ATTACHMENT 1

DATA DICTIONARY FOR SUBMISSION OF GIS SHAPEFILES

The utilization of Geographic Information System ("GIS") data will occur throughout the lifecycle of a project, beginning with an applicant's initial grant submission and ending with delivery of as-built shapefiles depicting areas where construction has occurred. This exhibit outlines the type and format of GIS data required for submission to the South Carolina Office of Regulatory Staff ("ORS"). GIS-based data will be used to evaluate grant submissions, manage grants awards, and track Broadband investments over time. GIS data may also be integrated into Quality Assurance measures developed by ORS to aid in the verification of work completed.

GIS Template Shapefile Data has been created to match with the data schema outlined in the sections that follow. It is available for download here: "ARPA CPF 1.0 Eligibility Map and Data" folder on Citrix. Applicants are highly recommended to use the templates as their starting point for developing conceptual designs of proposed projects they plan to submit to the ORS. Incorrect, incomplete, or missing data may disqualify an applicant from funding.

All data submitted to the ORS must include Federal Geographic Data Committee ("FGDC"), compliant metadata describing the source, characteristics, and methods used for data creation, manipulation/editing, and associated attribution. As-built data (Fiber Lines, and Network Junctions), delivered at the completion of the project should be within reasonable parameters. Methods used for ensuring accuracy may include, but not be limited to digitizing GIS data to match statewide aerial imagery, which is map accurate at a 1:2400 or 1"=200'. Statewide aerial imagery is published through the state Geographic Information Council and located here: https://www.arcgis.com/apps/mapviewer/index.html?layers=1a3f8aa93e674dcd93396b8d2c11e490 Imagery is on a planned update of once per year. Therefore, modifying planning-level data to conform to as-built data by mapping at a 1:2400 scale using statewide aerials is an acceptable approach for ensuring horizontal accuracy thresholds have been met in accordance with this data standard. Regardless of the approach, applicants must document their methods chosen in the metadata for a given data layer.

Unless otherwise specified, Map Projections and Datums for GIS data submitted should conform to the following

NAD_1983_StatePlane_South_Carolina_FIPS_3900
WKID: 32133 Authority: EPSG

Projection: Lambert_Conformal_Conic
False_Easting: 609600.0
False_Northing: 0.0
Central_Meridian: -81.0
Standard_Parallel_1: 32.5
Standard_Parallel_2: 34.83333333333334
Latitude_Of_Origin: 31.83333333333333

Linear Unit: Meter (1.0)

Geographic Coordinate System: GCS_North_American_1983
Angular Unit: Degree (0.0174532925199433)
Prime Meridian: Greenwich (0.0)
Datum: D_North_American_1983
Spheroid: GRS_1980
Semimajor Axis: 6378137.0
Semiminor Axis: 6356752.314140356
Inverse Flattening: 298.257222101

Broadband GIS Data Dictionary			
Layer Name	**Layer Type**	**Definition**	**Values/Comments**
Eligible 2020 Census Blocks for Proposed Project Area	Polygon	Eligible 2020 Census Block data depicting only those areas for which a proposed project may occur	This layer should be a subset of records reflecting the project area produced using the SCBBO Eligibility Map 2020 Census Block Data
Attribute Name	**Data Type**	**Definition**	**Values/Comments**
All fields from SCBBO Eligibility Map 2020 Census Block Data			
Layer Name	**Layer Type**	**Definition**	**Comments**
Proposed Line Work	Line	Proposed broadband lines an ISP will construct	Digitized fiber/cable lines should be separated by segments, by technology type, and deployment type, snapped to vertices of adjoining fiber lines. Upon award and completion of the project, ISP must submit as-built update depicting actual locations of fiber lines that align with quantities outlined in expense reports prior to final payment.
Attribute Name	**Data Type**	**Definition**	**Values/Comments**
FCCTech Alias = FCC Technology Code	Integer	The FCC Technology code proposed for construction	50, 40

Length	Integer	Length in feet of a given line segment	Length in feet calculated from read-only length field
DepMethod Alias = Deployment Method	Text	The method for which Broadband technology will be deployed at a given line segment	Aerial, Buried
Layer Name	**Layer Type**	**Definition**	**Comments**
Proposed Served Structures	Point	Projected Homes/Business/Other structures that will be passed upon completion of the project	Applicants must use all fields from the December 31, 2022 FCC BSL Fabric
All fields from December 31, 2022 FCC BSL Fabric			
Layer Name	**Layer Type**	**Definition**	**Comments**
Network Junction	Point	Point location where existing infrastructure will tie into the proposed project	An example of a Network Junction feature is a location where a fiber line will be spliced to extend services from an existing network
Attribute Name	**Data Type**	**Definition**	**Values/Comments**
Description	Text	Description of Connection Point Location	e.g., Optical Line Terminal (OLT) endpoint, splice point to extend services from existing network, etc.

Guidance on Required Backup to Support Broadband Deployment for Grant Awardees

Part of the administration and disbursement of funds to applicants includes verifying the scope requirements outlined in contractual agreements between ORS and an ISP have been met in accordance with provisions detailed in each agreement. Simply stated, ORS, their contractors, and/or agents must verify the ISP is honoring their contractual obligation to install Broadband Infrastructure in predetermined, mutually agreed upon Census Blocks. As part of these requirements, ISPs must submit geotagged photographs of the infrastructure they install, in addition to geotagged speed tests which are required to verify the network is capable of reaching speeds outlined in each grant award. Data is required as part of the quarterly reporting process throughout the duration of the project as progress toward construction completion is made.

Grant awardees must follow the steps below to complete and submit their backup as part of the Quarterly Report workflow:

1. Confirm location services is enabled on your smart device AND allowed using your device camera - **MANDATORY**

- For directions to turn on location services on an Apple device visit: https://support.apple.com/en-us/HT207092
- For directions to turn on location services on an Android device visit: https://support.google.com/accounts/answer/3467281?hl=en

2. At each construction site within the project area outlined in the ISP's original work plan, take geotagged photographs of work being conducted and evidence that shows work has been completed. An equal distribution of geotagged photographs should be taken throughout the Project Area. Examples include pedestals, splicing, fiber, fiber cabinets (with doors open), aerial and underground fiber construction and installation (depending on type of construction), NID, etc. (avoid having people in the photographs).
3. Geotagged photographs of speed tests must be conducted that demonstrate the network can reach or exceed speed thresholds identified in these guidelines and an applicant's overall work plan. Please refer to Page 27 of the CPF User Guide on conducting speed tests. If using a smart device to run the speed test, take a picture of the screen once the speed test is completed. This picture must be geotagged with location information where the speed test was run. An equal distribution of geotagged speed tests must be taken throughout the Project Area.
4. Take photos along the route between sites during active construction to show proof that fiber is in the ground or is aerial.
5. Submit the raw geotagged photos with quarterly reports. Do not physically attach or embed the photographs to the Quarterly Report, rather, upload the photographs separately as part of the submission process.

Post construction reporting:

1. In addition to quarterly reporting, a post construction list of addresses which now have access to service upon completion of the project must be provided to the SCBBO. Speed test results must also be recorded for those consumers that take service prior to project closeout. Please refer to Page 27 of the CPF User Guide on conducting speed tests. A post construction report template in CSV format will be provided to all grantees for their use.