



**Proposal
Instructions**

for

**Fiber Network Support
Services**

May 2019

Southern Tier Network, Inc.

8 Denison Parkway East, Suite 310
Corning, NY 14830

Fiber Network Operations

I. SUMMARY

The Southern Tier Network, Inc. (STN) is seeking proposals from qualified firms for Sales & Customer Relations, Outside Plant Engineering, Design Engineering, Optical Fiber Cable Management, Construction Management, Network Monitoring & 24x7x365 Call Center/Ticketing System services for STN's 500+ mile open access fiber network, ("Network"). STN's goal is for service contractors to support the Network and facilitate the delivery of high availability, reliable dark fiber to its Carrier, Service Provider, and Enterprise class Customers.

These contracted Network Services are required and will compliment and support STN's management to ensure:

- A high quality reliable, available dark fiber Network that meets or exceeds carrier class requirements for networks providing mission critical data services;
- A secure and resilient network;
- A positive impact on the communities STN serves;
- Sustainable fiscal stewardship and long-term financial health of the organization

II. BACKGROUND

The Southern Tier Network, Inc. (STN) is a not-for-profit, open access optical fiber network that was created in January 2011 through public/private partnership. STN is a charitable, local development corporation, 501(c)(3) organization, affiliated with county government. The Network was built to support the needs of public safety, improve broadband access in the rural unserved/underserved areas, enhance health care and educational services, lessen the burdens of government, increase competition and the level of telecommunications services throughout the region, while creating a globally competitive advantage for job creation in the Southern Tier of New York. Organization Management includes CEO and Fiscal Officer. Oversight of the STN organization is provided by a board of directors, while annual reporting is provided to county governments.

Southern Tier Network, Inc. is an open access, middle-mile, dark fiber provider located in Corning, NY. Its contiguous interconnected fiber infrastructure is in Chemung, Schuyler, Steuben, Yates, Broome, Tioga, Tompkins, and Allegany counties.

The Southern Tier Network, Inc., will complete construction of its ~530-mile Network backbone in April 2019. The Network consists of 288, 144, 96 backbone strands of fiber with the majority being aerial construction and roughly 8% underground. Laterals of 24 – 48 continue to be built throughout the Network to meet current and

future Customer contractual requirements. Other laterals and extensions are being discussed to further advance the operation of the Network and to create diverse pathways and ring redundancy.

ECC Technologies, Inc. (ECC) has served as STN's lead consultant to develop, design, engineer, and manage the construction of the entire STN Network since inception, January 2011. ECC is currently under contract with STN for Operations and Management Services through December 2019.

ECC currently provides the following functional operations for STN: Sales and Marketing, Design Engineering, Construction Management & Engineering, Customer Service, and Network Operations – including network monitoring, fiber cable management, 24x7x365 customer support w/ 1-800 and ticketing/logging services, and Chief Operating Officer services.

In the interest of ensuring these services are performed by qualified individuals at a reasonable price, and consistent with a Not-For-Profit, government affiliated organization the Southern Tier Network, Inc. board of directors has authorized STN's Chief Executive Officer to obtain competitive proposals for related services.

STN's current business model is for the Network to remain a carrier neutral, open access, middle-mile, dark fiber network owned and operated by STN with selected support services contracted through qualified third-party Providers. STN will manage and maintain ownership of the network and will sell dark fiber service to institutions, businesses, and multiple carrier and ISPs. STN management structure employees a CEO and Fiscal Officer/Accountant.

Innovative models, including ones STN has not yet considered, are encouraged. Each proposer should describe its proposed business model(s) in the proposal. STN will retain ownership of the Network, and the selected firm(s) will be responsible for providing services in accordance with the scope of work outlined in the proposal for a fixed fee and/or variable unit-based price. Proposals covering all or a portion of the scope of work will be considered.

III. GENERAL SUBMITTAL INFORMATION

Proposals will be evaluated on a rolling basis as they are submitted. Proposals will be accepted until 3:00 p.m. on Friday, June 14, 2019. To be considered, proposers must email a searchable PDF copy of the proposal to smanning@southerntiernetwork.org with the email subject line "Proposal for Fiber Network Support Services".

STN is under contract with ECC Technologies for the services identified in Section IV, Scope of Work through December 31, 2019. STN would expect new contracted services to commence January 1, 2020. However, the award of any service to a new contractor and exact start date of the services being provided to STN will be discussed based on a transition plan with ECC Technologies and STN management.

STN expects to make final decisions on contracted services before the end of June 2019.

A proposer may also submit an alternative proposal (or proposals) that it believes will meet STN's project objectives but in a different way, or that expands on the project to include services that STN has not presented here. If an alternative proposal is submitted, the maximum length of the proposal may be expanded proportionately by the number of alternatives submitted.

Questions about these Proposal Instructions should be submitted at any time by e-mail to smanning@southerntiernetwork.org.

IV. SCOPE OF WORK

The Southern Tier Network, Inc. intends to obtain the services of a qualified firm or firms to provide the services as outlined below. STN is seeking to hire/contract with highly skilled, experienced, and successful professionals who have extensive work in telecommunications, fiber management, carrier/service provider and in customer relations, fiber sales/engineering support services. This Scope of Work focuses on three major categories: Network Operations and Engineering Services; Outside Plant Engineering; and Customer Relations/Sales Engineering support. Best industry practices and/or best management practices may require additional services not explicitly specified. The proposer should identify any additional services required, price them, and explain them in their response. The proposer should be willing to allow for site visits and to meet with a sub-set of STN management and board members for a proposal interview.

A. Project Scope

See Attachment 1, "Scope of Work for Southern Tier Network, Inc. Fiber Network Services."

B. Project Information

Proposers may:

- Respond to all or a portion of the scope of work.
- If proposer is selected to provide a portion of the scope of work, the proposer would work with other vendors selected by STN to provide the entire scope of work.
- Subcontract a portion of the scope of work
- Partner with a different Proposer to divide the scope of work
- Propose additional work not included below, that is relevant to the maintenance, operation, sales or development of the network, or the specific business model proposed by the proposer.

C. Contract Duration

STN desires a 3-year contract with the option of 2 one-year renewals. Proposers may propose alternative contract durations and renewal options, if desired.

V. PROPOSAL OUTLINE TO BE SUBMITTED

The proposal shall be organized and submitted with the following elements:

A. Cover Page

The Cover Page shall not exceed one page.

B. Table of Contents

C. Executive Summary (not to exceed two pages)

Provide a summary describing the proposer's ability to perform the work requested, a history of the proposer's background and experience providing services, the qualifications of the proposer's personnel to be assigned to this project, any subcontractor, sub consultants, and/or suppliers and a brief history of their background and experience.

D. Questionnaire/Response to Scope of Work

Proposer shall provide responses and information to fully satisfy each item in the Questionnaire (Section VI, below). Each question item should be presented before the proposer's response.

Keep responses concise and to-the-point, do not submit unrelated boilerplate material and marketing material. All responses to use Arial 12-point font. Response sections are not to exceed the length indicated below.

E. Attachment 2 – Pricing Template provided for Proposers to submit pricing responses.

VI. QUESTIONNAIRE

A. Company and General Information (not to exceed two pages)

1. Company name and address.
2. General information about the primary contact who would be able to answer questions about the proposal. Include name, title, telephone number and email address of the individual.

B. Qualifications and Experience of the Firm (not to exceed five pages)

1. Describe your firm's history and organizational structure. Include the size of the firm, location of offices, years in business, organizational chart, name(s) of owner(s) and principal parties, and number and position titles of staff.
2. What is the primary business of the parent company and/or affiliates?

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3. Which office(s) of your organization will have primary responsibility for providing these services? List the members of your team who will be responsible for providing the services and for ongoing support.
 4. What is your firm's experience conducting operation, maintenance, sales, and development of fiber networks? Please include for the last five years the number of projects, scope of services provided, and status of projects. What is your experience in municipal and open access fiber networks? What is your experience working with service providers? What capabilities and assets can you leverage to provide the services, including call center, fiber management and allocation database systems, operations and business support systems, network operations center facilities, management expertise, sales personnel, and any other relevant factors?
 5. Provide at least one example of a comparable project (preferably a municipality) performed by your firm in the last five years. Include the following details:
 - a. What was the structure of your relationship with the network owner?
 - b. How did you help the network owner achieve its goals?
 - c. Provide a link to the network's web site.
 6. Describe your best practice philosophies and solutions for municipal open access dark fiber networks.
 7. Comment on other areas that may make your firm different from your competitors.

C. Qualifications and Experience of Proposed Project Team

1. Describe the qualifications of staff proposed for the assignment, position(s) in the firm, and types and amount of equivalent experience. Be sure to include any municipal agencies they have worked with in the past three years and their level of involvement. A description of how overall supervision will be provided should be included. If person(s) have not yet been hired or assigned to the project, please described the job title and roles, as well as the minimum qualifications used to fill that role (not to exceed two pages)
2. Identify and provide the resume(s) of the personnel (including any subcontractors) who will be assigned to this project.

D. Response to Scope of Work

1. Explain your business model for Southern Tier Network, Inc.
 - a. Are you proposing to serve all functions identified in Statement of Work? Or, only selected services?
 - b. Explain your services and how they will best leverage the Network to meet STN's goals.

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- c. What fee structure are you proposing (fee for service, monthly flat fee, hourly rate, etc.)?
 - d. Include details on any additional proposals that STN has not considered.
 2. Describe the methods by which your firm will fulfill the services requested in the Scope of Work. For each Roman Numeral Section in the Scope of Work document (Attachment 1), you can price-itemize sub-components of each Roman Numeral Section if desired, provide the following:
 - a. Whether the service will be provided by the proposer's firm, subcontracted (to whom, if known), or via a partnership with another proposer;
 - b. Estimated level of FTE or Hours per year required to perform service;
 - c. Estimated annual fee for the service
 - d. List person(s) responsible. If the person(s) have not been hired or assigned, please indicate by referring to job title. (Should correspond to information given in C(1).
 - e. Brief description of how the service(s) will be performed (including details such as whether the person will respond from a local office, work remotely, or be embedded at STN office; frequency of inspections or activities; sales methodologies; etc.)
 - f. Attachment 2 – Pricing template is provided for Proposers pricing responses.
 - g. If responding to I-5 Network Operations Services – Engineering Support, in Attachment 1: Scope of Work, please complete the **EXERCISE REQUEST** that follows I-5.
 - h. If applicable, list proposed Key Performance Indicators and proposers expected performance against those KPIs. Examples include customer complaints (categorized by customer or complaint, priority, resolution time, etc.), network outages (by customer and location, repair time, etc.), network capacity, sales activity, customer engagements per month, etc.
 3. Indicate if you are willing to unbundle your services and provide only subset of the scope of work (such as only Network Operations Center, or only Sales and Customer Relations Development), should you not be selected to provide all services. If so, which services would you be willing to provide “unbundled” and partner with another STN-selected vendor?
 4. How will you interface and coordinate with STN management, to keep STN informed as to the Network status, problems that arise, etc.? For example, regular performance reports submitted to STN's CEO.
 5. Is STN's preferred contract duration of 3 years with the option of 2 one-year renewals acceptable? If not, please suggest your acceptable contract duration and renewal structure.
 6. What differentiates your service delivery from that of other proposers?

E. Fees

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1. Provide your total fees for the proposed service(s). Fee quotes should be detailed by service in section D(2) using Attachment 2. If you are proposing a payment structure that does not correspond to this question, please explain details of your proposal.
 2. Outline billing and payment expectations, including timing and method of payment.
 3. Describe any remaining fees not previously detailed in Section D.

F. References (not to exceed two pages for each reference)

List the name, address, e-mail address and telephone number of references from at two (2) recent similar projects, such as the chief executive of a network owner that you have provided services for. Include a brief description of the work provided for each reference, if not otherwise detailed in Section B. The references should include the start date of the project and the date of completion for each project.

G. Implementation Schedule (not to exceed two pages)

Include detailed milestones, activities, rough schedule for transitioning from ECC services to service(s) proposed by your organization (if awarded). Identify any assumptions used in developing these. STN is under contract with ECC for Scope of Work services through December 31, 2019.

Attachment 1: Scope of Work for Southern Tier Network, Inc. Fiber Network Support Services:

The scope of work includes three major categories:

- I. Network Operations Services/Engineering Services
 - 1. **Network Operations**
 - 2. **Customer Service Support & Interface**
 - 3. **Fiber Asset Management**
 - 4. **Colocation Facility Management**
 - 5. **Engineering Support**
 - 6. **Support and Respond to NYS Dig Safe Calls and Procedures**
- II. Outside Plant Engineering Services
 - Network operations and construction Oversight
- III. Customer Relations and Sales Engineering

I. NETWORK OPERATIONS SERVICES/ENGINEERING SERVICES

The Network Operations Contractor (Contractor) will be responsible for 24/7 network operation, management, monitoring, and maintenance of the Network, and for facilitating non-discriminatory network access and interconnection by other providers and carriers, working with the STN Outside Plant Engineer. The Contractor will be responsible for maintaining the Network to a high-quality standard, in line with similar dark-fiber networks providing mission critical data services.

Managing, Coordinating, and Scheduling routine and emergency Network maintenance and repairs, as well as network (fiber) relocations, will be the responsibility of the Contractor. This work will be coordinated with STN's Outside Plant Engineer.

The Contractor will be required to keep records that outline end of life and provide enough notice to STN and STN OPE of the need for update or upgrade of the fiber, electronics, and/or other components on the Network over the life of the Contractor Agreement such that STN's customers can be assured of full availability and unhindered throughput of dark-fiber services. The Contractor will be required to keep equipment up-to-date and to maintain the quality and reliability of services offered on the Network. STN will purchase any required new equipment that attaches to the Network (i.e. EXFO), contractor is responsible for purchasing equipment/systems to carry-out contracted services.

Unless otherwise noted the Contractor shall provide STN with a monthly report summarizing activity and status.

- 1. **Network Operations: provide technical support to carrier and enterprise customers to work through degraded service issues and outages. Contractor will direct employees and other 3rd party contractors, including STN's Outside Plant Engineer, to respond to network outages in less than 2 hours or as otherwise required by applicable Service Level Agreements (SLAs). An engineer working for Contractor will be assigned to a case of trouble and will determine the location of the trouble,**

coordinate the dispatch of the appropriate fix with STN's construction repair contractor and STN's Outside Plant Engineer, and ensure the timely correction of the trouble, obtain confirmation from customer that the problem has been remedied, close out the ticket and perform a post mortem, and report findings to STN's Outside Plant Engineer.

STN averages 150 calls a year or ~13 calls per month into the 1-800 customer hotline per month. A

Over the course of 12 months STN averages 13 outages; ~1.1 "outages" per month.

1.1 The Contractor will provide technical support to STN carrier and enterprise customers to work through degraded service issues and outages. Expect direct calls from STN Customers reporting trouble / outages (approximately 7 – 10/month). Oversee and manage the continuous operational availability of the Network twenty- four (24) hours a day, seven (7) days a week, 365 days/year; includes the monitoring and surveillance of the Network, alarm notifications, analysis of outage, fiber isolation and resolution management, coordination with STN's Repair Contractor (Lantek) for problem identification, problem fix, and complete restoration of customer services. The Contractor is responsible for providing tech-support engagement with STN customers notifying, communicating, updating them and the STN management team on fiber outage and repair status.

1.1.1 Assign ticket and ticket correlation of events and updates from end users from onset of problem until closure of said event.

- Ticket Number
- Customer/Vendor Communications
- Site
- Date & Time
- Problem/Status/Closure
- Contact Information

1.2 Maintain escalation list and procedures for STN contacts internally and with all third parties (i.e., contractors, customers, colocation facilities, etc.). Contractor shall furnish and update the list as changes occur; the current name, title, telephone number and cellular phone number of representatives who shall be kept informed of STN's planned and unplanned maintenance schedules and events.

1.3 Development of event types and notifications; Critical, Major, Minor, with associated SLA metrics.

1.4 Contractor will respond to outages (in less than 2 hours) and service troubles by providing STN a 24x7x365 customer support number (1-800-xxx-xxxx). This customer support service is the first line of support for enterprise and carrier customers and will greet customers as "STN"

and route calls to the appropriate Contractor personnel for resolution activation process.

2. **Customer Service Support & Interface:** The Contractor will supplement STN management team to provide a quality customer service and experience, using a level of care and service that is consistent with industry accepted standards and compliant with STN's Service Level Agreements. Within the scope of 1.0 above, STN will monitor the Contractor's customer service performance via Key Performance Indicators (KPIs). The Contractor should develop a list of KPIs and include them with its proposal response. The final KPIs will be mutually agreed-upon by STN and the Contractor.
 - 2.1 In coordination with STN management team issue Routine Maintenance notifications to customers in compliance with contractual requirements.
 - 2.2 First-level customer service and notification of outages, maintenance work, and related infrastructure problems.
 - 2.3 In coordination with STN Outside Plant Engineer (OPE) provide customer support for appropriate access to demarcation/splice points in accordance with STN requirements.
 - 2.4 Support STN management team with customer on-boarding process, including customer kick-off call, establishing project plan for customer installation and acceptance within delivery timeframes established in customer service order.

3. **Fiber Asset Management:** with 12 to 288 fiber bundles along 520+ mile fiber backbone, where some of the fibers are leased and the majority owned by STN, a complex matrix of connections which needs to be assigned and reassigned as customers are added, removed and relocated, it is critical to maintain detailed records of the current state of STN's fiber assets.
 - 3.1 Process contractual applications for the management of moves, adds, and changes to the network infrastructure as well as managing the assignment and provisioning of fiber strands. Esri GIS compliant Fiber management database system required.
 - 3.2 Create and/or maintain, processes, procedures, and practices for:
 - A. Reporting processes
 - B. Administrative Rules
 - C. Repairs
 - D. Safety
 - E. Construction
 - F. Testing

- G. Other processes as necessary for efficient management.
- 3.3 Maintain safety and warranty requirements.
 - 3.4 Maintain documentation via GIS software tool of the entire network platform, including the following components, and working with STN to determine GIS data exchange processes:
 - A. As-builts per section
 - B. Photo records
 - C. Splice records
 - D. Test results (OTDR)
 - E. Customer records
 - F. Project files (adds, moves, changes)
 - G. Permits
 - H. Designs
 - I. Cost breakdowns
 - 3.5 Maintain documentation of maintenance actions:
 - A. Emergency outages documentation that includes: failure type; mean time to respond (MTR); mean time to repair (MTTR); restoration detail; restoration costs; trouble ticket detail and relevant reports
 - B. Preventative maintenance documentation that should include: schedules; drive logs; trouble ticket detail; actions; parts; costs; reports
 - 3.6 Maintain documentation of current maps of network:
 - A. User friendly documentation of current maps that include Esri GIS based; Google Earth version; CAD Version (.dwg) and/or PDF compatible version
 - B. As-built annotations with splice points, pole points, span lengths, route miles, OTDR measurements; and access points (if different from splice points)
 - 3.7 Maintain documentation of fiber asset inventory:
 - A. Fiber counts (categories) including the assigned matrix; by customer name; what is open for assignment; and any suspect/bad fibers
 - B. Location and type of splice cases/enclosures
 - C. Location and type of hangers
 - D. Location and type of storage, slack or splice bracket
 - E. Location and type of fiber cable, including date in service
 - F. Spares documentation should include physical location, date of purchase, lifecycle warning tag, and the bench stock with the dollar value and physical location.
 - 3.8 Compile and maintain periodic management reports as requested by STN, such as:
 - A. Fiber Utilization analysis (allocated fiber miles/unallocated fiber miles)
 - B. Variety of fiber map requests

- C. Listing of 'on-net' and 'near-net' businesses
- D. Other reports as requested

4. **Colocation Facility Maintenance:**

- 4.1 In coordination with STN Outside Plant Engineer (OPE) document/manage cross-connects and provide appropriate support (jointly w/ OPE) with colocation facility owners;
- 4.2 In coordination with STN OPE support preventative maintenance activities at colocation facilities in accordance with facility requirements (if applicable).
- 4.3 Under direction of STN OPE, follow and support administrative security clearances and access rights to STN assets in co-location facilities.

5. **Engineering Support:** In support of STN Management, Sales Engineer, and OPE, design solutions, provide cost estimates and build time frames for customer requests, perform field or desktop surveys as required, determine make ready, construction, splicing, and building entrance costs, create design drawings, arrange for utility ride outs, and prepare final design package for release to STN's construction contractor.

On average STN responds to approximately nine (9) customer requests per month. Examples of Customer Requests include, ring-cut into STN backbone; simple splice connection into STN's backbone splice enclosure case; a request to build a lateral connecting two or more customer locations via the STN backbone.

- 5.1 Support STN Outside Plant Engineer (OPE) in the process of vendors installing software/hardware upgrades for STN-owned equipment (i.e. EXFO)
- 5.2 Provide fiber design, fiber maps, drawings, as-builts, and maintain fiber records
- 5.3 In Support of STN's Sales Engineer and Outside Plant Engineer provide design solutions, drawings, cost estimates for fiber builds and lateral builds
- 5.4 As necessary perform field survey or desk top surveys, determine make ready, construction, splicing, and building entrance costs, create design drawing documents, and prepare cost estimates with make ready and construction time requirements

- 5.5 Upon execution of STN customer contract - prepare make ready drawings, arrange for utility ride outs, and prepare final design packages in preparation for construction engineering
- 5.6 The drawing set shall include the cover page with a locator map and general specifications, a detailed construction drawing of any interior construction or entrance needs along with an overall construction drawing showing the tie in location to the backbone, property and building lateral construction and any manhole or hand hole placements necessary to construct the lateral. The preliminary design drawing package shall be submitted to the STN OPE for review and approval and for consultation with the property owner or customer.
- 5.7 Coordinate make ready efforts with utilities, administer/secure pole application, right-of-way, all permits associated with a fiber build, arrange for placement, termination and splicing, testing, and labeling of the optical fiber.
- 5.8 Working with STN Accountant and OPE, review and verify invoices from construction vendor, utility companies, pole, and right-of-way property owners.
- 5.9 Compile and maintain periodic management reports as requested by STN. Reports may include:
 - A. Summary of planned maintenance events
 - B. Summary of unplanned maintenance events
 - C. RMA tracking and reporting
 - D. Safety information
 - E. Other actions including adds, changes, moves, issues, sparring inventory, regulatory compliance, and construction
 - F. SLA compliance statistics
 - G. Email distribution and other contact lists
 - H. Up-to date published maps.

EXERCISE REQUEST: *provide estimated # of hours and cost for services outlined in Section 5 (above). Engineering Support for the following hypothetical build: a 3-mile lateral build, with 48 strand fiber, to a new school building located 3 miles off the STN backbone, connecting it with 2 fibers, to the school district NOC which is currently connected with STN fiber. Assume 100% aerial fiber build with conduit in-ground from pole into new school building. Also, assume all instructions and fiber path has been provided by STN Sales Engineer and/or OPE. How many hours and price for the engineering, pole survey and application submission process, utility make-ready & ride-outs with utility company, securing of all permits, and a complete drawing package submitted to STN construction contractor?*

6. Support and Respond to NYS Dig Safe Calls and Procedures: Provide technical support and respond to locates, cable protection, call before you dig ticket screening, emergency restoration, and ticket maintenance. Contractor will manage STN's Dig Safe, and calls for locate and mark request, and STN's mark & locate contractor (On The Mark).

- 6.1 Serve as Point of Contact to NYS Dig Safe and STN's Mark & Locate contractor (On The Mark, Rochester, NY).
- 6.2 Reporting on Outside Plant Maintenance vendor performance and compliance with the maintenance contract.
- 6.3 Customer Reporting, Updates, and management of acceptable windows for emergency repairs and routine maintenance.
- 6.4 Review and verify invoices from maintenance (construction) vendor performing Outside Plant Maintenance.

II. OUTSIDE PLANT ENGINEERING SERVICES

Outside Plant Engineer (OPE) will support the CEO and Fiscal Officer in the cost-effective operations of STN infrastructure and related services as well as insight and vision related to operational and programmatic decisions. The OPE will provide technical support to carrier and enterprise customers during planning sessions, proposal development, and in working through degraded service issues and outages. The OPE will have telecommunications industry experience and knowledge to competently review engineering drawings, as-built drawings, confirm fiber test results, inspect construction methods, splice enclosures, and make recommendations for operations and programmatic efficiencies. OPE will project manage the construction by STN's contractors (engineering & construction) on all fiber backbone builds and fiber lateral builds, verify that all work performed is correct and meets STN specifications, ensures work is completed on time and within budget. The OPE will provide technical services, such as design, optimal pathway builds, and engineering, physical plant audit/inspection services as determined by STN management, and in coordination with STN Sales team.

It is estimated this service will require 24 – 32 hours per week.

1. NETWORK OPERATIONS and CONSTRUCTION OVERSIGHT

- 1.1 STN Outside Plant Engineer (OPE) will be designated as program manager, acting as STN's single point of contact for all maintenance work, backbone construction, lateral construction, and other infrastructure related work. OPE will engage with and coordinate with other STN contractors (engineering & construction) according to need.

- 1.2 OPE will manage all lateral design activities with STN's selected Engineering contractor and Construction contractor.
- 1.3 OPE will conduct routinely scheduled project management meetings with STN Engineering, Construction, Sales contractor as well as STN management to review specific project milestones, work progress, and obtain additional input as to cost and schedule commitments.
- 1.4 OPE will provide regular status reports to STN management and sales team, identifying known or potential constraints, problems, delays as well as steps to mitigate the problems.
- 1.5 OPE will prepare exhibits for meetings and general use by STN management as well with/at Customer meetings.
- 1.6 OPE along with STN's Engineering & Sales contractors (if necessary) will schedule pre-engineering walk-thru meetings with customers/building owners to determine the work necessary for the connection of the property to STN fiber lateral to the STN backbone infrastructure. The walk-thru will include the building interior and identify mode and method of construction, any existing lateral facilities that may be used for entrance in the building and space needed for the Minimum Point of Entry (MPOE). The walk-thru will identify any issues that may affect build cost, schedule, and termination.
- 1.7 OPE will oversee STN's engineering contractors design drawings (preliminary/final) for legitimacy and accuracy, including existing utilities, mode and method of construction, # of fiber strand cable, property lines and right-of-way boundaries. The drawing set shall include the cover page with a locator map and general specifications, a detailed construction drawing of any interior construction or entrance needs along with an overall construction drawing showing the tie in location to the backbone, property and building lateral construction and any manhole or hand hole placements necessary to construct the lateral. The preliminary design drawing package shall be reviewed and approved by the OPE.
- 1.8 OPE will review and give approval to material specifications (i.e. fiber count), bill of materials, and project cost for Engineering and Construction contractors work involved in completing each project.
- 1.9 OPE will coordinate with Engineering contractor to identify necessary permits for STN to have paid for as required for development and construction of backbone expansion and laterals, as well as a timeline for the Engineering contractor to apply for and obtain required permits.
- 1.10 OPE will support Engineering Contractor while coordinating and/or addressing issues/problems related to make ready efforts with utilities; OPE will manage and coordinate construction contractor scheduled and work to be completed.

- 1.11 OPE will evaluate as-built drawings, fiber test results, fiber labeling, audit and inspect completion of lateral projects, backbone builds, terminations, as well as splice case work.
- 1.12 OPE will provide oversight and review of STN's fiber mapping/fiber assignment dataset managed by STN Engineering contractor.
- 1.13 OPE will insure STN EXFO Fiber Guardian OTDR systems function as designed.
- 1.14 OPE will review/approve of Engineer Contractors calling / monitoring / dispatching procedures that address outages – either planned or emergency.
- 1.15 OPE will provide oversight of the Repair/Notification process insuring procedures and systems are designed to meet STN Service Level Agreements.
- 1.16 OPE will insure the integrity of STN infrastructure and fiber usage; perform inspection of STN infrastructure, co-location sites, and provide technical auditing services to ensure accuracy and legitimacy of builds, splices, connections according to customer contract.
- 1.17 OPE will support STN Sales Engineer by providing technical guidance and support to carrier class an enterprise customer through planning sessions, proposal development, and in addressing degradation of service issues.
- 1.18 OPE will support STN Sales Engineer and STN management throughout customer engagements, design meetings, lateral build discussions, and in general customer requests.
- 1.19 Attend and when required - present to STN board of directors and/or board committees.

III. CUSTOMER RELATIONS AND SALES ENGINEERING SERVICES

The Customer Relations and Sales Engineering services contractor will provide STN with sales, marketing, customer relations, contractual management, development of customer sales estimates and sales quotes, and Request for Proposals (RFPs) as well as strategic support services required to attain STN revenue objectives and develop/maintain productive and healthy relationships with prospective as well as existing customers. Customer Relations/Sales Engineer will provide timely, concise, and complete Completion Notices to Customers and inform STN management/accountant for contractual and invoicing purposes.

STN will monitor Customer Relations/Sales Engineering service performance via Key Performance Indexes (KPIs) such as number of contacts made, types of contacts made, number of sales quotes, number of contracts executed, actual

revenue to budget comparison, deliveries and project timeline against customer request, etc. KPIs will be mutually agreed upon by STN and Contractor. STN requests Customer Relations/Sales Engineer to develop a list of KPIs and include them in their proposal response. Additional related services:

- 1.1 Identify and contact potential customers, both enterprise level and carrier-based customers, via in-person meetings, phone calls, mailings, public seminars/workshops/conferences, vendor shows and other sales methods.
- 1.2 Meet with customers to determine needs, develop and propose STN based solutions, and negotiate Agreements with customers (subject to STN CEO approval).
- 1.3 Provide technical network design drawings, Esri/KMZ fiber map routes, and customer cost proposals related to customer needs.
- 1.4 Meet with customer's technical representatives to review their current network architecture and how it will be integrated and/or replaced with the STN dark fiber network.
- 1.5 Provide assistance with customer technical representatives in the customer's network design and site configuration as it pertains to the STN dark fiber network. Meet with technical representatives periodically to review network design and implementation process for additional customer buildings, fiber spans, network diversity requirements, etc.
- 1.6 Perform field survey or desktop survey to identify all costs in-order to respond to an RFP, produce a customer quotation – including make ready construction, splicing and building entrance costs, create preliminary design drawing document.
- 1.7 Provide technical assistance and insight with customer technical representatives for their network optics specifications and optics distance calculations
- 1.8 Working with STN management develop creative cost proposals for customers to lease STN network fiber to meet their unique needs.
- 1.9 Generation of financial metrics and opportunity analysis for customer proposals for STN management review and approval prior to submitting to customer.
- 1.10 Develop customer cost estimates, develop customer contractual agreements using IRU's, STN Master Services Agreement and related contractual documents.
- 1.11 Manage customer on-boarding process, including customer kick-off meeting, creation of project plan for customer installation and acceptance within delivery timeframes established in customer service order.

- 1.12 Address customer inquiries monitor STN web site and add to its effectiveness with meaningful content and promotional information.
- 1.13 Interact, Support, and Provide comprehensive assistance/support to STN CEO, Fiscal Officer, and OPE in all aspects of business operations specifically targeted to sales engineering, operational and pricing recommendations, customer support, technical oversight/input into infrastructure and associated electronics, outages, repairs, and with construction aspects.
- 1.14 Work with STN management to develop annual budget including market assessment, revenue projections and input/insight on expenses.
- 1.15 Attend and when required present to STN board of directors and/or board committees.