

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

**Communications Division
Broadband, Video and Market Branch**

**RESOLUTION T-17862
December 19, 2024**

R E S O L U T I O N

RESOLUTION T-17862: Approval of four (4) public housing infrastructure projects for grant funding from the California Advanced Services Fund’s Broadband Public Housing Account totaling up to \$965,828.

I. SUMMARY

This Resolution approves in the amount of up to \$965,828 from the California Advanced Services Fund (CASF) Broadband Public Housing Account (BPHA) for four projects from the Housing Authority of the City of Fresno (Fresno) (1 project), Self-Help Enterprises (SHE) (2 projects), and Affordable Housing CDC, INC (AHCDC) (1 project) These four projects will deploy both fiber-connected wireless and wireless broadband infrastructure utilizing Wi-Fi and CAT6¹ inside-wiring capable of 100 Megabits per second (Mbps) download and 20 Mbps upload² for 493 living units in these publicly supported housing developments. The deployment of broadband service in public housing will bring free broadband service to those that lack such service. Access to broadband service will improve public safety and enable access to government, e-health, and online education opportunities.

¹ A twisted pair copper cable for ethernet and other networking physical layer under the standard TIA/EIA-568-B.2-1, which was ratified by the TIA/EIA in June 2002. CAT6 provides higher performance than CAT5e and features more stringent specifications for crosstalk and system noise.

² The applications were submitted on July 1, 2024, three months after the Federal Communications Commission’s adoption of increased broadband speed benchmark of 100 megabits per second download speeds and 20 megabits per second upload speeds on March 14, 2024. These applications are subject to the 100 Mbps and 20 Mbps upload speeds in Decision (D.) 24-03-041.

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Table 1, below, lists four recommended public housing infrastructure projects. Maps associated with each project are found in Appendix A.

Table 1 – Public Housing Infrastructure Projects						
Applicant	Project Name	Address	City	Zip	Grant	Units
Housing Authority of the City of Fresno	Sequoia Courts Broadband Project	515 S Modoc Street	Fresno	93706	\$471,333.00	138
Self-Help Enterprises	Cherry Crossing	1620 J St.	Sanger	93657	\$126,720.00	72
Self-Help Enterprises	Rancho Colegio	3520 N. Court Street	Visalia	93291	\$145,700.00	94
Affordable Housing CDC, INC	Village East Apartments	337 S Burkett Ave	Stockton	95205	\$222,075.00	189
				TOTAL	\$965,828.00	493

II. BACKGROUND

On March 7, 2024, the Commission approved D.24-03-041, Decision Adopting Modifications to Broadband Public Housing Account and Tribal Technical Assistance Program Rules and Guidelines. The rules and guidelines adopted in that decision implemented changes to the BPHA enacted by Senate Bill 156 and adopted programmatic changes for publicly supported housing developments, farmworker housing, other housing developments, mobile home parks, and low-income designated census block groups. In Resolution T-17825, the Commission also allocated \$30.1 million funding for Fiscal Year 2024-2025.

Key provisions of the Decision relevant to this Resolution include:

- Eligible applicants may submit applications for BPHA Infrastructure and BPHA Internet Extension projects.
- The Commission authorized CD staff (Staff) to review and approve infrastructure and internet extension applications through ministerial review that meet all of the

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ministerial review criteria.³ Applications not meeting the ministerial review criteria may only be approved by the Commission via Resolution.

- Grants can be awarded to finance up to 100 percent of the installation costs to install last mile infrastructure, inside wiring and broadband network equipment, but not maintenance or operation costs.
- Projects must be CEQA exempt to be eligible for BPHA funding.
- Grantees must maintain and operate the network for five years after project completion.
- The proposed network is capable of offering residents Internet service speeds of at least 100 Mbps download and 20 Mbps upload service for an average user during peak and off-peak hours or current state standard, whichever is higher.⁴
- Applicant attests that no broadband service provider offers free service that meets state standards, as defined in Section VII of the BPHA Guidelines, to the subject low-income community.
- Applicant attests that it will not charge residents for broadband internet services.
- Applicant agrees to complete the project within 12 months from the date of Commission approval.
- Applicant has an identified internet service provider with the required internet bandwidth capacity at the Minimum Point of Entry (MPOE).
- Applicant attests that the property will be in residential use as low-income community for at least 10 years and subject to tenant protection requirements.⁵

III. APPLICANTS' REQUEST

On July 1, 2024, the Housing Authority of the City of Fresno (Fresno) (1 project), Self-Help Enterprises (SHE) (2 projects), and Affordable Housing CDC, INC (AHCDC) (1 project) submitted applications for CASF BPHA funding. All four projects exceed the cost per unit benchmark, or the cost per project in the ministerial review criteria established in D.24-03-041 and therefore are ineligible for ministerial review. Applications not meeting the ministerial review criteria may only be approved by the Commission via Resolution.⁶ Table 2, below, lists the per unit cost established in D.24-03-041 and the per unit cost per proposed project.

³ D.24-03-041, Appendix A, p. 27

⁴ Peak hours mean 7 p.m. to 11 p.m. local time.; <https://www.fcc.gov/reports-research/reports/measuring-broadband-america/measuring-fixed-broadband-thirteenth-report>

⁵ D.24-03-041, BPHA Guidelines, p. 19 tenant protections apply to applicants other than publicly supported and tribal housing and farmworker housing.

⁶ D.24-03-041, Appendix 1, p. 13.

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Applicant	Project Name	Grant	Units	Per Unit Cost per D.24-03-041	Per Unit Cost
Housing Authority of the City of Fresno	Sequoia Courts Broadband Project	\$471,333.00	138	\$1,000 or less	\$3,415.45
Self-Help Enterprises	Cherry Crossing	\$126,720.00	72	\$1,500 or less	\$1,760
Self-Help Enterprises	Rancho Colegio	\$145,700.00	94	\$1,500 or less	\$1,550
Affordable Housing CDC, INC	Village East Apartments	\$222,075.00	189	\$1,000 or less	\$1,175

Applicants: All three applicants are eligible applicants as defined in D.24-03-041.⁷

The Housing Authority of the City of Fresno (Fresno) began operating as a public housing authority in 2010 and has renovated 640 units, constructed 2,100 new multi-family units, and has provided affordable housing to over 35,000 people.

Self-Help Enterprises (SHE) is an approved the Internal Revenue Service (IRS) 501(c)(3) nonprofit organization providing affordable housing since 1965 in 9 counties in California. SHE is a nationally recognized community development organization whose mission is to work together with low-income families to build and sustain healthy homes and communities. Since 1965, SHE's efforts have affected over 55,000 families in California.

Affordable Housing CDC Inc, (AHCDC) is an approved IRS 501(c)(3) nonprofit organization providing affordable housing since 1997 throughout California. AHCDC was established to provide low and moderate-income families and senior citizens with decent, affordable housing. Currently AHCDC owns and operates more than 4,300 units in over 25 affordable housing communities throughout California and Washington.

Projects: All four projects are eligible projects as defined in D.24-03-041.

Fresno, SHE, and AHCDC request funding for the installation of a wireless 2.4GHz and 5GHz Wi-Fi 802.11AX network architecture utilizing Cisco, Ruckus, and Ubiquiti access points and switches to provide wireless broadband coverage to each residential unit.

⁷ D.24-03-041, Appendix A, p. 14.

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According to SHE, and AHCDC, these installations will be able to provide a minimum download speed of 100 Mbps and minimum upload speed of 20 Mbps during peak use hours.

Fresno requests funding for the installation of a fiber-connected wired and wireless 2.4GHz and 5GHz Wi-Fi 802.11AX network architecture utilizing Ruckus access points and FS copper and fiber switches connected to a Fresno provided Fiber to the Home (FTTH) fiber backhaul. Fresno will provide wireless broadband coverage to each residential unit.

According to Fresno, these installations will be able to provide a minimum download speed of 100 Mbps and minimum upload speed of 20 Mbps during peak use hours.

All projects include equipment for broadband traffic management, deployment, security, monitoring and reporting, consisting of layer 2 or layer 3 switches and a firewall that interfaces to the Wide Area Network Internet Service Provider (ISP) equipment providing the broadband service.

III. NOTICES

On July 12, 2024, Staff posted the proposed project descriptions for each application submitted in the July 2024 round on the Commission's BPHA webpage.⁸

IV. PROJECT REVIEW

The wireless installations for SHE, and AHCDC use the latest Wi-Fi standards, which require more expertise to properly design, configure, and deploy the wireless equipment to meet the coverage needs of multiple housing facilities and to properly interface together as a local area network to connect to the ISP. In addition, the wireless mesh⁹ equipment utilized in wireless installations for the SHE and AHCDC projects is more resilient, as it can be self-adapting to changes in wireless conditions. The use of the latest Wi-Fi standard¹⁰ in all these projects offers greater throughput and wireless link management capability and can carry more traffic.

⁸ <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/documents/casf-adoption-and-access/bpha/july-2024-broadband-public-housing-account-grant-request.pdf>

⁹ A mesh network is a network composed of multiple nodes that work together as one large system.

¹⁰ 802.11AC Wave2 (WiFi-5 wave2) or 802.11ax Wi-Fi standard per BPHA guidelines, p.2.

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The projects propose multiple Intermediate Distribution Frame (IDF)¹¹ that connect to Main Distribution Frame (MDF)¹² in a star network topology.¹³ Each IDF will serve as the local collection point for the mesh-capable wireless routers that are directly wired to the residential units, providing wireless coverage to the residential units in each housing facility. The projects utilize wired connections to bring IDFs back to the MDF, to connect to the IDFs that serve each building.

IDFs distribute Wi-Fi access equipment to serve the buildings, and the Ruckus and Ubiquiti wireless equipment being proposed, use 802.11AX standard. The proposed wireless access points include the latest technology advancements that greatly improve capacity and performance by enabling more simultaneous connections and a more thorough use of spectrum¹⁴, while maintaining backwards compatibility to older Wi-Fi standards.

The wireless mesh equipment utilized in the SHE and AHCDC projects is more costly but provides flexibility and scalability for future expansion. All proposed wireless projects will meet and are capable of exceeding 100 Mbps download/20 Mbps upload speed¹⁵, with better speeds for the wireless projects using the 802.11AX Wi-Fi standard.¹⁶

The deployment of wireless bridge to connect system IDFs addresses access limitations within the property and is often the primary reason for choosing wireless deployment. The complexity, labor, and material cost¹⁷ of wireless deployment has been rising thus increasing the project costs but remains a viable and less costly engineering option of

¹¹ IDF is a localized hub and a cable distribution point, typically a rack or a cabinet, which brings internal lines to all locally distributed computing devices to the Main Distribution Frame.

¹² The MDF is the centralized distribution point for all IDFs and is the terminating point for all the computing devices within the local network. The MDF connects and manages telecommunications between the local facility and the outside world.

¹³ A star network is a network topology in which all nodes of computing devices are directly connected to a common central location. A star network is often referred to as a hub-and-spoke.

https://en.wikipedia.org/wiki/Star_network#/media/File:Star_Topology.png

¹⁴ <https://www.wi-fi.org/discover-wi-fi/wi-fi-certified-6>

¹⁵ Based on the proposed engineering designs submitted, for the wired projects using switched ethernet technology and wireless projects using 802.11ax Wi-Fi technology, upgrading the layer 2/layer 3 switching equipment and the firewall equipment would enable speeds greater than 100 Mbps download/20 Mbps upload toward gigabit capability.

¹⁶ All Wi-Fi access point hardware proposed are 802.11ax (WiFi-6) based.

¹⁷ Applicants in Table 1 have indicated that projects are experiencing high material costs and supply chain delays.

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system deployment compared to a direct connection. A direct connection may require heavy construction involving structural modification, trenching, laying conduits, feedthrough¹⁸ and backfill.¹⁹ Wireless bridge connections, when utilized, can also be engineered and deployed relatively quickly, as compared to heavy construction, which can require review and approval and lengthy project planning.

The Fresno project will be deploying fiber connected Wi-Fi build-outs to several public housing duplexes using single-mode fiber interconnections to each residential unit. The residential duplexes, spanning over 17 acres, will be connected to Fresno's fiber backhaul network via matching funds. The project will meet and is capable of exceeding 100 Mbps download/20 Mbps upload speed.

Based on the above, Staff determined that the extra cost per unit is reasonable and recommends approval.

V. COMPLIANCE REQUIREMENTS

Fresno, SHE, and AHCDC are required to comply with all the guidelines, requirements, and conditions associated with the grant of CASF funds as specified in D.24-03-041. Compliance includes, but is not limited to the following:

A. California Environmental Quality Act (CEQA)

All CASF grants are subject to CEQA requirements unless the projects are statutorily or categorically exempt pursuant to the CEQA Guidelines.

Both projects require limited modifications of existing structures.

The projects use wireless network architecture that consist of ISP connection, networking switching equipment and wireless routers. This requires installation/mounting of equipment in existing structures, such as ceilings or rooftops and installation of CAT6 inside-wiring and conduits on existing structures such as walls, hallways, or in the roof.

¹⁸ A construction to a telecommunications space that allows a "feed" or a distribution of power and/or communications connections. A feedthrough often consists of conduit paths from outside premise to housing or panels inside buildings.

¹⁹ The process of filling in the excavated area that serves the telecommunications infrastructure. The backfill is usually compacted to provide support and stability. The backfill material must be compacted correctly to provide a stable foundation.

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Based on the above information, these projects meet the criteria of the CEQA categorical exemption for existing facilities (CEQA Guidelines § 15301) and CEQA Guidelines Section 15303 – New Construction or Conversion of Small Structures, involving construction, installation, and/or conversion of limited numbers of new and/or existing facilities/structures.

B. Execution and Performance

Fresno, SHE, and AHCDC must start the projects within 30 days from the date this Resolution is approved and complete the projects within a 12-month timeframe. Should the grantee or Contractor fail to begin work within 30 days of grant approval, the Commission or Director of Communications Division, upon 5 days written notice to the grantee, reserves the right to terminate the award. If the grantee is unable to complete the proposed project within the required 12-month timeframe, it must notify the Commission as soon as it becomes aware of this prospect. If such notice is not provided, the Commission reserves the right to reduce or withhold payment for failure to satisfy this requirement.

Grantees must operate and maintain the network for a minimum of five years after it has been installed. The grantee must complete all the performance on the project before the termination date in accordance with the terms of approval granted by the Commission. In the event that Fresno, SHE, and AHCDC fail to complete the projects or subsequently operate and maintain the network service in accordance with the terms of approval granted by the Commission and compliance with the CASF program guidelines, Fresno, SHE, and AHCDC must reimburse some or all of the CASF BPHA funds that it has received.

Fresno, SHE, and AHCDC must sign a consent form within 30 days from the date of the award agreeing to the terms stated in the Resolution authorizing the CASF award. Should Fresno, SHE, and AHCDC not accept the award through failure to submit the consent form within 30 calendar days from the date of the award, the Commission may deem the grant null and void.

Material changes in the entries for this application, such as discontinuing operation or bankruptcy, or change of name (DBA), change of address, telephone, fax number or e-mail address must be reported immediately by a letter to the CPUC, Director of the Communications Division, 505 Van Ness Avenue, San Francisco, CA 94102.

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C. Project Audit

The Commission has the right to conduct any necessary audit, quality check, verification, and discovery during project implementation and post-project completion to ensure that CASF funds are spent in accordance with the terms of approval granted by the Commission. Invoices submitted will be subject to a financial audit by the Commission at any time within 3 years of the release of the final payment.²⁰

D. Reporting

Fresno, SHE, and AHCDC are required to submit a project status report within six months of the project award date if the project has not been completed, irrespective of whether the grantee requests reimbursement or payment. Project status reporting requirements can be found at the Commission's website.²¹ Fresno, SHE, and AHCDC must identify foreseeable risks that might prevent it from meeting future milestones. Before full payment of the project Fresno, SHE, and AHCDC must submit a project completion report with all required supporting documentation in order to receive payment. Fresno, SHE, and AHCDC shall also include speed test results in its completion report. Fresno, SHE, and AHCDC must certify that each progress and completion report is true and correct under penalty of perjury.

Fresno, SHE, and AHCDC are required to maintain the broadband network for five years after it has been installed. After installation, for a five-year period, they must also submit quarterly reports showing the percentage of up time, the number of unique log-ons (either by individuals or by units) and the amount of data used.²²

E. Payments

Fresno, SHE, and AHCDC shall submit invoices and payments requests at completion intervals in accordance with D.24-03-041, Section X, Appendix A and the BPHA Guidelines and supporting documentation required in D.24-03-041. Project status and completion reports must be submitted with all required supporting documentation in order to receive payment. Payments are based on submitted receipts, invoices and other supporting documentation showing expenditures incurred and work done on the project in accordance with the approved CASF funding budget included in the application.

²⁰ D.24-03-041, Appendix A, p. 35.

²¹ <https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/california-advanced-services-fund/casf-public-housing-account>

²² D.24-03-041 Appendix A, p. 31.

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Fresno, SHE, and AHCDC must submit a project completion report before full payment. Final requests for payment must be submitted no later than 90 days after project completion.

Payment to Fresno, SHE, and AHCDC will be made in accordance with, and within the time specified in California Government Code § 927 *et seq.*

If any portion of reimbursement is found to be out of compliance, Fresno, SHE, and AHCDC will be responsible for refunding any disallowed amount along with appropriate interest rates determined in accordance with applicable Commission decisions.

VI. SAFETY CONSIDERATIONS

The deployment of affordable broadband service in public housing will improve access to government and e-health services, which improves safety.

VII. COMMENTS

In compliance with Public Utilities Code, § 311(g)(1), a Notice of Availability was e-mailed on November 15, 2024, informing all parties on the CASF Distribution List of the availability of the draft of this Resolution for public comments at the Commission's website at <http://www.cpuc.ca.gov/>. This letter also serves to inform parties that the final conformed Resolution the Commission adopts will be posted and available on this same website. The Commission received no public comments.

VIII. FINDINGS

1. On July 1, 2024, Fresno, SHE, and AHCDC submitted applications for CASF funding for four projects totaling \$965,828.
2. All projects exceed the cost per unit benchmark, or cost per project established in the ministerial review criteria and are therefore ineligible for ministerial review.
3. Based on its review, Staff determined that all four projects meet BPHA eligibility requirements. Staff further determined that all four projects qualify for funding under BPHA guidelines per D.24-03-041 and recommends approval of all four projects.

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4. The Commission has determined that these projects are categorically exempt from CEQA review, under section 15301 regarding exemption for existing facilities and section 15303 regarding minor modifications to existing structures.
5. A notice letter was e-mailed on November 15, 2024, informing all applicants filing for CASF funding and parties on the CASF distribution list, of the availability of the draft of this Resolution for public comments at the Commissions website found here <http://www.cpuc.ca.gov/>. The Commission received no public comments.

THEREFORE, IT IS ORDERED that:

1. The Commission shall award the following grant amounts for the projects listed in Table 1:
 - \$471,333.00 to Fresno for its Sequoia Courts Broadband Project;
 - \$272,420.00 to SHE for its Cherry Crossing and Rancho Colegio projects;
 - \$222,075.00 to AHCDC for its Village East Apartments project;

The total grant funding awarded for these projects is up to \$965,828. All awards are based on the descriptions of the projects as described in the applications and herein and are predicated on commitments to install and operate broadband infrastructure as expressed in its application and compliance with the requirements in as specified in D.24-03-041 and this Resolution.

2. Grant payments of up to a total of \$965,828 for these public housing projects shall be paid out of the CASF Public Housing Account in accordance with the guidelines adopted in D.24-03-041, including compliance with CEQA.
3. Fresno, SHE, and AHCDC must complete and execute the consent form agreeing to the conditions set forth in this Resolution within 30 calendar days from the date of the award. Failure to submit the consent form within 30 calendar days from the date of the adoption of this Resolution may result in the grant being deemed null and void.
4. Fresno, SHE, and AHCDC must submit quarterly progress reports on the status of the project irrespective of whether reimbursement or payment is requested.

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5. Fresno, SHE, and AHCDC are required to maintain the broadband network for five years after it has been installed.
6. Payments to Fresno, SHE, and AHCDC shall be in accordance with D.24-03-041, Section X, Appendix A and in accordance with the process defined in the "Payments" section of this Resolution.
7. Fresno, SHE, and AHCDC must complete all performance under the award on or before 12 months from the date this Resolution is approved.
8. By receiving a CASF grant, Fresno, SHE, and AHCDC agree to comply with the terms, conditions and requirements of the grant and thus submits to the jurisdiction of the Commission regarding disbursement and administration of the grant.
9. Fresno, SHE, and AHCDC are required to comply with all guidelines, requirements and conditions associated with the CASF funds award as specified in D.24-03-041, and in accordance with the terms of the Commission's approval as set forth in this Resolution and be subject to Public Utilities Code sections 2108 and 2111.
10. If Fresno, SHE, and AHCDC fail to complete the projects in accordance with the terms outlined in D.24-03-041 and this Resolution, Fresno, SHE, and AHCDC must reimburse some or all CASF funds it has received.

This resolution is effective today.

I certify that the foregoing resolution was duly introduced, passed, and adopted at a meeting of the Public Utilities Commission of the State of California held on December 19, 2024, the following Commissioners voting favorable thereon:

/s/ RACHEL PETERSON

Rachel Peterson
Executive Director

ALICE REYNOLDS
President
DARCIE L. HOUCK
JOHN REYNOLDS
KAREN DOUGLAS
MATTHEW BAKER
Commissioners

APPENDIX A
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Public Housing Projects Locations

