



THE NORTH SLOPE BOROUGH SCHOOL DISTRICT

P.O. Box 169, Barrow, AK 99723
Phone: (907) 852-5311

REQUEST FOR INFORMATION

SOLUTIONS FOR RURAL BROADBAND EXPANSION AND PUBLIC PRIVATE PARTNERSHIP OPPORTUNITIES

ISSUE DATE: June 4, 2016, DUE DATE: August 31, 2016

The North Slope Borough School District (NSBSD) is a public school district with 11 schools within 8 communities within the North Slope Borough of the state of Alaska. We are seeking a terrestrial, non-satellite, wide-area network connecting our schools and non-instructional facilities.

Purpose

THIS IS NOT A REQUEST FOR PROPOSAL (RFP). The release of this Request for Information (RFI) is solely to seek input from qualified network suppliers, Internet Service Providers (ISP), or other interested parties, and constitutes a vehicle for information gathering purposes only. This RFI will **NOT** result in any contract or award for services from the North Slope Borough School District. Information gathered will be used to determine the direction, policies, initiatives, and requirements for a future Request for Proposal (RFP) seeking proposals to improve broadband availability in North Slope Borough communities.

We are putting forth this Request for Information (RFI) as a first step to determine feasibility of an E-Rate subsidized infrastructure build-out that will bring affordable broadband services into the various communities – and to determine potential partners in that effort.

All NSBSD E-rate subsidized telecommunications service contracts will expire 6/30/2017. There will be an upcoming E-Rate Form 470 and corresponding Request for Proposal (RFP) for on-going services likely to be released in late Fall 2016. Services we will ask for in that RFP will be determined by information received from this Request for Information (RFI), and whether we feel we have a supportable model to justify an E-Rate subsidized build-out.

Goals

The district has no plans to operate as a network provider or ISP that serves residential homes or commercial businesses, but is instead evaluating a role as a possible anchor tenant for a network for the primary purpose of providing terrestrial connectivity between district schools, and secondarily, to develop network infrastructure that can be utilized by other customers within our communities. We are under the belief that there is potential FCC E-rate special construction funding available for building fiber or microwave facilities in our under-served areas. We are hopeful the NSBSD will be successful in obtaining competitive E-Rate special construction one-time funding that will greatly improve Internet and Wide Area Network (WAN) performance and significantly reduce our recurring annual cost for service, not only for the school district, but for other customers as well.

We are specifically interested in developing infrastructure solutions that could be used as backhaul or middle-mile connectivity points that broadband providers can use for last-mile distribution connectivity to their subscribers in a technology neutral way. These solutions may also include last-mile network facilities that directly pass unserved and underserved homes, businesses, and community institutions.

To meet the objectives of enabling widespread broadband throughout the North Slope Borough communities, such a network would need to be highly reliable, secure, and facilitate interconnection at many points on terms competitive for high-capacity backhaul to retail ISP's. The middle-mile network should reflect an open access network offering. An open access network offers significant technical and economic incentives to drive last-mile investment, including: a) location of many interconnection points to reduce the length of last-mile lateral deployment; b) diverse range of wholesale services (e.g. speed tiers, lit and dark fiber offerings, point-to-point transport and IP transit); c) affordable rates that reflect competitive prices as seen in high density, urban markets; d) terms that are neutral to all third party and affiliated service providers. The provider(s) of such a network would themselves be encouraged to provide connectivity as a retail ISP as well, but only on terms that are not anti-competitive.

The goal of this effort is to identify ideas and/or recommendations regarding how to provide expanded high-speed broadband services via a fiber-optic or microwave based, open access network for use by internet service providers and commercial businesses serving businesses and residents in the North Slope Borough. These services could be used to access the Internet for businesses, residential home-based businesses, telecommuting, telemedicine, telehealth, rural economic development, educational purposes, other typical residential uses, government, and public safety communications.

Beyond the scope as identified above, the district wishes to identify potential challenges, and solutions to, roadblocks, political challenges, creative business

solutions, permitting, timelines, and information on potential technological solutions that will aide to expand broadband access to underserved area of the Borough.

Public-Private Partnership (PPP)

The district is also exploring strategies for the structuring of Public-Private Partnership (PPP) opportunities, with FCC subsidized entities like Libraries or Rural Health Care providers, and/or private sector co-investment or co-bidding strategies. These PPP opportunities could involve collaboration across many functional areas to deploy broadband, including: planning, investment, build-out, network operations and maintenance, marketing, broadband adoption facilitation, and delivery of Internet and other advanced services. One possible collaboration could be bidding for services together as a large group of public/private entities potentially driving costs down for all of us.

Grants to assist funding the District share

The present E-rate discount rate for NSBSD is 80%, meaning the district would be paying 20% of all project build-out costs. As part of the Public-Private Partnership (PPP) opportunities, the district is also seeking grant opportunities that may be available to us from non-E-rate service providers to fund our district share. It should be noted E-rate already has provisions to match State or Tribal grants up to 10% of project cost. In this particular case, E-rate would fund 80%, a qualifying grant could pay 10%, and then E-rate would also match the 10% grant share.

Obviously, any grant that helps funds the district's up-front construction share is advantageous to the district. After all, reducing the recurring costs, as up-front project funding should do, can only be accomplished if we have the money to pay our up-front share.

Understanding E-Rate Special Construction

For customers who are eligible E-rate facility/applicants, the Second E-rate modernization order's rules on special construction apply. Special construction projects deploy new fiber or upgraded facilities to E-rate Program eligible locations. Special construction charges are the upfront, non-recurring costs of such installations or upgrades. Special construction consists of three eligible components: (1) construction of network facilities; (2) design and engineering; and (3) project management. Charges for network electronics needed to light the fiber, while eligible for Category One support, are not considered part of special construction. Some options we seek rely on E-rate funded Special Construction.

Additional information can be found at

<http://www.universalservice.org/sl/applicants/beforeyoubegin/fiber.aspx>

Self-provisioning Fiber or Microwave

E-Rate eligible facilities/applicants may seek Category One support to self-provision its own network if constructing all or a portion of its own network is the most cost-effective connectivity solution. However, we do **NOT** feel the self-provisioning option to be of benefit to the district, the FCC, the providers, or the user community in general, and will not be seeking pricing on the self-provisioning option.

Scope of Services we seek

We will be seeking information on a comprehensive variety of services, many perhaps overlapping, or temporary services that may be necessary to cover contingencies due to possible construction delays. Contracts (from the eventual RFP) may be of varying term lengths at different sites.

The FCC requires that we compare costs for a variety of services to determine which offered service is most cost-effective. Although this is not the RFP, it is necessary to gather some basic cost information at this time on all services to determine the cost-effectiveness of any special construction. There is no point in eventually putting forward a RFP for a solution that doesn't meet the E-Rate cost-effectiveness criteria.

The NSBSD wishes to consider Wide Area Network improvements and compare special construction for fiber or microwave, Lit Fiber services, Dark Fiber Lease, and Lit Microwave services for the completion of our private Wide Area Network (WAN). Proposed design and connections are examples only and respondents are encouraged to provide alternatives to meet the needs of NSBSD. Given a number of factors, we may well end up with a hybrid network of fiber, microwave, and satellite service.

We also seek satellite Internet and satellite data circuits (without Internet content) to service our sites, some may be long term, some shorter term to be turned off as terrestrial services spin up.

We also seek terrestrial based Internet to be delivered to Barrow for distribution district-wide on our new WAN.

LANDING SITES **WITH UPGRADED ACCESS FACILITIES: Point Hope, Wainwright, Barrow.**

It would be our hope to contract for lit services with varying bandwidth options, or we would entertain some other option for long term lease of capacity (dark fiber?). Barrow would be the hub of our network.

Services to be delivered to:

Barrow – School District Maintenance and Operations Building network closet at 1693 Okpik St. Barrow AK 99723. (Four local Barrow schools and multiple district offices will be served from this site via Borough or School District owned single-mode fiber).

Point Hope – Tikigaq School network closet at 1837 Tikigaq Ave., Point Hope, AK 99766.
Wainwright – Alak School network closet, 567 Main St., Wainwright, AK 99782.

SITES *WITHOUT* UPGRADED FACILITIES NEARBY (WEST): Point Lay and Atqasuk.

We believe no local fiber access exists and these locations will require a fiber or microwave build out from an adjacent community to each of these (West) sites where there is no enhanced off shore or terrestrial option.

We seek to connect:

Point Lay to Point Hope

OR

Point Lay to Wainwright.

AND

Atqasuk to Wainwright

OR

Atqasuk to Barrow

Request Connectivity door to door. Here are pertinent addresses:

Point Lay – Kali School, 1029 Qasigialik St., Point Lay, AK, 99759

Atqasuk – Meade River School, 4001 Kippi St., Atqasuk, AK, 99791

Point Hope – Tikigaq School, 1837 Tikigaq Ave., Point Hope, AK 99766

Wainwright – Alak School, 567 Main St., Wainwright, AK, 99782

Barrow – NSBSD Maintenance and Operations – 1693 Okpik St. Barrow, AK 99723

SITES *WITHOUT* UPGRADED ACCESS FACILITIES NEARBY (EAST): Nuiqsut, Kaktovik, Anaktuvuk Pass

We seek bandwidth to SCHOOL SITES (EAST) without upgraded access facilities nearby in a variety of options:

lit microwave service, lit fiber service (you build you own), dark fiber Indefeasible Right to Use (IRU) (you own the fiber, we lease pairs from you long term - with and without E-Rate Special Construction funds). Or lacking these more favorable options, we will be seeking satellite Internet and satellite data circuits (without Internet content)

We will be seeking connectivity at these locations:

Nuiqsut – Nuiqsut Trapper School, 3310 3rd Ave., Nuiqsut, AK, 99789

Kaktovik – Harold Kaveolook School, 2001 Barter Ave., Kaktovik, AK, 99747

Anaktuvuk Pass – Nunamiut School, 114 Illinois St., Anaktuvuk Pass, AK, 99721

Description of Connectivity Options Sought

Lit Fiber Service (no build). Fully managed, end-to-end lit fiber service on an existing fiber cable run at a minimum 100 mbps. No E-rate special construction funds would be used on this option.

Lit Fiber (special construction). Fully managed, end-to-end Lit Fiber Service – but on fiber that E-rate has funded construction costs on a NSBSD E-Rate funding request. In this case, respondent would own the constructed fiber, you are requesting E-rate special construction funds.

Dark Fiber (IRU – No Build). This option would be Indefeasible Right to Use (IRU) leasing of one pair of fiber between end points. This would not include any construction funding, assuming the fiber is now existing or construction funding for the facility/applicant is not needed to support the lease. In this case the respondent would not quote special construction funding provided by the applicant or facility. Assume scenarios where the applicant/facility would provide the modulating electronics to utilize the fiber at the bandwidth of our choosing.

Dark Fiber (IRU – w/Special Construction). This option would be Indefeasible Right to Use (IRU) leasing one pair of fiber. In this case the respondent would quote special construction funding provided by the applicant or facility. The respondent would likely build and operate a fiber system which contains capacity to serve other entities in the North Slope Borough. Assume scenarios where the applicant/facility would provide the modulating electronics to utilize the fiber at the bandwidth of our choosing.

Microwave Options: We will only be seeking two Microwave Options, Lit Microwave Service without E-Rate Special Construction Funds, and Lit Microwave Service with E-Rate Special Construction Funds. There will be no self-provision option of microwave where the district would own all or part of the constructed microwave facilities. We are desirous of the provider owning facilities that may be shared with other sectors of the served community lowering costs for all users. Fiber would be our preference, but will consider Microwave as an option.

Lit Microwave service – no build. Existing service provider owned microwave with a fully managed end-to-end lit service at a minimum 100 mbps

Lit Microwave service with special construction. This option would be a facility/applicant funded build-out where the service provider builds and provides a fully managed end-to-end lit service at a minimum 100 mbps. The respondent would quote special construction funding provided by the applicant or facility

Satellite with Internet Content to site.

Satellite WAN data circuit from site to Barrow.

Within these options as a guide, we would like RFI respondents to outline the solutions they would propose for each community. Some things to keep in mind with responses:

Fiber would be the preferable medium but in accordance with the E-rate competitive bidding options, we will consider alternative designs or proposals, for example, microwave.

We have little familiarity with what facilities telecom providers might now have on the North Slope nor what might be possible via fiber, radio, or Microwave, etc. in this harsh, remote Arctic climate. Our efforts to suggest possible network scenarios are not meant to limit your solutions to only those scenarios.

All dark fiber options will require on-going maintenance and operations support of the fiber for the term of the lease. Respondents should provide estimates for dark fiber maintenance as a recurring charge separate from any construction charges.

Respondents should be mindful that the FCC's E-rate fund is a reimbursement fund which requires competitive bidding and selection of the most cost effective solution.

Construction cost estimates and recurring costs are critical at this point to judge reasonableness of the various options.

On E-rate funded construction, our expectation would be that the recurring monthly fee would be greatly reduced from present costs since E-rate has front-end funded the fiber or microwave construction.

The facilities to be served are seeking multiple options for bids for each site. Respondents may respond to any or all options.

All Lit Service circuits must support Quality of Service (QoS) and have the ability to apply rate limiting guarantees to specific packet types to ensure Quality of Service at each WAN link). The network must have the ability to support multiple QoS policies and prioritization queues across each link in the WAN to reduce latency and packet loss and guarantee throughput for data, voice, and video.

There is no right of provider to limit or throttle the capacity of the circuit at any time for any reason.

We are also seeking satellite service but satellite will only be considered when no other option is considered viable.

Questions and Responses

Any questions related to the RFI should be submitted in writing to the following e-mail addresses.

Robyn Joksic robyn.joksic@nsbsd.org

Greg Stone greg.stone@nsbsd.org

Jim White jwhiteinak@gmail.com

Responses to questions will be posted on the district website at: <https://goo.gl/oL136p>

Submitting your RFI Response

Respondents should consider including the following in their response:

1. **Estimated Pricing.** ***PLEASE SUBMIT ESTIMATED PRICING ON THE NSBSD 2017 PRICING SHEET.XLSX.*** Include pricing for all school sites that you propose a solution. Price quotes are requested for 3 year, 5 year, 10 year, and 20 year terms of service. Enter prices on rows for the appropriate bandwidth. Prices should be entered in annual amounts. It is assumed no increased pricing will be requested during the term of the contract unless otherwise stated.
2. ***PLEASE SUBMIT ADDITIONAL DOCUMENTATION DETAILING THE SOLUTION YOU WOULD PROPOSE FOR EACH SITE.***

Technical scope. How you will approach meeting the facility/applicant needs? What solution will you propose for each end point?

Methodologies. If there is a particular build or service approach respondent would like to employ, describe it. Please provide rationale supporting your solution for each site compared to other solutions. Justify your recommendation over other options available. If you believe a build-out option isn't feasible or practical for a site, or you have a better idea, please explain your thoughts.

Builder / Owner. In the case of special construction, we seek to understand who is doing the construction. Are you the actual builder? Will you primarily subcontract the construction to other firms? Does the builder have Arctic construction experience? Who will own the completed facilities?

Specifications. The attributes of your service – bandwidth levels, build methods for dark fiber or microwave construction, etc.

Obstacles. Please provide comment on what barriers exist that may hinder the deployment of your network solution.

Timeline. E-Rate rules generally require the project to be completed within the funding year. We may need to seek FCC permission for a waiver, so it is important we have a good understanding how long it will take to put solutions into place at each site.

Define realistic blocks of time necessary for various planning, permitting, and construction phases. Specify if some phases can only take place during certain seasons or weather conditions. If there are construction projects at multiple communities, can they take place simultaneously?

Assume a February 2017 contract and a June 2017 funding approval scenario. What would be the timeline for major project components and the final completion of the project?

Contract Type. What are the attributes of the service contract respondent would need to cover the scope of services to be offered.

Past Performance. Outline respondent's similar work in the last 60 months.

Certifications. If respondent has any relevant certifications outline these.

Other options for funding builds. Has your firm investigated any Federal grants that could be used to extend coverage into our rural and unserved/underserved areas? Are there other FCC funding opportunities for common carriers that would accomplish the same goals?

E-Rate. Do you have information that would lead you to believe we will not be successful in this attempt? Is E-Rate the correct potential funding source or would you suggest another course of action? Do you have reservations about an E-Rate-funded special construction build-out?

3. If you are interesting in participating in a Public – Private Partnership, please document your interest. Would you be interested in participating in a borough-wide bid for data circuits or Internet services?

Instructions for submitting RFI Response

Responding to this RFI will not provide any advantage with respect to any such subsequent solicitation, nor will failure to respond to this RFI prejudice any respondent to any future solicitation.

NSBSD will receive proposals in the following manner:

Electronic Delivery via email is preferred addressed to :

Robyn Joksic robyn.joksic@nsbsd.org

Greg Stone greg.stone@nsbsd.org

Jim White jwhiteinak@gmail.com

Or Mail Delivery to:

Greg Stone, Director
Financial Services
PO Box 169
Barrow, Alaska 99723

Mailed proposals must be labeled "RFI Broadband Expansion" on the outside of the envelope.



NORTH SLOPE BOROUGH SCHOOL DISTRICT

Financial Services
PO Box 169
Barrow, Alaska 99723

PLEASE RETURN THIS PAGE WITH YOUR RFI SUBMISSION BY *8/31/2016*

**SOLUTIONS FOR RURAL BROADBAND EXPANSION AND PUBLIC-PRIVATE
PARTNERSHIP OPPORTUNITIES**

SIGNATURE PAGE

THE FIRM OF: _____

Address: _____

In compliance with this Request for Information, the undersigned offers their response as contained herein.

Person to contact regarding this response:

Title:

Phone:

Fax:

E-mail:

Signature: _____ Date: _____