing. This is one of the largest targeted broadband investments in affordable housing connectivity in the nation. The investment comes from the American Rescue Plan's [Capital Projects Fund](#) ("CPF"), a \$10 billion program designed to address the challenges exacerbated by the COVID-19 pandemic, particularly in rural America, Tribal communities, and low- and moderate-income communities. A key priority of the CPF is to make funding available to help ensure that all communities have access to high-quality modern infrastructure, including reliable, affordable high-speed broadband needed to access critical work, education, and health monitoring services.

The CPF will support some of New York's most under-connected and vulnerable communities by expanding access to internet service, improving reliability and resiliency, tackling affordability, increasing ISP competition, and fostering economic growth. Funding will facilitate the construction of last-mile broadband infrastructure to affordable housing Properties, with infrastructure that will be made available to retail ISPs on a carrier-neutral basis.

Federal funding requirements related to the American Rescue Plan Act require all project construction to be substantially completed, and all funds expended, by December 31, 2026. Thus, to allow for unforeseen delays, Applicants are strongly encouraged to plan to complete construction scopes by December 31, 2025. If a 2025 deadline cannot be met, the Applicant must detail how it will guarantee completion prior to the federal deadline of December 2026. ConnectALL will update this deadline as further guidance becomes available.

Infrastructure eligible for funding through CPF must be designed to deliver, upon project completion where feasible, service that reliably meets or exceeds symmetrical download and upload speeds of 100 Mbps. If it would be impracticable, because of geography, topography, or excessive cost, for a project to be designed to deliver services at such a speed, the project must be designed so that it reliably meets or exceeds 100 Mbps download speeds and between 20-100 Mbps upload speeds and be scalable to a minimum of 100 Mbps symmetrical for download and upload speeds. Applicants submitting a project that will deliver speeds less than 100 Mbps symmetrical must explain in detail why their project would need to be funded to deliver service less than 100 Mbps, and it will be CAO's preference to defer consideration for these projects before other projects meeting the 100 Mbps requirement are awarded.

Because fiber-optic technology can easily scale speeds over time to meet the evolving connectivity needs of affordable housing households, AHCP will prioritize projects designed to provide fiber connectivity to affordable housing Property premises and units.

## Project Requirements

Projects funded through AHCP must address the following requirements:

- **Be capable of reliably delivering high-speed internet service meeting Minimum Performance Requirements** (specified in Table 1), with direct connections in every affordable unit in designated affordable housing Properties through infrastructure that may include last-mile fiber, fiber drops, and fiber-optic cabling for in-building wiring. The degree of last-mile infrastructure and in-building retrofit work will depend on what is needed at each Property to deliver reliable, high-speed internet to residents and will vary from Property to Property. Other fiber wireline and in-unit wired or wireless connections may be considered for properties where fiber is determined to be impracticable.
- **Participate in the federal Affordable Connectivity Program ("ACP") if in operation, or any successor federal program (collectively referenced herein as the "Federal Benefit**

**Program”):** AHCP-funded projects will be required to allow end-users to utilize the Federal Benefit Program benefit. Applicants selected to be Grantees will be required to certify their continued participation in the Federal Benefit Program in regular reporting to CAO. Applicants who propose to provide open-access infrastructure for other ISPs to serve end-users must include a requirement for tenant ISPs to allow end-users to utilize the Federal Benefit Program benefit. For more information about the ACP, visit <https://www.fcc.gov/acp>.

- **No throttling or data caps:** AHCP-funded projects or the services offered by other ISPs on the state funded infrastructure may not subject end-users to data caps, surcharges, or usage-based throttling.
- **No duplication of federal or state funding:** Projects already receiving funding from other federal or state sources are not eligible for AHCP funding for the same activity.
- **Serve the entirety of a published Portfolio of Properties:** Projects are expected to serve a variety of Properties and Property types within one or more Portfolio. Property types may vary by layout (mid-rise/high-rise buildings or townhomes spread across multiple buildings), age, and building materials. **Facilitate robust broadband marketplace,** for example, through an internet network where there may be more than one ISP that provides retail internet services over the same access network infrastructure simultaneously, allowing subscribers to decide from which ISP they will purchase their services. Applicants may propose approaches ranging from provision of lit fiber services for other ISPs to installation of second pathways to Properties for other ISPs to install their own service, or other arrangements that would lower barriers to entry to Properties for subsequent service providers.
- **Workforce Development:** A highly skilled, diverse workforce is critical to meeting the goals of the ConnectALL Office. AHCP-funded projects must include a clear approach to recruit, train, and retain a diverse and skilled workforce to fill good jobs. Applicants must have a strategy that supports the high safety and training standards of its employees, with clear policies and practices to ensure contractors and subcontractors also meet high labor standards. To complete the AHCP-funded project, Applicants should commit to appropriate policies and investments to recruit, train, hire, retrain, and upskill a diverse workforce, particularly local workers and/or workers from historically disadvantaged communities, into good jobs that pay the prevailing wage.
- **Service Commitment:** AHCP-funded projects must be operated and maintained by the Grantee to allow delivery of service meeting the State’s standards following project completion until December 31, 2034.<sup>2</sup> If the Applicant is providing open-access infrastructure intended for public ownership by the State or another public entity, the Applicant should propose the length of time of ownership and date of transfer.

In addition to these Project Requirements, CAO will also prioritize projects that involve a pathway to public ownership or control of assets by CAO or other public entities. CAO is open to a variety of ownership models and agreements, including full public ownership, public ownership after a period of private ownership, public ownership with private operations, and an Indefeasible Right of Use (IRU) for CAO or another public entity to use a portion of the AHCP-funded network.

### Minimum Performance Requirements

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<sup>2</sup> <https://home.treasury.gov/system/files/136/SLFRF-and-CPF-Supplementary-Broadband-Guidance.pdf>  
SLFRF and CPF Supplementary Broadband Guidance (May 17, 2023); See (2) under “Ownership of infrastructure”

CAO requires all infrastructure to be capable of supporting retail broadband service that meets the minimum performance requirements presented below in Table 1. Details on testing methodology to measure each of these performance requirements are provided in Appendix C (Testing Methodology).

Each subscribing residential household must receive service of a minimum of 100 Mbps downstream and 100 Mbps upstream (100/100). The network design must provide each location with the required throughput. Service must be provided inside each residential unit. CAO will prioritize applications that propose projects that are capable of delivering speeds of 1 gigabit per second download and 1 gigabit per second upload to the end user.

**Table 1: Minimum Performance Requirements**

<b>Performance Category</b>	<b>Requirement</b>	<b>Measurement Method</b>
Minimum speed available to subscriber at all times	100/100 Mbps	Measure using traffic generation software or other industry standard testing software or hardware, as described in Appendix C (Testing Methodology)
Latency (round trip ping time from user premises to core site router)	< 20 ms	Measure using ping test generated via command line or industry standard testing software or hardware, as described in Appendix C (Testing Methodology)
Average outage time per subscriber	Less than 48 hours over any 365-day period	Measure using dashboard real-time network monitoring software, as described in Appendix C (Testing Methodology)
Network availability	99.5% of the time over a one-month period	Measure using dashboard real-time network monitoring software, as described in Appendix C (Testing Methodology)
Other criteria	No data caps or usage-based throttling	Measure using traffic generation software or other industry standard testing software or hardware, as described in Appendix C (Testing Methodology)

## **Network Design Requirements**

### Wireline Network Design

For wireline-based solutions, the Applicant must design a comprehensive wireline network with sufficient availability and capacity to serve all subscribers at a minimum speed of 100 Mbps downstream and 100Mbps upstream (100/100). The selected Applicant must further develop the proposed design to achieve the level of detail required for implementation.

### Alternate Network Designs

For alternate network solutions that provide sufficient availability and capacity to serve all subscribers at a minimum speed of 100 Mbps downstream and 100 Mbps upstream (100/100), the Applicant must explain why a wireline-based solution is not feasible or is suboptimal for the properties the Applicant

proposes to serve. The Applicant’s proposed network design must serve each served location with the required throughput and capacity. The selected Applicant should further develop the proposed design to consider future growth in consumer demand and how upgrades would be performed to deliver higher performance levels (e.g., symmetric 1 Gbps).

Customer Premises Equipment

Applicants providing retail service must provide customer premises equipment (“CPE”) to all end-users to connect the location to the Applicant’s network that is providing the internet access service and to interface multiple end-user devices via wired Ethernet and wireless Wi-Fi connections inside the premises. The CPE must meet the specifications in Table 2: Minimum CPE Specifications below. Both indoor and outdoor CPE types will be acceptable, although solutions that are more aesthetically pleasing and that require less expensive efforts to install are desirable.

If the Applicant proposes an indoor CPE configuration, it must have an integrated modem, antenna, and Wi-Fi router. If the Applicant proposes an outdoor CPE configuration, it must have an outdoor antenna that connects to an indoor access point with a Wi-Fi router. Proposed CPE model(s) must deliver 100/100 Mbps to each household and meet or exceed all minimum specifications and requirements.

Applicants must manage the CPE, and as necessary troubleshoot, repair and/or replace CPE that is not operating properly.

Applicants should streamline and automate the setup and installation of the service for customers to the maximum extent possible while ensuring a high success rate. Applicants must be equipped to efficiently onboard customers, with a maximum lead time to install of 10 business days.

Applicants must professionally install CPE and associated materials when necessary, or otherwise provide a customer-friendly self-installation kit when professional installation is not necessary.

Table 2: Minimum CPE Specifications

Element	Specification
Power	Outdoor must be Power-Over-Ethernet (PoE)
	Indoor must plug into a standard AC 15-amp outlet
User Interface	Wi-Fi 802.11ac or better
	Ethernet
SSID	A minimum of two SSIDs must be supported
	Ability to provide a splash page to support guest hot spot connectivity
Routing	Able to redirect DNS to CIPA-compliant servers even if client device is configured to outside DNS
Filtering	Support for MAC OUI filtering with vendor masking support for bandwidth management via URL/IP locking
	Able to generate event logs accessible via a remote portal



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	Over the air (remote) flash of configuration and device software
	Temperature sensor of device
Additional Management	Able to remotely disable services on CPE
	Support group policy changes vs. requiring individual device configurations

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Logs	Maintain a log of all historically connected devices
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## Eligible Applicants

Applicants must be experienced ISPs or other entities with previous broadband deployments of similar scale and service level. Successful Applicants must have the ability to deploy broadband infrastructure to a Portfolio of affordable housing Properties within the required timeframe and deliver reliable high-speed internet service to end-users following project completion. Prospective Applicants or Applicant Teams matching one or more of the following descriptions are encouraged to submit applications:

- **Owners of Broadband Infrastructure:** Entities currently operating or holding fiber infrastructure in New York and potential new market entrants who own middle- or last-mile fiber infrastructure.
- **Builders of Broadband Infrastructure:** Entities who construct and/or deploy open-access broadband infrastructure assets.
- **Internet Service Providers (ISPs):** Entities currently providing internet services to consumers in New York and potential new market entrants. This may include entities that are not legacy providers of cable television or telephone services but who are interested in offering retail internet service over open-access infrastructure.
- **Managed Service Providers (MSPs):** Entities operating networks and providing service to residents and businesses by leveraging existing internet infrastructure or partnering with construction entities to build networks.

Entities may apply to Section One in teams to fulfill the broadband deployment, operation, maintenance, and end-user ISP roles. Entities that apply as an Applicant Team must indicate the lead entity and a primary contact in their applications. Applicant Teams shall clearly identify the participants, members, or partners in each partnership and/or joint venture that the Application addresses. The Section One response should also indicate the responsibilities of each member of the Applicant Team. Only one Application Section One should be submitted per partnership or joint venture for evaluation and approval to submit an Application Section Two. Should the partnership or joint venture change, a new Application Section One submission will be required.

An owner of existing infrastructure or a builder of infrastructure that does not intend to provide service on the network may apply to Section One and will be required to submit: a) a letter of intent to operate on the network from one or more ISP(s), indicating details of the ISP's planned technology approach and demonstration of a similar, operational network meeting CAO requirements elsewhere; b) letter of endorsement from ISP(s) currently operating on infrastructure built by the Applicant elsewhere; c) documentation from an operator using infrastructure built by the Applicant to host ISPs that meet CAO's service requirements. Applicants that are solely infrastructure builders or owners rather than teams will need to demonstrate that the infrastructure provided will be able to support ISPs that meet the State's service requirements.

## Eligible Uses of Funds

The AHCP makes available financial assistance in the form of one-time grants for use by Applicants selected to be Grantees. Grant funds will be made available to Grantees for eligible uses and activities as set forth in an Agreement to be shared with, negotiated, and agreed upon between CAO and Grantees. A portion of this Program's funding comes from the U.S. Treasury Capital Projects Fund ("CPF") and, therefore, the State and its Grantees are required to follow the respective compliance requirements of that program, as described under *U.S. Treasury Guidance for The Coronavirus Capital Projects Fund for States, Territories & Freely Associated States*.<sup>3</sup>

Eligible uses for program funding include the following two categories:

- 1) Fiber or other broadband connections to Property premises:
  - Last-mile infrastructure: The cabling, wires, and/or radios, that ISPs use to distribute the internet from local internet exchanges to homes, offices, and other network endpoints. Funding should be used to construct new infrastructure where it is needed to deliver high-speed internet service to affordable housing Properties in the AHCP. CAO will also consider proposals to acquire existing last-mile infrastructure for use by AHCP. If proposing an acquisition, Applicant should provide an asking price and justification, including age of equipment, remaining useful life, expected operating expense, and any other information that justifies their proposed ask, including how such infrastructure will support use by other service providers such as through an open-access arrangement.
  - Drops to a building: The connection from passing fiber or cable on a street pole or in-street conduit into a building. In a fiber-to-the-premises system, the fiber drop is the single connection from passing fiber into a structure for interior distribution to units.
- 2) In-building equipment and wiring retrofits:
  - In-building wiring: The interior cabling that distributes a telecommunications signal from the minimum point of entry ("MPOE") to terminations, such as wall jacks, throughout a building.
  - Smart panels or other in-unit termination: The jack where a router or other internet device plugs in to receive service in a unit.
  - Networking equipment: The equipment necessary to deliver internet service to end-users, such as switches, routers (including in-unit routers), and wireless access points.

The program will not fund activities defined as ineligible uses under applicable state and federal law, including the federal guidance for the CPF program, as described in the *U.S. Treasury Guidance for The Coronavirus Capital Projects Fund for States, Territories & Freely Associated States*.

It is expected that Applicants will either self-perform the construction services (assuming Applicants meet all qualifications to perform the work), partner with an MWBE subcontractor, or procure competitive applications from subcontractors in coordination with CAO.

## Application Review

Upon receipt of applications, CAO will review applications for eligibility, completeness, quality, readiness, and conformance with these guidelines. Applications shall be processed in full compliance with the

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<sup>3</sup> Refer to: <https://home.treasury.gov/system/files/136/Capital-Projects-Fund-Guidance-States-Territories-and-Freely-Associated-States.pdf>

applicable provisions of federal and state law, including 16-GG\*2 of the New York State Urban Development Corporation Act.<sup>4</sup>

The Applicant should demonstrate a strong track record of providing internet service infrastructure; making investments in communities in New York State; retrofitting existing multifamily and town home-style housing; successfully working in low-income rural, suburban, and urban regions; and collaborating with property owners large and small.

The Application must be submitted in two parts: Application Section One and Application Section Two. Based on the information provided in Application Section One, CAO will evaluate applications to determine whether they meet the minimum requirements of this RFA. Applications that are determined to not meet the requirements of the RFA will be rejected or CAO may, at CAO’s sole discretion, request curing of an Application to meet the requirements. Applications to Section One that meet the requirements of the RFA will be scored. Applicants with a scored Section One will be eligible to submit Application Section Two. Applications to Section Two determined to not meet the requirements of the RFA will be rejected or CAO may, at CAO’s sole discretion, request curing of an Application to meet the requirements. Applications to Section Two that meet the requirements of the RFA will be scored. The determination of awards will be based on a combination of scores for Application Sections One and Two. (Note: Applicants eligible to submit an Application to Section Two may submit additional applications to Section Two as additional Property Portfolios are published.) Minimum requirements include those listed under the **Project Requirements** section, as well as the following **Applicant requirements**:

- Ability to complete project in required time
- Ability to meet reporting, transparency, and compliance requirements

CAO will evaluate the remaining applications according to the following criteria listed below.

Application Section One Criteria Categories

Respondent Experience and Readiness	12%
Broadband Service Quality and Price	20%
Network Quality	8%
Digital Equity Impact, Workforce Development and Diversity Practices	5%

Specific Criteria for Each Application Section One Category:

Respondent Experience and Readiness

- Demonstrated stable financials, legal responsibility, and managerial capacity
- Demonstrated base of operations and capability in New York and is local to planned work
- Access to capital
- Proposal team qualifications and key leadership
- Deployment speed as demonstrated by past projects
- Demonstrated experience working with affordable housing developments and residents
- Compliance history, including experience with grants, following regulations, permitting, reporting, and responsiveness to information requests
- Current or previous participation in ACP or other public subsidy programs
- Letters of support from affordable housing owners, local government, or county government

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<sup>4</sup> Refer to: [https://www.nysenate.gov/legislation/laws/UDA/16-GG\\*2](https://www.nysenate.gov/legislation/laws/UDA/16-GG*2)

- Note: The above descriptions of experience and readiness should justify the number of housing units the Applicant has proposed to serve in a particular geographic area.

Broadband Service Quality and Price (applicable to Applicants that will also provide service or Applicant teams including a service provider)

- Service tiers and pricing, including pricing for symmetric 100 Mbps and 1 Gbps service levels
- Inclusion of a broadband service level (minimum 100 Mbps / 20 Mbps) at or below \$15 (free with ACP or successor federal program)
- Additional consideration for
  - Inclusion of free service tier, no ACP or successor federal program required;
  - 100 Mbps / 20 Mbps service below \$15;
  - 100 Mbps / 100 Mbps service at or below \$15.
- Service pricing commitment if ACP (or a successor federal program) expires or reduces
- Additional products and services and pricing

Network Quality

- Service-Level Agreement
- Net neutrality
- Privacy
- Security
- Customer support
- Open access network offering

Digital Equity Impact, Workforce Development and Diversity Practices

- Demonstrated history of successful partnerships with community-based organizations (CBOs), especially those working with affordable housing residents, tenant associations, or digital equity organizations (for infrastructure partners retaining ownership, describe requirements for potential service providers using the infrastructure)
- Free community Wi-Fi (for infrastructure partners retaining ownership, describe requirements for potential service providers using the infrastructure)
- Worker ownership
- Current practices align with NYS “good job” definitions and safety standards
- Depth of workforce development programs and partnerships

Application Section Two Criteria Categories

Respondent Experience and Readiness	3%
Cost Reasonableness and Business Plan	15%
Technical Proposal	12%
Digital Equity Impact, Workforce Development and Diversity Practices	10%
Market Conditions and Impact in Portfolio	15%

Specific Criteria for Each Application Section Two Category:

Respondent Experience and Readiness

- Staffing capacity

### Cost Reasonableness and Business Plan

- Financial offer and soundness of financial assumptions
- Justified cost per unit served
- Matching funds (may include in-kind contributions or philanthropic commitments for non-deployment activities to increase broadband adoption)
- Pricing for services in project years 6-10

### Technical Proposal

- Infrastructure types and technology
- Amount, quality, and resilience of new infrastructure to be built or acquired
- Planned deployment speed
- Duration and frequency of unit access needed to complete work
- Connection to public broadband
- Ownership of infrastructure
- Identification of material risks and plan for and experience with risk mitigation
- Minimization of environmental and aesthetic impacts

### Digital Equity Impact, Workforce Development and Diversity Practices

- Community outreach and engagement plan
- Letters of intent from CBOs, especially those working with affordable housing residents, tenant associations, and digital equity organizations to support adoption and use (for infrastructure, letters should focus on process for and quality of work completed in past residential projects)
- Plan for tenant association/leadership or resident engagement and resident role (e.g., in property's network management, tech support, or digital skill training programs) (for infrastructure partners retaining ownership, describe requirements for potential service providers using the infrastructure)
- Accessibility for people with disabilities and/or language barriers (for infrastructure partners retaining ownership, describe requirements for potential service providers using the infrastructure)
- Plan to provide devices, skills and safety trainings, or other support (for infrastructure partners retaining ownership, describe requirements for potential service providers using the infrastructure)
- Letters of commitment demonstrating workforce development partnerships
- Plan to achieve goal for MWBE ("Minority- and Women-Owned Business Enterprises") participation in solicitation (see Appendix A)
- Workforce development plan that complies with all federal and State labor and employment laws (see Appendix B) and demonstrates commitment to recruit, hire, train, and retain a diverse and skilled workforce, particularly local workers and/or workers from historically underrepresented communities

### Market Conditions and Impact in Portfolio

- Number of units to be served that are currently unserved, underserved, served but with no fiber, served but with no choice
- Number of lowest-adoption rate Properties to be served
- Introduction of new service option for surrounding area

## **Grantee Selections and Timeline**

It is anticipated that this RFA will result in multiple Applicants selected to be Grantees in pursuit of meeting the AHCP's goal of deploying broadband to 100,000 affordable housing units.

CAO will accept Section One applications to this Program on a rolling basis until funds are expended or until CAO pauses or closes the RFA. Applicants are encouraged to submit applications as soon as they are able. Applications to Section Two may be submitted by Applicants with successful submissions to Section One as often as CAO publishes eligible Property Portfolios. Section Two Applications for each Portfolio of Properties will have a deadline and will not be reviewed on a rolling basis.

CAO will open a Portfolio of Properties for Section Two Applications in a particular Service Area once CAO has determined it has a sufficient number of Section One Applications for that Service Area and that meet program requirements. CAO will develop Portfolios of affordable housing Properties that have indicated their interest in and eligibility for new or upgraded broadband installation. CAO will create Property Portfolios based on factors such as their location, infrastructure needs, ostensible owner cooperation (beginning with indicating interest in the AHCP and completing the Building Conditions Self-Assessment (BCSA)), project readiness, and other factors. CAO will prioritize locations that are unserved or underserved or that otherwise do not have the benefits of a robust broadband marketplace. Broadband Service providers or infrastructure owners currently operating in a building will not be funded for those locations under this grant unless they are (1) upgrading existing infrastructure and (2) providing additional network capacity or pathways to support the infrastructure's use by other service providers, such as through an open-access arrangement.

Based on an assessment of these factors, CAO will publish Portfolios of Properties that eligible Section One Applicants can apply to serve by submitting Application Section Two. Portfolios may include any number of buildings or units; the volume will be based on information from all Section One Applicants. The Portfolios will include information on the properties, including location, owner, number of units, number of floors, age of the building, and a general assessment of current conditions. In some cases, the information may be incomplete or additional information may be included. The timeline for assembling and identifying Property Portfolios will vary. All Section One Applicants that meet program requirements and have proposed to serve the relevant Service Area will be notified of a Portfolio at the same time.

Applicants whose Section Two Applications are deemed conditionally selected based on the Evaluation Criteria will be advanced to negotiations with CAO for the selected Portfolio. Deployment plans submitted as part of the Section Two Application are expected to be preliminary, based upon information CAO provides about properties within a Portfolio. CAO may request additional infrastructure costs and service pricing information from Applicants as part of the negotiation process. CAO expects that Grantees will use this time to conduct their own due diligence to confirm the cost and feasibility of their proposal. CAO reserves the right to negotiate with other Applicants at any time, including if an Applicant makes changes to a proposal during the negotiation and due diligence process that CAO, in its sole discretion, determines is significant. The program is designed for Applicants to complete construction scopes by December 31, 2025. All grant funding is intended to be disbursed by December 31, 2026, or otherwise consistent with guidance from the Treasury Department.

As a condition of the grant award, CAO and the Grantee will enter into an Agreement, which will outline the program's stipulations in compliance with CAO and CPF and penalties for failures to comply. The Agreement will also outline the relevant terms a Grantee must follow to comply with the agreed upon Project and Applicant Requirements. CAO will also provide a template agreement for Property Owners to execute with Grantees. CAO may provide a separate set of terms for long-term quality and use of broadband to provide affordable service in the form of Service-Level Agreements ("SLAs") between the Grantee and Property Owner and/or end-users. The SLA outlines the terms for service speed, uptime,

latency, privacy, and customer service offerings, in accordance with CAO’s service performance expectations. The agreement between the Property Owner and Grantee and the Service-Level Agreement will be incorporated into the Agreement between CAO and the Grantee as documentation of the capacity of the Grantee to meet the terms of the grant.

Grantees selected to deploy infrastructure in affordable housing Properties will be responsible for coordinating directly with Property Owners or their representatives to determine an agreed-upon project deployment schedule, secure access to facilities for installation work, and liaise with residents to ensure access to residential units as needed for installations. Applicants will be responsible for working with Property Owners or their representatives to gather information on the full scope of broadband retrofits required at a Property. Applicants may be required to compile further information about the buildings they are expected to serve, including some or all of the following:

- Conditions of the building(s) related to construction materials and age of Property;
- Any current wiring to and within the Property;
- Adoption of any current internet service by residents; and
- Any shared community or common spaces within the Property.

CAO may provide documents to guide Property Owner and Grantee coordination such as contact information, a target deployment schedule, roles and responsibilities for each party, communication method recommendations, inspection and completion verification procedures, and process remedies, which will be reflected in the Agreement.

CAO may assist in identifying or providing technical assistance resources (e.g., template documents or best practices) to Property Owners and/or Grantees, depending upon assessed need as grants are awarded.

The financial structure of the Agreement may differ based on each Applicant, the agreed upon scope of work, the regional variation in costs associated with the project, and the pricing of the work in relation to market fluctuations as best as the pricing can be understood in advance of the work execution.

The anticipated terms of the grant Agreements awarded will range, including start dates beginning 2024 with terms until as late as December 2026. It is anticipated that the available funding for the agreed grant awarded will be in an estimated range of \$500-\$1,000 per unit. A not-to-exceed (NTE) amount will be established as part of the contract negotiations.

Item Description	Date*
RFA Issued	December 6, 2023
Questions deadline prior to RFA Information Session	December 28, 2023
Section One Application opens	January 2, 2024
RFA Information Session	January 5, 2024
Question Responses Issued	February 2024
Review of Section One Applications begins <i>(Note: submissions by this date are assured the opportunity to review all eligible Property Portfolios)</i>	February 16, 2024

Item Description	Date*
RFA Revised	May 13, 2024
Anticipated Section Two Application opens based on program participation	May 2024
Anticipated announcement of initial Grantee selections	July 2024
Anticipated start date for initial awards	September 2024
Target: Projects 50% completed	December 31, 2025
Application closes	January 30, 2026
Target: Projects 100% completed	December 31, 2026
*All RFA schedule descriptions and dates are tentative and subject to change.	

## Application Content and Scope of Services

Applicants shall deliver a unique Application for Application Section One and Application Section Two (if eligible based on the Applicant’s Section One submission) containing all the required information detailed in the sections below as well as abiding by the requirements of this RFA. If an Applicant is submitting or is represented with multiple Applications, the Applicant should indicate the other Applications it has submitted or in which it is represented. Applicants eligible to submit an Application to Section Two may submit multiple applications to Section Two as additional Property Portfolios are published. An Application Section Two must be completed for each Property Portfolio an Applicant seeks to serve.

### Section One

Applications to **Section One** shall include the following sections:

1. **Executive Summary and Applicant Profile.** Include an overview of the proposed project approach, scope of services, geographic area(s) to be served, and an Applicant Profile. The Applicant Profile should include: history of Applicant organization or team, ownership and legal structure, description of existing services and scope of operations, and experience in broadband deployment in New York. Applicants that represent joint ventures or partnerships must clearly identify all partners and their roles on the project and indicate the lead entity and primary contact for their application.
  1. **Service Area(s).** Applicants will select a list of the following 15 Service Areas, based on established metropolitan areas in New York:
    - Albany-Schenectady-Troy Metropolitan Area
    - Binghamton Metropolitan Area
    - Buffalo-Cheektowaga Metropolitan Area
    - Elmira Metropolitan Area
    - Glen Falls Metropolitan Area



- Ithaca Metropolitan Area
  - Kingston Metropolitan Area
  - Nassau County-Suffolk County Metropolitan Area
  - New York City Metropolitan Area
  - Poughkeepsie-Newburgh-Middletown Metropolitan Area
  - Rochester Metropolitan Area
  - Syracuse Metropolitan Area
  - Utica-Rome Metropolitan Area
  - Watertown-Fort Drum Metropolitan Area
  - White Plains Metropolitan Area
2. Approximate the minimum and maximum number of units the Applicant proposes to serve.
  3. Approximate the number of units for which the Applicant can complete infrastructure deployment within a typical 24-month period, from project launch to completion of construction.

**2. Experience and Relevant Qualifications.**

1. Describe Applicant's current business, including core capabilities, services offered, products offered, duration of business, and market reach.
2. Describe the Applicant's financial, technical, and managerial capabilities to complete projects and meet all the commitments of the funding. Include resumes and a detailed description of Applicant project team's key leadership that demonstrate experience in successfully managing projects similar to the proposed project, including in the areas of financial, technical, and compliance management.
3. Describe Applicant's current base of operations, capability, and experience in New York. Describe number of years operating in New York, number of customers served in New York, technology types and services offered, location of current operations throughout the state at the metropolitan service area or county level, and any existing plans for expansion.
4. Describe experience in deploying broadband to affordable housing Properties, including prior experience in marketing, customer service, or ACP enrollment assistance for affordable housing residents.
5. Provide the Applicant's standard Building-Access Agreement and/or other similar agreements.
6. Describe prior experience coordinating with permitting authorities, utility pole owners, and existing utilities.
7. Describe current or prior participation in ACP or other public subsidy programs.
8. Describe experience in managing state or federal grants or loans for broadband deployment. Describe and indicate whether any grants or loans have been suspended, paused, or rescinded at any time due to lack of performance or compliance with program rules or applicable laws.
9. Describe coordination with or support from affordable housing owners, local governments, or county governments. Attach letters of support, if available.
10. Describe past record of and certify current compliance with applicable regulations, including:
  - i. Safety standards, including the National Electrical Safety Code
  - ii. Workplace protections, including the Occupational Safety and Health Act, the Fair Labor Standards Act, Title VII of the Civil Rights Act of 1964, and New York State labor and employment laws, prevailing wage requirements, and labor standards.

11. Describe past record of responding to information requests to share data with NYS Department of Public Service for broadband mapping efforts, including length of time required to provide the requested information.
12. Describe and provide a general overview, plans, design, responsibilities of the participants, and description of implementation of at least **two similar projects** in which the Applicant completed either or both (1) fiber or other broadband connections to a property and/or (2) in-building equipment and wiring retrofits. For each, include:
  - i. Number of units and number of buildings served at the property
  - ii. Number of businesses subcontracted
  - iii. Route miles constructed, and costs incurred by category (e.g., make-ready, permitting, engineering/design, labor, construction)
  - iv. Description of the technology deployed and why it was the appropriate choice for the project
  - v. Service level commitment offered
  - vi. Advertised download speed in megabits per second
  - vii. Advertised upload speed in megabits per second
  - viii. Monthly, non-promotional price for each service offered over the funded infrastructure
  - ix. Specifications of signal latency and service reliability parameters
  - x. Experiences should include at least one service offering provided pursuant to the ACP federal subsidy participation (or a program that provides comparable benefits) and at least one service offering at speeds of 100/100 Mbps or greater
  - xi. Descriptions of any delays or changes made to project timeline
  - xii. Explain if any variation from the Applicant's standard Building-Access and Service-Level Agreements were used
13. If a substantially different approach to deployment will be proposed for AHCP-funded projects compared to the two examples of prior work provided, describe how the Applicant anticipates the work will vary.
14. An owner of existing infrastructure or a builder of infrastructure that does not intend to provide service on the network must submit: a) a letter of intent to operate on the network from one or more ISP, indicating details of the ISP's planned technology approach and demonstration of a currently functional network meeting CAO requirements elsewhere; b) letter of endorsement from ISP(s) currently operating on infrastructure built by the Applicant elsewhere; c) documentation from an operator using infrastructure built by the Applicant to host ISPs that meet CAO's service requirements. Applicants that are solely infrastructure builders or owners rather than teams will need to demonstrate that the infrastructure provided will be able to support ISPs that meet the State's service requirements.

### **3. Financial Capability**

1. Include financial statements prepared in accordance with standard accounting procedures of the organization and all principals of the company. Financial statements should include, but are not limited to:
  - i. Annual income and net worth (assets and liabilities); including a breakdown of liquid and non-liquid assets;
  - ii. Certified Financial Statements;
  - iii. Balance Sheets;
  - iv. Income Statements and three (3) years of past tax returns (corporate or personal); and

- v. Letters of intent from potential partners or sponsors if applicable; and Letters of recommendation from industry stakeholders.

**4. Approach and Scope of Services.**

1. Describe how the proposed project will facilitate open-access, including the type of open-access arrangement and length of time the Applicant will operate and maintain the infrastructure as open-access. Include any plan for free community Wi-Fi as part of this project.
2. Describe the approach to providing ongoing customer service for broadband subscribers, including the availability of support by phone, email, SMS, and/or in-person customer support. Provide the daily operating hours for each of these methods of support. Describe how customer service will function outside of regular working hours and on weekends. Describe which portions of the customer service experience, if any, are automated, and which receive a review from a human customer support representative. Identify any subcontractors that will be used to provide customer service and summarize their scopes of work.

**5. Service Quality**

1. Describe how the proposed project is aligned with each of the broadband principles below.
  - i. Describe how Applicant will ensure long-term, high-quality connectivity and support for residents, including a proposed Service-Level Agreement.
  - ii. Describe how proposed project will comply with net neutrality principles (including no blocking, no throttling, no unreasonable discrimination in the transmittal of lawful internet traffic, no paid prioritization).
  - iii. Describe how the proposed project will protect the privacy and cybersecurity of residents and other end-users.
2. Describe what services and products will be offered to end-users by Applicant, and pricing for services and products, including completing the “Service Tiers and Pricing” Application Template.
  - i. Include description of service tiers, speeds, and pricing, inclusive of all taxes and fees for project years 1-5. (Note: pricing and services from after year five to December 31, 2034, are requested as a component of Section Two applications).
    1. Indicate the price for a service tier of 100 Mbps symmetrical upload and download speed
    2. Indicate the price for a service tier of 1 Gbps symmetrical upload and download speed
    3. Indicate the price, upload speed, and download speed for a broadband (100 Mbps / 20 Mbps) product at or below \$15 per month, if such a price point is planned
  - ii. Include description, including service speeds and means of delivery, of any free service tiers or free introductory periods, if available. Specify if the option will be generally available at affordable housing Properties (without ACP utilization) or requires additional qualification.

**6. Workforce Development**

1. Describe the current employee engagement strategy as it relates to ensuring good jobs for the Applicant’s employees. Include an overview of pay and benefits, job security and working conditions, worker engagement, and organizational culture, including any reference to diversity, equity, inclusion, and access efforts. Also include the following:
  - i. Description of training, certification, and/or licensure requirements for each job title required to carry out the proposed work (including contractors and

- subcontractors) as well as internal policies and controls to ensure that staff have and maintain appropriate credentials.
- ii. Description of current or planned future efforts to support talent with wraparound services and/or stipends, including transportation benefits, childcare subsidies, or other similar measures.
2. Describe the current workforce development strategy that is sectoral-focused as it relates to recruitment, training, hiring, upskilling, and advancing talent. Include the following:
- i. Description of the current and planned future recruitment and hiring practices, especially those that maximize use of local or regional workforce, as well as project labor agreements in connection with Applicant projects.
  - ii. Description of current and planned future efforts to diversify talent pipeline from underrepresented and/or underserved individuals including any statewide, regional, or local partnerships in place to support recruitment and hiring.
  - iii. Description of any current and planned future partnerships with external partners including, but not limited to labor unions, workforce training and development organizations, State and local workforce boards, educational institutions, community-based organizations, or others.
  - iv. Discussion of job quality considerations as part of the Applicant's workforce development strategies.
  - v. Description of track record and commitment to maintaining high standards of workplace safety and training and the expected workforce safety standards for AHCP-funded projects.
  - vi. Description of any current and planned future workforce training, certification, and licensure opportunities (e.g., in-house training, safety training, industry-recognized certifications, and offering vocational training, apprenticeships, pre-apprenticeships, or other "earn and learn" opportunities).
  - vii. Description of plans for implementation of workplace safety committees authorized to raise health and safety concerns, including whether workers will be permitted to create worker-led committees that management meets with to ensure compliance.
  - viii. Documentation of communications with workers and worker representative organizations regarding labor laws, fair labor standards, the formation of worker-led health and safety committees, and workforce development (e.g., sample emails, copies of posters, worker surveys, etc.).
  - ix. Description of current and planned future practices regarding public disclosure of workforce plans and labor commitments on a website or online portal.
  - x. Description of intent to create, support, or grow existing workforce development programs that would support the recruitment, training, and hiring of diverse talent into good jobs. Include details related to this effort including who Applicant will partner with, intended talent pool for participation, wraparound services provided during training, and success metrics.
  - xi. Attach letter(s) of commitment, if available, from partner organization(s) that demonstrate(s) Applicant's current engagement, or future intent to engage, with partner(s) through advising on curriculum or program design, providing program funding, interviewing talent, hiring talent, building an apprenticeship or other program, or upskilling existing workers. This letter can be from a labor union,

workforce development organizations, state and local workforce boards, educational institutions, community-based organizations, or others relevant organizations.

3. Describe Applicant labor practices including union status of the Applicant's workforce and current or planned future practices regarding using a directly employed or subcontracted workforce.

## **7. Acknowledgement of Requirements**

1. Applicant acknowledges it will meet all Project Requirements and Applicant Requirements.
2. Applicant acknowledges it will:
  - i. Work with all appropriate agencies to obtain all required right of way approvals.
  - ii. Obtain all required permits and private easement approvals.
  - iii. Coordinate project deployment with all utilities.
  - iv. Obtain any necessary subcontractors.
  - v. Provide on-site construction inspections to ensure proper design and execution.
  - vi. Coordinate and resolve third-party or private claims.
  - vii. Repair any and all damage to private and government property.
  - viii. At all times, maintain an adequate staff of experienced and qualified employees for efficient performance.
  - ix. Annually recertify compliance of its own practices, as well as those of its contractors and subcontractors, with federal and State labor and employment laws.
  - x. At all times, furnish or perform any services in a safe, proper, and professional manner.
  - xi. Comply with all federal, state, and local laws and regulations.
3. Applicant acknowledges it must submit a performance report to the State that includes the following key performance indicators, if selected to be a Grantee:
  - i. Project milestones and percentage of project/site completion, including construction milestones, quantity of fiber deployed, problems/issues encountered, and actions taken to resolve construction issues
  - ii. Description of changes, challenges, or risks to project timeline, including environmental compliance and permitting challenges
  - iii. Detailed reporting of actual construction costs, as compared to approved construction costs
  - iv. Speed and latency test data at the address level for all locations served in the Portfolio—including maximum download speed offered, maximum download speed delivered, maximum upload speed offered, maximum upload speed delivered, and latency
  - v. Maps and associated data for all locations served, including all buildings/sites where service was installed
  - vi. Compliance with Prevailing Wage requirements, as determined during negotiations
  - vii. Implementation progress of Digital Equity, Workforce Development, and Diversity Practices plans
  - viii. Other reporting as required by grantor agencies or as mutually agreed upon by the Applicant and State
  - ix. Subscription information including the number of paying subscribers enrolled in the service, the number of low-income subscribers enrolled in ACP, and the number of subscribers enrolled in a low-cost service plan

- x. Information about customers' Internet access prior to enrolling in the service including whether or not the customer had a previous fixed Internet subscription and the speed of that previous subscription
4. Applicant acknowledges review of and compliance with addenda to this RFA.

## Section Two

Applications to **Section Two** shall include the following sections:

### **8. Experience and Relevant Qualifications.**

1. Describe the proposed staffing plan to carry out the project, including project organizational chart, number of employees, job titles, roles, responsibilities, full-time or part-time status, and subcontractors.

### **9. Approach and Scope of Services.**

1. Describe current sources of capital available to support the proposed project, including debt, equity, and first-loss capital.
1. Describe the Applicant's plan for connecting the Portfolio of Properties, including infrastructure and technology types to be used, approach to internal wiring in buildings, materials and equipment needed, and whether Applicant proposes acquisition or new construction of the necessary infrastructure. Include:
  - i. List all infrastructure to be acquired or built, including last mile fiber, conduit, pole attachments, and towers.
  - ii. Indicate whether or not the proposed infrastructure will include connection to fiber that is owned and/or operated by another entity, including that entity's name.
  - iii. Indicate whether or not the proposed approach will leverage Applicant's existing infrastructure or resources in the Portfolio.
  - iv. Describe features that will contribute to the resilience of the proposed infrastructure.
  - v. Describe the proposed average and maximum lead time to install—the time from receiving an installation request to completing installation.
  - vi. Describe the duration and frequency of housing unit access required to complete the project.
  - vii. If proposing to construct last-mile infrastructure within specified regions, provide an overview of the major activities required to implement and construct. The response should include sufficient detail to clearly demonstrate understanding of all major activities and clearances necessary.
  - viii. Describe plan to minimize environmental and aesthetic impacts.
  - ix. If Applicant is proposing an approach other than fiber wireline and in-unit wired connections, explain justification for using this alternative approach.
2. For acquisitions, describe the age and remaining useful life of infrastructure.
3. Describe the material risks associated with the proposed project and the Applicant's plans and experience in mitigating each identified risk.
4. Describe clearly identified financial assumptions and the methodology for determining cost estimates, including design, engineering, permitting, labor and material for construction, electronics, and testing. Describe efforts to keep costs reasonable and competitive. Include a separate Project Budget using the AHCP Budget Template to provide the estimated total project cost, a bill of materials for the deployment of the network, the level of AHCP funding requested, and any matching funds offered, which may include in-kind contributions, such as digital equity support or free service. Complete

- the Wireline and Wireless tabs as applicable. Applicants may add rows to the Template as needed. If a line item is not applicable, mark "N/A" in the cell.
5. Please include proposed service pricing for the time frame between year 5 and December 31, 2034. Note that the price for broadband service under this program may not rise in the first five years of the project and may not rise more than once per year between year 5 and December 31, 2034.
  6. Describe plan for community engagement and digital equity in the proposed project. Include a description for:
    - i. Community outreach and engagement plan
    - ii. Describe possible partnerships with CBOs, especially those working with affordable housing residents, tenant associations, or digital equity organizations to support adoption and use
    - iii. Attach letters of intent, if available, from CBOs, especially those working with affordable housing residents, tenant associations, or digital equity organizations to support adoption and use
    - iv. Plan for tenant association/leadership or resident engagement and role
    - v. Plan to provide devices, skills and safety trainings, or other digital inclusion supports
    - vi. Offering customer support in multiple languages
    - vii. Accessibility for people with disabilities and/or language barriers
    - viii. Describe plans to market the service to customers, plans to work with customers to enroll, and expected number of participating customers, including free or low-cost service options.

## 10. Network Design

*Note: Applicants must respond to the Network Design questions below as applicable to their proposed approach.*

### A. Wireline:

1. Describe in detail the network architecture, network elements (both active and passive) along with their specifications or manufacturer cut sheets, connectivity to the internet backbone, and the service speeds and latency that will be offered to subscribers. Explain how the network design will ensure the Applicant will serve each served location with the required throughput and deliver enough capacity. The narrative must explain the engineering decisions required to achieve service speeds and latency, such as:
  - i. Backhaul connectivity
  - ii. Head end deployment
  - iii. Core network electronics
  - iv. Fiber capacity and strand counts on each segment of the network
  - v. Maximum line speed at the premises
  - vi. Oversubscription ratio
  - vii. Split ratios
  - viii. Splice points
  - ix. Drop installation
  - x. In-unit termination specification
  - xi. CPE or router model and capabilities (including Wi-Fi interface)
2. Provide a detailed logical diagram showing major interconnection points, interfaces, and speeds on all links. This should include the transmission medium used between nodes (fiber, microwave, etc.), peering points, and internet exchange locations. The diagram

- must also provide detailed technical information such as types of equipment, technology, split ratios, and interface speeds for all segments of the network, from the internet backhaul to the customer.
3. Explain whether the network is completely fiber or if another medium, such as copper or coaxial cable, is utilized in the network. If not 100 percent fiber, describe what percentage of the network is another medium and explain what engineering decisions led to that design.
  4. Describe where fiber will be run in the public right-of-way and to customer premises, and how strands will be allocated to individual customers. If each unit will not receive a dedicated fiber handoff, describe how connectivity will be delivered to each unit from an intermediate demarcation point. For distribution within a building, provide the overall expected throughput from the network to the building. Provide the assumptions and describe the distribution network design in specified buildings. Each unit inside the building must have connectivity. Campuswide Wi-Fi solutions as a primary distribution network for building residents is not allowed.
  5. Describe the construction methodology for deploying the network. Identify the amount of aerial and underground construction and explain how you determined that percentage. Refer to the logical diagram as appropriate. Provide construction specifications, such as:
    - i. Fiber cable type (loose tube, ribbon, armored, etc.)
    - ii. Conduit type and size for each route segment
    - iii. Construction methodology for each segment of the network. Describe how underground conduit will be installed and at what depth. For aerial segments, explain how much make-ready work is expected on poles.
    - iv. Vault and handhole dimensions and material
  6. Describe if and how the proposed project includes public ownership or control, including which public entities will retain ownership or control, percentage share of public ownership, and timeline and any additional terms for public ownership or control.

#### **11. Workforce Development**

1. Describe the anticipated size of the workforce required to carry out the proposed work, including details on whether full- or part-time staff will be used, including specific planned contractors or subcontractors who will be engaged to carry out the proposed work.
2. If the Applicant's workforce (or that of its contractors or subcontractors) is not unionized, the Applicant must also provide job titles for the anticipated workforce, the entity that will employ each portion of the workforce, and a description of safety training, certification, and/or licensure requirements, including whether there is an in-house training program with established requirements tied to certifications or titles, for each job title.
3. Describe the intent to hire additional employees if the Applicant is selected to be a Grantee, including completing the "Workforce Development" Application Template. Include:
  - i. Estimates on how many and what types of jobs, and any qualifiers to what may change the estimates.
  - ii. Overview of intended pay and benefits, including overtime payment practices, and skills and certifications that may be required as part of this hiring for each class of employee. Please distinguish if there are full-time employees versus contractors.



- iii. Description of whether there are opportunities to partner with workforce training organizations to recruit for open positions.
    - iv. Describe plans to maximize use of local or regional workforce.
  4. Describe plans to fulfill the Minority and Women-owned Business Enterprises (“MWBE”) requirements (refer to Appendix A). Include MWBE utilization rates from previous projects.
  5. Describe plans to fulfill requirements to comply with federal and State labor and employment laws (refer to Appendix B). Include certifications of past compliance. New entrants without a record of labor and employment laws compliance will be permitted to mitigate this fact by providing specific, forward-looking commitments to strong labor and employment standards and protections with respect to AHCP-funded projects.

## 12. Acknowledgement of Requirements

1. Applicant acknowledges that it is not receiving funding from other federal or state sources for the same activities proposed for AHCP funding.
2. Applicant acknowledges AHCP funding cannot be used for costs incurred prior to an award of funding.
3. Applicant acknowledges it will provide additional cost estimates, if requested, for Properties in the Portfolio agreed upon with CAO, including total grant amount requested and matching funds.
4. Applicant acknowledges review of and compliance with addenda to this RFA. CAO reserves the right to amend the requirements of the Section Two application.

## Q&A Process

- Submission of questions or requests for clarifications
  - Applicants may communicate with the ConnectALL Office. All questions or requests for clarification must be in writing, sent by email to [ahcp@esd.ny.gov](mailto:ahcp@esd.ny.gov). Please include “AHCP Request for Applications” in the subject line of the email.
  - Applicants are encouraged, but not required, to submit questions by December 28, 2023, in advance of the scheduled Webinar: AHCP RFA Information Session.
- Webinar: AHCP RFA Information Session
  - The State will hold an AHCP RFA Information Session via Webinar on January 5, 2024, at 11:00am Eastern Time. Learn more and register [here](#). All parties interested in responding to this RFA are encouraged to attend. The State will answer questions and clarify the terms of the RFA. Potential Applicants are encouraged to send questions by December 28, 2023, prior to the session. The State may respond both to questions raised on the day of the session and to questions emailed prior to the session. Anything stated at this AHCP RFA Information Session is not intended to change the solicitation document. Any changes will be in writing in the form of an addendum issued by CAO.
  - Slides from the AHCP RFA Information Session will be available shortly after the event and a recording will follow at <https://broadband.ny.gov/affordable-housing-connectivity-program>.

## Deadline and Procedures for Submitting Applications

For consideration for eligibility to submit Application Section Two and an initial round of grants, applications to Section One must be received by the CAO no later than 5:00 p.m. Eastern Time on February 16, 2024. CAO will accept Section One applications to this Program on a rolling basis until funds

are expended, until CAO pauses or closes the RFA, or until January 30, 2026. Applications to Section Two may be submitted by Applicants with successful submissions to Section One as often as CAO publishes eligible Property Portfolios. Respondents are encouraged to submit applications as soon as they are able; applications will be reviewed in the order in which they are received. Applications submitted early may be advanced to detailed project scoping and deployment more quickly, depending upon prioritization. Applications must be submitted via New York State's Consolidated Funding Application (CFA) at <https://apps.cio.ny.gov/apps/cfa/>. Applications will be accepted through the CFA beginning January 2, 2024. The application package can be found at <https://broadband.ny.gov/affordable-housing-connectivity-program>.

## **Appendices**

**Appendix A: MWBE Commitment and Compliance Plan**

**Appendix B: Labor Requirements**

**Appendix C: Testing Methodology**

## Appendix A: MWBE Commitment and Compliance Plan

Pursuant to New York State Executive Law Article 15-A and Parts 140-145 of Title 5 of the New York Codes, Rules and Regulations ESD is required to promote opportunities for the maximum feasible participation of New York State-certified Minority and Women-owned Business Enterprises (“MWBEs”) and the employment of minority group members and women in the performance of ESD contracts.

### Business Participation Opportunities for MWBEs

For purposes of this solicitation, ESD hereby establishes an overall goal of 30 percent for MWBE participation, 15 percent for New York State-certified Minority-owned Business Enterprise (“MBE”) participation and 15 percent for New York State-certified Women-owned Business Enterprise (“WBE”) participation (based on the current availability of MBEs and WBEs). A contractor (“Contractor”) on any contract resulting from this procurement (“Contract”) must document its good faith efforts to provide meaningful participation by MWBEs as subcontractors and suppliers in the performance of the Contract. To that end, by submitting a response to this RFA, the respondent agrees that ESD may withhold payment pursuant to any Contract awarded as a result of this RFA pending receipt of the required MWBE documentation. The directory of MWBEs can be viewed at: <https://ny.newnycontracts.com>. For guidance on how ESD will evaluate a Contractor’s “good faith efforts,” refer to 5 NYCRR § 142.8.

The respondent understands that only sums paid to MWBEs for the performance of a commercially useful function, as that term is defined in 5 NYCRR § 140.1, may be applied towards the achievement of the applicable MWBE participation goal. [The portion of a contract with an MWBE serving as a broker that shall be deemed to represent the commercially useful function performed by the MWBE shall be 25 percent of the total value of the contract.]

In accordance with 5 NYCRR § 142.13, the respondent further acknowledges that if it is found to have willfully and intentionally failed to comply with the MWBE participation goals set forth in a Contract resulting from this RFA, such finding constitutes a breach of contract and ESD may withhold payment as liquidated damages.

Such liquidated damages shall be calculated as an amount equaling the difference between: (1) all sums identified for payment to MWBEs had the Contractor achieved the contractual MWBE goals; and (2) all sums actually paid to MWBEs for work performed or materials supplied under the Contract.

By submitting a bid or proposal, a respondent agrees to demonstrate its good faith efforts to achieve the applicable MWBE participation goals by submitting evidence thereof through the New York State Contract System (“NYSCS”), which can be viewed at <https://ny.newnycontracts.com>, provided, however, that a respondent may arrange to provide such evidence via a non-electronic method by contacting the Office of Contractor and Supplier Diversity (“OCSD”) at [OCSD@esd.ny.gov](mailto:OCSD@esd.ny.gov).

Additionally, a respondent will be required to submit the following documents and information as evidence of compliance with the foregoing:

- A. An MWBE Utilization Plan with their bid or proposal. Any modifications or changes to an accepted MWBE Utilization Plan after the Contract award and during the term of the Contract must be reported on a revised MWBE Utilization Plan and submitted to ESD for review and approval.

ESD will review the submitted MWBE Utilization Plan and advise the respondent of ESD acceptance or issue a notice of deficiency within 30 days of receipt.

- B. If a notice of deficiency is issued, the respondent will be required to respond to the notice of deficiency within seven (7) business days of receipt by submitting to OCSD at [OCSD@esd.ny.gov](mailto:OCSD@esd.ny.gov), a written remedy in response to the notice of deficiency. If the written remedy that is submitted is not timely or is found by ESD to be inadequate, ESD shall notify the respondent and direct the respondent to submit, within five (5) business days, a request for a partial or total waiver of MWBE participation goals. Failure to file the waiver form in a timely manner may be grounds for disqualification of the bid or proposal.

ESD may disqualify a respondent as being non-responsive under the following circumstances:

- a) If a respondent fails to submit an MWBE Utilization Plan;
- b) If a respondent fails to submit a written remedy to a notice of deficiency;
- c) If a respondent fails to submit a request for waiver; or
- d) If ESD determines that the respondent has failed to document good faith efforts.

The successful respondent will be required to attempt to utilize, in good faith, any MBE or WBE identified within its MWBE Utilization Plan, during the performance of the Contract. Requests for a partial or total waiver of established goal requirements made subsequent to Contract Award may be made at any time during the term of the Contract to ESD but must be made no later than prior to the submission of a request for final payment on the Contract.

The successful respondent will be required to submit a quarterly MWBE Contractor Compliance & Payment Report to ESD, by the 10<sup>th</sup> day following each end of quarter over the term of the Contract documenting the progress made toward achievement of the MWBE goals of the Contract.

## Appendix B: Labor Requirements

CAO will ensure full compliance with federal and State labor and employment laws with respect to its AHCP-funded projects.

### Federal Labor Standards

Compliance with federal fair labor practices, including federal laws for minimum safety, wage, anti-discrimination, and other workplace standards, will be a critical component of AHCP applicant evaluation and scoring.

Applicants will be required to provide:

- 1) Certification from an Officer/Director-level employee, or an equivalent, of consistent past compliance with federal labor and employment laws on broadband deployment projects in the last three years, including:
  - a) Certification that the prospective grantee, as well as its contractors and subcontractors, have not been found to have violated laws such as the Occupational Safety and Health Act, the Fair Labor Standards Act, Title VII of the Civil Rights Act of 1964, or any other applicable federal labor and employment laws for the preceding three years; or disclosure of any findings of such violations
  - b) New entrants without a record of labor and employment law compliance will be permitted to mitigate this fact by providing specific, forward-looking commitments to strong labor and employment standards and protections with respect to AHCP-funded projects
- 2) Details on how the potential grantee will ensure that its own practices, as well as those of its contractors and subcontractors, continue to remain fully compliant with federal labor and employment laws, including:
  - a) Information on applicable wage scales and wage and overtime payment practices for each class of employees expected to be involved directly in the physical construction of broadband infrastructure
  - b) Plans for implementation of workplace safety committees authorized to raise health and safety concerns, including whether workers will be permitted to create worker-led committees that management meets with to ensure compliance
  - c) Confirmation that the grantee will recertify compliance annually for the duration of AHCP implementation

### State Labor Standards

New York State has some of the highest labor standards and protections in the country. CAO's objective is to ensure that all New York workers are protected by labor standards that ensure a fair workplace with a proper wage. Compliance with State fair labor practices will be a critical component of applicant evaluation and scoring.

Applicants will be required to provide:

- 1) Certification from an Officer/Director-level employee, or an equivalent, of consistent past compliance with New York State labor and employment laws in the last three years, including relevant policies on paid sick and family leave, workplace health and safety (including the NY HERO Act and Emergency Preparedness Law<sup>5</sup>, workplace discrimination and harassment

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<sup>5</sup> "Health and Safety Precautions for Worksites." New York State Department of Labor, <https://dol.ny.gov/ny-hero-act>.

(including the New York State Human Rights Law<sup>6</sup>, wages and hours, retaliation protections, and employment of minors. Information to be submitted will include:

- a) Certification that the prospective grantee, as well as its contractors and subcontractors, have not been found to have violated New York State labor and employment laws for the preceding three years; or disclosure of any findings of such violations
  - b) New entrants without a record of labor and employment law compliance will be permitted to mitigate this fact by providing specific, forward-looking commitments to strong labor and employment standards and protections with respect to AHCP-funded projects
- 2) Details on how the potential grantee will ensure that its own practices, as well as those of its contractors and subcontractors, continue to remain fully compliant with State labor and employment laws, including:
- a) Confirmation that the grantee will recertify compliance annually for the duration of AHCP implementation
- 3) Discussion of the grantee's track record and commitment to maintaining high standards of workplace safety and training, including:
- a) Certification of compliance with relevant safety standards, including the National Electrical Safety Code
- 4) Details on the potential grantee's other labor practices, including:
- a) Confirmation that all staff employed on AHCP-funded projects will be paid prevailing wages and benefits, in accordance with the New York State Labor Law
  - b) The anticipated size of the workforce required to carry out the proposed work, including details on whether full- or part-time staff will be used
  - c) Discussion of current and planned future approach to project labor agreements

CAO will work closely with its colleagues at the New York State Department of Labor (DOL) to support grantees in navigating State requirements, and to ensure compliance. Should a grantee not abide by State labor standards and protections, CAO will consider termination of the contract, and pursue violating employers as appropriate.

### **Mandatory Grantee Commitments**

CAO will require grantees to pay prevailing wages and benefits (Pursuant to Chapter 31, Article 8, Section 224-E of New York State's Labor Law, as amended by the New York State WIRED Broadband Act (2022)). Under New York State Labor Law, contractors and subcontractors must pay the prevailing wage to all workers under a public work contract; DOL ensures compliance, except on projects led by the City of New York, for which the Office of the New York City Comptroller ensures compliance. DOL sets prevailing wage rates annually on a county-by-county basis. Applicants will be expected to provide information in the application on current and planned wages and benefits, including a certification that all staff employed on AHCP-funded projects will be paid prevailing wages and benefits.

CAO will additionally require the use of an appropriately skilled and credentialed workforce, and applicants will be required to commit to this in their applications. Applicants will be required to provide information on current and planned future practices regarding training, certification, and licensure, as well as the applicant's internal policies and controls to ensure that staff have and maintain appropriate credentials to complete the planned work.

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<sup>6</sup> "New Workplace Discrimination and Harassment Protections." New York State Division of Human Rights, <https://dhr.ny.gov/new-workplace-discrimination-and-harassment-protections>.

Applications will become binding commitments upon subgrant award, and applicants will be required to submit annual labor compliance certifications, subject to regular reviews to ensure ongoing compliance. CAO, in consultation with its DOL colleagues, will investigate failure to meet such standards, including potential end of the contract. To encourage public confidence in the program, applicants' disclosures responding to labor standards criteria will be publicly available on CAO's website.

### **Required Submissions**

CAO will include workforce development requirements in its solicitations to elevate and expand the creation of an equitable workforce as a critical component of meeting the goals of New York State. The aim of CAO's solicitations will be to ensure that a grantee's current and proposed practices align with New York State's goals of creating high-quality, safe jobs and ensuring in-depth workforce development programs in partnership with unions, other workforce training providers, and community-based organizations.

Applicants will be required to share a workforce development plan demonstrating their commitment to recruit, hire, train, and retain a diverse and skilled workforce into good jobs, particularly local workers and/or workers from historically underrepresented communities. CAO's solicitations will include information on existing New York State programs available to support employers with costs of training, wraparound services, and recruitment, including ESD's Pay for Performance Grant Program<sup>7</sup>.

Applicants will be required to provide the following information:

- 1) A plan to ensure that the project workforce will be appropriately skilled and credentialed, including:
  - a) Discussion of current and planned future practices regarding training, certification, and licensure
  - b) Internal policies and controls to ensure that staff have and maintain appropriate credentials to complete the planned work
- 2) Details on the potential grantee's labor practices, including:
  - a) Discussion of current and planned future practices regarding using a directly employed or subcontracted workforce
  - b) Details on current and planned future practices regarding subcontracting, and details on any specific planned contractors or subcontractors who the grantee would engage to carry out proposed AHCP work
- 3) If the grantee's workforce (or that of its contractors or subcontractors) is not unionized, the grantee must also provide:
  - a) Job titles and size of the workforce required to carry out the proposed work and the entity that will employ each portion of the workforce
  - b) For each job title, a description of safety training, certification, and/or licensure requirements, including whether there is an in-house training program with established requirements tied to certifications or titles; and information on the professional certifications and/or in-house training in place
- 4) Details on the applicant's workforce development practices, including:

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<sup>7</sup> "Pay for Performance Grant Program: Operating Grants," supra.



- a) Discussion of current and planned future partnerships including, but not limited to: labor unions, workforce training and development organizations, State and local workforce boards, educational institutions, community-based organizations, or others
- b) Details on current and planned future recruitment and hiring practices, especially those that maximize use of local or regional workforce
- c) Description of current and planned future efforts to diversity talent pipelines from underrepresented and/or underserved communities, including any statewide, regional, or local partnerships in place to support recruitment and hiring
- d) Discussion of job quality considerations as part of the applicant's workforce development strategies
- e) Description of employee engagement efforts, including any reference to diversity, equity, inclusion, and access efforts and organizational culture
- f) Documentation of communications with workers and worker representative organizations regarding labor laws, fair labor standards, the formation of worker-led health and safety committees, and workforce development (e.g., sample emails, copies of posters, worker surveys, etc.)
- g) Description of current and planned future workforce training (e.g., in-house training, vocational training, apprenticeships, pre-apprenticeships, or other "earn and learn" opportunities)
- h) Details on current or future planned efforts to support talent with wraparound services and/or stipends including transportation benefits, childcare subsidies, or other similar measures
- i) Current and planned future practices regarding public disclosure of workforce plans and labor commitments on a website or online portal
- j) Letter(s) of commitment, if available, from partner organization(s) that demonstrate(s) applicant's current engagement, or future intent to engage, with partner(s) on workforce development (e.g., through advising on curriculum or program design, providing program funding, interviewing talent, hiring talent, building an apprenticeship or other program, or upskilling existing workers). Letters can be from labor unions, workforce development organizations, State and local workforce boards, educational institutions, community-based organizations, or other relevant organizations

Workforce development plans and partnerships will be a factor in the evaluation of applicants and grantees will be held accountable to the high standards articulated in their proposals.

## Appendix C: Testing Methodology

CAO may update, revise, or expand this testing framework as appropriate for any proposed technology or network architecture.

### 1. Reporting Dashboard

Grantees must provide a dashboard or portal relaying live and historical information on the performance and status of the Service. This tool must provide CAO with the ability to view monthly performance information, such as network uptime, history of network outages and resolutions, and network subscriber increases and decreases for targeted demographics.

This monitoring system must be capable of providing the following level of detail specified below in Table 3. Testing methodology must follow industry standards at minimum.

Table 3. Network and CPE Monthly Reporting Requirements

Reporting Requirement
Average uptime (including maximum downtime)
Average latency (including minimum and maximum)
Average service speeds (including minimum and maximum)
Number of unique active connections in the network
Number of new connections that have joined the network since the last report
The number of households that have left the network since the last report
The net growth in subscribers since the last report
Average time to connect new subscriber (from sign-up to completion of CPE installation)

This dashboard shall also provide staff with the ability to monitor near-real-time performance information with a latency low enough to identify any network malfunctions. This monitoring system must be capable of providing the following level of detail for the network components specified in Table 4.

Table 4. Network and CPE Near-Real-Time Reporting Requirements

<b>Component</b>	<b>Reporting Requirement</b>
Base Station (wireless)	Live aggregate capacity in use Historical aggregate capacity for any given point in time Carrier aggregation status Operational status
Core Network	Live aggregate capacity Historical aggregate capacity for any given point in time Operational status Spectrum Access System (SAS) grant notifications (wireless)
Customer Premises Equipment	Operational status Bandwidth consumption Date of last connection to the network User identifiers

## 2. Wireline Throughput Testing

All testing shall either be performed at the user premise or, if Wi-Fi is utilized at the end-user premise, then the testing shall occur via Wi-Fi and not at the connection before the Wi-Fi router. All testing should match testing requirements as laid out by FCC performance measures testing standards for broadband grant programs.<sup>8</sup> Speed testing methodology, latency testing methodology, testing locations, and response reporting should be consistent with requirements for federal grant programs, including the requirements listed in Table 5.

Table 5. FCC Performance Testing Requirements

<b>Process Detail</b>	FCC
<b>Testing topics</b>	Download, Upload, Latency
<b>Download and upload speeds tested</b>	Up to 1 Gbps / 500 Mbps
<b>Latency tested</b>	Less than or greater than 100 milliseconds
<b>Number of locations tested</b>	The lesser of 50 locations or 10 percent of total subscribers; minimum 5 locations, selected by CAO.

<sup>8</sup> Refer to: <https://www.usac.org/high-cost/annual-requirements/performance-measures-testing/>

<b>Testing period</b>	6 p.m. and 12 a.m. local time
<b>Testing frequency</b>	Each hour for six hours, for one week
<b>Required results</b>	At least 80% of all of the speed test results must be at a minimum of 80% of the subscription connection speeds for uplink and downlink; 95 percent of latency measurements must be at or below 100 milliseconds round-trip time
<b>Reporting</b>	Uses the FCC’s <a href="#">Speed Data Upload Template</a> and <a href="#">Latency Reporting Template</a>
<b>Testing Methods</b>	Range of methods listed, including Consumer Premises Equipment (CPE)
<b>Testing Paths</b>	Through any FCC-designated Internet Exchange Points (IXP)

### 3. Multipoint Wireless Throughput Testing

This requirement applies to wide area multipoint architectures using any spectrum band from 600 MHz up to mm Wave technologies. This requirement does not apply to wired networks that use Wi-Fi to distribute connectivity inside the building.

#### 3.1 Location testing

A UDP throughput test should be performed at 6 locations per sector resembling the actual deployment scenario envisioned by the respondent. These locations need to be close (expected high signal strength), medium (expected good signal strength), and far (expected marginal signal strength). This includes actual CPE equipment mounted at the intended heights. If the proposed deployment scenario is indoor, the base station power needs to be temporarily attenuated by a minimum of 15 dB to account for building losses so the test can be performed outdoors. The UDP traffic should be set to generate 100 Mbps downstream and 100 Mbps upstream. The sector base station radio should have the “dummy load” feature enabled and set to 100%. This will replicate the interference seen from the other sectors of the site. Statistics such as RSRP, RSRQ, throughput, RSSI, and any CQI information or equivalent should be recorded. The test user equipment (CPE) should be the same residential unit used in the full-scale deployment plan. Following this methodology will show the area where a user can meet the minimum 100 Mbps downstream and 100 Mbps upstream end-user criteria, taking into account interference from the adjacent sectors. This test will set an upper bound of end-user performance. During this testing, several ping tests should also be performed, and latency recorded. The UDP traffic generator can be used for the destination pings.

#### 3.2 Stress Testing

The respondent shall also perform a stress test on each sector once construction is complete. This is referred to as a “pizza pie” test. The pizza pie test will simulate network performance when many users are attached to the network at the same time. The concept behind this test, which is standard in the

wireless industry, is that placing the test locations in a narrow strip within a single sector will simulate a larger number of connected users and identify limits in network performance. Thus, this test will help simulate what the performance would be in a loaded environment.

The test requires the UDP traffic generator and six individuals at test locations with separate CPEs. Two CPEs should be placed in the good signal area (RSRP > -90 dBm), two CPEs in the average area (RSRP of -110 to -90 dBm), and two CPEs in the poor signal area (RSRP < -110 dBm), all lined up along a narrow wedge area from the antenna. Non 3GPP technologies should follow this qualitative signal indicator (good, average, poor) for their corresponding signal strengths. The user devices should be placed well within the main beam of the antenna ( $\pm 15$  degrees of the pointing azimuth of the antenna) to ensure that the CPEs will not hand over to the adjacent sector. All of the six CPEs must be served by the same sector radio (eNodeB). Each CPE should be set to receive/generate UDP traffic at speeds based upon the end-user throughput criteria of 100 Mbps downstream and 100 Mbps upstream. The speed criteria should be adjusted to account for any oversubscription assumptions. Tests should also be performed at 1 kbps downstream and 1 kbps upstream to simulate the "off state".

The test cases are outlined below. The CPEs shall be all operational at a single window of time. RSRP, RSRQ, throughput, RSSI, and any CQI information (for non 3GPP technologies use the corresponding metrics) should be recorded for each test scenario. The sites other two sectors/cells should have a dummy load set to 100%. The test UE should be the residential unit used in the full-scale deployment plan. The results should be evaluated and compared to the design.

The test scenarios should be as follows in Table 6:

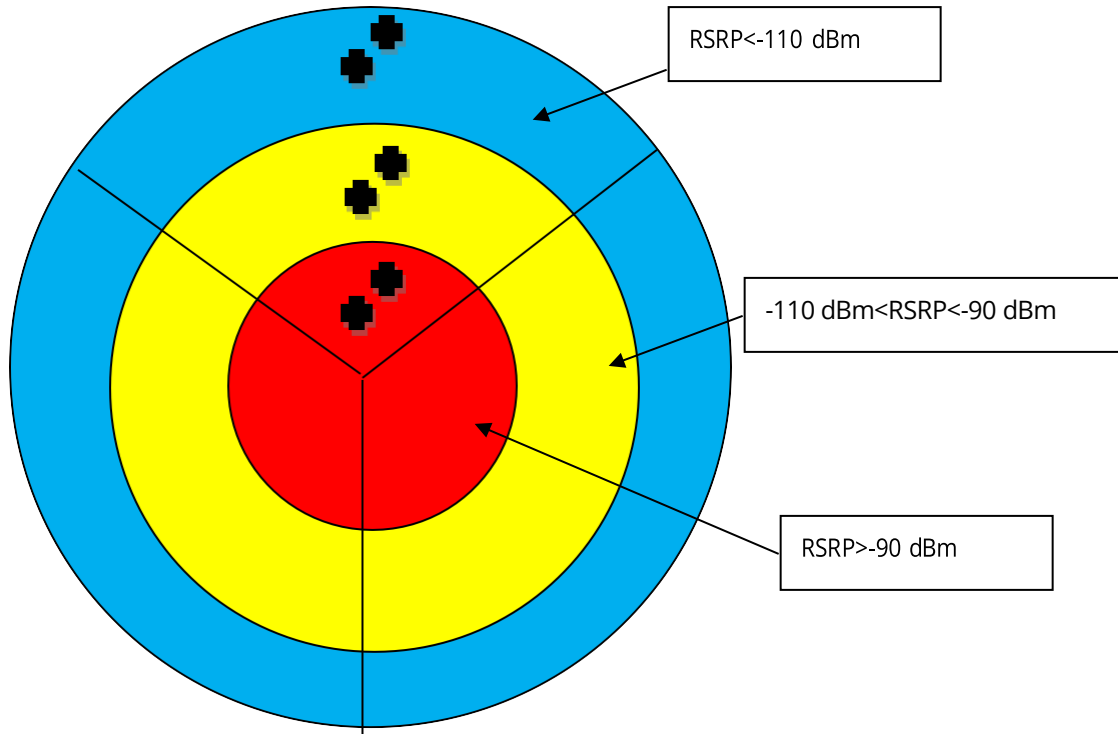
Table 6. Test Cases for Sector Throughput Testing

Test Case	CPEs with RSRP>-90 dBm	CPEs with RSRP between -110 and -90 dBm	CPEs with RSRP<-110 dBm
1	A	A	A
2	B	A	A
3	B	B	A
4	B	A	B
5	A	A	B
6	A	B	B
7	A	A	B

Test Scenarios

Test Scenario A: 100 Mbps downstream and 100 Mbps second upstream (scaled to oversubscription assumptions)

Test Scenario B: 1 kbps downstream and 1 kbps upstream (to ensure CPE is RRC\_CONNECTED and not RRC\_IDLE).



Test CPE alignment

Depending upon the eNodeB scheduling algorithm the test may have some varying results. It is expected that the CPEs in areas above -110 dBm RSRP can be supported simultaneously. At this moment, it is uncertain how the eNodeB will schedule resources to the CPEs in areas below -110 dBm RSRP. This test will assess the sector capacity and under loaded conditions.

The data collected from this test will be useful in projecting the number of users supported when distributed throughout varying radio conditions. Also, the test can be used to set expectations of end-user performance and throughput in a loaded network for differing radio conditions. This test can be viewed as determining a lower bound of performance of the network. The combination of the previous drive test and the "Pizza Pie" test can be used to set an upper and lower bound of network performance in varying RF conditions.

## Document Change Log

Version	Date Published	Summary of Changes
1.0	December 6, 2023	Initial publication
1.1	December 21, 2023	<ul style="list-style-type: none"> <li>Updated document header and footer</li> <li>Application Content and Scope of Services outline revised as follows:                             <ul style="list-style-type: none"> <li>Descriptions of services and products offered are now requested in Application Section One and not in Application Section Two under the category "Service Quality and Price"</li> <li>Descriptions of plans to market services and anticipated volume of enrollment are now requested in Application Section Two under the category "Approach and Scope of Services" and not under the category "Service Quality and Price"</li> <li>In both Sections One and Two, under "Acknowledgement of Requirements," item 4 has been revised so applicants will acknowledge "review" of addenda to this RFA instead of acknowledging "receipt" of addenda.</li> </ul> </li> </ul>
1.2	February 12, 2024	<ul style="list-style-type: none"> <li>Project requirements updated as follows:                             <ul style="list-style-type: none"> <li>Addition of "affordable" to reflect that project funding may only be used for direct connections in every affordable unit in designated affordable housing Properties</li> <li>Service commitment increased from 5-years to the end of 2034 to reflect that CPF funding requires projects to be operated and maintained until December 31, 2034. Footnote to SLFRF and CPF Supplementary Broadband Guidance (May 17, 2023) added.</li> </ul> </li> <li>Application Review section updated with certain evaluation criteria relocated under different categories as follows:                             <ul style="list-style-type: none"> <li>Deployment speed as demonstrated by past projects relocated from Network Quality to Respondent Experience and Readiness</li> <li>Service Level Agreement, Net Neutrality, Privacy, Security, and Customer Support relocated from Broadband Service Quality and Price to Network Quality</li> <li>Ownership of Infrastructure relocated from Network Quality to Technical Proposal</li> <li>Pricing for services in project years 6-10 added to Cost Reasonableness and Business Plan</li> <li>Accessibility for people with disabilities updated to add "and/or language barriers" and remove an erroneous unrelated clause and relocated to Section Two</li> </ul> </li> <li>Application Content and Scope of Service outline revised as follows:                             <ul style="list-style-type: none"> <li>In Section One, under Service Quality, items 5.2.i., request for service tiers and pricing updated to reflect that pricing proposals should be for project years 1-5</li> <li>In Section Two, under Approach and Scope of Services, item 9.6 added to request proposed service pricing for project years 6-10 if different from pricing proposed for project years 1-5</li> </ul> </li> </ul>

2	May 13, 2024	<ul style="list-style-type: none"><li>• All relevant sections updated to reflect additional consideration for broadband service at or below \$15 per month.</li><li>• Updates to account for the pending expiration of the Affordable Connectivity Program.</li><li>• Revised dates for opening of Section Two Application.</li></ul>
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