

Rural Broadband Access Loan and Loan Guarantee Program

Application Guide—RUS Bulletin 1738-1



According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0572-0130. The time required to complete this information collection is estimated to average 118 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

**Rural Utilities Service (RUS)
Telecommunications Program
Rural Broadband Access Loan and Loan Guarantee
Program**

The Rural Broadband Access Loan and Loan Guarantee Program (Broadband Program) furnishes loans and loan guarantees to provide funds for the costs of construction, improvement, or acquisition of facilities and equipment needed to provide service at the broadband lending speed in eligible rural areas.

The applicant must read:

http://www.rurdev.usda.gov/utp_farmbill.html

Application Guide Table of Contents

General Information.....	5
1. Broadband Service and Broadband Lending Speed.....	5
2. Eligible Purposes of the Loan.....	6
3. Ineligible Purposes of the Loan.....	7
4. Applicant Eligibility.....	7
5. Eligible Service Area.....	8
6. Substantially Underserved Trust Areas	10
7. Preliminary Assessment of Service Area Eligibility.....	10
8. Types of Broadband Loans.....	11
9. Minimum and Maximum Loan Amounts.....	12
10. Equity Requirement.....	12

11. Priority Consideration.....	13
12. Public Notice.....	14
13. Application Submission.....	14
14. Application Review and Notification Process.....	15
15. Contact Information.....	17
Instructions for Completing the RUS Form 532.....	18
Overview to Preparing Schedules A through S.....	21
Instructions for Preparing Schedules A & B.....	21
Congressional Districts (Schedule A).....	21
Executive Summary (Schedule B).....	21
Instructions for Preparing Schedule C.....	22
Legal Opinion and Property Schedule (Schedules C-1 and C-2).....	22
Instructions for Preparing Schedules D & E.....	22
Corporate Structure (Schedules D-1 through D-6).....	22
Board Resolution (Schedule E).....	26
Instructions for Preparing Schedule F.....	26
Service Area Maps and Demographic Data (Schedules F-1 and F-2).....	26
Instructions for Preparing Schedule G.....	28
Service Areas – New or Existing; Funded or Non-Funded (Schedule G).....	28
Instructions for Preparing Schedules H, I & J.....	28
Compliance Certificates (Schedules H-1 through H-6).....	28
Outstanding Federal Debt (Schedule I).....	29
Equity (Schedules J-1 and J-2).....	29
Instructions for Preparing Schedule K.....	30
Research Data and Market Analysis (Schedules K-1 and K-2).....	30
Instructions for Preparing Schedule L.....	33
Competitive Analysis (Schedules L-1 and L-2).....	33
Instructions for Preparing Schedule M.....	34
Financial Position (Schedules M-1 through M-6).....	34
Instructions for Preparing Schedule N.....	55
Network Design (Schedules N-1 through N-2).....	55
Instructions for Preparing Schedule O.....	57
Network Diagrams (Schedules O-1 and O-2).....	57

Instructions for Preparing Schedule P.....	58
Project Costs and Buildout Timeline (Schedule P).....	58
Instructions for Preparing Schedules Q & R.....	61
Environmental Report (Schedule Q).....	61
Licenses and Agreements (Schedule R).....	61
Attachment: USOA Account Subcategories for Broadband Service Providers.....	64
Appendix: Sample Network Diagrams	74

General Information

➤ 1. *Broadband Service and Broadband Lending Speed*

The goal of the Broadband Program is to ensure that rural consumers enjoy the same quality and range of services that are available in urban and suburban communities. The Program aims to lend to entities capable of repaying its loans and that plan to offer service at a level that keeps pace with technological innovations while meeting the demands of customers in rural America. Applicants are strongly encouraged to ensure they understand the terminology below, which seeks to make this distinction.

Broadband service means any technology identified by the Administrator as having the capacity to provide transmission facilities that enable the subscriber to receive a minimum level of service equal to at least a downstream transmission capacity of 4 Mbps and an upstream transmission capacity of 1 Mbps. RUS will publish, in a notice in the Federal Register, the minimum transmission capacity that will qualify as broadband service. This rate may be different for fixed and mobile broadband service. The minimum transmission capacity may be higher than 4 Mbps downstream and 1Mbps upstream but cannot be lower. The minimum transmission capacity that defines broadband service may be different than the broadband lending speed. If a new minimum transmission capacity for broadband service is published in the Federal Register while an application is pending, broadband service for the purpose of reviewing the application will be defined by the minimum transmission capacity that was required at the time the application was received by RUS.

The broadband lending speed is the minimum bandwidth requirement, as published in the latest notice in the Federal Register, that an applicant must propose to deliver to every customer in the proposed funded service area in order for RUS to approve a broadband loan. This rate may be different for fixed and mobile broadband service. As noted above, the broadband lending speed may be different from the minimum transmission capacity required to determine the availability of broadband service when qualifying a service area. If a new broadband lending speed is published in the Federal Register while an application is pending, the pending application will be processed based on the broadband lending speed that was in effect when the application was submitted. Returned applications will lose their place in the processing queue.

➤ 2. *Eligible Purposes of the Loan*

RUS makes broadband loans and loan guarantees to:

- ◆ Finance the construction, improvement, or acquisition of all facilities required to provide service at the broadband lending speed in eligible rural areas, including facilities required for providing other services over the same facilities;

- ◆ Finance the cost of leasing facilities that are required to provide service at the broadband lending speed if the lease qualifies as a capital lease under the Generally Acceptable Accounting Procedures (GAAP). The financing of such a lease will be limited to the first three years of the loan amortization period. If an Indefeasible Right to Use agreement (IRU) qualifies as a capital lease, the entire cost of the lease will be amortized over the life of the lease and only the first three years of the amortized cost can be funded;
- ◆ Finance the acquisition of facilities, portions of an existing system and/or another company by an eligible entity, where acquisition is used in the applicant's business plan for furnishing or improving service at the broadband lending speed (please note that the acquired service area, if any, must meet the requirements for RUS funding, the acquisition costs cannot exceed 50 percent of the broadband loan amount, and the purchase must provide the applicant with a controlling majority interest in the equity acquired);
- ◆ Refinance an outstanding obligation of another telecommunications loan made under the Rural Electrification Act of 1936, as long as refinancing the loan supports the construction, improvement, or acquisition of facilities and equipment for the provision of service at the broadband lending speed in rural areas. Please note that no more than 40 percent of the broadband loan amount can be used to refinance the outstanding telecommunications loan, the applicant must be current with payments on the loan(s) to be refinanced, and the amortization period for that portion of the broadband loan that will be needed for refinancing cannot exceed the remaining amortization period for the telecommunications loan(s) to be refinanced. If multiple notes are being refinanced, an average remaining amortization period will be calculated based on the weighted dollar average of the notes being refinanced; and
- ◆ Finance pre-loan expenses, i.e. any expenses associated with the preparation of a loan application, such as obtaining market surveys, accountant/consultant costs for preparing the application and supporting information. The pre-loan expenses cannot exceed 5 percent of the broadband loan excluding any amount requested to refinance outstanding telecommunication loans. Pre-loan expenses may be reimbursed only if they are incurred prior to the date on which notification of a complete application is issued and they meet the requirements for reimbursement and a loan is made.

➤ ***3. Ineligible Purposes of the Loan***

RUS will not make a broadband loan or loan guarantee for the following purposes:

- ◆ To fund operating expenses of the applicant;
- ◆ To fund construction and other project-related costs incurred prior to issuance of an application complete status (with the exception of eligible pre-loan expenses);
- ◆ To finance the acquisition of any stock of an affiliate of the applicant;
- ◆ To finance the purchase or acquisition of any facilities or equipment of an affiliate, unless approved by RUS in writing (such a purchase or acquisition may be approved if the

applicant demonstrates that the purchase or acquisition will involve an arms-length transaction, as defined in 7 CFR 1738.2, and that the cost is advantageous for the applicant);

- ◆ To finance the purchase of Customer Premises Equipment (CPE) and the installation of associated inside wiring unless the CPE is (a) owned by the applicant throughout its economic life; or (b) backed by acceptable additional collateral that is not currently owned by the applicant and that has a value at least equal to the purchase price of the CPE (such collateral may not be purchased with RUS loan funds); or (c) paid for through a revolving fund whereby the proceeds from CPE sold to the customer (at least the applicant's cost of the equipment) is returned to the revolving fund and used to purchase additional CPE.
- ◆ To fund the purchase or lease of any vehicles not used primarily in construction or system improvements;
- ◆ To fund the cost of systems or facilities that have not been designed and constructed in accordance with the loan contract and other applicable requirements;
- ◆ To fund facilities leased under the terms of an operating lease; and
- ◆ To fund merger or consolidation of entities.

➤ **4. Applicant Eligibility**

RUS makes broadband loans and loan guarantees to legally organized entities providing, or proposing to provide, services in eligible rural areas.

Eligible entities may be either a nonprofit or for-profit organization, and must take one of the following forms: corporation; limited liability company (LLC); cooperative or mutual organization; Indian tribe or tribal organization as defined in 25 U.S.C. 450b; or State or local government, including any agency, subdivision or instrumentality thereof. Individuals or partnerships are not eligible entities.

To be eligible to receive a loan under this program, the entity must:

- ◆ Have sufficient authority to enter into a contract with RUS;
- ◆ Submit a loan application which meets the requirements published in 7 CFR 1738 and any additional requirements published in the Federal Register;
- ◆ Agree to complete the build-out of the broadband system described in the loan application within three years from the date the borrower is notified that loan funds are available. Under the terms of the loan documents, this three year period will commence 120 days after the date of the loan contract. The loan application must demonstrate that all proposed construction be completed within this three year period with the exception of CPE. CPE can be funded throughout the forecast period;
- ◆ Demonstrate an ability to furnish, improve, or extend service at the broadband lending speed in rural areas;

- ◆ Demonstrate an equity position equal to at least 10 percent of the amount of the loan requested in the application (see Section 10 of the Application Guide for more information on the Equity Requirement); and
- ◆ Provide additional security if it is necessary to ensure financial feasibility (see § 1738.208) as determined by the Administrator.

➤ 5. Eligible Service Area

Applications to the Broadband Loan Program must include at least one service area that is eligible for RUS funding, i.e. a funded service area. By regulatory definition, a “proposed funded service area” is the geographic area within which an applicant proposes to offer service at the broadband lending speed using broadband loan funds. A “service area” is a geographic area within which a service provider offers telecommunications service.

The eligibility criteria are provided below:

A. Rural Areas

Only a proposed funded service area completely contained within a rural area, or composed of multiple rural areas, is eligible for a broadband loan. Under this Program, a rural area is any area, as confirmed by the latest decennial census of the Bureau of the Census, which is not located within:

1. a city, town, or incorporated area that has a population of greater than 20,000 inhabitants; or
2. a urbanized area¹ contiguous and adjacent to a city or town that has a population of greater than 50,000 inhabitants.

B. Other Eligibility Criteria

In addition to being located entirely within a rural area, a service area must meet the following criteria to be eligible for a broadband loan:

1. At least 15 percent of the households in the proposed funded service area are unserved, meaning they are not offered broadband service.
2. No part of the proposed funded service area has three or more “incumbent service providers.” Incumbent service providers offer terrestrial broadband service and provides service to at least 5 percent of the households within a proposed funded service area.
3. No part of the proposed funded service area overlaps with the service area of current RUS borrowers, nor the service areas of grantees that were funded by RUS.

¹ An urbanized area is a densely populated territory as defined in the latest decennial census of the U.S. Census Bureau.

C. Exceptions

There are three service area exceptions for broadband facility upgrades:

1. If a current broadband borrower applies to upgrade existing facilities in their existing service area, the upgraded area is exempt from the requirement concerning the number of unserved households.
2. Incumbent service providers, including borrowers and grantees, that apply to upgrade existing broadband facilities in existing service areas are exempt from the requirement concerning the number of incumbent service providers unless they are eligible for funding under Titles II and III of the RE Act.
3. An applicant which is a borrower, grantee or incumbent service provider may submit one application to upgrade existing broadband facilities in existing service areas and expand into new service areas at the broadband lending speed, provided the upgrade area and the expansion area are proposed as two separate service areas, even if the upgrade and expansion areas are contiguous.

An entity applying to the Broadband Program must plan to use RUS funding to provide service to at least one eligible service area. An applicant may also offer service to ineligible areas in order to achieve overall project financial feasibility; however it must use non-RUS funding for those areas.

Multiple service areas may be included in a single application however, non-contiguous areas **MUST** be treated as separate service areas for the purpose of determining service area eligibility. If non-contiguous area(s) within the application are deemed ineligible, RUS may consider the remaining areas listed in the application. However, if the applicant fails to remove, modify or provide additional information regarding ineligible areas as requested by RUS, the application will be returned.

The Agency will determine whether the service areas included in the application are eligible for funding based on all available information. If part or parts of the applicant's proposed funded service area are ineligible, RUS will contact the applicant and require that those ineligible areas be removed from the proposed funded service area or that other funding be provided. If the ineligible areas are NOT removed from the funding request or additional funds are not provided, RUS will reject the application. In order to avoid missing the current evaluation period, it is strongly recommended that the applicant re-submit their application as soon as possible.

Please note that some of the information required to make a final eligibility determination for a service area is collected after the application is submitted, as this information must be collected through a Public Notice process. Applicants must therefore thoroughly research the area(s) in which they propose to provide service and carefully account for each of the area eligibility criteria to the extent possible.

➤ ***6. Substantially Underserved Trust Areas***

If the Administrator determines that a community in “trust land” (as defined in section 3765 of title 38, United States Code) has a high need for the benefits of the Broadband Program, he/she may designate the community as a “substantially underserved trust area” (as defined in section 306F of the RE Act).

To receive consideration as a substantially underserved trust area, the applicant must submit to the Agency a completed application that includes all of the information requested in 7 CFR 1700, subpart D. Additionally, the applicant must notify the Agency in writing that it seeks consideration as a substantially underserved trust area and identify the discretionary authorities of 7 CFR 1700, subpart D, will apply to every application.

➤ ***7. Preliminary Assessment of Service Area Eligibility***

Initial prospective applicants and their attorneys should review the terms and conditions set forth in the standard RUS broadband loan documents. Additional terms and conditions may apply once financial and technical feasibility has been determined (see Application Review and Notification Process). Copies of these documents can be obtained from the RUS web site at: http://www.rurdev.usda.gov/utp_farmbill.html

RUS recommends that applicants identify and contact the appropriate GFR as early as possible when preparing a loan application (see contact information available online at http://www.rurdev.usda.gov/UTP_ContactStaff.html). The GFR can explain the regulations and requirements of the Broadband Program and offer guidance on preparing an application.

RUS will make information available to prospective applicants to allow a preliminary assessment of the eligibility of a proposed service area. At a minimum, the prospective applicant will be able to ascertain:

- (1) Whether the proposed service area is located in a rural area;
- (2) Whether the proposed service area overlaps with any part of a RUS borrower’s or grantee’s service area; and
- (3) Whether the proposed service area overlaps with any part of a proposed service area specified in a pending application for a loan.

A preliminary assessment of service area eligibility does not account for all eligibility factors, such as the presence and number of incumbent service providers. Furthermore, the eligibility factors within a proposed service area may change between the preliminary assessment and application submission. A preliminary assessment indicating that a proposed service area may be eligible for funding does not guarantee that the area will be eligible at the time of application, nor does it mean that RUS will approve a loan for the applicant.

➤ ***8. Types of Broadband Loans***

1. **Direct Cost-of-Money Loan** – This loan will bear interest at a rate (the “Cost-of-Money Interest Rate”) equal to the cost of borrowing to the Department of Treasury for obligations of comparable maturity. The applicable interest rate will be set at the time of each advance. Department of Treasury interest rates are released daily and can be found in Release H.15 at <http://www.federalreserve.gov/releases/h15/update/>. The applicable interest rate is found below the heading “U.S. government securities” under the sub-heading “Treasury constant maturities.”
2. **Direct 4-Percent Loan** – Direct 4-Percent Loans shall bear interest at 4 percent on each advance made to the borrower. Such loans may be used by RUS, at its discretion, to assist applicants in meeting financial feasibility requirements for applications serving unserved areas. Additional eligibility requirements for Direct 4-Percent Loans may be published in the Federal Register. Direct 4-Percent Loans may be made simultaneously with a Direct Cost-of-Money Loan.
3. **Private Loan Guarantee** – This loan is a third party loan (not funded by RUS). This loan shall bear interest at a rate set by the lender consistent with the current applicable market rate for a loan of comparable maturity. RUS will guarantee up to 80 percent of the principal amount of the loan, excluding any and all charges and fees. Applicants interested in a loan guarantee should contact the Washington DC Broadband Office or the applicant’s GFR (for the most current contact information please see <http://www.rurdev.usda.gov/UTP>ContactStaff.html>).

The applicant may apply for a combination of the aforementioned direct loans. In general, the broadband loan term will be equal to or less than the expected composite economic life of the assets to be financed by the loan, rounded to the nearest whole year. The expected composite economic life of the assets will be based upon acceptable depreciation rates. Applicants may request a repayment period that is shorter; such requests will be granted only if RUS determines that the loan would remain feasible. RUS may, at its discretion, extend the loan term up to 35 years for loans to provide service to unserved areas, i.e. areas that are not offered broadband service at all or are offered broadband service by only one incumbent service provider.

➤ ***9. Minimum and Maximum Loan Amounts***

The amount of funds available for each loan type in each Federal fiscal year, as well as the minimum and maximum loan amounts for each type of loan, will be published in the Federal Register.

An applicant that provides telecommunications or broadband service to at least 20 percent of the households in the United States is limited to a loan amount that is no more than 15 percent of the funds available to the Broadband Loan Program for the Federal fiscal year.

➤ ***10. Equity Requirement***

As a condition to financing, an applicant must demonstrate a minimum equity contribution in an amount equal to 10 percent of the requested loan amount at the time of application which must remain available at loan closing. As defined in 7 CFR 1738, equity means total assets minus total liabilities, as determined by GAAP. The applicant's capacity to meet the minimum equity requirement will be apparent by reviewing the applicant's Balance Sheet. In addition to the 10 percent minimum equity requirement, RUS may require additional cash in support of the loan.

If an applicant cannot meet the equity requirement at the time the application is submitted, the applicant may submit an investor's unconditional legal commitment in the application to cover the shortfall by providing additional equity. The additional equity must be transferred to the applicant prior to loan closing. RUS will reject applications that do not provide evidence acceptable to RUS regarding the investor's commitment. The evidence must clearly identify the amount, terms, conditions of the investment, and the investor's bank or financial statements that demonstrate its ability to fulfill its commitment. The terms and conditions of the investment must also be acceptable to RUS, but at a minimum cannot be secured by any assets of the applicant nor provide that the investment will be available when certain requirements or other thresholds are met by the applicant.

State and local government applicants can satisfy the equity requirement with a general obligation bond (see instructions for Schedule J-2) that will be available to the applicant at closing. It is important to note that the broadband loan cannot be subordinate to the general obligation bond. Also, revenue bonds supported by the operations to be funded cannot be used to satisfy the equity requirement. The applicant must submit an opinion from its legal counsel that the applicant has the authority to issue a general obligation bond in an amount sufficient to meet the minimum equity requirement.

In addition, if RUS projects, based on the applicant's financial information, that the applicant's entire operations will show a negative cash balance at the end of any year during the five-year forecast period, the applicant will be required to obtain additional cash infusions (for details on the Additional Cash requirement, see instructions for Schedule M-5).

➤ ***11. Priority Consideration***

The Food, Conservation and Energy Act of (Farm Bill) requires that in making and guaranteeing loans under this section, priority must be given to applicants that offer to provide broadband service to the greatest proportion of households that, prior to the provision of the broadband service, had no incumbent service provider.

RUS will compare and evaluate all applications that have been submitted for funding and deemed to be complete on a semi-annual basis (March 31, September 30). To implement this requirement in a transparent and reasonable way, RUS will process applications for funding in the following order:

- (1) Applications that include areas that have been classified as Substantially Under Served Trust Areas as defined in 7 CFR 1700. Priority will be given to the applications that includes the highest number of premises with no broadband service.
- (2) Applications in which no broadband service, as defined herein and as amended from time to time, is available in the proposed funded service area;
- (3) Applications in which at least 75 percent of households in the proposed funded service area have no broadband service;
- (4) Applications in which at least 50 percent of households in the proposed funded service area have no broadband service;
- (5) Applications in which at least 25 percent of households in the proposed funded service area have no broadband service; and
- (6) Applications in which at least 25 percent of the customers in the proposed service area are commercial interests and predominately more households are proposed to be served than businesses.

Please note that for applications containing multiple proposed funded service areas, the percentage will be calculated by combining all proposed funded service areas. Once an application has been determined to be complete, it will be compared and prioritized on a quarterly basis according to the criteria listed above and subject to RUS funding level.

➤ **12. Public Notice**

All applicants must provide information necessary for RUS to post a public notice on its website announcing an applicant's intention to offer service at the broadband lending speed. The public notice will remain on RUS' webpage for a period of 30 calendar days and will ask existing service providers to submit to RUS, within the notice period, the following information:

- The number of residential and business customers within the applicant's service area that are currently offered broadband service by the existing service provider;
- The number of residential and business customers within the applicant's service area currently purchasing the existing service provider's broadband service, the rates of data transmission being offered, and the cost of each level of broadband service charged by the existing service provider;
- The number of residential and business customers within the applicant's service area receiving the existing service provider's non-broadband services and the associated rates for these other services;
- A map showing where the existing service provider's services coincide with the applicant's service areas using the Agency's Mapping Tool; and
- Whether the existing service provider is an existing RUS borrower or grantee.

The information submitted by an existing service provider will be treated as proprietary and confidential to the extent permitted under applicable law. RUS will use the information to determine whether the existing service provider will be classified as an incumbent service provider, which in turn will impact the determination of eligibility for the applicant's service area(s). Notwithstanding non-responses by existing providers, RUS will use all information available to it in evaluating the feasibility of the loan. If an applicant is approved, an additional notice will be published that will include the applicant's name, type of loan received, purpose of loan, and any required semiannual reports.

➤ **13. Application Submission**

Applications can be submitted throughout the year and will be reviewed and processed on a first-come, first-served basis according to the time the application is received at the Washington DC Broadband Office listed below. Submit an original and one copy of the completed application along with an electronic version (including electronic versions of service area maps, network diagrams and any other maps or diagrams) directly to the National Office at the following address:

U.S. DEPARTMENT OF AGRICULTURE
RURAL UTILITIES SERVICE
ORIGINATION DIVISION
ATTN: SHAWN ARNER
STOP 1599, ROOM 2868-S
1400 INDEPENDENCE AVENUE, SW
WASHINGTON, DC 20250-1599

Applications delivered by hand to the National Office will be accepted daily between 8:00 a.m. and 4:30 p.m. (Eastern Time), except Saturdays, Sundays and Federal holidays. Individuals delivering applications must provide proper identification (with picture ID) to enter the building. ***All applications are stamped as received only upon receipt in the National Office.***

Note: RUS is currently in the process of developing an online application system. Once the system becomes available for use, all applicants will be required to submit their applications via the online system. Additional application submission requirements may be published in the Federal Register.

➤ **14. Application Review and Notification Process**

Once an application has been received in the National Office and categorized according to the prioritization criteria, the application will be reviewed for eligibility, completeness and quality as follows:

1. RUS will determine through a Public Notice process whether the service area(s) in the application are eligible for funding. See details in the instructions for Public Notice under the “General Information” section and instructions for Schedules F-1 and F-2 of this guide. The information submitted by existing service provider(s) will be considered proprietary and confidential.
 - o If RUS determines that all service area(s) are eligible, program staff will proceed to review the application for completeness.
 - o If RUS determines that one or more service area(s) are not eligible for funding, program staff will notify the applicant of all ineligible area(s) and require that those ineligible areas be removed from the proposed funded service area. If the ineligible area(s) are not removed from the funding request or additional funds are not provided, RUS will reject the application. Broadband service in ineligible area(s) cannot be financed with RUS loan funds; however, the ineligible area(s) may remain as part of the application to support financial feasibility.
2. The completeness review will include an assessment of whether all required documents and information have been submitted, and whether the information provided is of adequate quality to allow for further analysis.
 - o If the application is complete and of adequate quality, program staff will notify the applicant in writing that the application is complete. A notification of completeness is not a commitment that the loan will be approved and RUS may still request additional information to complete the financial and technical feasibility evaluations.
 - o If the application is considered incomplete or inadequate, program staff will notify the applicant in writing that the application has been rejected. The rejection letter will include an explanation of the reasons for rejection.

After an applicant is notified that the application is complete, RUS will evaluate the application’s financial and technical feasibility, as well as its compliance with statutory and regulatory requirements, as follows:

1. Only applications that, as determined by RUS, are technically and financially feasible will be considered for funding.
2. Financial feasibility will be determined by evaluating the applicant’s equity, market survey (if required), competitive analysis, financial information, and other relevant information in the application.

3. Technical feasibility will be determined by evaluating the impact of the facilities financed with the proceeds of the loan and the associated debt, the applicant's network design in conjunction with other relevant information in the application.
4. If the application meets all statutory and regulatory requirements and the feasibility study demonstrates that the TIER requirement can be satisfied (see the section on Financial Position), and the business plan is sustainable, the application will be submitted to RUS' credit committees for consideration. Submission of an application to the credit committees, which has been confirmed as complete and has been prioritized over other application, does not guarantee that a loan will be approved.

The applicant will be notified of RUS's decision in writing as follows:

1. If the loan is approved, a date by which the applicant must accept the offer will be provided.
2. If the loan is not approved, a rejection letter will be sent to the applicant and the application will be returned with an explanation of the reasons for the rejection.

➤ **15. Contact Information**

For additional information concerning this loan program, please contact the General Field Representative (GFR) for the Telecommunications Program in the respective state and/or any member of the **Origination Division**. The contact information for the **Origination Division** and the GFRs can be found at the following address:

http://www.rurdev.usda.gov/UTP_ContactStaff.html

Information about the RUS Telecommunications Program and this application guide can also be found at:

http://www.rurdev.usda.gov/utp_farmbill.html

Instructions for Completing the RUS Form 532

The RUS Form 532, Application for Broadband Loan or Loan Guarantee, is a three-page form that must be completed and certified by an authorized official of the entity applying for the loan. The applicant's name should be inserted in the footers for identification purposes.

1. **NAME & ADDRESS OF APPLICANT** – Enter the legal name and address of the entity requesting the loan.
2. **REGISTERED AGENT (Address, Telephone and Fax)** – Enter the name, address, phone, and fax numbers of the registered agent of the applicant.
3. **PHONE NUMBER** – Enter the phone number of the applicant.
4. **FAX NUMBER** – Enter the fax number of the applicant.
5. **E-MAIL ADDRESS** – Enter the e-mail address of the person responsible for answering questions about this application.
6. **CONTACT PERSON** – Enter the name of the person responsible for answering questions about this application.
7. **TYPE OF ORGANIZATION** - Check the appropriate box that describes the legal structure of the applicant.
8. **TYPE OF LOAN** – Check the type of loan requested. (See Types of Broadband Loans under the “General Information” section for additional information on each type of loan). For applicants that select Direct Loan, please note that RUS may choose to offer a cost-of-money loan or a 4 percent loan, or a combination thereof, at its discretion.
9. **REFINANCING/ACQUISITION** – Check appropriate box(es) if loan funds are requested for refinancing and/or acquisition; otherwise check Not Applicable.
10. **PURPOSE OF LOAN** - Briefly explain the purposes for which loan funds are requested and the respective amount. (See Loan Purposes under the “General Information” section of this guide for additional information on eligible/ineligible purposes of the loan.)
11. **LOAN MATURITY REQUESTED** – Check the appropriate box to select the loan maturity requested. (See Types of Broadband Loans under the “General Information” section of this guide for a discussion of the Program's requirements for loan maturity.)
12. **AMOUNT OF LOAN APPLIED FOR** – The total amount of loan funds requested from RUS in this loan application. (Please note the minimum and maximum amount restrictions discussed under the “General Information” section of this guide.)
13. **IDENTIFICATION INFORMATION** – Enter the applicant's Tax Identification Number (TIN) or the Federal Employer Identification Number (FEIN) in the spaces provided. Enter the applicant's Dun & Bradstreet DUNS number in the space provided.
14. **ORGANIZATIONAL NUMBER** – Enter the organizational number of the applicant issued by the state in which the corporation was formed or the LLC was organized. Refer

to state registration approval for the type of entity:
http://www.uccdirect.com/resource_chart.htm

15. TYPE OF BORROWER – Indicate whether the applicant has an outstanding broadband or telecommunications loan made or guaranteed by RUS.
16. UPGRADE OR EXPANSION OF NETWORK – Indicate whether this application is seeking funding to upgrade or expand an existing network, and/or build a new network.
17. CONGRESSIONAL DISTRICTS – Include the information required on the congressional districts as Schedule A.
18. EXECUTIVE SUMMARY – Include the information required on the Executive Summary as Schedule B.
19. LEGAL OPINION AND PROPERTY SCHEDULES – Include the legal opinion and the real property schedule. The legal opinion and the real property schedule should be included in the application as Schedules C-1 and C-2, respectively.
20. CORPORATE STRUCTURE – Include information on the legal structure of the applicant, its by-laws or operating agreements, its Board of Directors or Managing Members, the management team’s experience and compensation, its organizational chart, and its parent/subsidiary relationships, as Schedules D-1 through D-6.
21. BOARD RESOLUTION – Include the Board of Director’s resolution authorizing the funding request as Schedule E.
22. SERVICE AREA MAPS AND DETAILS – Check the box to confirm that you have electronically submitted service area maps through RUS’ Mapping Tool. Provide the required demographic data for each service area as Schedule F-2.
23. SERVICE AREA – EXISTING or NEW; FUNDED or NON-FUNDED – Include the tables on the existing and new service areas and funded and non-funded service areas as Schedule G.
24. COMPLIANCE CERTIFICATES – Include certified copies of these forms in the application as Schedules H-1 to H-6.
25. OUTSTANDING FEDERAL DEBT – Check appropriate box on Form 532. Use Schedule I to list all outstanding Federal debt and, for each loan, indicate whether the loan documents are attached to the application.
26. EQUITY – If the equity requirement is being met by the Applicant’s Equity, this should be evident on Schedule M-4a (under Financial Position). If not, include (a) Schedule J-1, and the Investor Proposal and supporting documentation indicating that the investor has the capacity to perform; and/or (b) Schedule J-2, documentation of a State or local government’s authority and capacity to issue a State/Local Government Bond.
27. RESEARCH DATA & MARKET ANALYSIS– Include the information required as part of the Research Data as Schedule K-1 and for the Market Analysis as Schedule K-2.
28. COMPETITIVE ANALYSIS – Include as Schedule L-1 the analysis of existing providers who are competitors. Include the strategic plan as Schedule L-2.

29. **FINANCIAL POSITION** – Include the information required on the Financial Position of the applicant. These schedules cover six major areas: complete financial statements, preferably audited, for the preceding three years (Schedule M-1); detailed information on all existing indebtedness (Schedule M-2); the projected subscriber base for each type of service to be offered (Schedule M-3); the projected financial statements for each of the five years of the forecast period (Schedule M-4A); Pro-Forma financial assumptions (Schedule M-4B); estimate of whether additional cash is needed and documentation to support the capacity to make the cash investment (Schedule M-5), and depreciation schedule for the assets proposed for purchase with the loan funds (Schedule M-6).
30. **NETWORK DESIGN** – Include the information required for the Network Design as Schedules N-1, N-2 and N-3, respectively.
31. **NETWORK DIAGRAMS** – Include the Existing and Proposed Network Diagrams as Schedules O-1 and O-2, respectively.
32. **PROJECT COSTS** – Include the completed Project Capital Investment Workbook as Schedule P and note the total cost of the project in the space provided on the form.
33. **ENVIRONMENTAL REPORT** – Include the Environmental Report for the proposed project as Schedule Q.
34. **LICENSES AND AGREEMENTS** – Provide a status report on the licenses, agreements, approvals, and authorizations required for constructing your broadband network by completing the Schedule R template.

Overview to Preparing Schedules A through S

When preparing an application, RUS encourages applicants to think of the entire application as a business plan that is being presented for consideration. It should present the project's goals and activities with a convincing argument to demonstrate that the applicant has sufficient management experience and capacity, financial wherewithal, a sound technical approach with the experience and skills to implement the plan, and the marketing plan and knowledge to ensure the project's success.

In addition to demonstrating the financial and technical feasibility of the applicant's plan, the applicant also must demonstrate that the project will help RUS achieve the goals of the Broadband Program and that the project can meet the program's regulatory requirements.

RUS conducts a rigorous financial and technical evaluation of each complete application in an effort to make loan decisions that are in the best interest of the Federal Government and the rural communities that will benefit from broadband access. Applicants are urged to develop and submit applications that meet or exceed these standards.

RUS generally obtains a first lien on all assets owned by the applicant and purchased with the loan funds as well as all revenues. RUS will consider sharing a first lien position with another lender on a *pari passu*, prorated basis. RUS will not consider being subordinate to another lender.

Instructions for Preparing Schedules A & B

[CONGRESSIONAL DISTRICTS \(Schedule A\)](#)

To complete Schedule A, applicants must provide the congressional district where the applicant's headquarters are located and the congressional district(s) that cover the service area(s) included in the proposed project.

[EXECUTIVE SUMMARY \(Schedule B\)](#)

To complete Schedule B, applicants must provide an executive summary about the proposed project. This should include a brief description of the proposed project, state the reason why the system is needed and the qualifications of the applicant that demonstrate the ability to construct and operate the broadband system. It should also state the number and names of the rural areas to be served, the proposed type of broadband system that will be deployed and the overall cost of the broadband system.

Instructions for Preparing Schedule C

LEGAL OPINION AND PROPERTY SCHEDULE (Schedules C-1 and C-2)

- Legal Opinion – A legal opinion shall be prepared in accordance with the sample format as shown on the Schedule C-1 template. The legal opinion should address the applicant’s ability to execute legal documents, and describe all pending litigation matters. The applicant’s legal counsel must submit an executed opinion on counsel’s letterhead.

- Real Property Schedule – A real property schedule shall be prepared in accordance with the sample format as shown on the Schedule C-2 template. The real property schedule should include the legal descriptions of all the real property owned by the applicant. It should be categorized into real property, leased-property, easements, and rights-of-way.

Instructions for Preparing Schedules D & E

CORPORATE STRUCTURE (Schedules D-1 through D-6)

- Articles of Incorporation or Organization – Include a certified copy of the Articles of Incorporation or Organization of the applicant as Schedule D-1.

- Bylaws or Operating Agreements -- Attach as Schedule D-2 a copy of the Bylaws or Operating Agreements of the applicant. If the applicant is an LLC, or any of the applicant’s members are LLCs, the applicant must submit either of the following:
 - 1) LLC agreements for all members of the applicant’s LLC; or
 - 2) An opinion of counsel which certifies that the applicant’s agreement does not conflict with any of the LLC agreements of the applicant’s members.

- Board of Directors or Managing Members – Schedule D-3 shall include a list of the applicant’s board members and a brief biography to highlight their experience within the applicant’s industry and community.

- Management Experience and Compensation – Schedule D-4 shall include information on the key personnel who manage or will manage the company and this project. At a minimum, the following information shall be provided for each member of the management team:
 - Duties and responsibilities related to this project and to any other project

- o Detailed description of qualifications, which focuses on how each person's previous ten years of work experience directly relates to his or her ability to perform the duties and responsibilities described above
- o Resume for each team member detailing positions held for the 10 years previous to the date on which the application is submitted
- o Salaries
- o Stock Ownership
- o Bonus Plans
- o Individual Equity Investments

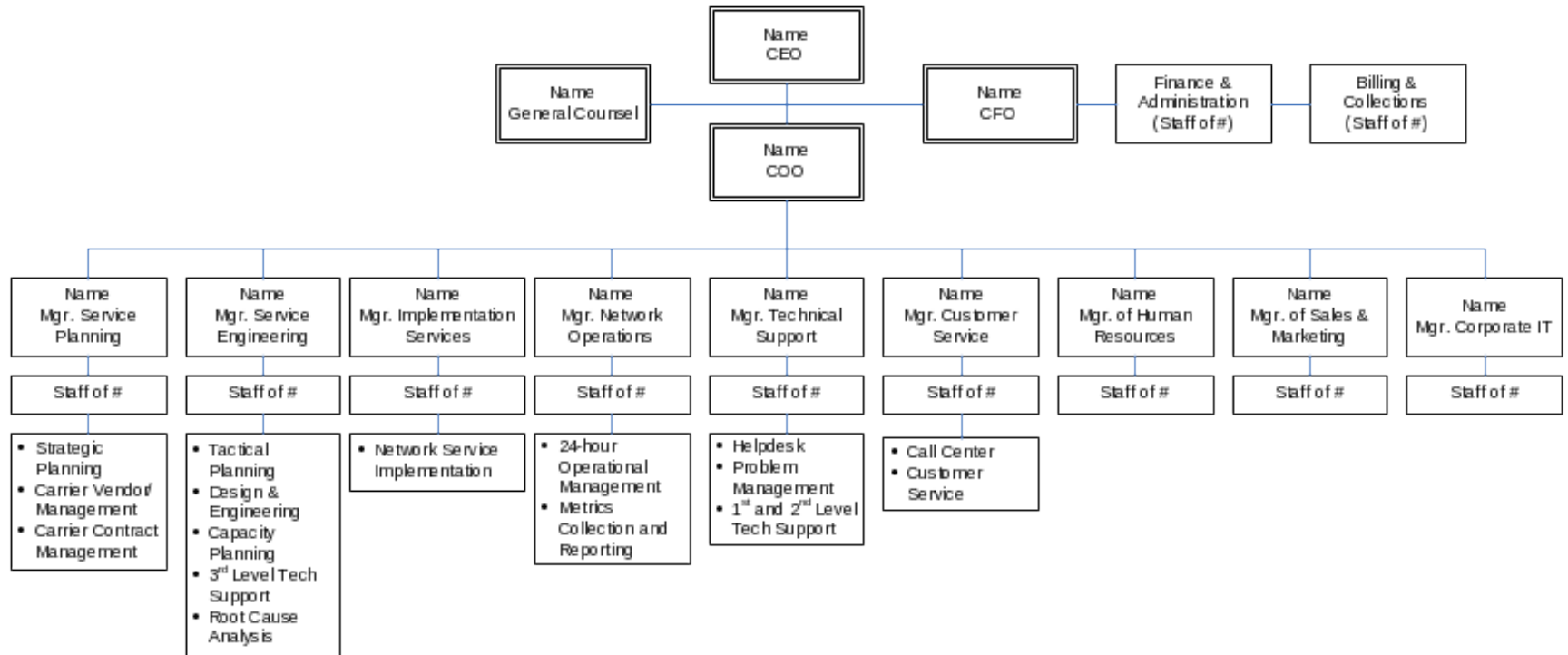
In addition, the following two items should also be addressed in this Schedule:

- o Describe the extent to which this management team has worked together previously and name particular initiatives or projects, if any, that the team has previously undertaken together.
 - o How do the management team's skills complement each other?
- Organizational Chart – Attach as Schedule D-5 an organizational chart showing the key personnel who manage or will manage the company and/or this project, and the number of employees in each division or department managed by those personnel. A sample organizational chart is provided on the next page. This is only a sample and must be tailored to reflect the applicant's organization. An applicant's organizational chart(s) should reflect both company structure and key staff, whether this is achieved using one or more charts.

Sample Organizational Chart (Schedule D-5)

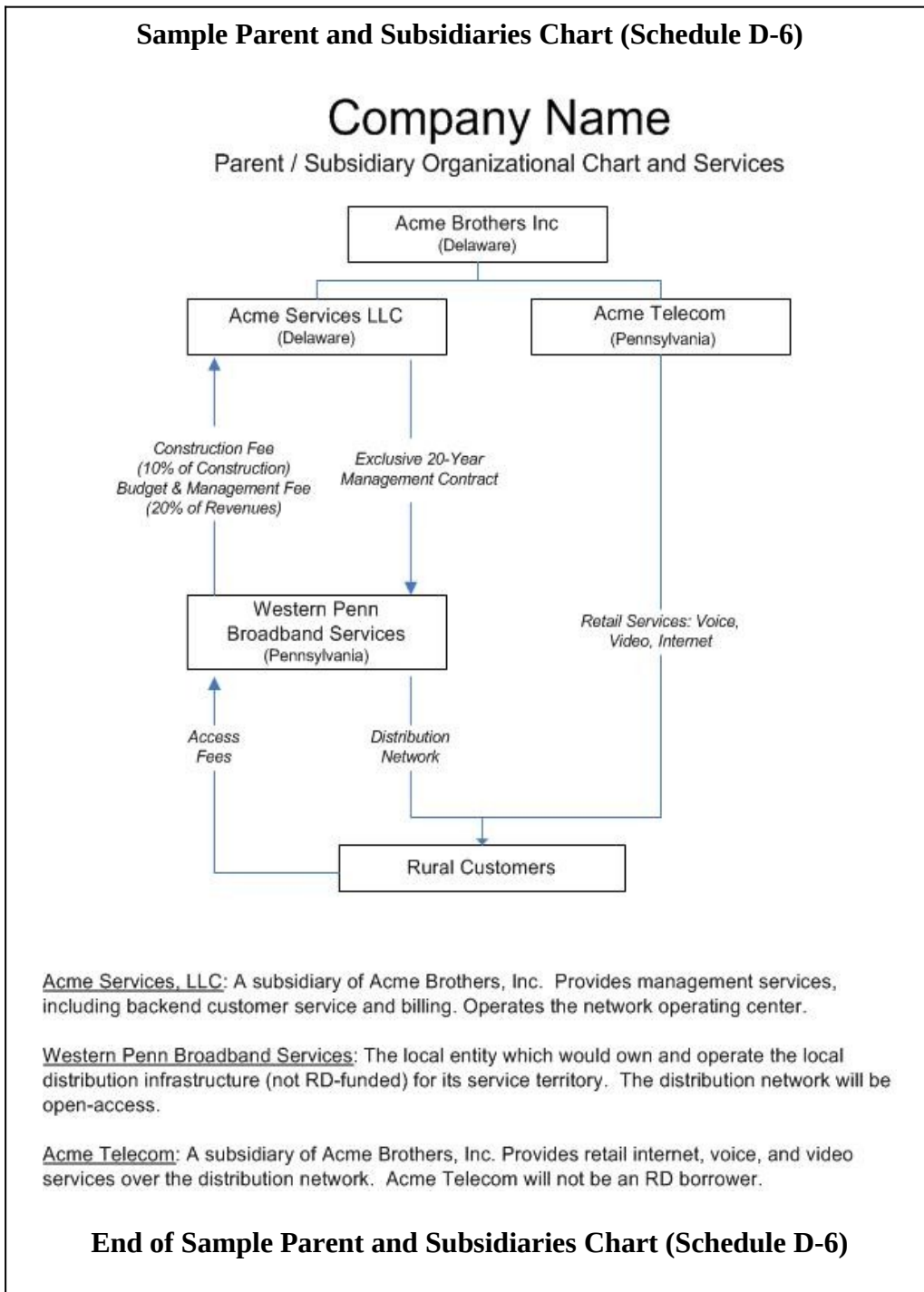
Company Name

Sample Company Organizational Chart



End of Sample Organizational Chart (Schedule D-5)

- Parent and Subsidiaries** – Schedule D-6 should include an organizational chart illustrating all the other entities (parent/subsidiaries) that are affiliated with the applicant and clearly indicating the relationships between these entities and the applicant. An accompanying narrative should briefly indicate any services that the affiliate will be providing to the applicant or that the applicant will be providing to the affiliate. See the sample organizational chart below. This is only a sample and must be tailored to reflect the actual structure of the applicant’s organization.



[BOARD RESOLUTION \(Schedule E\)](#)

A Board of Directors' resolution or other document authorizing the funding request should be included as Schedule E.

Instructions for Preparing Schedule F

[SERVICE AREA MAPS AND DEMOGRAPHIC DATA \(Schedules F-1 and F-2\)](#)

To complete schedule F-1 and F-2, applicants must go to RUS' web-based Mapping Tool to electronically designate and submit maps of their service area(s), both funded and non-funded, and provide additional demographic data about those service area(s). RUS will use this data to post a public notice of the application. This notice will be posted on RUS' website for 30 calendar days. During that 30-day period, existing service providers will be able to submit information to RUS regarding their existing service offerings. RUS' Mapping Tool can be accessed at: <http://broadbandsearch.sc.egov.usda.gov/>

- 1) Service Area Map(s) - Schedule F-1 will include a map of each service area and demographic data about each service area. Each map must identify the rural area boundaries and the unserved areas within the service area. (An unserved area means an area that is not offered broadband service, or that is offered broadband service by only one incumbent service provider.)

Applicants must submit their service area maps and demographic data through RUS' web-based Mapping Tool. Applicants must provide the Mapping Tool Reference Number assigned for their application with Schedule F-2. Please note that no matter how many service area(s) are within a single application, you should draw each map under the same application. Each application should have only one associated Map Reference Number. Applicants should ensure that their Reference Number follows this format:

XXXX-XXXX-XXXX-XXXX

To ensure accurate mapping for proposed projects:

- A service area is defined as the geographic area within which a service provider offers telecommunications services. An application may include one or many service areas. Each service area should be drawn as a separate map which will then be rolled up into one single project with a single Map Reference Number.
- Each non-contiguous geographic area should be treated as separate service area. However, a borrower, grantee or incumbent service provider may submit one application to upgrade existing broadband facilities in existing service areas and expand into new service areas at

the broadband lending speed, provided the upgrade area and the expansion area are proposed as two separate service areas, even if the upgrade and expansion areas are contiguous; and

- Each and every proposed funded service area in an application must be entirely rural. Meaning it cannot overlap with any portion of a non-rural area.

2) Service Area Demographic Data (Schedule F-2) – Applicants must complete the Schedule F-2 template by providing the Map Reference Number assigned to their application and providing the following information for each service area:

- i. The name of the service area (please ensure this is the same name you assigned to the service area in the RUS Mapping Tool).
- ii. The total number of households that lie within the service area.
- iii. The estimated number of unserved households in the service area.
- iv. The estimated number of households without terrestrial-based broadband service in the service area.
- v. A description of all the types of services to be provided in the service area.

Sample Service Area Demographic Data (Schedule F-2)					
	Service Area	Total Number of Households	Number of Unserved Households (0 or 1 Incumbent)	Number of Households without Terrestrial-Based Broadband Service	Type(s) of Services to be Provided
1	Moon County	75,245	16,000	9,500	Data, Video and Voice
2	Sun County	25,223	9,500	2,000	Data and Voice
End of Sample Service Area Demographic Data (Schedule F-2)					

Instructions for Preparing Schedule G

SERVICE AREAS - NEW or EXISTING; FUNDED or NON-FUNDED (Schedule G)

Schedule G must be completed for all existing service areas (if any) of the applicant, as well as all new service area(s). For each service area, the applicant must indicate whether RUS loan funds will be used.

Applicants should list each of their service areas in accordance with the following categories:

- New or Existing:
 - New -- Designate a service area as “New” if the applicant does not provide broadband service to this area.
 - Existing -- Designate a service area as “Existing” if the applicant currently provides broadband service to this area.
- Funded or Non-Funded:
 - Funded -- Designate a service area as “Funded” if the applicant proposes to use RUS broadband loan funds received under this application in this service area to provide broadband service at the broadband lending speed.
 - Non-Funded -- Designate a service area as “Non-Funded” if RUS funds will not be used in the service area.

Indicate the Rural Area(s), County (or Counties) and the State(s) covered by each service area; the population of each Rural Area, the number of Households (HH) in each rural area; and the number of Businesses (Bus) in each rural area. These statistics should start with the most recent available data provided by the U. S. Census Bureau (see <http://www.census.gov/>) and can be supplemented with more current information. Applicants should provide such data for each area they serve or plan to serve, regardless of whether the area qualifies for RUS funding.

Instructions for Preparing Schedules H, I & J

COMPLIANCE CERTIFICATES (Schedules H-1 through H-6)

Schedules H-1 through H-6 are forms that need to be certified by the applicant to ensure compliance with Federal statutes and regulations. All forms should be certified with original signatures. Using the forms “as-is” will expedite application processing.

- A. Equal Opportunity and Nondiscrimination Certification (Schedule H-1)

- B. Certification Regarding Architectural Barriers (Schedule H-2)
- C. Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 Certification (Schedule H-3)
- D. Certification Regarding Debarment, Suspension, and other Responsibility Matters – Primary Covered Transactions (Schedule H-4)
- E. Certification Regarding Lobbying for Contracts, Grants, Loans, and Cooperative Agreements (Schedule H-5)
- F. Certification Regarding Flood Hazard Area Precautions (Schedule H-6)

OUTSTANDING FEDERAL DEBT (Schedule I)

Check the appropriate box (yes or no) on Form 532 to indicate whether the applicant is delinquent on any Federal debt, or if the applicant has any outstanding Federal debt. Attach as Schedule I, using the template provided, a list of all outstanding Federal debt and, for each loan, indicate whether the loan documents are attached to the application.

EQUITY (Schedules J-1 and J-2)

To be eligible for a loan, and as a condition to RUS financing, an applicant must have equity in an amount equal to 10 percent of the requested loan amount at the time of application. That equity must remain available at loan closing. Equity means total assets minus total liabilities, as determined by GAAP. The applicant’s capacity to meet the minimum equity requirement will be determined by reviewing the applicant’s balance sheet. Additional cash requirements may be required in support of the loan.

- A. Equity. If an applicant’s balance sheet can demonstrate fulfillment of the equity requirement at the time the application is submitted, this should be evident on Schedule M-1 submitted under Financial Position. Schedule M-1 does not need to be attached again here.
- B. Investor Proposal. If an applicant’s balance sheet cannot demonstrate fulfillment of the equity requirement at the time the application is submitted, the applicant must submit, as Schedule J-1 in the application, an investor’s unconditional legal commitment to cover the shortfall by providing additional equity. The additional equity must be transferred to the applicant prior to loan closing. Schedule J-1 must include, at a minimum:
 1. A letter from the investor indicating the investor’s unconditional legal commitment, the timing for providing the investment, the amount of investment, and all terms and conditions associated with the investment (RUS may reject investments that do not prohibit redemption of the investment until such time as stated requirements and financial thresholds are achieved by the applicant); and
 2. Bank or financial statements from the investor that demonstrate the investor’s ability to meet its commitment to the applicant.

If this option is selected and the support information is not included, the application will be rejected.

- C. State or Local Government Bond. Schedule J-2 is to be used by State and Local Governments who wish to satisfy the equity requirement with a general obligation bond that is not senior to the broadband loan (in practice, this generally means that the bond is *pari passu* with the broadband loan).
1. The applicant must submit an opinion from its legal counsel, acceptable to RUS, that the applicant has the authority and capacity to issue a general obligation bond in an amount sufficient to meet the minimum equity requirement.
 2. With receipt of an acceptable opinion, RUS can proceed with its review of the application.
 3. If RUS extends a loan offer to the applicant, the general obligation bond must be issued and the applicant must have the cash deposited in its bank account before the loan closing can occur. The broadband loan will not be subordinate to the general obligation bond.
 4. Revenue bonds supported by the operations to be funded cannot be used to satisfy the equity requirement.

Instructions for Preparing Schedule K

RESEARCH DATA AND MARKET ANALYSIS (Schedules K-1 and K-2)

Market research is critical in determining the interest and demands of the targeted rural areas for the services offered. This research provides the applicant with knowledge of market potential and knowledge of the needs/demands of the potential customer base. But most importantly, market research supports feasibility studies and strategic planning goals.

Therefore, a market survey, satisfactory to RUS, shall be conducted by the applicant in **each** service area where the applicant proposes to provide service at the broadband lending speed. This means that non-contiguous service areas must also be treated separately for the purpose of the market survey requirement.

The market survey will collect data from potential subscribers (both residential and business) on the service offerings and the respective rates to determine the level of interest in the services and rate plans to be offered by the applicant.

The market survey must demonstrate the need for services at the broadband lending speed as well as any other service being offered, support the projected penetration rates and price points for the services to be offered, and support the feasibility analysis. The market survey must address all services (i.e. voice, data, video, etc.) that will be funded with the broadband loan or loan guarantee except as follows:

- The applicant is **not** required to complete a market survey for any service offering for which the applicant is projecting less than a 20 percent penetration rate in each service area by the end of the five-year forecast period. For example, if the applicant is projecting a penetration rate of 30 percent for data services and 15 percent for video services in a particular service area, a market survey must be completed only for the data services in that service area. It is recommended that if a market survey is required for any service offering that the survey includes all service offerings. Please note that proposed prices for those services with a projected penetration rate less than 20 percent must be affordable, as determined by RUS.
- The Administrator may modify the requirements of the market survey for loans in service areas that are “unserved” when it is in the best interest of the Agency.

RUS may reject any application in which the financial projections are not supported by the market survey. If the demographics of the proposed service area have significantly changed since the survey was completed, an updated market survey may be required.

Market surveys will only be accepted if they were conducted within six months preceding the date of submission of the application to RUS.

Market surveys can be conducted through the following media:

1. Direct mail;
2. Telephone;
3. Door-to-door interviews; and
4. Town Meetings
 - i) Coordination with local government officials
 - ii) Coordination with local Chamber of Commerce
 - iii) Announcements by local TV, radio, and newspapers

The applicant must capture a representative sample of both the residential and business sectors of each service area included in the application regardless of whether the areas are being funded by RUS loan funds or other sources.

The survey questionnaire used for conducting the market survey should, at a minimum, capture the following information:

1. Ownership of computers and Internet usage (including time online);
2. Existing service provider, types of services offered, rate plans (both price and transmission rates), satisfaction with current provider;
3. Proposed services offered by applicant, the respective rate plans (including any one-time fees), and the timeline for providing those services;
4. Incentive/introductory packages offered by the applicant;
5. Interest in switching service providers and reasons for switching (price, service level, customer service/local presence); and
6. Economic and social demographics including age, income level, and family/household members.
7. Types of broadband services desired by the customer, including data (internet access), voice services, streaming video, interactive video, peer-to-peer, and on-line gaming. If other, please specify.

A. Research Data (Schedule K-1)

Schedule K-1 shall contain the methodology for conducting the market survey, the tabulated results for each service area, and a copy of the questionnaire used in the market survey. The presentation of survey results shall include:

1. Total number of surveys sent;
2. Total number of respondents;
3. Number and percent of responses to each question; and
4. Cross-tabulations for income levels, computer ownership, Internet usage.

B. Market Analysis (Schedule K-2)

Schedule K-2 shall contain an analysis of the research data as follows:

1. The applicant will draw conclusions regarding projected subscriber levels across the different service levels/rates for each service area for each year of the financial forecast. The results will clearly differentiate business subscribers from residential subscribers. The results will be based on the tabulated data from the market survey, as well as other market data gathered with respect to existing and potential competition, and demographics of each service area.
2. The results should represent each service area taking into account each service area's individual circumstances and will be based on the number of households/businesses in each service area and not the population of the service area.
3. The applicant must clearly explain the methodology behind the final subscriber projections. Subscriber projections based on population numbers

and national/state statistics are not acceptable on their own. Projections must be supported from the research data provided in this section.

Instructions for Preparing Schedule L

COMPETITIVE ANALYSIS (Schedules L-1 and L-2)

The applicant must submit a competitive market analysis for each service area that will be included in the feasibility analysis, regardless of projected penetration rates. This means that non-contiguous service areas must also be treated separately for the purpose of the competitive analysis requirement.

- A. Schedule L-1 must contain the following information:
 1. A list of all existing service providers and all resellers competing in the applicant's service areas (and the broader market area, if applicable), including cable TV operators, regardless of the provider's market share, for each type of service the applicant proposes to provide.
 2. Information on each competitor's service offerings and pricing, the area that is being covered, and to the extent possible, a description of the quality of services being provided.
- B. Strategic Plan - Schedule L-2 shall be a narrative that describes the applicant's strategic approach for how it intends to successfully compete against existing service providers. This analysis should compare the applicant's offering with their competition's and describe how the applicant will successfully win new customers, including those of its competitors. The narrative shall describe any incentives, marketing and pricing strategies, as well as strategies the applicant will use to counteract any advantages or strategies used by the competition.

Unless addressed in the Market Analysis in Schedule K, the Strategic Plan should also include:

1. A description of the applicant's primary market:
 - a. Geographic area to be served should agree with the service areas detailed in Schedule F-1.
 - b. Factors affecting market growth need to be described including how they will impact applicant plans, and how the applicant will mitigate risks and penetrate the current markets.
2. The current status, prospects, and trends influencing the industry in the applicant's target areas.

3. A description of targeted customers including the key factors that influence their service selection decisions. This should be substantiated from a market analysis, if required.
4. A description of the applicant’s pricing strategy and pricing goals for the short- and long-term, including ramp-up and market share.
5. A description of the applicant’s approach to advertisement and promotion of services, i.e. how the applicant will reach the most customers and deter competitors. Include a description of the advertisement, promotions strategy, marketing plan, the cost to execute the marketing plan, and the messages the applicant will provide to the target markets. It should compare the marketing approach to the current marketing programs competitors are pursuing or are likely to pursue.

If broadband service is proposed to be offered in an area where there are no households (“green field” area), the application must include information that justifies the subscriber penetration rates since no market information is available. This information might include:

- Subscriber penetration rates from comparable rural areas
- Census data on income levels compared to other rural areas
- Census data on age levels compared to other rural areas
- Census data on computer ownership compared to other rural areas
- Permits, plans, plats, or other documentation submitted to or approved by local authorities that supports the applicant’s projections of population growth in the area to be served
- Subscriber penetration by satellite service providers
- Letters of support from residents and community leaders in the rural area
- Minutes of “town hall” meetings held in the rural area
- And any other information that supports your projections.

Informal or casual knowledge about existing service providers is generally inadequate to develop an effective strategy for an applicant to successfully compete in a market. The competitive analysis should demonstrate that the applicant has detailed knowledge of its competitors, an understanding of its competitor’s strategies, investments and capabilities, and presents its own strategy for successfully competing against these competitors.

Instructions for Preparing Schedule M

FINANCIAL POSITION (Schedules M-1 through M-6)

RUS will approve a loan only if, in RUS’s sole judgment, the loan will be repaid according to its terms and within the time agreed upon. It is the applicant’s responsibility to provide sufficient financial information and supporting justification to determine that

the loan request meets all of RUS's requirements, will be feasible, and is adequately secured. Long-term forecast analysis should be based on knowledge of the external and internal factors that affect a company's operations. Historical financial statements (audited, if available) and the projections (subscriber estimates and pro forma financial statements) should be prepared by a financial consultant, accountant or individual qualified to prepare these types of financial statements and supporting schedules. The applicant must submit evidence of the preparer's qualifications.

In order to determine financial feasibility of the project, the applicant must achieve a projected Times Interest Earned Ratio (TIER) of at least 1.25 by the end of the five-year forecast period, based on the applicant's existing operations and new operations combined.

$$TIER = \frac{\text{Net Income (after taxes)} + \text{Total Interest Expense}}{\text{Total Interest Expense}}$$

TIER is defined as the ratio of an applicant's net income (after taxes) plus (adding back) interest expense, all divided by interest expense (existing and that required in the proposed loan), and with all financial terms as defined by GAAP. For the purposes of this calculation, all amounts will be annual figures and interest expense will include only interest on debt with a maturity greater than one year.

Historical Financial Statements (Schedule M-1)

As applicable, attach the below listed items as Schedule M-1:

1. What to Include: Financial statements of the applicant for the last three years, or for as long as the applicant has been in business, if less than three years, must be provided. Historical financial statements for the last three years must also be supplied for each co-applicant. The financial statements must include the balance sheet, income statement and statement of cash flows, as well as any accountant's letter and the notes to the financial statements. Audited financial statements are preferred.
2. Alternatives to Audited Financial Statements: If audited statements are not available for the last three years, the applicant must submit un-audited financial statements and tax returns for those years. Applications from start-up entities must at a minimum provide an opening balance sheet dated within 30 days of the final submission of all application material. A startup entity may also choose to submit a tax return if audited statements are not available, in addition to the opening balance sheet.
3. Parent Companies, Subsidiaries, Affiliates and Others: If the applicant has a parent company and/or one or more subsidiaries, the historical financial statements for the preceding fiscal year of those entities are also required. If another affiliated or unaffiliated company is providing operations and

management services to the applicant, that company's historical financial statements should also be included. Audited financial statements are preferred; however, see the preceding item for acceptable alternatives if audited financial statements are not available.

Schedule of Debt and Equity Funding (Schedule M-2)

Applicants must submit the RUS-provided Schedule of Debt and Equity Funding (Schedule M-2), along with supporting documentation, to provide detail for all existing long-term liabilities, loans, and capital leases. It also documents new non-RUS funding sources that will be needed to fund the Broadband Loan project, working capital, and any other capital projects planned during the forecast period.

As with other schedules made available by RUS, applicants may modify this schedule to include additional information as needed, given that any modifications are adequately explained. Use the document as a checklist to record the submission of documentation supporting each source of external funding and to provide relevant details for review.

The worksheet is broken into two sections:

- **Existing Loan Term Obligations** - For each long-term debt or obligation, include a description of loan, principal amount, annual interest rate, term, number of payments, annual payment amount, and start date. Also indicate whether supporting documentation for the loan or lease has been submitted with the application. Supporting documentation includes copies of loan agreements, commitment letters, or leases.
- **Proposed Non-RUS Funding Sources** - Enter other funding anticipated to support this application's pro forma financial statements. Non-Broadband Loan funding for the capital budget and working capital should include documentation of equity, debt, or other contributions (such as in-kind contributions), including a list of the committed sources of capital funding. A brief description of each should be included. **Do not list the requested Broadband Loan here.** For other contributions, applicants must provide documentation supporting the cash valuation of each contribution.

Applicants must submit documentation substantiating any funds listed in the Schedule of Debt and Equity Funding, for all existing debt and obligations, and all forms of external non-Broadband Loan funding used to fund the proposed project. The documentation must substantiate the outstanding debt, obligations, and external non-Broadband Loan funding for the applicant's organization, not other entities such as parents or affiliates. Please note that the source documentation must also reflect any co-applicants.

To provide evidence of existing debt, include copies of existing notes, loan and security agreements, guarantees, and capital leases. To provide evidence of external funding,

include copies of all formal commitments from your parent company, investors, and/or third parties, such as commitments of funding from banks, evidence of loan agreements, and signed agreements from the board of directors. If a parent company is providing funding or any other support, proof of such support is required.

Subscriber Projections and Service Tiers (Schedule M-3A, B and C)

The RUS-provided Excel spreadsheet for Schedule M-3 for this attachment consists of a single worksheet. **Applicants must submit subscriber projections for each and every service area proposed for the Broadband Loan project.**

Subscriber projections must be broken down by service area, service offering (IP Data, Video, or Voice), service type, tier, pricing, and year. The subscriber projections must be supported by the results obtained from the market survey and analysis. It is the applicant’s responsibility to clearly demonstrate how the market survey results support all subscriber projections, tiers, and pricing.

The spreadsheet has separate worksheets for IP Data, Video, and Voice Services. Applicants should use these tables to illustrate the broadband service offerings and subscriber counts for residential and business subscribers that are currently being provided (if applicable), and those proposed within the next five years. The tables break down subscribership into residential and business offerings. There is room for multiple service tiers for each classification and year-by-year estimates for subscriber counts in the first five years. Note that the subscriber numbers provided should be cumulative year-end counts, **NOT** the number of new subscribers added each year. Also note that subscribers who subscribe to more than one type of service should be counted on multiple tables. For example, a household that subscribes to both IP Data Services and Voice Services should be counted on both tables.

Definitions

- **Downstream:** Network traffic flow from main aggregation point - to the subscriber
- **Upstream:** Network traffic flow to main aggregation point - from the subscriber
- **Kbps:** Kilobit per second. 1000 kbps = 1 Mbps

- Advertised Tier Definitions - For each service offering to potential subscribers, enter the applicable downstream and upstream speeds.
 - You may change the “Tier Designator” label for each tier to provide the name for each tier, but this is not required.

- Speeds are entered in kbps. Available tiers greater than 1 Mbps should be multiplied by 1000 to scale correctly. Example: A service tier offered at 5 Mbps downstream and 1 Mbps upstream would be represented as 5000 kbps and 1000 kbps, respectively.
- Currently Offered Service - Enter Y or N to indicate whether you currently offer this tier of service.
- Current Subscribers - For each tier, enter the number of current subscribers.
- Subscriber Projections (total End of Year [EOY]) - For each tier, enter the total number of subscribers who are anticipated to be subscribed to that tier at the end of each year of operation. This is a total number at that point in time and not an incremental number.
- Price - For each tier, enter the dollar amount charged to customers. In the case of bundled services, the price is the amount that would be charged for this service only.

Pro Forma 5-Year Financial Forecast (Schedule M-4A)

Applicants are required to submit a complete financial model of the pro forma five year forecast period, and are strongly encouraged to use the Microsoft Excel spreadsheet template provided by RUS for Schedule M-4A. Applicants are allowed to modify this spreadsheet as long as any and all modifications are sufficiently explained.

The template includes four separate worksheets consisting of a pro forma Income Statement, Non-Operating Net Income, Balance Sheet, and Statement of Cash Flows. The financial forecast must cover at least five years and be inclusive of ALL operations of the applicant, that is, both existing and proposed. It will be used by RUS to determine whether the loan can be repaid on its terms, whether the proposed project is financially feasible and sustainable, and whether this is a viable operation. The projections should be detailed, taking into account the applicant’s best estimates for start-up costs (if any), revenues, expenses, ability to make a profit and all financial data related to any subsidiaries.

Tips for Successful Applications

- Ensure that the Schedule is prepared by a financial consultant, accountant, or individual qualified to prepare financial forecasts.
- Follow the guidance on developing financial projections in this section.
- Ensure that RUS can determine exactly how every line item was calculated in each forecast year.
- Ensure that the information you provide is consistent with the details of other sections in your application. This includes, but is not limited to:
 - Schedule K – Research Data and Market Analysis

- Schedule M-1 - Historical Financial Statements
 - Schedule M-2 - Schedule of Debt and Equity Funding
 - Schedule M-3 - Subscriber Projections and Service Tiers
 - Schedule P - Project Costs and Buildout Timeline
- Pro forma financial statements must be for the applicants and co-applicants, not for parent organizations.

General Pro Forma Financial Forecast Guidance

Every projection consists of an Income Statement, Balance Sheet, and Statement of Cash Flows. The statements must present three years of historical data (or, if less than three years, as many years as the applicant has been in operation), a Base Year, and five years of pro forma forecast data.

The Base Year is intended to include the impact of events which have taken (and/or are expected to take) place between the end of the last historical year and the beginning of the first forecast year of the financial statements. The beginning of the first forecast year is the point at which an approved applicant receives its first advance of loan funds. **It is in the Applicant's discretion to determine the length of the Base Year, but it should not exceed 12 months.**

The Base Year financials should reflect the continuation of any historical operations, as well as changes in operations expected to take place prior to the receipt of broadband loan funds. **The Base Year financials must be supported with assumptions which include sufficient detail of the Applicant's operations during that timeframe.**

Columns should be clearly labeled with the appropriate year. Start-up organizations can leave the historical columns blank, except for the opening Balance Sheet, which should be included in the historical column immediately prior to the Base Year.

Historical and forecast years can be based on either calendar years or fiscal years, but if the applicant reports by fiscal years, the applicant should note the fiscal year period in the Pro Forma Financial Assumptions (Schedule M-4B).

The statements should also contain all of the applicant's regulated and non-regulated operations. Revenues, expenses, assets, liabilities, and related cash flow transactions of non-regulated operations should be included in detail in the financial forecast.

Pro Forma Income Statement Guidance

The Schedule M-4A template is pre-populated with preferred revenue and expense categories. Applicants are encouraged to use these exact categories in order to facilitate processing applications. If an applicant chooses to not employ this template, or otherwise

modify the Schedule M-4A template categories, the applicant must provide a sufficient level of detail to enable a reasonable level of understanding of the financial position of the existing operations combined with operations derived from the proposed project.

Pro Forma Financial Assumptions (Schedule M-4B)

Overview: Applicants are required to submit a detailed written narrative that documents the various pro forma financial assumptions used to prepare the Pro Forma 5-Year Financial Forecast.

Every category in the pro forma financial statements must be explained with clear details so that RUS may review and understand the basis for the financial projections. The assumptions must allow an RUS financial analyst to re-create the pro forma financial statements. If the financial forecast is not fully supported by a detailed narrative for every category, it may affect the final decision on the application.

Guidance Related to the Pro Forma Financial Assumptions

While applicants are not required to utilize all of the categories in the worksheets, applicants must provide a sufficient level of detail to provide a reasonable understanding of existing and proposed operations, including the proposed Broadband Loan project. Any modifications to the pro forma financial statements submitted as Schedule M-4A must adequately document, support, and justify the information in any modified categories.

Historical Financial Reconciliation

If there are any gaps or discrepancies between the submitted historical financial statements and the historical data provided in Schedule M-4A, applicants should include detailed explanations in the assumptions.

Income Statement Assumptions

Applicants must provide assumptions for **ALL** of the categories on the Income Statement.

The detailed network plan should link to the pro forma financial statements. Applicants should describe existing capacity and give its annual cost for backhaul, IP/interconnection, and/or spectrum and video. Include proposed capacity that will be necessary to serve subscribers as well as projected annual cost. Ensure that the annual cost totals for each category reconcile with the corresponding expense items.

Backhaul should include all transport costs for taking the applicant's network traffic to its providers. IP/Interconnection should include all IP traffic costs for providing service to

users. Spectrum should include all spectrum costs for providing service to users (if applicable). Video content should include all costs associated with the provision of TV content to users (if applicable). Growth in these costs should generally correspond to projected subscriber growth for each of the various services, as applicable.

Balance Sheet Assumptions

Applicants must provide assumptions for **ALL** of the categories on the Balance Sheet.

Statement of Cash Flows Assumptions - The Cash Flow statement should tie to the net change in the various categories from the Balance Sheet. Net Income in each year should come directly from the Income Statement.

Additional Financial Assumption Considerations

Customer Premises Equipment (CPE): One of the eligible Broadband Loan project costs is for the acquisition of CPE (and associated installation costs), as long as the CPE is owned by the applicant throughout its economic life. **However, if an Applicant does not intend to retain ownership of CPE**, the Applicant must **select one** of the following alternatives allowed under 7 CFR 1738.52(e) in order to secure Broadband Loan funding for CPE:

- **Pledge Additional Collateral:** Provide a complete description and supporting information, sufficient for RUS to determine the value and to prepare documentation to secure RUS's collateral interest. This collateral cannot be assets purchased with the loan funds and it must have a value at least equal to the amount being used for the CPE and associated installation costs.
- **Describe Revolving Fund:** Provide a description of how the applicant will administer a revolving fund for the purchase of the CPE and the sale of CPE to the customer. The description should provide a quarterly estimate of advances used for purchases, sales/collections used for revolving fund reductions, and the resulting balance on a quarterly basis.

Acquisitions: For broadband loans that include proceeds to acquire facilities, provide satisfactory evidence for RUS to determine that the acquisition is necessary and incidental to furnishing or improving service at the broadband lending speed in rural areas. Applicants must submit an appraisal, for the facilities to be acquired, from a qualified entity to determine the reasonableness of the acquisition price. This appraisal should be attached to Schedule P, Project Capital Investment Workbook. See 7 CFR 1738.51(c) for more information on eligible acquisition costs.

Refinancing: For broadband loans that include proceeds to refinance an outstanding telecommunications loan made under the Rural Electrification Act of 1936, provide satisfactory evidence for RUS to determine that the benefits realized from the refinancing will further enhance services at the broadband lending speed in rural areas. The amount requested for refinancing cannot exceed 40 percent of the requested loan amount. The applicant should also include the details of the notes that are being proposed to be

refinanced. See 7 CFR 1738.51(d) for more information on eligible refinancing conditions.

Additional Cash Requirement (Schedule M-5)

In addition to the minimum equity requirement, additional cash infusions may be required, regardless of whether or not the applicant has demonstrated positive cash flow from operations for the two years prior to application submission. RUS will analyze the applicant's financial information for the applicant's entire operation (existing operations and new operations combined) and determine the applicant's projected cash balance at the end of each fiscal year during the five-year forecast period. If RUS projects that the applicant will have a negative cash balance during any of those fiscal year-end dates, the applicant will be required to obtain additional cash infusions necessary to maintain a positive cash balance throughout the five-year forecast period (see 7 CFR 1738.208).

To facilitate the timely processing of the application, applicants should conduct their own analysis to identify projected cash shortfalls and provide the resources to cover those amounts. Additional resources should be shown in the Schedule of Debt and Equity Funding (Schedule M-2). When preparing financial projections, applicants are to consider RUS's regulatory requirements for how projected revenues will be calculated for start-up firms or for companies that have not had positive cash flow for the two years prior to application submission.

If an applicant is a start-up company or has not had positive cash flow for the two previous fiscal years, the applicant must calculate the cash position when assuming 50 percent of projected revenues for each year of the five-year forecast period (no comparable adjustment is made to projected expenses).

Applicants that are required per the above regulatory requirements to adjust their projected revenues must submit, for Schedule M-5, a modified version of the financial projections used in Schedule M-4A which reflects a 50 percent reduction in projected revenues, to identify the amount of additional cash that will be required. In all cases, projections must be fully supported with assumptions acceptable to RUS.

If necessary, an applicant may obtain a Letter of Credit (LOC) to satisfy an additional cash requirement, though an LOC is not considered equity and cannot be used to meet the 10 percent equity requirement. If an applicant obtains an LOC, it must be in place prior to loan closing, and it must meet the following terms:

Terms for the Bank

- Investor to enter into LOC to benefit the applicant and the Government. The LOC cannot be an obligation of the applicant, cannot be secured by the applicant's assets and the LOC fees and charges cannot be paid by the applicant.

- LOC to be irrevocable permitting unconditional draws by the applicant and the Government.

Terms for the Applicant

- These terms will be included as a condition to the Loan Agreement
- LOC must be in effect throughout the forecast period.
- The applicant cannot secure the LOC with its assets and cannot pay for any LOC charges or fees with its funds.
- Applicant agrees to draw on the LOC if the quarterly financial reports show a negative cash balance, in an amount sufficient to cover the shortfall. Note that the need for the Additional Cash Requirement is determined by a review of the **annual** financial projections but the requirement to meet the Additional Cash Requirement is determined by a review of the **quarterly** actual financial statements.
- Applicant agrees to draw on LOC when directed by RUS.
- Failure to maintain the LOC will be an Event of Default.

When additional cash is required to cover a projected cash shortfall, the applicant must ensure that the additional cash infusion required in the first two years is deposited into its regular operating bank account within 120 days from the date the applicant concurs with the loan offer letter. Prior to closing, the applicant also must enter into any other legal arrangements necessary to cover further projected operating deficits to RUS’s satisfaction (or in the case of the LOC, provide an acceptable LOC to the Agency). If debt is incurred to satisfy the additional cash requirement, this debt must take a subordinate lien position to the Agency debt and must be at terms acceptable to the Agency.

Depreciation Schedule (Schedule M-6)

A projected depreciation schedule should be submitted as Schedule M-6. Applicants are strongly advised to use the template provided by RUS for this Schedule. However, applicants may add rows or otherwise provide additional information in this Schedule, though the applicant must fully explain any and all modifications. This schedule should include all categories of depreciable equipment and facilities that are proposed for purchase through Broadband Loan Project funds only.

The economic life of each asset category should be based on the manufacturers’ recommended useful life, and the applicant must submit justification for the useful lives of each asset category. RUS, in its sole discretion, will determine whether the applicant’s asset depreciation rates are acceptable. RUS will calculate the expected composite economic life of Broadband Loan Project-funded assets based on those acceptable depreciation rates.

Applicants should note that this composite economic life has important implications for financial statement presentation and loan feasibility. Applicants cannot request

a loan term that exceeds the composite economic life of project assets funded by a Broadband Loan. As a result, the Pro Forma Financial Forecast must reflect a loan amortization which is less than or equal to the composite economic life of the Broadband Loan-financed assets.

Applicants must also show a breakdown of the dollar amounts of each asset category to be installed over the three-year build-out timeline. This information must match information provided in the build-out timeline as part of the Project Capital Investment Workbook (Schedule Q).

Instructions for Preparing Schedule N

[NETWORK DESIGN \(Schedules N-1 through N-3\)](#)

The Network Design of the application shall include all the technical information on the applicant's existing and proposed systems and demonstrate that the project will be complete within three years from the day RUS notifies the applicant that loan funds are available. The following information shall be included in this schedule:

- A. Schedule N-1 shall present a Network Design with the following information:
 1. A detailed description of the existing network (if applicable). Provide a synopsis of the current network infrastructure, including:
 - a. The current service area(s)
 - b. The types of services offered
 - c. The total number of establishments served:
 - i. Wireline establishments passed
 - ii. Wireless establishments covered
 - d. The number of subscribers per service offered (voice, data, video etc.)
 - e. The types of technologies utilized in the infrastructure (standards-based vs. proprietary)
 - f. A narrative describing current connectivity to the applicant's ISPs, video providers, and telephony providers.
 2. A detailed description of the proposed network. Provide a synopsis of the proposed network infrastructure, describing the types of technology to be deployed in the funded service area and how the technology will facilitate the offering of service at the broadband lending speed. The synopsis should include:
 - a. The entire service area(s) that will be provided new or improved service as part of the loan including how any new services area(s), if applicable,

- will be incorporated into the existing system and any upgrades that will be made to the existing infrastructure.
- b. The types of services to be offered.
 - c. The estimated number of establishments to be served (provide detailed information showing that all households within the funded service area will be offered broadband service at the broadband lending speed when the system is complete):
 - i. Wireline establishments to be passed
 - ii. Wireless establishments to be covered
 - d. The estimated number of subscribers per service offered (voice, data, video etc.)
 - e. The types of technologies to be employed in the infrastructure (standards-based vs. proprietary)
 - f. A narrative describing proposed connectivity to ISP's, video providers, telephony providers, and other content providers including any changes to the existing system, if any.
 - g. A description of the design parameters used in engineering the system. Examples include oversubscription percentage, consumption of bandwidth per user, penetration rates, link loss, availability targets, redundancy requirements, and criteria for candidate vendors
 - h. Address any other subject areas necessary to make as thorough a disclosure as possible, so that network capacity, performance, user loading, technology strengths and weaknesses, etc. can be fairly assessed.
3. A description of the licenses and agreements that will be required to operate the network. This will supplement Schedule S.
 4. A detailed description of the proposed Build-out of Services for the proposed network services. The description should include the approach taken to phasing in, testing and commissioning the following elements of the infrastructure:
 - a. The Core Network – the backbone infrastructure that will deliver the aggregate services across the service area(s).
 - b. The Distribution Network – the next layer of infrastructure that will extend the Core Network to concentration points within geographically proximate groups of subscribers.
 - c. The Access Network – how individual subscribers gain access to the network infrastructure. This should include detail on how oversubscription techniques (if applicable) will be used to maximize the utilization of the Distribution Network.
 - d. The Aggregation Node Points. In this context, the Aggregation Node Points are those components of the network architecture that provides connectivity to other service or content providers used to deliver the proposed services. This may include, but is not limited to, high-capacity diverse and resilient access to:

- i. One or more Internet Service Providers (ISPs)
 - ii. VOIP and PSTN Telephony Service Providers
 - iii. Video Services (if applicable)
5. If the applicant is to include Customer Premises Equipment (CPE) as part of their service offering to customers, please provide a description of the proposed CPE, and the method of acquisition by the customer (e.g. this could include rental as part of the service offering, or a one-time purchase by the customer).

B. Schedule N-2 shall present a Network Design Certification as follows:

1. The Network Design may be prepared by qualified personnel on the applicant's staff or by consultants.
2. If the applicant chooses a consultant that is not a registered engineer licensed in the state in which the facilities will be constructed, the applicant will need to have a registered engineer, licensed in the state, certify that the proposed Network Design will be capable of delivering service at the broadband lending speed.
3. Consulting services shall be obtained only from persons or firms who are not affiliated with, and have not represented, a contractor, vendor or manufacturer who may provide labor, materials, or equipment to the applicant for projects included in the loan application.
4. If the applicant has qualified personnel on staff to complete the pre-loan services, copies of the staff's qualifications must be included here in Schedule N-2 as part of the application and must clearly demonstrate the staff's ability to certify the Network Design. To be considered qualified, staff must have at least three years of experience in designing the type of broadband system proposed in the application.
5. The applicant will complete and include the attached template "Network Design Certification."

Instructions for Preparing Schedule O

[NETWORK DIAGRAMS \(Schedules O-1 and O-2\)](#)

Network diagrams for the applicant's existing network shall be included in the application as Schedule O-1 and for the proposed network as Schedule O-2. The network diagrams shall be block diagrams that clearly show how the traffic flows through the network from the interconnection points with the backbone service providers to the end user. The lender is familiar with the technologies associated with "last mile" connectivity options to the customer premises; therefore, in developing diagrams for the proposed network, focus should be on the core network (common network facilities) components.

The diagram(s) must clearly show:

- a. All physical locations where the major network elements are or will be located to the highest known level of detail. This may take the form of postal addresses or latitude and longitude
- b. The route miles between each network element
- c. The bandwidth capacity between the network elements
- d. The types of facilities (fiber, copper, microwave, etc.) that are or will be used for establishing the connection between the network elements and the points-of-connection with the backbone service providers
- e. The proposed facilities that will provide the interconnection point(s) from the broadband backbone network to the networks of the selected ISP(s), telephony and/or VOIP provider(s), and any other value-added services that may be provided in the new infrastructure
- f. Any leased facilities, along with the location of the leased facilities (postal addresses or latitude and longitude) and the providers from which the facilities are being leased
- g. For Network Diagrams where the level of factual detail to be provided will inhibit the overall understanding of the diagram, applicants may provide a table at the bottom of the diagram providing the remaining technical details to the extent currently known

There is no template for the Network Diagram, but the Appendix at the end of this Application Guide contains examples of Network Diagrams for the following technologies: Passive Optic Networks (PON), DSL, Hybrid Fiber-Coaxial (HFC), Radio Frequency over Glass (RFOG), and Terrestrial Wireless. Note that the example Network Diagrams do not display every home or premises passed but will indicate the typical number of connections reaching to each node (as represented with the letter n). Also note that these sample diagrams are for illustrative purposes only, and are not intended to construe or imply any design characteristics or requirements for a proposed system.

Instructions for Preparing Schedule P

PROJECT COSTS AND BUILDOUT TIMELINE (Schedules P)

For this section, fill out the provided attachment Schedule P “Project Capital Investment Workbook.” This attachment will provide detailed information on the project capital investment, including detailed project costs, your build-out timeline, and project milestones. Note that the template for this attachment consists of three worksheets consolidated within one workbook as follows. Be sure to complete all three.

- a. Detailed Project Costs - The purpose of the Detailed Project Cost Schedule is to break down the specific costs involved in your project and categorize them. This section should be filled out per Service Area with common network elements included with the Service Area in which they will be physically located.

Enter a descriptive name for each capital item or group of items in the appropriate category. This information should be prepared by Service Area, with common network elements included in the Service Area in which they are physically located. Identify common network elements by selecting “Yes” in the “Common Network Element?” column. Use the Unit Cost and Number of Units fields to further break down the costs. When multiple items are included in one “unit,” use the description column to provide enough detail that the reviewers can easily see how you arrived at that unit cost (you may also provide supplemental attachments as necessary). The following information is provided as a guide to the various budget categories:

- ✓ Network & Access Equipment Costs: Examples of items to include are next-generation switches, video headends, optical equipment, digital line concentrators, digital subscriber line access multiplexers, middleware, video-on-demand equipment, radio equipment, data routing equipment, etc.
- ✓ Outside Plant Costs: Examples of items to include are cable (aerial, buried, underground, and submarine), conduit systems, poles, network interface devices (NIDs, not including ONT’s or other powered access equipment), miscellaneous construction units, make-ready costs for aerial plant, etc.
- ✓ Building and Land Costs: Include the cost of constructing new buildings and renovating existing buildings, as well as any site preparation cost involved with installing pad-mounted equipment. Include only those sites that you will purchase.
- ✓ Customer Premises Equipment: Examples of items to include are wireless subscriber units, modems, set-top boxes, etc.

- ✓ Billing and Operational Support Systems: Examples of items to include are billing, customer, and other support systems.
- ✓ Operating Equipment: Include items such as vehicles, furniture, and other operating equipment.
- ✓ Professional Services: Include engineering costs involved in designing and constructing the proposed project, consultant services, and project management.
- ✓ Testing: Include items such as testing network and IT systems, user devices, servers, as well as lab furnishing and test generators.
- ✓ Other Upfront Costs: Include any other upfront costs not covered in the other categories, such as site preparation.

b. **Build-out Timeline** - The purpose of this worksheet is to summarize the funding and workforce for the total capital plan over a 5-year period. In the next worksheet you will identify key phases and milestones to demonstrate the degree of completion, but in this worksheet you enter the incremental capital project costs spent by quarter. Ensure that the data in this attachment ties directly to the application pro forma financial statements in terms of timing, cash flows, revenue assumptions, and capital expenditures. Use incremental numbers for funds spent in each quarter without rounding. Note that total funds in this table should equal both the **Detail Project Cost** on the previous worksheet. Build-out must be complete within three years and 4 months from the date of the contract (Year 3 on this worksheet).

In the Workforce section of the timeline, enter a description of the workforce that will be used to complete the project in column A, followed by the incremental number of workers in that workforce by year.

c. **Project Milestones** - Use this table to list the major network build-out phases and milestones that can demonstrate that your entire project will be fully complete by the end of Year 3. This is to be done at the aggregate level (combining all PFSAs in your application).

Indicate how the milestones listed will demonstrate these completion objectives. You should consider such project areas as a) network design; b) securing all relevant licenses and agreements; c) site preparation; d) equipment procurement; e) inside plant deployment; f) outside plant deployment; g) equipment deployment; h) network testing; and i) network both complete and operational. You may provide any other milestones that you believe will showcase progress.

- i. Project inception (Year 0) starts when the applicant closes on the Broadband loan.
- ii. In the table, provide any information, including facts and analysis, to: a) demonstrate the reasonableness of these milestones; and b) substantiate the ability to reach the milestones by the quarters indicated.

- iii. If more bullet points are required, insert rows as needed within a given year. However, the project must be complete within 3 years of receiving the award.
- iv. In the space provided, describe the key challenges, if any, to a timely completion of the project, including any applicable mitigation plans.

Refer to the top of each worksheet for further instructions on filling out the worksheets in this workbook.

Instructions for Preparing Schedules Q & R

[ENVIRONMENTAL REPORT \(Schedule Q\)](#)

RD is responsible for implementing the requirements of the National Environmental Policy Act of 1969 (NEPA), as amended; the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA and certain related Federal environmental laws, statutes, regulations, and Executive Orders (EO) that apply to RD programs. The policies and procedures set forth in 7 CFR Part 1794 – Environmental Policies and Procedures or successor environmental policies and procedures and, assist RD with making decisions that are based on an understanding of environmental consequences, and taking action that protects, restores and enhances the environment.

Applicants are responsible for ensuring that proposed actions are in compliance with all appropriate RD requirements. Therefore, applicants must prepare an environmental report in accordance with 7 CFR Part 1794, for any facilities that will be constructed with RD broadband loan funds. A copy of 7 CFR Part 1794 can be retrieved from RD's web site.

The link for this regulation is <http://www.usda.gov/rus/water/ees/pdf/1794.pdf> . In addition, applicants can also retrieve the *Guide for Preparing an Environmental Report for Categorically Excluded Projects* to assist in the preparation of the Environmental Report. The link for this guide is http://www.usda.gov/rus/telecom/publications/word_files/1794a600.doc.

[LICENSES AND AGREEMENTS \(Schedule R\)](#)

1. Fill out the attached template for Schedule R “Licenses and Agreements”. You must provide a status report for the licenses, agreements, approvals, and authorizations potentially required for constructing your broadband network, and indicate their status. In the template you must select a status for every item in the table and add comments where needed. The statuses include:
 - a. Not Required - Place an “X” in this column to indicate an item that will not, at any point, require this license, e.g., FCC Spectrum Licenses for a wireline provider.
 - b. Existing/In-Hand - No Modifications Necessary - Place an “X” in this column to indicate agreements that are completed, in-hand, and ready to be acted upon. For example, most wireline incumbents with existing operations in a proposed funded service area will already have their Certificate of Public Convenience and Necessity in hand.
 - c. Existing/In-Hand - but Modifications Required - Place an “X” in this column to indicate existing agreements that will require modifications, such as backhaul agreements for an incumbent that need to be increased in capacity.
 - d. Applied but Pending - Place an “X” in this column to indicate licenses that have been duly applied for, but for which you are awaiting confirmation and/or approval.
 - e. Contingent on Award - Place an “X” in this column to indicate an agreement that may exist and be finalized, but which is written to be valid only if you receive an award.
 - f. Not Available until Project is Funded - Place an “X” in this column for agreements that cannot be completed until you either have confirmation of winning the government award or have received the first disbursement.

To the right of the status of the agreement or license there is a column for comments. In this column, be sure to add contextual information that is relevant to the ownership and availability of the license or agreement. For example, be certain to indicate whether an asset is owned or will be owned by a parent company or organization, if (in the case of spectrum) it is being leased to the applicant, and on what basis (exclusive, non-exclusive, time-limited) this lease is being made.

Note that you must attach the supporting documentation for existing licenses and agreements to the application. You must include the sections of these licenses and agreements which indicate the terms (including capacity and cost) for those licenses and agreements that are already in hand. Licenses, agreements, approvals, and authorizations include:

- a. Internet Service Agreement - An agreement between an Internet Service Provider (“ISP”) and a retail reseller of Internet services (usually the applicant). This generally includes details regarding facilitating, provisioning, transporting, and

maintaining a fixed or variable amount of payload traffic (a.k.a., bandwidth) from one or more locations to an ISP's portal.

- b. Internet Service Connection Backhaul Agreement - The agreement governing the physical link connecting an applicant's network to the ISP's facilities. In some cases, this agreement will be part of the Internet Service Agreement, and in other cases it will be separate.
- c. Pole Attachment Agreement - An arrangement between the owner of the pole, usually a power or phone company, and an operator who wants to lease the right to attach fiber strand (for example) so that they may construct infrastructure more cost effectively than performing underground construction.
- d. Wireless Spectrum Licenses (end-user access) - The legal right to transmit on a specific frequency to CPE devices for the transport of communication services.
- e. Wireless Spectrum Licenses (for backhaul transport) - Wireless Spectrum Licenses for backhaul transport.
- f. Tower-Site/Property Agreements - Agreements governing the terms of use of any tower sites where an applicant intends to use or build its own facilities.
- g. Tower Attachment Agreements - Agreements governing the terms under which an applicant can attach and operate its equipment.
- h. Special Permits (federal, highway, bridge, etc.) - Certain protected Federal Lands like National Parks, Historic Districts, or other protected or Federal government owned land require the following of a particular protocol in order to obtain permission to construct fiber optic infrastructure. Railroad Crossings or Bridge Crossings typically need to be coordinated with the State Department of Transportation.
- i. Franchise Agreements - An agreement that grants a network operator the right to construct in rights of way governed by the local franchise, usually the local municipality, and market for sale video services to paying subscribers in that local district.
- j. Video Carriage Agreements - A contract that authorizes a network operator to [re]transmit content. These can be obtained from content aggregators who offer entire channel lineups, or from individual broadcasters, production companies, etc.

k. Certificate of Public Convenience and Necessity (CPCN) - A Certificate of Public Convenience and Necessity (CPCN) is an authorization issued by the State Public Service Commission (PSC) for the delivery and/or provision of a public service to a designated area or parcel of land. A CPCN is generally needed to permit building facilities in public rights of way and for certain types of commerce. CPCN rules and regulations vary by State.

l. Spectrum Agreements - *Spectrum agreements must show both capacity and cost.*

You are not constrained to the space provided and may add as many rows as is necessary to depict the full range of licenses, agreements, approvals, and authorizations involved in your project.

ATTACHMENT:

USOA ADDITIONAL ACCOUNT SUBCATEGORIES FOR BROADBAND SERVICE PROVIDERS

Accounting requirements for RUS Broadband Program borrowers parallel the accounting requirements for traditional telecommunications borrowers. This Uniform System of Accounts, based on the Federal Communications Commission's 47 CFR Part 32, Uniform System of Accounts, contains all of the accounts needed to account for Broadband Operations. The general instructions found in Subpart B are applicable to borrowers under the RUS Rural Broadband Access Loan and Loan Guarantee Program, regardless of whether they are traditional telecommunications borrowers or borrowers for the purpose of providing broadband services only. Broadband borrowers must understand that while not every account shown in Bulletin 1770 B-1 is necessary based on the size and complexity of the company, the underlying account structure is the same.

Asset accounts, other than fixed assets, are numbered from 1130 to 1500. These accounts include both current and noncurrent assets. Fixed assets, both tangible and intangible, which ordinarily have a service life of more than one year, are found in Accounts 2001 through 2007, with the detailed Telecommunications Plant in Service balances found in Accounts 2100 through 2690. Accounts 3100 through 3600 contain Accumulated Depreciation and Amortization related to the fixed assets found in Accounts 2100 through 2690 along with the Retirement work in progress (RWIP). Accounts 4000 through 4199 contain Current Liability balances while Accounts 4200 through 4299 include Long-Term Debt. Accounts 4300 through 4399 are used to account for Other Long-Term Liabilities and Deferred Credits. Stockholders' Equity balances are found in Accounts 4500 through 4599. Operating revenue accounts are found in Accounts 5000 through 5302. These accounts are intended to record the results of the company's major or central operations during the accounting period. These accounts contain both regulated and non-regulated revenues. Accounts 6000 through 6790 shall be used to record the expenses associated with the company's major or central operations. Again, these accounts contain both regulated and non-regulated expenses. Accounts 7000 through 7990 are designed to reflect both operating and non-operating income items include taxes, extraordinary items and other income and expense items not associated with the major or central operations.

Expenses within this system of accounts are accounted for on a functional basis, that is, expenses are recorded based on the function they support regardless of the type of expense. See Subpart E, Instructions for Expense Accounts, for the detailed instructions for classifying expenses. The expense accounts shall be maintained by subsidiary record categories, as appropriate to each account. The expense matrix is provided to allow a company to capture this information for management purposes.

In addition to those items described in Bulletin 1770 B-1, this Attachment outlines those additional items to be included in these same accounts for other telecom companies such

as Internet Service Providers, Cable TV companies, wireless companies, and any other type of entity providing broadband services. This attachment is to be used in conjunction with 47 CFR Part 32, as supplemented by 7 CFR Part 1770, in setting up and maintaining accounts of RUS Telecommunications Program borrowers.

32.2112, Motor Vehicles

Examples of items to be recorded in this account include:

- Automobiles
- Tractor Trailers
- Trucks
- Vans
- Buses

32.2113, Special Purpose Vehicles

Examples of items to be recorded in this account include:

- Boats and barges
- Motor scooters
- Snowmobiles

32.2114, Tools and other work equipment

Examples of items to be recorded in this account include:

- Air compressors
- Backhoes
- Bulldozers
- Cable lashers
- Cable plows
- Car hoists
- Carts-cable splicers
- Concrete mixers
- Derricks
- Duct rodders
- Earth moving machines
- Fork lifts
- Garage jacks
- Gasoline pumps
- Heaters
- Hydraulic lubricated equipment
- Ladders
- Lubricating racks
- Machine tools
- Metal bins
- Oil pumps
- Paint spraying equipment
- Pole-treating apparatus - chemical
- Portable motors
- Portable test equipment

Power blowers, hammers, drills, loaders and winches
Power take-offs
Power tools
Pumps (except fuel and oil)
Storage tanks (e.g., fuel oil)
Tamping and back-filling machines
Tents – cable splicers
Tire changers
Tire racks
Tool boxes
Torches
Tractors
Trailers, special purpose
Trenching machines
Welding equipment
Wheel alignment equipment
Work benches

32.2122, Furniture

Examples of items to be recorded in this account include:

Antiques
Artwork (Paintings, prints, photographs, sculptures, wall hangings, tapestry, etc.)
Beds, cots & couches
Bookcases
Cabinets and filing cases
Chairs
Credenzas
Desks
Drapes, blinds, and shades
Lamps
Lockers and wardrobes – movable
Modular furniture units
Partitions – movable
Refrigerators
Rugs
Sofas
Tables

32.2123.1, Office Support Equipment

Examples of items to be recorded in this account include:

Addressing machines
Air conditioners – portable
Audio/visual equipment
Billing/posting machines
CAD systems
Calculators

- Cameras
- Check registers
- Cash registers
- Copy machines
- Humidifiers/Dehumidifiers – portable
- Display and lecture demonstrating kits
- Electric fans – portable
- Fire extinguishing equipment – portable
- Floor scrubbing and polishing machines
- Medical equipment
- Microfilm equipment
- Postage meter machines
- Radios and television sets
- Typewriters
- Vacuum cleaners
- Vending machines
- Water coolers – portable

32.2123.2, Company Communications Equipment

Examples of items that can be recorded in this account are:

- Data communications terminal equipment
- Distributing frames
- Fax Machines
- Fiber optic distribution systems
- Operators' headset and transmitters
- Telephone sets
- Mobile Phones
- Private Branch exchange
- Switching equipment at switching or relay centers of teletypewriter systems
- Teletypewriter systems

*Includes common equipment (power equipment, switching equipment, etc.), station equipment (usually telephones or key telephone systems), and wires connecting the common equipment and the station equipment plus the terminal boxes or cross connector points, and the cable or wires that connect that connect the private branch exchange with the network interface.

32.2124, General Purpose Computers

Examples of items that can be recorded in this account are:

- Desktop and Laptop computers
- Tape drives
- Uninterrupted power supply
- Printers
- Optical scanners
- Memory units

- External drives
- Modems
- Monitors
- Keyboards
- Mouse
- Microphones
- Speakers

RUS 2210.21, Central office switching – digital

Examples of items to be recorded in this account are:

- Digital central office switches
- Remote switches
- Next-generation switches including soft switches and IP switches
- Mobile switching offices
- Base station controllers
- Asynchronous Transfer Mode switches
- Automatic message recording equipment
- Call store equipment
- Central control and processing equipment including initial operating system software for computers classified to this account
- Controllers
- Direct memory access units
- Main distribution frames, arrestors, and protectors
- Furniture designed specifically for equipment included in this account
- Input/output devices including disk and tape drives, display and alarm units
- Plug-in units (line cards, circuit pack, line cards, etc.)
- Trunks
- Permits, privileges, and rights-of-way for installation of externally-mounted central office equipment
- Test equipment, hardwired or specifically designed and dedicated for use with a particular major switching system or component
- Power equipment (chargers, batteries, generators, etc)
- Timing equipment
- Automated Line Assignment equipment

RUS 2230.11, Central office transmission – radio systems-satellite and earth station facilities

Examples of equipment that can be recorded in this account are:

- Antenna systems
- Base band equipment
- Converters
- High power amplifiers
- Low power amplifiers
- Satellite receivers
- Satellites
- Satellite launch insurance premiums

Special cost incurred in procuring launch insurance
Transceivers
Transmitters
Digital or analog video headend equipment
Test equipment hardwired or specifically designed and dedicated to be used with a particular major operator system or component

RUS 2230.12, Central office transmission – radio systems – other

Examples of equipment that can be recorded in this account are:
Base station equipment
Microwave equipment
Radio equipment that uses licensed or unlicensed frequencies
Antennae
Amplifiers
Combiners
Radio dispatch system with GPS
Radio frequency amplifiers
Receivers
Transmitters
Repeaters
Waveguides
Power equipment
Permits, privileges, and rights-of-way for installation of externally-mounted radio facilities
Test equipment hardwired or specifically designed and dedicated to be used with a particular major operator system or component

RUS 2230.21, Central office transmission – circuit equipment

Examples of equipment that can be recorded in this category are:
Digital line concentrators
Subscriber loop carrier equipment
Channel banks
Cabinets
Digital access cross-connect system
Channel bank equipment
SS7 signaling equipment
Signal Transfer points
Signal Control points
Signal processors and distributors
Analog to digital converters
Echo cancellers
Echo suppressors
Equalizers
Optical transmission equipment
Optical splitter and couplers
Digital subscriber line (DSL) cards

- Line repeaters
- Regeneration equipment
- Multiplexing equipment including Digital Subscriber Line Access Multiplexers
- Range or loop extenders
- T1 transmission equipment
- Gigabit Ethernet transmission equipment
- Power equipment including chargers, batteries, etc
- Voice grade amplifiers

32.2311, Station Apparatus

Examples of equipment that can be recorded in this category are:

- DSL, cable and wireless modems
- Video set-top boxes

32.2362, Other terminal equipment

Examples of equipment that can be recorded in this category are:

- Routers
- Optical line terminators
- Optical/coaxial network units placed on the subscriber's premises
- ADSL and VDSL gateways
- Cable modem termination system
- Middleware

32.2411, Poles

Examples of equipment that can be recorded in this category are:

- A and H fixtures
- Anchors
- Arms – cable, extension, guard and crossarms
- Auxiliary framework for towers
- Bolts, braces, and brackets
- Guy clamps, shields, wire or strand
- Path surveys
- Bridge fixtures
- Permits, privileges, and rights-of-way for construction
- Pins
- Pole and pole steps
- Strain insulators
- Stubs – guy or pole
- Supports – radio antennae, such as wood poles or wood pole towers
- Treating and marking poles
- Towers – aluminum, wood, or steel; guyed or free standing

5000, Local Network Service Revenues

Examples of revenues that can be recorded in this account include:

- Dial-Up Internet Service Revenue
- Voice-Over-IP Revenue

xDSL Service Revenue **
Cable Modem Service Revenue
Cable TV Service Revenue
Wireless Internet Service Revenue
Customer Premises Equipment (CPE) Leasing Revenue
Any Other Internet/Data/Phone/TV Service Revenue

**xDSL Revenue will only be included in this category for those entities who do not choose to participate in the NECA tariff for this service. Those entities who offer xDSL at NECA's tariffed rates will account for this revenue under Account 32.5081, End User Revenue, under Network Access Service Revenues.

5081, End User Revenue

Examples of revenues that can be recorded in this account include:
xDSL Service Revenue (If company participates in NECA tariff for this service)

5200, Miscellaneous Revenues

Examples of revenues that can be recorded in this account include:
Fiber Leasing Revenue
Leasing of Local Loops Revenue (CLEC/UNE-P/Resale)
Installation Revenue
Equipment Sales Revenue
Software Sales Revenue
Miscellaneous Sales Revenue
Network Revenue
Mobile Radio Revenue
Educational/Training/Help Desk Revenue
Internet Solutions Revenue (Web Hosting, Email Accounts, Graphic Design, etc.)
Interactive Television (ITV) Revenue
Consulting Services Revenue
Repair Services Revenue
Other Miscellaneous Revenue
Any Other Revenue Source Not Regulated by Other Accounts or Listed in the Other Accounts

6121, Land and building expense

Examples of expenses that can be recorded in this account include:
Tower lease payments if included as a part of a building

6231, Radio systems expense

Examples of expenses that can be recorded in this account include:
Expenses related to transmitters and receivers in the provision of wireless broadband service, both long haul and local transmission.

6411, Poles expense

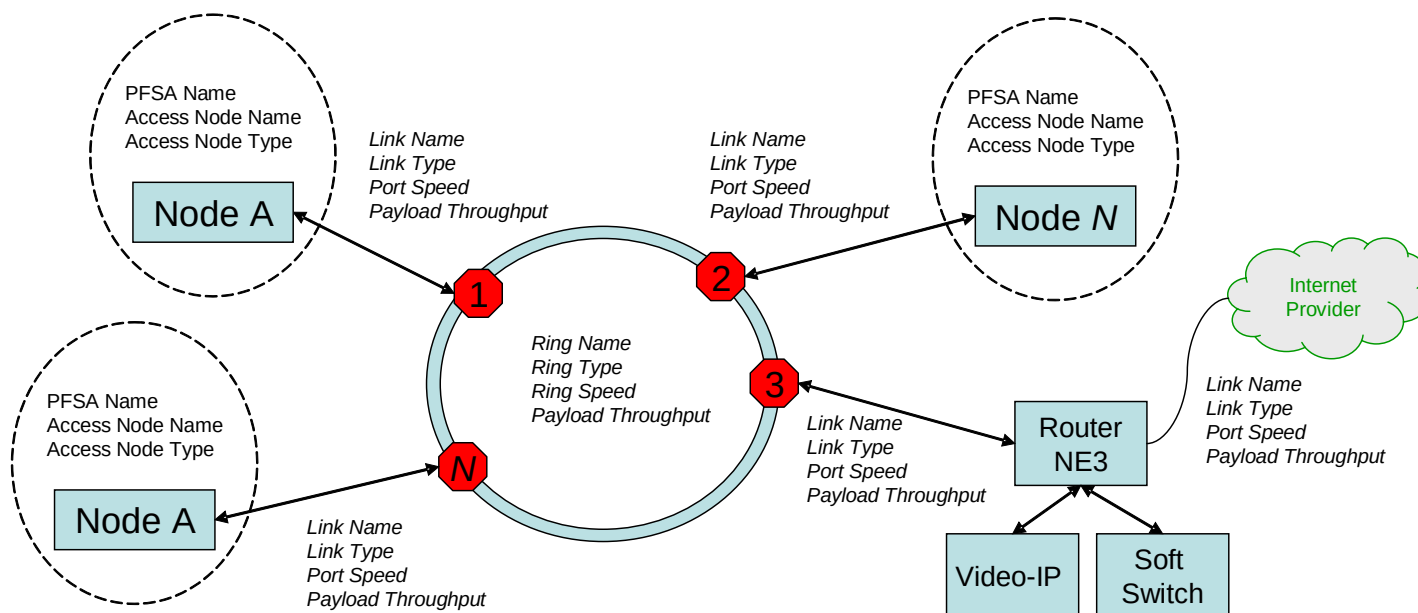
Examples of expenses that can be recorded in this account include:
Tower lease payments

6540, Access expense

Examples of expenses that can be recorded in this account include:
T-1 access costs
Back haul/transport costs
Video programming expenses

Appendix - Sample Network Diagrams

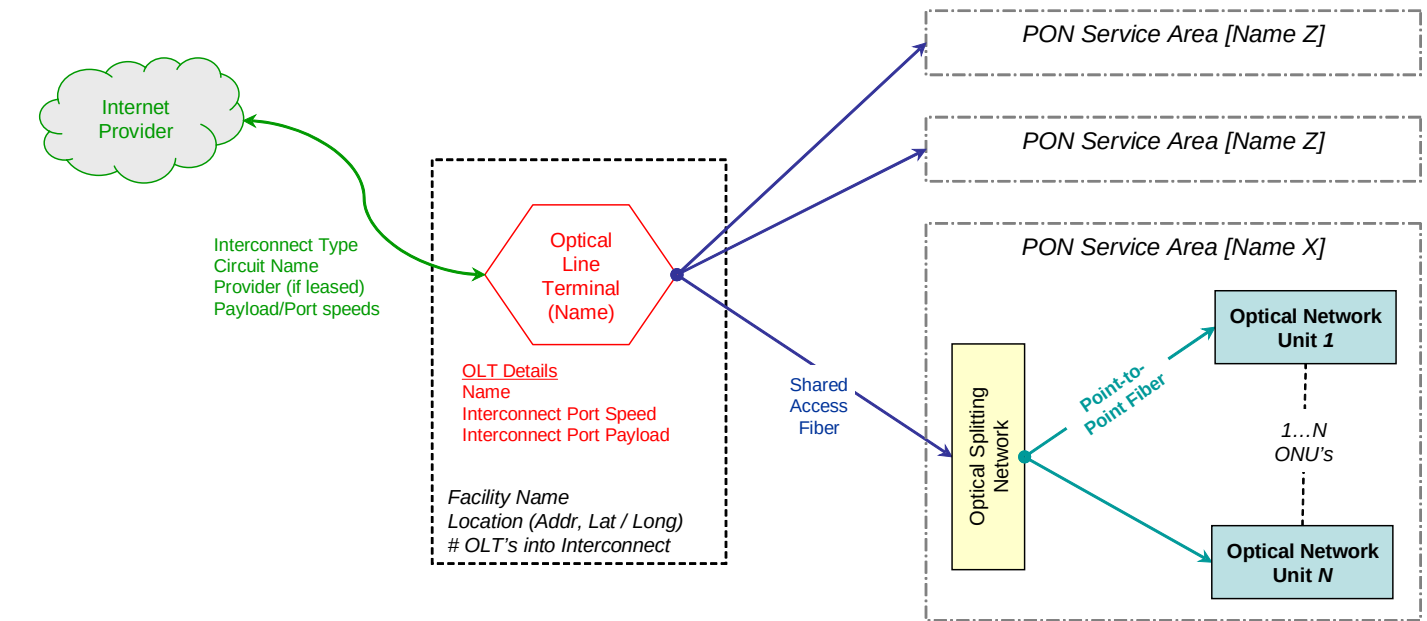
Example: Interconnect Ring



Node Name	Network Element	Service PFSA	Port Speed (Mbps)	Port Payload (Mbps)	Network Element Location (Lat / Long)	Existing or New	Estimated Data / Video / Voice Payloads (Mbps)	Number of PFSA Premises Served

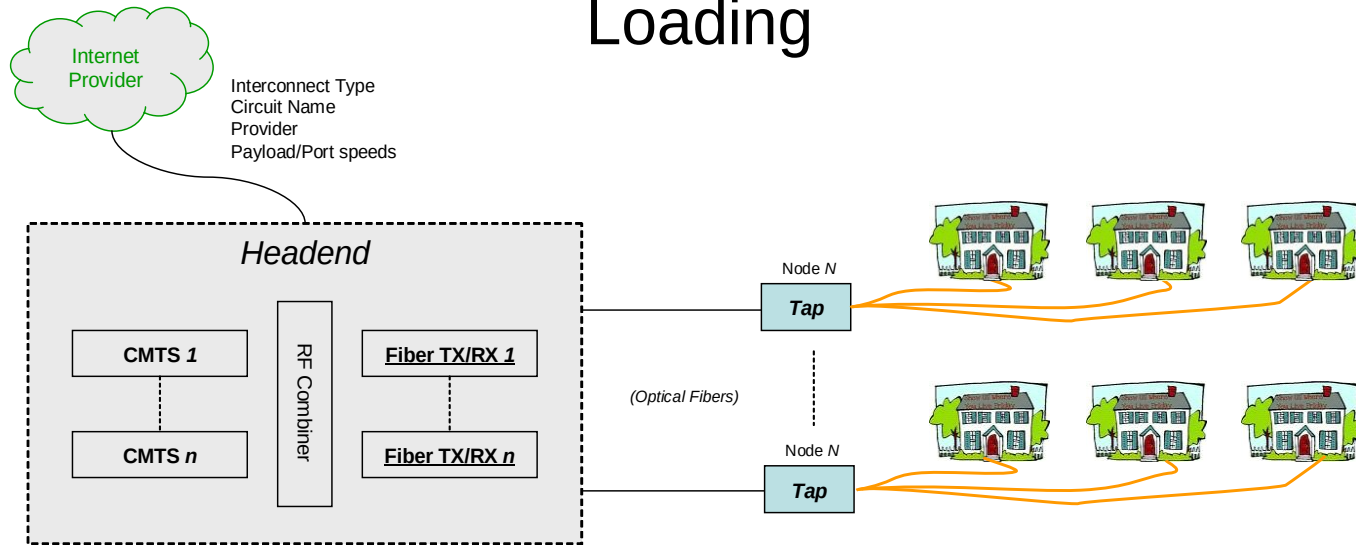
Example: EPON / GPON

Fiber Point-to-Multipoint Access Architecture



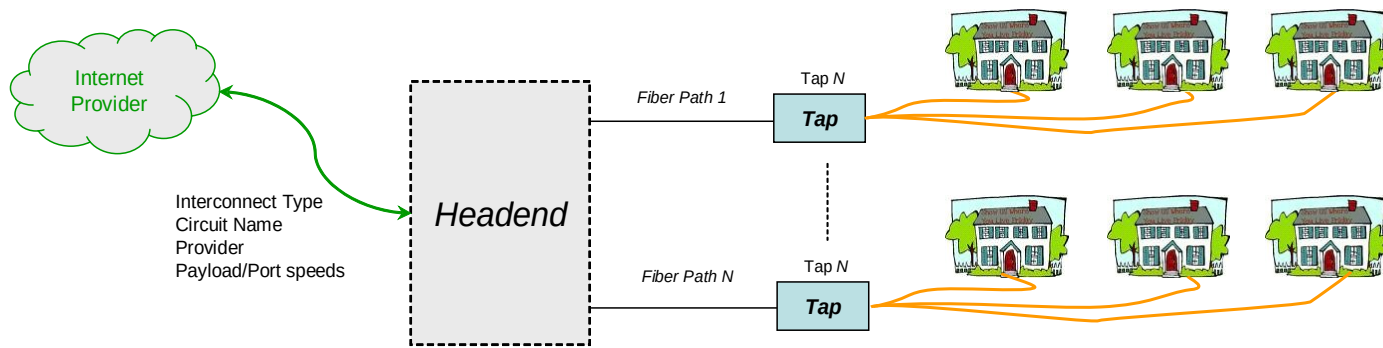
PON Service Area Name	Number of OLT Access Ports	OLT Access Port Speed (Mbps)	OLT Access Port Payload (Mbps)	Optical Split Cabinet Location (Lat / Long)	Optical Splitting Ratio	Longest PTP Path (Kft)	Number of Premises per ONU

Example: RFoG Access Diagram – Traffic Loading



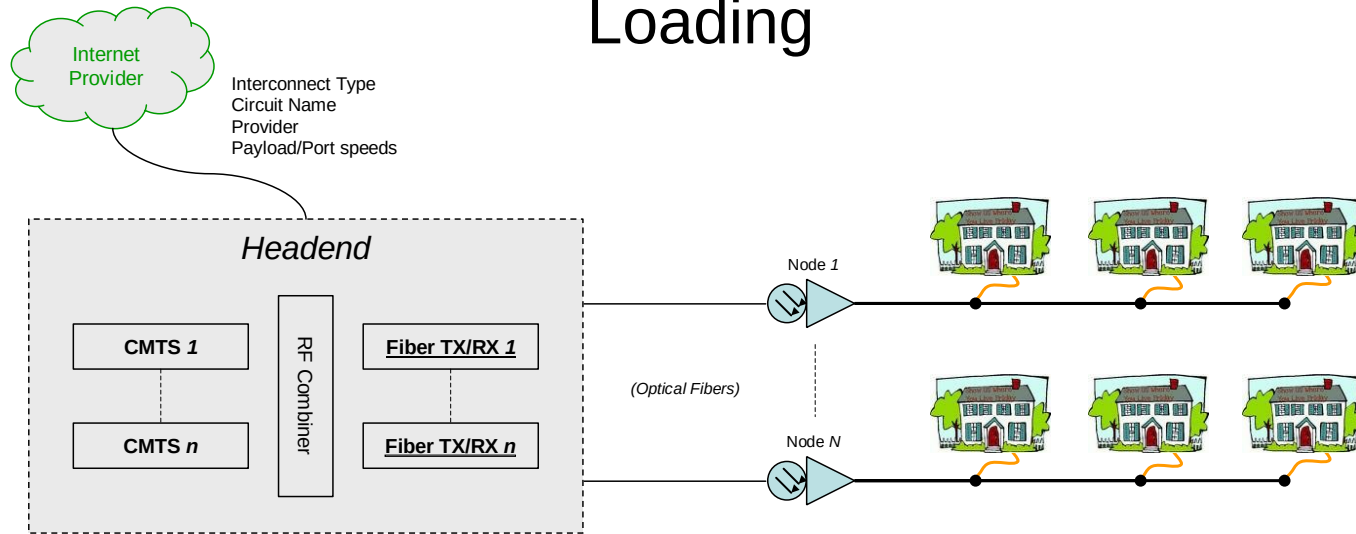
CMTS Name	DOCSIS Technology	Downstream Modulation	Upstream Modulation	Number of Downstream Ports	Number of Upstream ports	Number of Nodes per Downstream Carrier	Homes per Node

Example: RFoG Access Diagram – Outside Plant



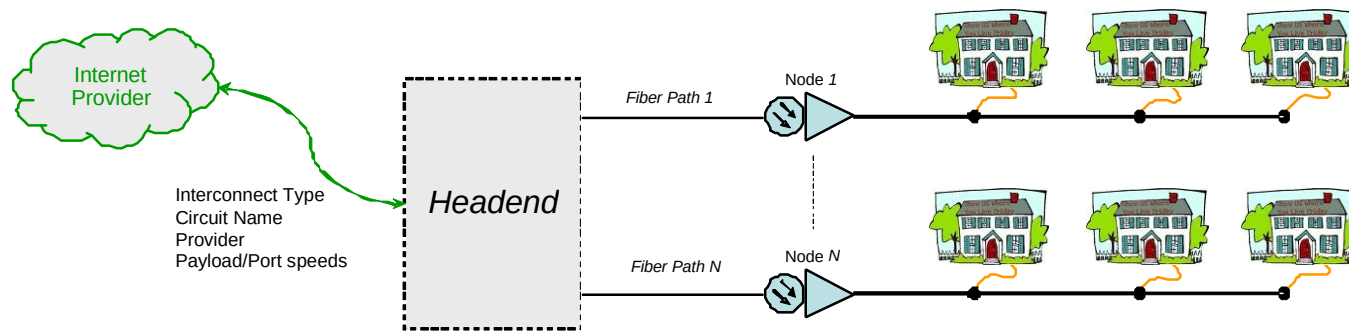
Path Name	Path Length (km)	Node Name	Node Location (Lat/Long)	Average Fiber Drop Length (ft)	Homes per Tap

Example: HFC Access Diagram – Traffic Loading



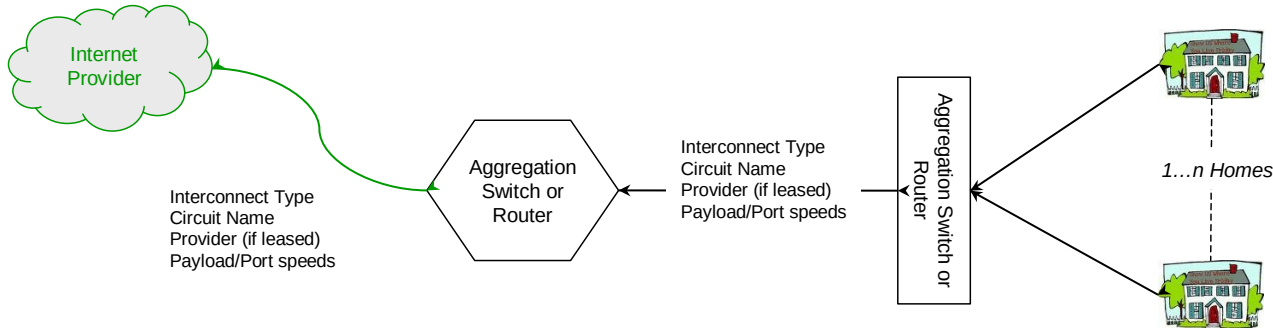
CMTS Name	DOCSIS Technology	Downstream Modulation	Upstream Modulation	Number of Downstream Ports	Number of Upstream ports	Number of Nodes per Downstream Carrier	Homes per Node

Example: HFC Access Diagram – Outside Plant



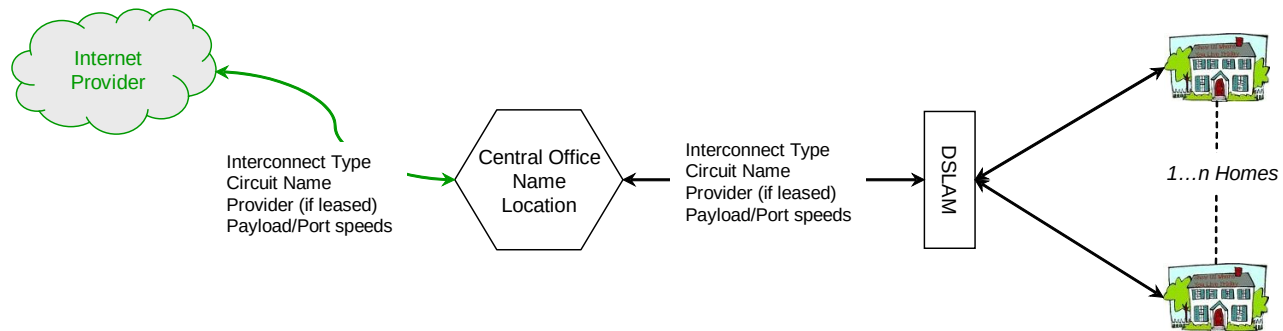
Path Name	Path Length (km)	Node Name	Node Location (Lat/Long)	Coax Cable Distribution Plant miles (this Node)	Average Drop Length (ft)	Homes per Node

Example: Active Ethernet or Fiber Point-to-Point Access Architecture



Local Ethernet Aggregation Switch Name	Local Agg Switch location (Lat/Long)	Number of Ports	Port Speed (Mbps)	Shortest Path (Kft)	Longest Path (Kft)	Backhaul Type	Backhaul Speed (Mbps)	Backhaul Link Distance (Kft)

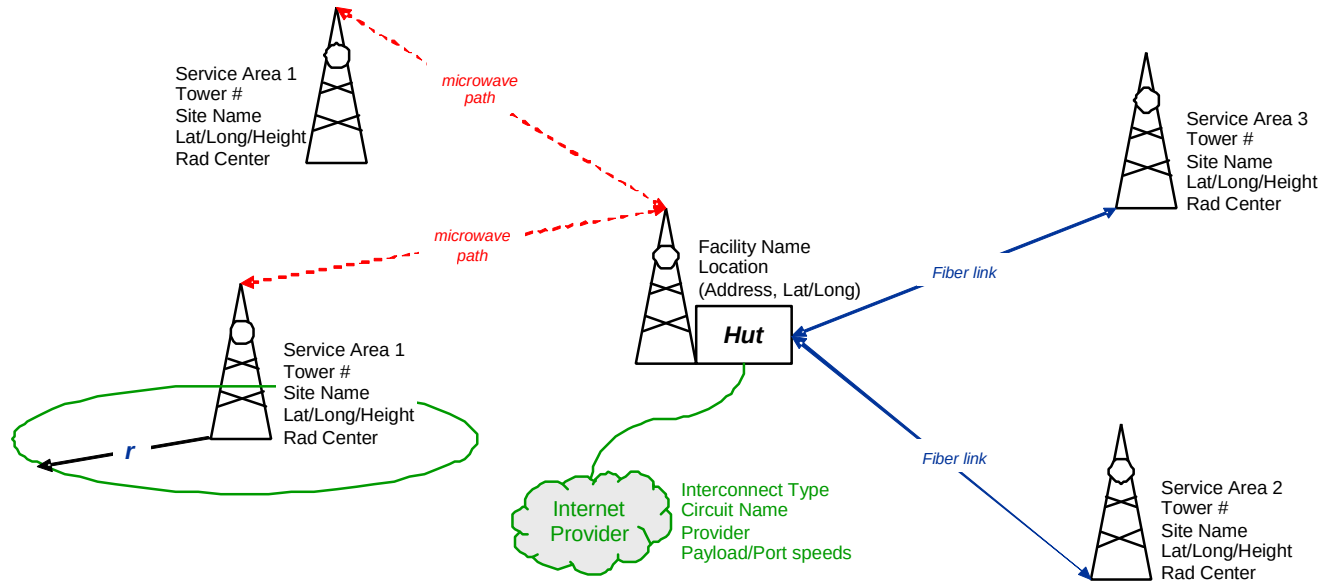
Example: xDSL Access Architecture



DSLAM Name	DSLAM location (Lat/Long)	DSL Format	Number of DSL Ports	Copper Gauge (AWG)	Shortest Loop (Kft)	Longest Loop (Kft)	Backhaul Type	Backhaul Speed (Mbps)	Backhaul Link Distance (Kft)

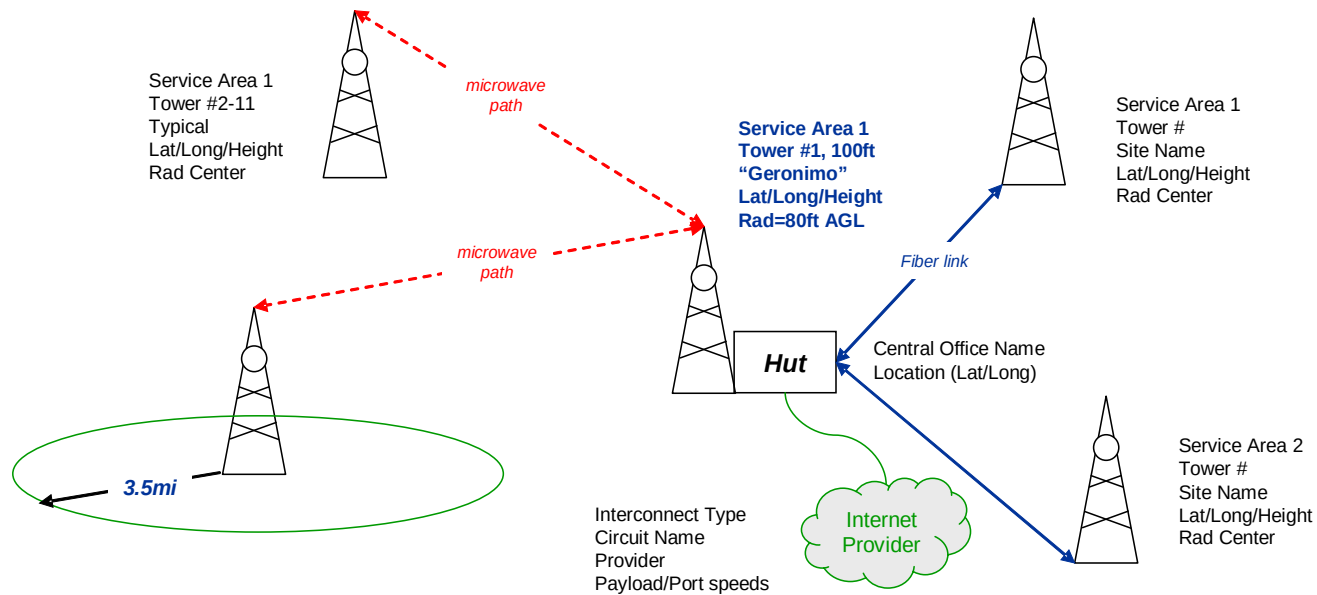
Example: Wireless Access Diagram

(Showing Microwave Backhaul and Fiber Backhaul)



Site Name	Last Mile Coverage Radius (mi)	Number of Last Mile Sectors	Last Mile Frequency (MHz)	Last Mile ACM?	Last mile Bandwidth (MHz)	Backhaul-Leased (provider) or Owned	Backhaul Type	Backhaul Payload (Mbps)	Backhaul Link Distance	Backhaul Frequency (MHz)	Backhaul Bandwidth (MHz)

Example: Wireless Access Diagram



Site Name	Last Mile Coverage Radius (mi)	Number of Last Mile Sectors	Last Mile Frequency (MHz)	Last Mile ACM?	Last Mile Bandwidth (MHz)	Backhaul - Leased (provider) or Owned	Backhaul Type	Backhaul Payload (Mbps)	Backhaul Link Distance	Backhaul Frequency (MHz)	Backhaul Bandwidth (MHz)
10X Typical	3.5mi	3	2300MHz	No	5MHz	Leased	Fiber (existing)	20Mbps	30mi	n/a	n/a
"Geronimo"	5.5mi	3	3650MHz	Yes	10MHz	Owned	Microwave	27Mbps	15mi	5800MHz	20MHz