

E-Rate Form 470 Request for Proposals
for the provision of Leased Dark Fiber or High Capacity Ethernet

Issued by:
Hillsboro School District 1J
3083 Northeast 49th Place
Hillsboro, OR 97124

Issue Date: January 21, 2022

RFP Due Date: February 25, 2022 by 2:00 p.m.

Form 470 Number: 220014425

Question Submission: Procedural or inquires about submission may be submitted electronically via email to TSRFPResponse@hsd.k12.or.us.

Proposal Posting and Updates Site: <https://www.hsd.k12.or.us/domain/1260>
Check this site often for updates or addendums. Check this site prior to submission.

Purpose:

The purpose of this Request for Proposals (Solicitation) is to obtain competitive Offers from qualified Firms (Proposers) interested in the provision of for Leased Dark Fiber or high capacity Metro Ethernet between the following locations:

Hillsboro School District
3083 Northeast 49th
Place Hillsboro, OR 97124

The Pittock Building
921 SW Washington
Portland, OR 97205
Rack 108.02.05

Submission of RFP:

1. All proposals should be bundled into a single PDF document and emailed to:
TSRFPResponse@hsd.k12.or.us
2. All proposals should be formatted with the below sections in the provided order:
 - a. Table of Contents
 - b. Company Background & Information
 - i. General company background and E-rate history.
 1. Required for submission: Provide E-rate SPIN
 - ii. Company contacts for this RFP
 - c. Proposal (provide detail information concerning your offering or provide affirmation that your proposal will meet the requirement)
 - i. Basic Requirements
 1. Address Section 1. a. through d..
 - ii. References / Prior Work / Financial Documentation

1. Address Section 1.e. and f.
- iii. Dark Fiber or Metro Ethernet Requirements
 1. Address Section 2.Dark Fiber Network Services (all) AND/OR
 2. Address Section 3.Metro Ethernet Services (all)
- iv. Pricing
 1. Address Section 1. g.
 2. Address Section 1. h. i through iv
 3. Address Section 1. i.
- v. Service Level Agreement, Recovery Time Objective, Build Out
 1. Address Section 1. j.
 2. Address Section 1. h. v.
 3. Address Section 1. h. vi.

Scope:

1. The Agency is requesting proposals from contractors able to provide dark fiber or high capacity point-to-point ethernet services.
2. Section 1- Requirements:
 - a. Service Provider Identification Number (SPIN) and FCC Registration Number (FCCRN)
 - b. The proposer shall provide a valid SPIN number (Service Provider Identification Number), in the proposal submitted in response to this RFP or support a copy of its FCC Form 498 that has already been submitted to USAC. (See <http://www.universalservice.org/fund-administration/forms/> for more information.)
 - c. For proposers that intend to provide telecommunications services (as opposed to solely proposing to provide equipment, monitoring/management services, or configuration/implementation services), the proposer must be recognized by USAC as a telecommunications common carrier. The proposer also shall provide the company's FCC Registration Number in its proposal. For more information, please visit: <https://fjallfoss.fcc.gov/coresWeb/publicHome.do>.
 - d. Each proposer also must certify that it is in good standing and not subject to "Red Light Status" with the FCC
 - e. Responders must confirm the capacity to meet the network build requirements through client references, prior work and financial documentation
 - f. References
 - i. Provide contact information for 3 previous school districts that you provided same service
 - A. Include name, title, school district, and email address
 - B. Include year of installation
 - C. Include if this was an e-rate project
 - D. Preference for like size or larger districts and e-rate projects
 - E. Identified references may receive an emailed reference survey to be filled out online.
 - g. Proposals must include pricing for the following contract length:
 - i. Five year with five one-year extensions.
 - h. Proposals must include:
 - i. Non-recurring installation costs.
 - ii. Itemized list of taxes and any other fees that are not included in the quoted price of the circuit or fiber lease
 - iii. Itemized list of installation charges eligible for E-Rate Special

- Construction reimbursement.
 - iv. Ongoing maintenance and support costs
 - v. Service Level Agreement.
 - vi. Build Out Schedule.
 - i. Ethernet Circuit capacities must be priced as a minimum of 10Gbps up to 100Gbps in 10Gbps increments.
 - j. A detailed description of the penalties the vendor is willing to provide for non-performance and/or violations of Service Level Agreement.
- 3. Section 2- Dark Fiber Network Services
 - a. Service Providers shall provide a minimum of 2 strands (one pair) of fiber.
 - b. Service Providers shall provide a map detailing the cable routes for the proposed fiber links.
 - c. Fiber/Cable Type
 - i. Preference for non-dispersion compensated fibers consistently throughout the network.
 - ii. Service Providers must identify the fiber type they use in their response and provide specifications for the fiber and cable.
 - iii. The Agency anticipates lighting the Service Provider's fiber with 10GBASE G.694.1 100Ghz DWDM optical modules with LC connectors.
 - iv. The fiber connectors and adapters shall be compliant with TIA/EIA 604
 - v. The fiber connectors shall have an average insertion loss of 0.3 dB or less. Service Providers should provide datasheets for the proposed SC fiber optic connectors and adapters.
 - d. Link Loss Budget
 - i. The link loss for any dark fiber link should not exceed 10 dB as measured using a double - ended loss test at 1550 nm
 - ii. Service Providers must identify in their proposal any links where the estimated link loss is expected to exceed 14 dB. The estimated link loss shall be indicated for any exception.
 - e. Inside Building Cable Routing
 - i. Intra-building cable routing shall be performed in accordance with all applicable local building codes. When required, the Service Provider must plan a splice point at the building entrance to transition from outdoor cable to indoor cable, or enclose the outdoor cable in metallic conduit or covered metal raceway.
 - f. Cable Slack for Repair or Relocation
 - i. A small amount of slack cable (15 - 20 feet) shall be neatly stored in each MDF in the event that a cable repair or relocation is required.
 - g. Site Make Ready Work
 - i. Any trenching and conduit placement from the street to the building entrance point must include all necessary pavement and ground repair. All pavement and other grounds must be returned to its original condition. All installation of cabling, pathways, etc shall be to BICSI specification and the design specifications of The Agency.
 - h. Fiber Testing
 - i. Insertion loss testing measuring end-to-end attenuation (including all fiber, splices, and connectors) shall be conducted on all the fiber links. Insertion

loss testing shall be done in both directions at the operating wavelengths of 1310 nm and 1550 nm. The double-ended loss test methodology shall be used.

- ii. The Service Provider shall record all optical power measurements to the nearest tenth of a unit of measure (to one significant digit in the decimal place, i.e., -7.3 dB).
- iii. Test results must be permanently recorded and presented in both hard copy and computer-readable format to The Agency for review. Any fiber link failing to meet the Link Loss Budget standards will be repaired or removed and replaced at no cost to The Agency with an installation that proves through testing to meet the standards.
- iv. The Fiber Network will not be accepted until all fibers meet the appropriate standards.
- v. The Service Provider is required to provide documentation of their fiber testing procedures, including referencing procedures for fiber optic testing, prior to testing. This document must list equipment to be used (manufacturer and model number) and the date when it was last calibrated. All test equipment used will have been factory calibrated (or by an approved calibration service provider) within the past two years

4. Section 3- Metro Ethernet Services

- a. Transport Internet Protocol (IP) data packets to and from a specified Ethernet interconnection point at each physical address for which service is contracted. Other communications protocols may be used to transport data packets; however, IP over Ethernet is required at the user and network interfaces.
- b. Following the Open Systems Interconnection (OSI) model: Layer two interfaces will be Ethernet, preferably meeting Metro Ethernet standards such as VPWS, VPLS, IEEE 802.1ad (QinQ), IEEE 802.1ah (MAC in MAC), and IEEE 802.1Qay (PBB-TE).
- c. Preferred layer one hand-off is 100G. Vendor must support IEEE 802.3ad link aggregation control protocol (LACP)
- d. Transport services must be available with at least 99.99 percent reliability. Even though the "tail-circuit" into the end-user facility need not be redundant, Agency will give preference to vendors with geographic route-diversity from the community in which the end-user facility is located to the exchange facility.
- e. The transport network shall proactively be monitored, including all associated equipment using traditional network management systems found in a Network Operations Center (NOC). Network service operations shall be 24x7x365. The Customer must have basic up/down status and bandwidth utilization monitoring capabilities of the WAN Core backbone and each WAN Hub circuit.
- f. The data access and transport provider must be willing to agree to Service Level Agreements (SLAs) with financial penalties for service outages, lack of availability of the contracted service capacity and any failure to meet quality of service specifications for transit delay, jitter and packet loss.
- g. Proposals must list underlying physical transport technologies that will be used in providing the proposed services.
- h. Proposals must list known technical constraints, such as but not limited to:
 - Maximum number of MAC addresses supported
 - Multicast restrictions

- Jumbo frame support
- Q-in-Q restrictions
- Layer 2 protocol support: LACP, LLDP, OAM, and STP

5. Section 4- Special Construction

- a. Respondents providing proposals which require an upfront payment may include a special construction cost or non-recurring cost. This upfront payment is considered special construction if any new fiber is being installed. If new fiber installation is not necessary, the payment is considered a non-recurring cost and must be entered into the pricing sheet accordingly.
- b. All E-rate applications including special construction are subject to review and detailed questioning. Respondents should provide or be prepared to promptly provide the following information:
 - i. A map file of the proposed fiber route in kmz format
 - ii. The cost per foot of fiber
 - iii. The cost per foot of fiber installation (splicing, pulling through conduit, hanging on poles)
 - iv. The cost per foot of outside plant materials (conduit, handholes, markers, aerial make ready materials)
 - v. The cost per foot of outside plant installation (trenching, handhole and marker installation, installation of aerial make ready materials)
- c. The amount of special construction capital requested will be reviewed based on the cost of historical fiber builds in the region. Respondents should consider other business that may be generated by building fiber into the region and request only the special construction capital allocatable to the HSD's service.

Evaluation of Proposals:

1. Scoring of the proposal shall follow the below weighting.
 - a. Basic Requirements (5%)
 - b. Dark Fiber or Metro Ethernet Requirements (30%)
 - c. Pricing of Eligible Services (40%)
 - d. Service Level Agreement, Recovery Time Objective, Build Out (25%)