# GENERAL DESCRIPTION AND SPECIFICATIONS

Lawton Public Schools (Lawton PS) is requesting proposals for leased Lit Service to connect all schools and other listed locations to the district hub located at 753 NW Fort Sill Blvd., Lawton, OK 73507. Connection speeds for each location are identified on the pricing sheet tab labeled “10-40 Gbps LLLS”. All sites need to be able to transition up to 100 Gbps, and pricing for possible bandwidth upgrades should be entered on pricing sheet tabs “40 Gbps upgrade” and “100 Gbps upgrade” accordingly. It is Lawton Public School’s intent that an individual site be able to be upgraded as needed throughout the term of this contract. Once upgraded, the site will remain at the new bandwidth for the duration of the contract, unless the site is abandoned for use as an instructional facility by Lawton PS.

Leased Lit Service is defined as any technology neutral point-to-point broadband service that provides the desired connectivity end-to-end. This could be fiber-optic cable, microwave, or other media where the service provider[[1]](#footnote-1) installs, operates and maintains all of the equipment necessary to provide end-to-end service for Lawton PS.

The current WAN services are provided by Unite Private Networks, but the contract end date is June 30, 2025. In order to remain eligible for Erate funding, it is necessary to solicit bids using a new Erate application (Form 470).

Vendors providing proposals should have an ERate Service Provider Information Number (SPIN) from the SLD, and should include their SPIN on their proposal. There is no cost to register for a SPIN/498 ID, and application can be made at <https://www.usac.org/e-rate/service-providers/step-1-obtain-a-spin/>

Any measurements referred to in this document are estimates to aid vendors in locating routes and orientations. These measurements do not include service loops or slack left in manholes or on poles. These measurements are NOT to be relied upon to estimate materials and/or labor except in a general sense. Vendors are expected to obtain their own measurements to develop their proposal. No change orders, or increases to the price being proposed by the vendor as a result of inaccuracies of these measurements, will be accepted by Lawton PS after award of this proposal.

## SERVICE LOCATIONS

Service is expected to be delivered from the district hub, the Instructional Media/Tech Center at 753 NW Fort Sill Blvd., Lawton, OK 73507 – demarcation point is the network operations center identified as NOC on the attached floor plans. Service is expected to be delivered to the eligible service locations from the district hub at the following locations:

Almor West Elementary School at 6902 SW Delta Ave, Lawton, OK 73505-6628

Brockland Pre-K, 6205 NW Ferris Ave., Lawton, OK 73505-6628

Carriage Hills Elementary School at 215 SE Warwick Way, Lawton, OK 73501

Central Middle School, 1201 NW Ft Sill Blvd, Lawton, OK 73505-6628

Cleveland Elementary School, 1202 SW 27th St, Lawton, OK 73505-7947

Crosby Park Elementary School, 1602 NW Horton Blvd, Lawton, OK 73505-2934

Douglas Elementary School, 102 E Gore Blvd, Lawton, OK 73505-6628

Edison Elementary School, 5801 NW Columbia, Lawton, OK 73505-5727

Eisenhower Elementary School, 315 SW 52nd, Lawton, OK 73505-6828

Eisenhower High School, 5202 W Gore, Lawton, OK 73505-6628

Eisenhower Middle School, 5701 W Gore Blvd, Lawton, OK 73505-6628

Freedom Elementary School, 5720 Geronimo Road, Lawton, OK 73505-6628

Hugh Bish Elementary School, 5611 Allan-A-Dale, Lawton, OK 73505-1477

Instructional Media/Technology, 753 NW Fort Sill Blvd Lawton, OK 73505-6628

Lawton High School, 601 NW Ft Sill Blvd

Learning Tree Academy, 1908 NW 38th, Lawton, OK 73505-6628

Life Ready Center, 702 NW Homestead Dr., Lawton, OK 73505-6628

Lincoln Elementary School, 601 SW Park Ave, Lawton, OK 73505-6628

MacArthur High School, 4400 E Gore, Lawton, OK 73505-6628

MacArthur Middle School, 510 NE 45th, Lawton, OK 73505-6628

New Horizons Learning Center, 900 NW Cache Rd, Lawton, OK 73505-5421

Pat Henry Elementary School, 1401 NW Bessie, Lawton, OK 73505-6628

Pioneer Park Elementary School, 3005 NE Angus Pl, Lawton, OK 73505-6628

Ridgecrest Elementary School, 1614 NW 47th St, Lawton, OK 73505-6628

Shoemaker, 753 Fort Sill Blvd, Lawton, OK 73505-6628

Sullivan Village Elementary School, 3802 SE Elmhurst Lane, Lawton, OK 73505-6628

Washington Elementary School, 805 NW Columbia, Lawton, OK 73505-6628

Whittier Elementary School, 1115 NW Laird, Lawton, OK 73505-6628

Woodland Hills Elementary School, 405 NW Woodland Dr Lawton, OK 73505-6628

Maintenance/Warehouse, 1901 SW Lee Blvd, Lawton, OK 73505-6628

Transportation, 1101 SW 17th St, Lawton, OK 73505-6628

Cameron University, 2800 W Gore Blvd, Lawton, OK 73505-6628

For each location, the demarcation point is the MDF as identified on the attached floor plans.

## SERVICE START DATE

The new service is being planned to begin on July 1, 2025 which represents the expiration of the current leased WAN service. Respondents must include a timeline for bringing all sites online and explain how much they can adhere to Lawton PS’s specified timeline.

## REQUEST FOR PROPOSAL TIMELINE

The Request for Proposal (RFP) will be posted to the Schools and Libraries Division website along with the ERate form 470. Additionally, the RFP will be posted to the CRW Consulting Invitation for Competitive Bids (IFCB) website (<https://www.crwconsulting.com/ifcb>). Vendor questions pertaining to the RFP should be presented using the IFCB website shown above. Vendors should not call, email, or otherwise attempt to contact the school during the bidding process.

The deadline for questions about the RFP is listed on the CRW IFCB webpage that you used to download this document. All questions will be answered through the IFCB website as they are received. Vendors are required to submit their proposal through the IFCB website, and all proposals are due not later than the deadline listed on the CRW IFCB page you used to download this document

# WAN PROCUREMENT

Lawton PS is seeking proposals for Leased Lit service to replace the service currently provided by Unite Private Networks, whose contract expires June 30, 2025.

Lawton Public Schools is requesting bids for a Leased Lit Fiber WAN, with the district network hub located at the Instructional Media/Tech Center at 753 NW Fort Sill Blvd., Lawton, OK 73507.  The District is looking for a design that provides network resiliency, such as a ring topology. Lawton PS is requesting bids for a network design/topology that allows for a fiber cut without losing connectivity to any site connected to the WAN. Physical topology for the network could include any topology that provides the resiliency that is being sought by Lawton PS.  This could include traditional network designs (such as hub and spoke) or alternative proposals (such as ring, bus, tree or other) that, in accordance with E-rate guidance, maximize cost effectiveness.  Lawton PS is not advocating or mandating any preconceived network design or construction route and leaves this decision up to the vendor to present their best solution while recognizing the cited termination locations.  For each response, vendor must include a logical network diagram as well as a physical network diagram displaying the paths to be used to serve each endpoint.

Vendors are also asked to provide pricing for adding new sites during the contract period.  Lawton PS does not have specific site(s) in mind, but wants to have the ability to add additional sites during this contract, and be able to use this proposal and the associated ERate form 470 in order to be able to receive ERate funding for any new site without issuing another Request for Proposal.  These new sites would have service until the end of the contract for the other Lawton PS schools, so for example, if Lawton signed an agreement initially for a 5-year contract, and were adding a new site to begin service July 1st of the third year of that contract, service for the new school would be for three years (the 3rd, 4th and 5th years of the contract).

Vendors are free to choose how they price the cost for new sites, but would anticipate that the construction costs would be delineated in terms of how much new construction would be required, which could include additional backbone fiber to reach the area of the new site, as well as the cost of bringing the fiber into the new site.  Additionally, the monthly recurring cost (MRC) for the new site should also be included.  All Pricing for new sites should be entered on the pricing sheet labeled “New Sites”.  Vendors are free to develop their own pricing sheet on this Excel tab, as the methodology for each vendor will vary and Lawton PS cannot anticipate in what manner would be most appropriate to provide Lit Leased Service to a new site.

Assuming that any new sites will begin service on July 1st, vendors may also include special construction costs for new sites as part of their pricing sheet for adding additional sites.  The same rules for special construction apply to new sites in the year they are added to the Lawton PS contract.

# SPECIAL CONSTRUCTION

In E-rate terminology, **special construction** refers to the upfront, non-recurring costs associated with the installation of new fiber to or between eligible entities. If no new fiber is being installed, then any installation costs are considered standard **non-recurring costs (NRC).** Applicants may seek funding for special construction charges in connection with this leased lit service. Special construction charges eligible for Category One support consist of three components:

* Design
* Construction of network facilities
* Project management

***Note:***The term Special Construction does not include network equipment necessary to light fiber, nor the services necessary to maintain the fiber.

Any attempt by the service provider to add any fiber strands during construction that are NOT for Lawton PS will trigger a requirement for the service provider to cost allocate out all costs related to the additional fiber strands.

The winning service provider assumes full responsibility to ensure appropriate incremental costs are allocated out of the Special Construction charges to the district in accordance with FCC rules and orders. If, after the issuance of the Funding Commitment Decision Letter, USAC or the FCC determines that the winning service provider did NOT appropriately cost-allocate those charges associated with the additional strands, Lawton PS will not be responsible for reimbursing the winning vendor and the winning vendor will assume fiscal responsibility for all costs deemed ineligible by USAC. For examples of cost allocation, please see documentation prepared by the State E-rate Coordinators’ Alliance (SECA) attached.

Based on the bids and both a short term and long-term cost effectiveness analysis, Lawton PS will determine which, if any, of the proposed solutions or some combination of solutions is acceptable.

# LEASED LIT SERVICE/TRANSPORT

**Leased Lit Service/Transport** - A fully managed, leased lit service solution. This option may include Special Construction costs (see SPECIAL CONSTRUCTION). If Special Construction is included, it should be bid separately from the monthly recurring cost. Additionally, any installation or connection charges should be bid separately as a non-recurring cost. Maintenance cost for the Leased Lit Service, as well as all other costs (fiber/circuit/transport lease, fiber/circuit/transport maintenance, modulating electronics, routing equipment, equipment refreshes, pole attachment fees, maintenance, etc.) should be included in the monthly recurring cost. With the exception of any Special Construction charges and any non-recurring costs stipulated by the service provider in their proposal, Lawton PS shall only be liable for the service provider stated monthly recurring cost for the duration of the contract.

Lawton PS desires a single technology neutral connection from the network operations center to each location. Estimated connection speeds by location and year can be found on the pricing sheet. Lawton PS must have dedicated, symmetrical transport bandwidth as described on the pricing sheet, with Service Level Agreement (SLA) guarantees between the designated endpoints.  The solution must be scalable to 100 Gbps. Bandwidth increases shown on the pricing sheet are estimates based on current growth rate and estimated utilization increases. Lawton PS reserves the right to escalate or de-escalate the bandwidth increases outlined on the pricing sheet during the duration of the contract as needed to meet actual needs.

This should include vendor-maintained equipment necessary at each endpoint to provide a Layer-3 connection to the hub, as well as a Layer-3 connection to the district-owned core router at each end point. At the hub and each endpoint, there should be vendor-maintained Layer-3 switch capable of connecting all endpoints at the designated bandwidth without creating a network bottleneck, as well as a connection to the Lawton PS local area network at each location.

Lawton PS is requesting pricing for contracts of various lengths (5 year and 10 years). Contracts shall be written so as to allow for up to 5 one-year extensions.

With respect to portions on Lawton PS property, service providers will abide by all applicable NEC, state and local codes. All cable entering a building must be indoor-rated, transitioned to an indoor-rated cable, or contained in an acceptable conduit that allows it to meet all codes; and all applicable grounding and bonding codes must be met.

Termination point for all options shall be the designated demarcation point within the buildings. Vendor provided services shall terminate in an appropriate vendor-provided patch panel or LIU, and LC patch cables of an appropriate length to reach Lawton PS equipment shall be provided as part of the proposal. Unless otherwise stated in this document, hand-off protocol shall be TCP/IP Ethernet.

Connections to all entities will need to be operational prior to July 1, 2025 for testing. Vendor must provide a timeline with their proposal defining the construction window necessary to have this service available beginning July 1, 2025.

Vendor shall make all reasonable efforts to ensure 99.99% network availability on each circuit. Vendor shall provide the full bandwidth to each location, and at no time shall the vendor limit or throttle the capacity of the circuit at any time, for any reason. Additionally, the vendor shall provide a sample Service level Agreement that outlines the vendor’s guarantees with regard to network functionality and availability, to include but not limited to:

* Network availability commitment
* Maximum acceptable frame/packet loss commitment
* Maximum network latency commitment
* Maximum network jitter commitment
* Maximum time to respond to outage (commencing from the time Lawton PS notifies vendor of the outage)
* Maximum time to restore service
* How quality of service will be measured for credit to Lawton PS
* How outage will be measured for credit to Lawton PS
* How credit for reduced quality of service and outages will be credited to Lawton PS

**Excess Fiber Strands for Applicant’s Future Use**

If the service provider installs additional strands for the applicant’s exclusive future use, and if the service provider can show documentation that buying a cable containing the number of strands placed in the fiber system for the applicant’s future use is more cost-effective then buying a fiber cable with the number of strands the applicant plans to place into service the first year, no cost allocation of the excess strands is required and no other special construction charges would need to be cost allocated.

If the service provider installs excess strands for the applicant’s exclusive future use in leased lit service special construction project where the excess strands will remain dormant until they are lit for the applicant in the future, and if the service provider cannot show that it is not more cost-effective than buying the exact number of fiber strands being lit in the first year, the applicant must cost allocate the costs associated with the excess strands only. No other special construction charges would need to be cost allocated.

# Excess Fiber Strands for Service Provider’s Future Use

For lit services special construction, if the service provider wishes to place extra strands in the build for its own use, the E-rate applicant must cost allocate the cost of the service provider-owned extra strands, as well as all incremental costs of those extra strands from the special construction E-rate funding request. It is not a pro-rata share, but an incremental cost calculation that must be backed by detailed documentation.

# SPECIAL CONSTRUCTION

## DESCRIPTION

For the purposes of the E-rate Program, special construction charges are the upfront, non-recurring costs of deploying new fiber or upgraded facilities to E-rate eligible entities. Special construction consists of three components:

1. Construction of network facilities
2. Design and engineering
3. Project management

Special construction does not include charges for Network Equipment, i.e., modulating electronics and other equipment necessary to make a Category One service functional.

An applicant may not receive E-rate support for recurring charges for leased lit service until the fiber is lit. Additionally, an applicant may not receive E-rate support for special construction related to leased lit service if the fiber is not lit by the end of the funding year (i.e., June 30, 2026).

All E-rate applications including Special Construction are subject to detailed questioning during PIA review where the cost of proposed special construction will be reviewed based on the cost of historical fiber builds in the region.  Additionally, certain information on necessary special construction is needed to accurately fill out the Form 471. Respondents are **required** to fill out the special construction table included with the pricing sheet for each project type. Additionally, respondents are encouraged (but not required) to submit the following additional information that will likely be requested during PIA review.

Information that can be included now, but will be requested at a later date for chosen solution:

* Special construction cost breakdown worksheet
* Any cost allocation worksheets, if applicable (see documentation prepared by the State E-rate Coordinators’ Alliance [SECA] in attached PDF)
* Route map of all build segments in kmz format
* Explanation of alternative routes that were explored and why the chosen route is most cost-effective
* Explanation of special materials and procedures required that may have increased construction costs. Such as:
  + Historical preservation or environmental issues
  + Bridge, waterway, railway, or highway crossings
  + Directional boring through hard rock or under paved surfaces
  + An excessive number of hand holes, marker posts, or other OSP materials
  + Expensive pole attachment fees or make-ready costs

If respondents do not submit this information above with their bid, and their solution is chosen, they must be prepared to promptly provide that information and any additional information not described in this RFP when requested. Please note that vendors may assist applicants with preparing funding requests or responding to PIA questions and may speak directly with PIA reviewers.

Vendors proposing Special Construction need to either include with their proposal, or be prepared to provide if awarded, detailed information on the special construction. Specifically:

* For all combined aerial segments
  + An average cost per foot for the eligible fiber cable
  + An average cost per foot for labor to install eligible fiber cable
  + An average cost per foot for the eligible fiber plant materials (attachment hardware, slack storage, and other materials
  + An average cost per foot for labor to install fiber plant materials
* For all combined buried segments
  + An average cost per foot for the eligible fiber cable
  + An average cost per foot for labor to install eligible fiber cable
  + An average cost per foot for the eligible fiber plant materials (conduit, hand holes, manholes, trace wire and grounding rods, etc.)
  + An average cost per foot for labor to install fiber plant materials (trenching, backfill, restoration, ground rods, etc.)
* For all combined directionally bored segments
  + An average cost per foot for the eligible fiber cable
  + An average cost per foot for labor to install eligible fiber cable
  + An average cost per foot for the eligible fiber plant materials (conduit, hand holes, manholes, trace wire and grounding rods, etc.)
  + An average cost per foot for labor to install fiber plant materials (directional boring, backfill, restoration, ground rods, etc.)

Special construction and service eligibility for reimbursement have changed starting funding year 2016.  See the Federal Communications Commission E-rate modernization order 2 (WC Docket No. 13-184) (<https://www.fcc.gov/document/fcc-releases-order-modernizing-e-rate-21st-century-connectivity>) for more information.

## PAYMENT PLAN

In addition to allowing vendor to separate Special Construction charges from the monthly recurring cost so that the Special Construction charges can be paid up-front[[2]](#footnote-2), USAC allows vendors to extend a payment plan to applicants to allow them to pay their share over a period of up to four years.

Lawton PS requests that the vendor allows Lawton PS to make monthly payments for their share of the Special Construction charges over a period of either 3 or 4 years. Lawton PS is eligible for an 90% discount, making Lawton PS’s cost share 10% of eligible expenses. If vendor agrees to allow Lawton PS to pay their share of Special Construction charges over time, vendor should include the monthly charge (to include all interest and carrying charges, if any) and to specify whether the payments will be for three or four years.

# NOTICE TO PROCEED & BUDGET CONTINGENCIES

This project is being proposed as an ERate project, and is subject to funding approval by the Schools and Libraries Division (SLD) of the Universal Services Administrative Company (USAC). Additionally, this project is subject to available funding in the Lawton PS budget to cover the district share of this ERate project.

Funding notification by SLD is NOT approval for the vendor to proceed with the purchase of materials for this project, nor approval for the vendor to begin construction. Vendor will wait to receive a purchase order and notice to proceed from Lawton PS before beginning this project.

Lawton PS reserves the right to not award some or all of the components based on negotiated pricing and availability of funds.

Lawton PS will follow the purchasing policies of the Lawton PS Board of Trustees, as well as requirements and procedures of the FCC’s E-rate program as administered by the Universal Service Administrative Company to be eligible for all available funding. The implementation of any associated contracts resulting from this competitive bid process will be dependent on the district's issuance of a written Notice to Proceed, a USAC Funding Commitment Decision Letter alone is not sufficient. The district will have the right to allow the contract to expire without implementation if appropriate funding does not come available.

# REFERENCES & QUALIFICATIONS

Vendors providing proposals should have an ERate Service Provider Information Number (SPIN) from the SLD, and should include their SPIN on their proposal. There is no cost to register for a SPIN, and application can be made at <https://www.usac.org/e-rate/service-providers/step-1-obtain-a-spin/>

For each response, vendor must provide 3 references from current or recent customers (preferably K-12) with projects equivalent to the size of Lawton PS.   For each reference, please provide:

* the name of the entity
* name, phone number, and email of the entity point of contact
* a description of the scope and size of the project

## BUILDING ENTRANCES

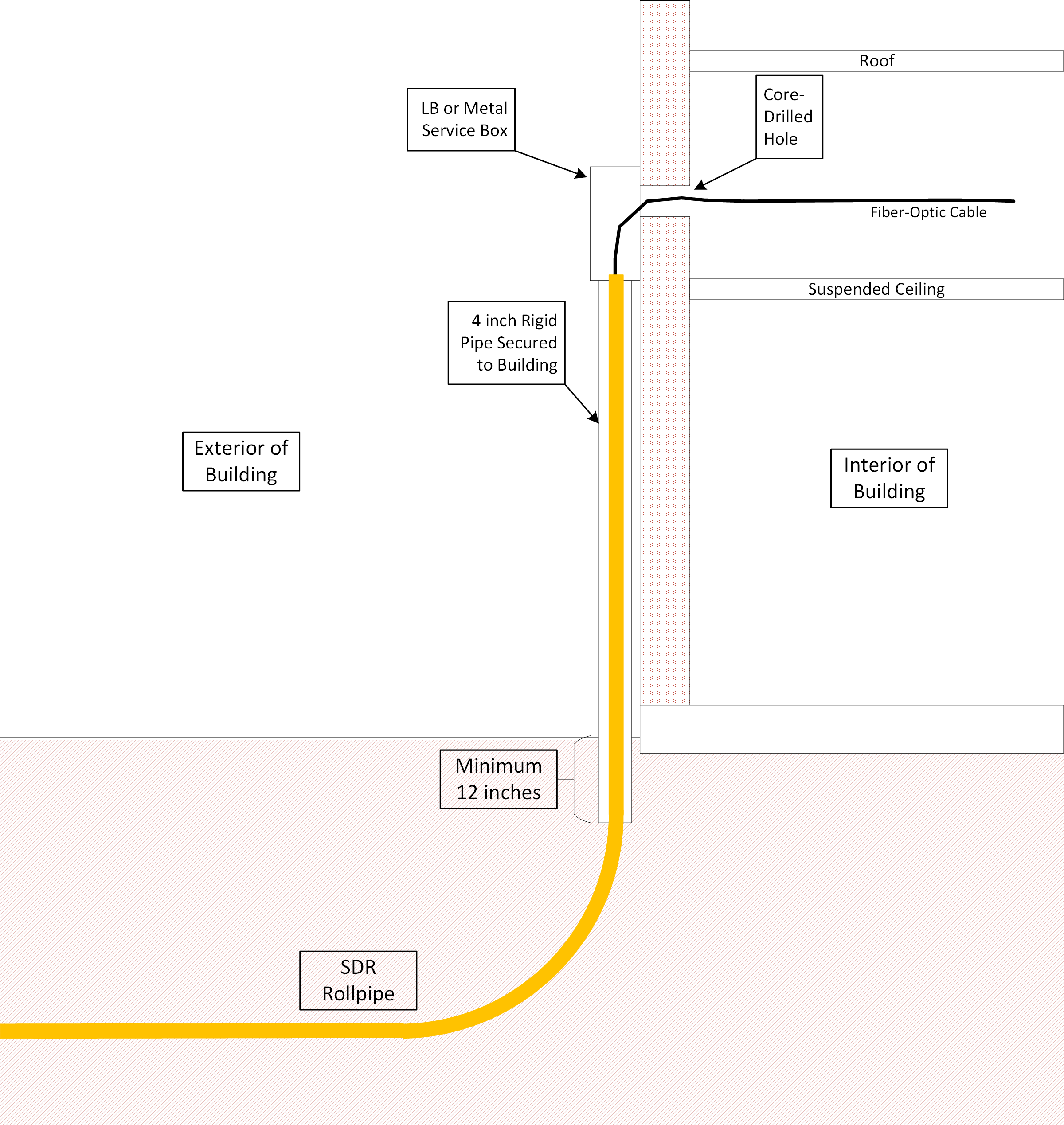
Underground cables - Unless otherwise specified, anywhere a Building Penetration is requested it will consist of an appropriately sized galvanized rigid steel (GRS) pipe. GRS pipe will be attached to the outside of the exterior wall of the building. The GRS pipe will extend down at least 12 inches below grade, and up to the height necessary such that an LB or Metallic service box (minimum 12”x12”x6”, but large enough so as not to exceed cable manufacturer recommendation for bend radius) connected to the top will allow fiber-optic cable passing through the LB (or the back of the service box) to enter the building above the suspended ceiling (see diagram on next page). SDR11 roll pipe will enter this rigid metal pipe at the bottom, providing a pathway from the underground conduit into the building. The GRS pipe, and any service box, will be mechanically secured to the exterior wall. The opening through the exterior wall shall be core drilled, sleeved if appropriate, and sealed after fiber-optic cable is installed.

In locations where an existing underground conduit leading to the demarcation point is accessible from the outside, an existing or new hand hole will be used to transition from the HDPE roll pipe to the existing conduit.

Aerial cables – Aerial cables may be transitioned to underground at the property line, or may be run to the building aerially. Aerial cables running directly to the building shall be secured to the building using the messenger cable. A drip loop of cable will remain outside, and the fiber cable will penetrate the building at an appropriate height to enter above any suspended ceiling. Any penetrations to the exterior wall will be properly sealed by vendor.

When fiber-optic cable enters buildings, vendors must comply with all fire codes and other applicable codes. If outdoor cable will run 50 feet or more inside the building, it must meet indoor cable rating. This can be accomplished by fusion splicing an indoor rated cable. Another option is to use an indoor/outdoor rated cable and to remove the outdoor jacket at or near the building entrance point to expose the indoor rated sheath for the remainder of the run inside the building. Vendors may propose any other solution that meets NEC and local codes. Vendor will specify in their proposal how they intend to meet the indoor cable rating at any locations where this will be an issue.

Building Penetration Illustration



1. Service Provider and Vendor are used interchangeably in this document [↑](#footnote-ref-1)
2. Once funded by USAC, Special Construction charges can be invoiced as work is completed (even before fiber is lit), and USAC will pay the discounted share (90%) of eligible costs. [↑](#footnote-ref-2)