

EL PASO WIFI – RESPONSE TO USDA RECONNECT PROGRAM

Additional Information for United States Department
of Agriculture (USDA) Rural Utilities Service (RUS)

Abstract

In response to Consolidated Appropriations Act, 2022 (Public Law 107-103, the CAA) as a ReConnect Program Community Project Funding/Congressionally Directed Spending (CPF/CDS) award recipient.

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Introduction

This document is the response by El Paso County to the request for Additional Information by the United States Department of Agriculture (USDA) Rural Utilities Service (RUS). El Paso County has partnered with Insight, Inc. for this project. The responses are as follows.

1. Unique Entity Identifier (UEI) Number

Requirement: Awardees must have a UEI number. For more information on assignment of a UEI, go to <https://sam.gov>. System for Award Management (SAM). Awardees must register in SAM at <https://www.sam.gov>. SAM registration must be active with current data at all times throughout the active Federal award funding period. To maintain an active SAM registration, the awardee must review and update the information in the SAM database annually from the date of initial registration or from the date of the last update. The awardee must ensure that the information in the database is current, accurate, and complete. Awardees must also make the certifications and representations required of entities which are applying for or have received funding under any Federal financial assistance project or program in order to be eligible for ReConnect funding. A SAM registration that lacks the Financial Assistance General Certifications and Representations may cause a delay in receiving award funding.

Response: The following UEI number has been assigned: GJJHZZVQWR6

Tax ID Number: EIN 74-6000762

The SAM registration is currently active and is expected to remain active throughout the active Federal award funding period. Initial registration has been reviewed and updated. Certifications and representations required of entities that are applying for or have received funding under any Federal financial assistance project or program have been provided.

2. General Project and Awardee Information.

Requirement: Awardees must provide general information that includes a project description.

Response:

Project Name: El Paso County Cotton Valley Connection Wireless Broadband Project

Awarded to: El Paso County

El Paso County contact: Cristian A. Martinez Cr.Martinez@epcounty.com

El Paso County Project Manager: Robert Read R.Read@epcounty.com

For the Cotton Valley Connection Wireless Broadband Project, El Paso County is the owner and operator of this network.

They have partnered with Insight Public Sector to design and deploy a wireless broadband network in the townships of Fabens, TX and Tornillo, TX. The purpose of this partnership is to utilize funding in the

ReConnect community project funding through the USDA to provide Internet connectivity in these communities.

The Service Description of this project is as follows:

3.1. Service Description

The following is a high-level description of the Services Insight will provide:

1. Phase I (Current Phase)

- a. Assist with Grant Submission for the United States Department of Agriculture (USDA) Rural Utilities Service (RUS) addendum to the Consolidated Appropriations Act, 2022 (Public Law 107-103, the CAA).

2. Phase II (Core Buildout)

- a. The core network buildout Services to support the Cotton Valley Community Wireless Broadband core buildout Initiative as outlined in the Exhibit(s) of this SOW.
- b. The wireless network buildout services to include core network verification using a sub-group of candidates as outlined in the Exhibit(s) of this SOW.

3. Phase III (Full Implementation)

- a. The wireless network expansion services to increase the number of household users as outlined in the Exhibit(s) of this SOW.

3. Executive Summary

Requirement: Awardees must provide an executive summary that includes, but is not limited to, a detailed description of existing operations, discussion about key management, description of the workforce, description of interactions between any parent, affiliated or subsidiary operation, and a detailed description of the proposed project.

Response: Many of the residents of El Paso County have historically had limited access to affordable internet with bandwidth appropriate for today's uses. To address this issue, El Paso County is partnering with Insight, Inc. to provide the townships of Tornillo and Fabens, TX (located in El Paso County) with a Community Wireless Broadband network. When all project phases are completed, the Cotton Valley Connection Project will provide broadband Internet service for up to 450 homes throughout the Fabens and Tornillo townships. Additionally, broadband service will be provided at Fabens High School and Tornillo Coyote Park.

Currently, both communities are less than marginally served by mobile phone providers with limited mobile data services, but no true broadband offerings exist. This is creating limitations for local school districts when students require remote learning options as well as limiting health care (telemedicine) and law enforcement for public safety (video surveillance), etc.

The county of El Paso has selected Insight Public Sector to provide the design and deployment of the Cotton Valley community broadband project. This project is an initiative to bring connectivity to the communities of Fabens and Tornillo.

The benefactors of this service will include:

- Homes of students enrolled in the Fabens and Tornillo school districts
- Local Law enforcement for public safety
- Health Care providers for telemedicine services

The expected timeframe for the build-out is 12 months from the date of the USDA acceptance of the information provided in this response. This is based on construction and adoption rates. El Paso County acknowledges the USDA requirement for a 5-year project completion for this funding.

Goals

- 1) Implement solution in phases building out core network, first onboarding a subset of target households (25 houses) as part of core validation, then expanding to full deployment (450 houses).
- 2) Validate required upload/download speeds to meet USDA requirements.
- 3) Use as a replicable model to build out similar Community Wireless networks for other neighborhoods in El Paso County.

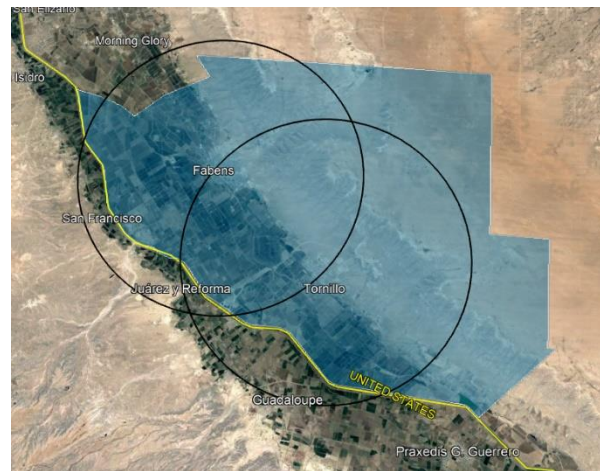
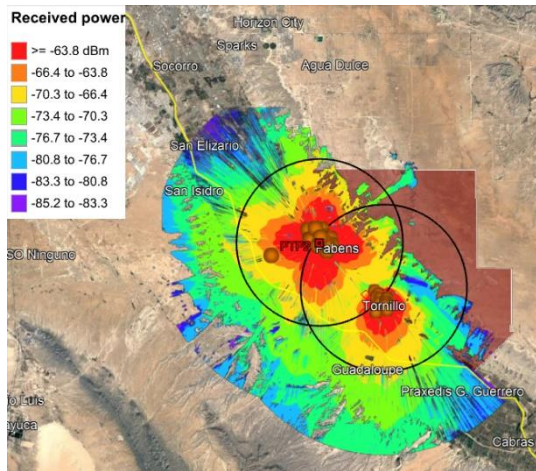
This design is based on Tarana fixed wireless technology for dedicated house connectivity. The Tarana technology is a next generation fixed wireless technology that provides a guaranteed upload and download capabilities of 100 Mbps / 100 Mbps simultaneous once built to every customer at the same time. This technology is capable of up to 400x400 Mbps, if needed – with additional licensing.

4. PFSA Description.

Requirement: An awardee must provide a description of the project PFSA (or PFSAs) that includes the number of served premises (i.e., households, businesses, schools, etc.)

Response: The Proposed Funded Service Area (PFSA) for this project is based on the FY22 Congressionally Directed Spending Area covering the Fabens and Tornillo School District boundaries as shown in the diagram below. This project is targeting 450 homes that reside within the PFSA boundaries.

As designed and demonstrated in the Predictive Coverage and Received power image above, the majority of households within the PFSA will be within range of coverage and will be able to achieve 100 Mbps symmetrical speeds. Utilizing a 3 to 5 mile (up to 8 km) radius from the location of each tower will ensure that all households in that coverage area could achieve download speeds from a minimum of 100 Mbps up to 400 Mbps and upload speeds of a minimum of 100 Mbps up to 231 Mbps, depending on the client’s subscription level.



MCS Index	RN Input RSSI (dBm)	Aggregate Capacity Per RN 2x40 MHz (Mbps)	Capacity 40MHz		Capacity 2x40MHz		Pathloss (dB)	
			DL (Mbps)	UL (Mbps)	DL (Mbps)	UL (Mbps)		
15	-62.9	784	249	143	499	285	120.8	
14	-63.8	770	245	140	490	280	121.7	
13	-64.9	743	237	135	473	270	122.8	
12	-66.4	689	219	125	439	251	124.3	
11	-68.4	635	202	116	404	231	126.3	
10	-70.3	581	185	106	370	211	128.2	
9	-72.0	527	168	96	335	192	129.9	
8	-73.4	473	151	86	301	172	131.3	

Our predictive coverage shows that with the two high sites, we are able to provide access to residents and businesses from the US-Mexico Border to just east of Interstate 10. The terrain east of Interstate 10 does rise in elevation and therefore will impede the distance that the spectrum can reach. The eastern portion of the PFSA is mainly at the higher elevation and also has a very limited and sparse population of households. Our analysis has not identified an existing tower or high site asset that we could utilize to extend the network access to this sparsely populated region of the PFSA. However, the solution does provide the ability to expand network access with the identification or construction of an appropriate high site asset.

5. Network Design.

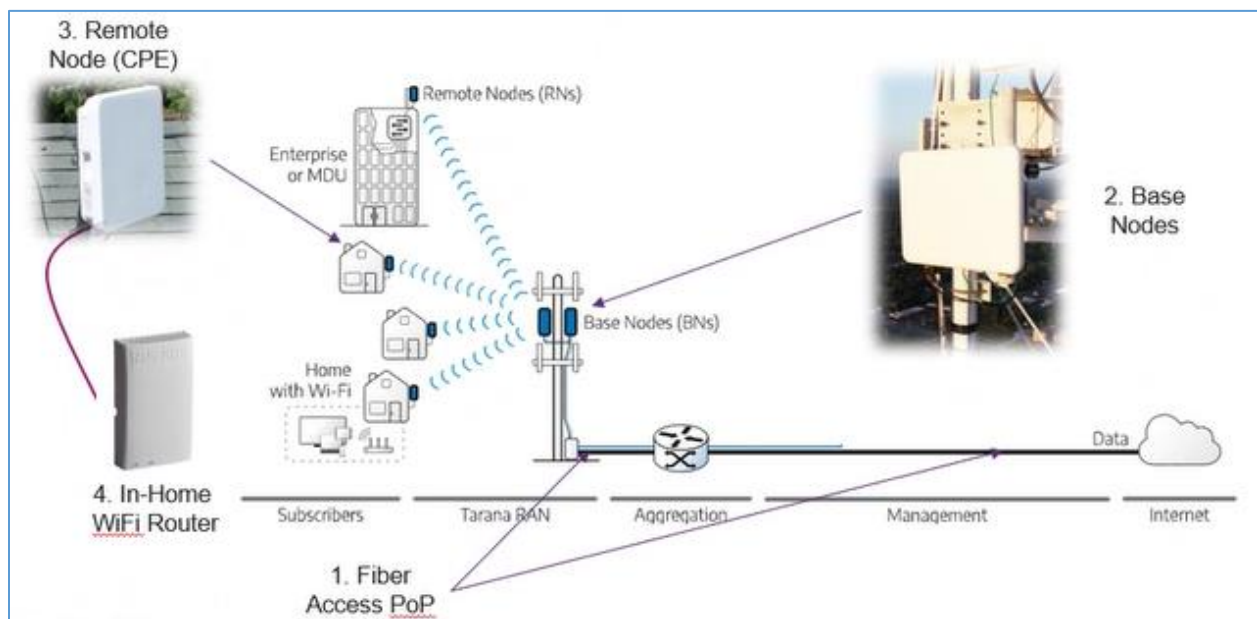
Requirement: Awardees are required to submit a network design, diagram, project costs, and a build-out timeline, stating that the proposed network can be built within 5 years and deliver broadband service at the required 100 Mbps symmetrical speeds to all premises in the PFSA.

Response: This project will include core network buildout services to support the Cotton Valley Community Wireless Broadband. The core buildout phase will include firewalls, switches, UPS, and DHCP servers installed in the network core and a buildout of some wireless networks (electrical, radios, cabling, etc.) for approximately 25 homes in Tornillo and Fabens communities.

The final buildout will consist of a redundant network and redundant security hardware. This will expand wireless network services to achieve a target coverage to approximately 425 more households in Tornillo and Fabens townships (450 total). The wireless network is designed for capabilities of 100 Mbps / 100 Mbps (up/down) simultaneously. It is important to note that this project will use established vertical assets and not require additional structures to be built.

The network design is a Fixed Wireless Access (FWA) Point-to-Multipoint network that can deliver up to 9.6 Gbps per tower and up to 1024 clients in the 5 GHz spectrum. Each home will have a Remote Node affixed to the outside of the home that communicates with the tower and will connect to a wireless AP located in the home that provides WIFI to the residents.

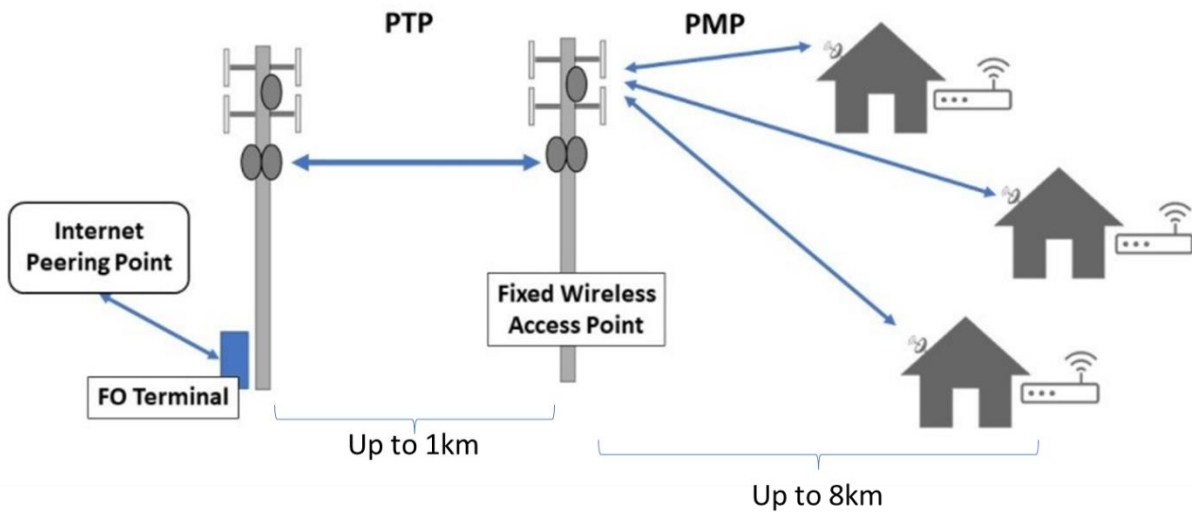
The following diagram identifies the components involved in the FWA network and demonstrates the way these pieces fit together to provide reliable high-speed connectivity.



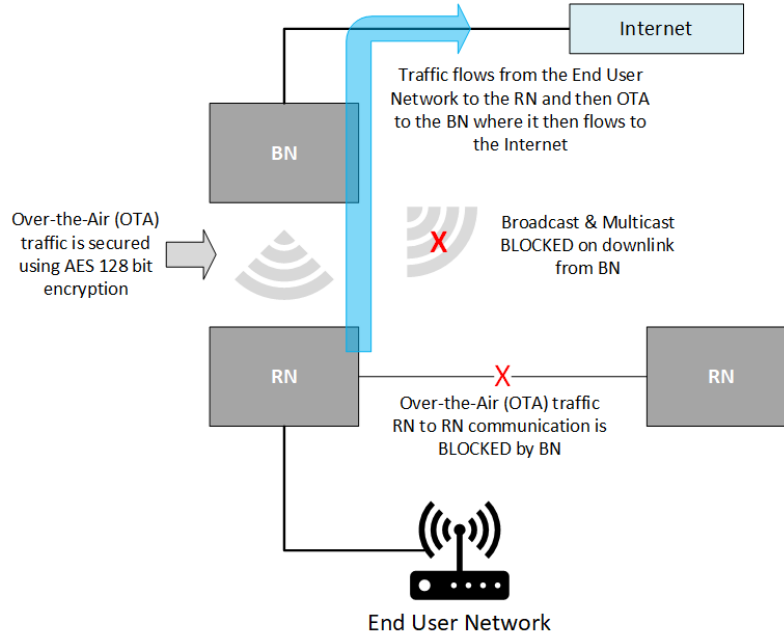
Each Township will have an Internet Peering connection connected to the Fixed Wireless Access Point/Broadcast Tower site, as depicted in the Fixed Wireless Access Architecture diagram below. The PTP connection may or may not be used depending on the location of the Internet Peering Point in relations to the broadcast tower. One location includes a PTP to extend the network from the Internet

Peering Point to the Fixed Wireless Access Point/Broadcast site. The Base Nodes (shown in the previous diagram) will be installed on the Fixed Wireless Access Point/Broadcast Tower site and will connect to the Remote Nodes installed on the outside of the subscriber's home or business. Each Remote Node will then be connected via Cat6 ethernet cable to an in-home wireless/WiFi router. The occupants of the household or business will then connect to the in-home wireless/WiFi router with their personal wireless devices (laptop, computer, tablet, phone, etc.) to get connectivity and access to the Internet.

Fixed Wireless Access Architecture

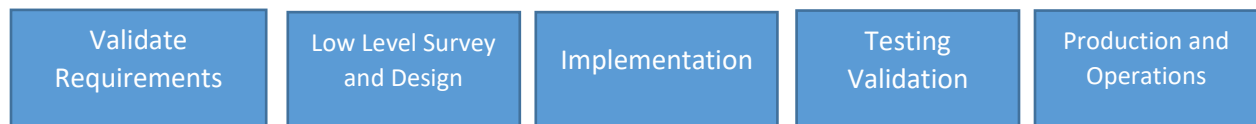


The following diagram provides a network design on the data path from the end-user network to the Internet. As the design shows the traffic traverses via ethernet cable from the end-user's wireless router to the Remote Node (RN) and then via Over-the-Air (OTA) to the Base Node (BN) and continues on via fiber connection out to the Internet.



The following is a high-level description of the Services Insight will provide:

- Provide core network build out Services
 - 2 locations
- Provide wireless network construction and build out Services
 - 2 locations
- Insights high-level project phases and approach to the POC project includes the following:



- **Validate Requirements** – validation of the high-level Design requirements and expectations
- **Low Level Survey and Design** - Perform the low-level core network and wireless surveys and design
- **Implementation** – Installation and configuration of the project equipment
- **Testing Validation** – Testing the wireless and core network and perform tuning
- **Production and Operations** – Turn over the new network to operations and end users for the community use

6. Itemized budgets.

Requirement: The awardee must provide an itemized budget that lists out all categories of anticipated future capital costs of the project (for example, professional services, environmental costs, pre-application expenses, equipment, outside plant construction, etc.). Non-capital project costs should be excluded from this budget. Information on eligible and ineligible costs can be found in the ReConnect Program regulation at 7 CFR 1740.12.

Response: The itemized budget for this project is as follows:

Summary

Client shall pay Insight the fixed fee of \$2,324,683.00 for the completion of all 3 phases. The total amount paid to Insight will not exceed the total fixed fee without the prior written approval of Client. Client will not reimburse Insight for travel expenses, if any are required.

Cost Estimate

The cost estimates below are to provide coverage to all customers in the entire PFSA submitted and build out a network that will provide 100 Mbps/100 Mbps simultaneous once built to every customer at the same time. This implementation is broken into three phases, with phase one being this grant process, phase II being a core network buildout and initial workload for validation, then phase three is a full deployment of the solution.

The fixed fee is based on the following:

Phases	Project Description	Price
I	Grant Application Support <ul style="list-style-type: none"> • In-scope data necessary for the Grant Submission for the United States Department of Agriculture (USDA) Rural Utilities Service (RUS) addendum to the Consolidated Appropriations Act, 2022 (Public Law 107-103, the CAA) • Note: Pre-application expense 	\$10,000.00
II	Materials Estimate: Core Network and Security Hardware <ul style="list-style-type: none"> • Network core hardware (separate quote provided by Insight not included in total of this SOW) <ul style="list-style-type: none"> ○ Firewalls ○ Switches ○ UPS ○ DHCP Servers 	\$237,497.40
II	Services: Wireless Network Installation and Materials <ul style="list-style-type: none"> • Core network build out (2) <ul style="list-style-type: none"> ○ All cabling, racks, and materials and labor (includes network core labor) • Wireless network build outs (Tornillo and Fabens) <ul style="list-style-type: none"> ○ All electrical, radios, cabling materials, and labor 	\$841,355.00
III	Materials Estimates: Redundant Network and Security Hardware <ul style="list-style-type: none"> • Network core hardware (separate quote provided by Insight not included in total of this SOW) <ul style="list-style-type: none"> ○ Redundant <ul style="list-style-type: none"> ▪ Firewalls ▪ Switches 	\$236,580.86
III	Services: Household FWA Expansion <ul style="list-style-type: none"> • Redundant core network build out at each location <ul style="list-style-type: none"> ○ All cabling, racks, and materials and labor (includes network core labor) • Household CPE wireless network expansion (Tornillo and Fabens) <ul style="list-style-type: none"> ○ All electrical, radios, cabling materials and labor ○ Estimated 425 additional households TOTAL 	\$1,483,328.00
	Services Project Cost	\$2,324,683.00
	Materials Project Costs (Core Network and Security Hardware)	\$474,078.26
	NET TOTAL	\$2,798,761.26

Core Wireless Network Materials Provided – Tornillo

<u>MATERIAL / EQUIPMENT DESCRIPTION</u>	<u>MANF. PART #</u>	<u>QUANTITY</u>	
High School Tower Equipment			
TW 5.8GHz Base Node (BN), FCC	35-0134-001	2	ea
TW Base Node Pole Mounting Kit, 64-114mm Pole Diameter	34-0028-001	2	ea
DC Defender (DC Surge Protector) w/Mounting Kit (1101-1110) (Up to 100M)	35-0104-001	4	ea
Power Supply Outdoor AC_DC, 90-264V AC IN, 54V DC Out, 480W	44-0013-001	2	ea
SFP+ Short Range, Industrial Temp, Duplex LC connector Optical Transceiver Multi-Mode	73-0032-001	4	ea
50m Outdoor Shielded Power Cable with Harting Push-Pull Connector	33-0004-010	2	ea
Outdoor Multi-Mode Fiber Optic Cable With Harting SFP to LC (70m)	33-0021-070	2	ea
ICX 7150 Compact Switch, 2x 100/1000/2.5/5/10G PoH ports, 2x 100/1000/2.5G PoH ports, 6x 100/1000/2.5G PoE+ ports, 2x 10G SFP uplink-ports, 240W PoE budget, L3 features (OSPF, VRRP, PIM, PBR), 3 year remote support.	ICX7150-C10ZP-2X10GR-RMT3	1	ea
NEMA Box, 18x16x8 Inch 120 VAC Weatherproof Enclosure with Solid State Fan Controller	SWNB181608-10FS	1	ea
Grounding wire, weatherproofing, misc and consumable items	SWMISC	1	ea
FWA CPE plus In Home AP			
5.8 GHz Residential Node (RN), FCC, ISED - 100Mbps Throughput	35-0129-001	16	ea
TW Remote Node Mounting Kit	34-0027-001	16	ea
TW RN POE Injector	44-0017-001	16	ea
vSCG license supporting 1 Ruckus Access Points	L09-0001-SG00	16	ea
Perpetual license for WiFi analytics, to analyze 1 AP with SCI 2.0 ststem. Smart Licensing enabled (LiMAN)	L09-0001-SCIW	16	ea
Ruckus H350 802.11AX dual-band concurrent 2.4 GHz & 5 GHz, Wired/Wireless Wall Switch, MU-MIMO, BeamFlex+, 1 10/100/1000 & 2 10/100 Ethernet Access Ports, POE	901-H350-XX00	16	ea
Outdoor Grade Shielded Cat6 Cable Materials	SWCAT6OD	16	ea
Grounding wire, weatherproofing, misc and consumable items	SWMISC	16	ea
Park Mesh/CPE			
5.8 GHz Residential Node (RN), FCC, ISED - 100Mbps Throughput	35-0129-001	1	ea
TW Remote Node Mounting Kit	34-0027-001	1	ea
vSCG license supporting 1 Ruckus Access Points	L09-0001-SG00	2	ea
Perpetual license for WiFi analytics, to analyze 1 AP with SCI 2.0 ststem. Smart Licensing enabled (LiMAN)	L09-0001-SCIW	2	ea
Ruckus T750 802.11ax Outdoor Wireless Access Point, 4x4:4 Stream, Omnidirectional Beamflex+ coverage, 2.4GHz and 5GHz concurrent dual band, (1x) 2.5G Ethernet port, (1x) 10/100/1000 Ethernet port, 100-240 Vac, POE in and PSE out, Fiber SFP/SFP+, GPS, IP-67 Outdoor enclosure, -40 to 65C Operating Temperature.	901-T750-US00	2	ea
6-Port Gigabit Managed High Power 802.3bt PoE Switch with 4 PoE Ports and 2 SFP Fiber Gigabit Ports, 95W Per PoE Port, 300W Total	LPS3400ATMP-300-T1	1	ea
Linkpower Injector Converts 802.bt to 51V Passive PoE, Output 72W 1.41A	APC1048-BT	1	ea
Outdoor Pole Mounting Kit for Outdoor Switch	MMK0001-L	1	ea
Photocell Power Tap Continuous On; 120V; Base– Standard 7-pin Twist-lock per ANSI; C136.10; Cord length – 20 ft.; Cord Connection – pigtail; Circuit breaker – 10A, auto-reset; Load rating – 10A	SW-5771-20-1	2	ea
Grounding wire, weatherproofing, misc and consumable items	SWMISC	1	ea
Manufacturer Support, Network Monitoring/Optimization and Reporting			
SMS Yearly Access for RN - 1 Year	25-0056-001	17	ea
G1 RN BW License Upgrade - 1 Year License - DL Throughput from 50Mbps to 100Mbps	25-0019-001	17	ea
SmartWave Technical Support - CPE+Indoor AP - Cloud Controller, Network Monitoring, Ruckus Support, Optimization and Reporting - 1st Year	SWSPPT-RNHOME-1YR	16	ea
SmartWave Technical Support - Outdoor AP - Cloud Controller, Network Monitoring, Ruckus Support, Optimization and Reporting - 1st Year	SWSPPT-RNODAP-1YR	3	ea
SmartWave Technical Support - Base Nodes Only - Network Monitoring, Optimization and Reporting - 1st Year	SWSPPT-BN-1YR	2	ea

Core Wireless Network Materials Provided – Fabens

<u>MATERIAL / EQUIPMENT DESCRIPTION</u>	<u>MANF. PART #</u>	<u>QUANTITY</u>	
Gymnasium Equipment			
60GHz cnWave V3000 Client Node Radio Only	C600500C024A	1	ea
60GHz cnWave V3000 Client Node Antenna Assembly, 44.5 dBi	C600500D001A	1	ea
cnWave Precision Mounting Bracket	C000000L125A	1	ea
Waterproof PSU Cable Joiner 14-16 AWG	N000000L180A	2	ea
Cable Gland, Long, M25, Qty 5	C000000L124A	1	ea
Cable Gland for 6-9mm cable, M25, Qty 10	C000000L123A	1	ea
Grounding Cable, 0.6m with M6 ring to M6 ring	C000000L138A	1	ea
10G SFP+ MMF SR Transceiver, 850nm. -40C to 85C	SFP-10G-SR	1	ea
Outdoor Multi-Mode Fiber Optic Cable With Harting SFP to LC (70m)	33-0021-070	1	ea
Outdoor Grade Shielded Cat6 Cable Materials	SWCAT6OD	1	ea
PoE, 60W, 56V, 10GbE DC Injector, Indoor, Energy Level 6 Supply	60WPOE	1	ea
Non-penetrating Ridge Mount SLED, 10FT Mast, Protective Mat, Blocks	SWUR-288x10-R	1	ea
Grounding wire, weatherproofing, misc and consumable items	SWMISC	1	ea
Water Tank Equipment			
60GHz cnWave V3000 Client Node Radio Only	C600500C024A	1	ea
60GHz cnWave V3000 Client Node Antenna Assembly, 44.5 dBi	C600500D001A	1	ea
cnWave Precision Mounting Bracket	C000000L125A	1	ea
Grounding Cable, 0.6m with M6 ring to M6 ring	C000000L138A	1	ea
TW 5.8GHz Base Node (BN), FCC	35-0134-001	4	ea
TW Base Node Pole Mounting Kit, 64-114mm Pole Diameter	34-0028-001	4	ea
DC Defender (DC Surge Protector) w/Mounting Kit (1101-1110) (Up to 100M)	35-0104-001	8	ea
Power Supply Outdoor AC_DC, 90-264V AC IN, 54V DC Out, 480W	44-0013-001	4	ea
10G SFP+ MMF SR Transceiver, 850nm. -40C to 85C	SFP-10G-SR	1	ea
SFP+ Short Range, Industrial Temp, Duplex LC connector Optical Transceiver Multi-Mode	73-0032-001	4	ea
50m Outdoor Shielded Power Cable with Harting Push-Pull Connector	33-0004-010	4	ea
Outdoor Multi-Mode Fiber Optic Cable With Harting SFP to LC (70m)	33-0021-070	4	ea
ICX 7150 Compact Switch, 2x 100/1000/2.5/5/10G PoH ports, 2x 100/1000/2.5G PoH ports, 6x 100/1000/2.5G PoE+ ports, 2x 10G SFP uplink-ports, 240W PoE budget, L3 features (OSPF, VRRP, PIM, PBR), 3 year remote support.	ICX7150-C10ZP-2X10GR-RMT3	1	ea
NEMA Box, 18x16x8 Inch 120 VAC Weatherproof Enclosure with Solid State Fan Controller	SWNB181608-10FS	1	ea
Grounding wire, weatherproofing, misc and consumable items	SWMISC	1	ea
Apartment Complex WiFi Equipment and Gym Parking Area			
TW 5.8GHz Remote Node (RN), FCC	35-0128-001	2	ea
TW Remote Node Mounting Kit	34-0027-001	2	ea
vSCG License supporting 1 Ruckus Access Points	L09-0001-SG00	8	ea
Perpetual license for WiFi analytics, to analyze 1 AP with SCI 2.0 ststem. Smart Licensing enabled (LiMAN)	L09-0001-SCIW	8	ea
Ruckus T750 802.11ax Outdoor Wireless Access Point, 4x4:4 Stream, Omnidirectional Beamflex+ coverage, 2.4GHz and 5GHz concurrent dual band, (1x) 2.5G Ethernet port, (1x) 10/100/1000 Ethernet port, 100-240 Vac, POE in and PSE out, Fiber SFP/SFP+, GPS, IP-67 Outdoor enclosure, -40 to 65C Operating Temperature.	901-T750-US00	6	ea
Ruckus T750-S 802.11ax Outdoor Wireless Access Point, 4x4:4 Stream, MU-MIMO, 120 degree sector Beamflex+ coverage, 2.4GHz and 5GHz concurrent dual band, Dual 10/100/1000 Ethernet ports, POE in, IP-67 Outdoor enclosure, -40 to 65C	901-T750-US51	2	ea
Photocell Power Tap Continuous On; 120V; Base– Standard 3-prong Twist-lock per ANSI; C136.10; Cord length – 20 ft.; Cord Connection – pigtail; Circuit breaker – 10A, auto-reset; Load rating – 10A	SW-5771-20-1	8	ea
Outdoor Grade Shielded Cat6 Cable Materials	SWCAT6OD	2	ea
Non-penetrating Flat Mount SLED, 5FT Mast, Protective Mat, Blocks	SWB3-288x5-R	2	ea
6-Port Gigabit Managed High Power 802.3bt PoE Switch with 4 PoE Ports and 2 SFP Fiber Gigabit Ports, 95W Per PoE Port, 300W Total	LPS3400ATMP-300-T1	2	ea
Linkpower Injector Converts 802.bt to 51V Passive PoE, Output 72W 1.41A	APC1048-BT	2	ea
Outdoor Pole Mounting Kit for Outdoor Switch	MMK0001-L	2	ea
Grounding wire, weatherproofing, misc and consumable items	SWMISC	1	ea

FWA CPE plus In Home AP			
5.8 GHz Residential Node (RN), FCC, ISED - 100Mbps Throughput	35-0129-001	9	ea
TW Remote Node Mounting Kit	34-0027-001	9	ea
TW RN POE Injector	44-0017-001	9	ea
vSCG License supporting 1 Ruckus Access Points	L09-0001-SG00	9	ea
Perpetual license for WiFi analytics, to analyze 1 AP with SCI 2.0 ststem. Smart Licensing enabled (LiMAN)	L09-0001-SCIW	9	ea
Ruckus H350 802.11AX dual-band concurrent 2.4 GHz & 5 GHz, Wired/Wireless Wall Switch, MU-MIMO, BeamFlex+, 1 10/100/1000 & 2 10/100 Ethernet Access Ports, POE	901-H350-XX00	9	ea
Outdoor Grade Shielded Cat6 Cable Materials	SWCAT6OD	9	ea
Grounding wire, weatherproofing, misc and consumable items	SWMISC	9	ea
Manufacturer Support, Network Monitoring/Optimization and Reporting			
SMS Yearly Access for RN - 1 Year	25-0056-001	11	ea
G1 RN BW License Upgrade - 1 Year License - DL Throughput from 50Mbps to 100Mbps	25-0019-001	0	ea
G1 RN BW License Upgrade - 1 Year License - DL Throughput from 50Mbps to Uncapped	25-0021-001	0	ea
SmartWave Technical Support - CPE+Indoor AP - Cloud Controller, Network Monitoring, Ruckus Support, Optimization and Reporting - 1st Year	SWSPPT-RNHOME-1YR	9	ea
SmartWave Technical Support - Outdoor AP - Cloud Controller, Network Monitoring, Ruckus Support, Optimization and Reporting - 1st Year	SWSPPT-RNODAP-1YR	10	ea
SmartWave Technical Support - Base Nodes Only - Network Monitoring, Optimization and Reporting - 1st Year	SWSPPT-BN-1YR	6	ea

Full Deployment Wireless Network Materials

MATERIAL / EQUIPMENT DESCRIPTION	MANF. PART #	QUANTITY	
Remote Node Equipment			
5.8 GHz Residential Node (RN), FCC, ISED - 100Mbps Throughput	35-0128-001	425	ea
Remote Node (RN) Mounting Kit	34-0027-001	425	ea
RN PoE Injector	44-0017-001	425	ea
Power Cord - US, for use with 44-0013-001 power supply	50-0012-001	425	ea
POE Surge Protection Unit	SWCMJPOE8A	425	ea
Heavy Duty Universal Mount, 18" x 2" OD mast	WCA-HDMB-18	425	ea
Cat6 100ft Black Outdoor Patch Cable, UTP, 24AWG, 550MHz, Pure Bare Copper, Molded Snagless RJ45, Zeroboot Series Ethernet Cable	MP36218	425	ea
vSCG License supporting 1 Ruckus Access Points	L09-0001-SG00	425	ea
Perpetual license for WiFi analytics, to analyze 1 AP with SCI 2.0 system. Smart Licensing enabled (LiMAN)	L09-0001-SCIW	425	ea
Ruckus Wi-Fi 6 dual-band concurrent 2.4 GHz & 5 GHz, Wired/Wireless Wall Switch, BeamFlex+, 1 10/100/1000 & 2 10/100/1000 Ethernet Access Ports, POE in	901-H350-XX00	425	ea
Grounding wire, weatherproofing, misc and consumable items	SWMISC	425	ea
Manufacturer Support, Network Monitoring/Optimization and Reporting			
BN Extended Warranty Two Year	37-0011-001	6	ea
SmartWave Technical Support - Outdoor AP - Cloud Controller, Network Monitoring, Ruckus Support, Optimization and Reporting - Includes Truck Rolls	SWSPPT-RNODAP-2YR	8	ea
SmartWave Technical Support - Base Nodes Only - Network Monitoring, Optimization and Reporting - Includes Truck Rolls	SWSPPT-BN-2YR	6	ea
Spare Inventory			ea
TW 5.8GHz Base Node (BN), FCC	35-0134-001	1	ea
Ruckus T750 802.11ax Outdoor Wireless Access Point, 4x4:4 Stream, Omnidirectional Beamflex+ coverage, 2.4GHz and 5GHz concurrent dual band, (1x) 2.5G Ethernet port, (1x) 10/100/1000 Ethernet port, 100-240 Vac, POE in and PSE out, Fiber SFP/SFP+, GPS, IP- 67 Outdoor enclosure, -40 to 65C Operating Temperature.	901-T750-US00	1	ea
5.8 GHz Residential Node (RN), FCC, ISED - 100Mbps Throughput	35-0129-001	5	ea
TW Remote Node Mounting Kit	34-0027-001	5	ea
TWRN POE Injector	44-0017-001	5	ea
Ruckus H350 802.11AX dual-band concurrent 2.4 GHz & 5 GHz, Wired/Wireless Wall Switch, MU-MIMO, BeamFlex+, 1 10/100/1000 & 2 10/100 Ethernet Access Ports, POE	901-H350-XX00	5	ea

7. Service Offerings.

Requirement: Awards must provide descriptions of service plans for all planned services including the associated price, broadband download speed, and broadband upload speed.

Response: The following service plan will be offered:

Service Plan Costs

Summary: All residents in the service area will have the option to purchase internet service with 100Mbps Up and 100 Mbps down. This plan requires onsite equipment installed inside the home.

ACP Qualifying residence: Free with a signed User Agreement

Non-ACP Qualifying residence: Price: \$69.99 per month with a one-time installation of \$300.

Download speeds: 100 Mbps

Upload speeds: 100 Mbps

8. Subscriber Projections.

Requirement: Awardees must provide projected subscription numbers for each PFSA.

Response:

The following are the approximate subscriber projections:

- 450 total subscribers (projected)
 - 300 in Fabens Township
 - 150 in Tornillo Township

These projections do not cover the entire PFSA. They cover a majority of the population in the two townships named.

9. Environmental Information.

Requirement: Awardees must submit all necessary documentation to suffice all applicable requirements of NEPA, the National Historic Preservation Act of 1966 (NHPA), and ESA and satisfy the requirements described in 7 CFR 1740.27. Awardees must submit to RUS shapefiles that indicate the locations of all proposed sites and routes. Each site and route must be accompanied by a description. Awardees may be required to complete Environmental Questionnaires (EQs). This will be determined during the Agency's analysis of the submitted site and route shapefiles.

Response:

Information needed is on ReConnect web site. Fill out top 3 forms.

- Sites
 - Water tower in Fabens
 - High school in Fabens
 - Middle School Tower in Tornillo
- Routes
 - Commercially provided circuit from Spectrum delivered to Fabens HS and Tornillo MS.
- No digging, trenching, boring, etc.
 - Leveraging existing infrastructure

<https://www.usda.gov/reconnect/forms-and-resources>

10. Tribal Government Resolution of Consent (if applicable).

Requirement: An awardee that is proposing to provide service over or on Tribal lands must submit a certificate signed by the appropriate Tribal land officer showing their support for the proposed project. To locate applicable areas, please reference the Tribal layer in the RUS mapping tool available on the ReConnect website.

Response: This project does not impact any tribal lands.

11. Certifications. WILL THE USDA PROVIDE THESE CERTIFICATES?

Requirement: An awardee must agree to adhere to the following required compliance rules:

- a. Certification Regarding Architectural Barriers
- b. Certification Regarding Debarment, Suspension, and Other Responsibility Matters – Primary Covered Transactions
- c. Certificate Regarding Flood Hazard Area Precautions
- d. Certification Regarding Lobbying for Contracts, Grants, Loans and Cooperative Agreements
- e. Civil Rights Compliance Certification
- f. Federal Collection Policies for Commercial Debt Certification
- g. Uniform Relocation Assistance and Real Property Acquisition Policies Act of 197015
- h. Compliance with RUS Award Documents
 - (i) Award recipients may share ownership of the funded facilities with partners. The partner entity (or entities) must sign the RUS Award Documents.
- i. Representations Regarding Felony Conviction (Required only for Non-profit, For-profit corporations, and Cooperatives and Mutual Organizations) – N/A

Certification documents will be provided to all awardees.

Response:

12. Licenses & Agreements.

An awardee must provide necessary documents to demonstrate that the proper agreements are in place based on the proposed project. Licenses and agreements **may include, but are not limited to:**

- a. Internet Services Agreements
 - a. Quote from Spectrum
- b. Pole Attachment Agreements – May not be needed
 - a. N/A as we are not attaching to any utility poles
- c. Spectrum Lease Agreements
 - a. N/A??? – Mike to validate
- d. Tower Lease Agreements
 - a. Provided by County for Fabens Water Tower (Is this needed since County owns tower?)
- e. Building Lease Agreements
 - a. Agreement (LOA) between county and school districts?
- f. Fiber Lease Agreements
 - a. Not applicable since there are not any fiber leases.
- g. Certificates of Public Convenience and Necessity (CPCN)
 - a. ??? – Robert?
- h. Special Permits (Federal, highway, bridge, etc.)
 - a. N/A
- i. Network Management Agreements
 - a. Insight SOW/Contract with County

Response:

Drafts of agreements are acceptable. Attach all agreements as separate documents and then refer to the attachments here. We need to also include any agreements that are not listed above.

Placeholder section for diagrams and images that can be deleted prior to submitting

