

REQUEST FOR PROPOSAL (RFP)
Version 2.0

**SPECIFICATIONS FOR OPERATOR SELECTION FOR
CHESTERTON FIBER OPTIC NETWORK (CFON) PROJECT**



June 29, 2016

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SECTION I – Introduction & Overview

General Information

The Town of Chesterton, Indiana by and through its Chesterton Redevelopment Commission (Town) is soliciting proposals from providers (referred to hereafter as Operator) for Phase II of the CFON project that includes Outside Plant Network Operations that will enable lighting, operation, maintenance, customer billing, marketing, new customer onboarding, expansion and community outreach of a fiber optic network in the Town. This fiber network will be called the Chesterton Fiber Optic Network or CFON.

The Town intends to install a dark fiber backbone network in underground conduit capable of providing gigabit+ communications and backhaul connectivity to sites located throughout the Town. Please refer to Attachment A for the CFON route map. The network will be a redundant loop of approximately 15 miles with two connection points to Spread Networks Backbone Network or to an alternate Backbone Provider with equal performance and latency to that of Spread Networks. A list of CFON Anchor Institutions (CAIs), the locations that must be connected to CFON as part of the initial deployment, may be found in Attachment C. A list of all businesses currently registered with the Town is in Attachment D.

The Town's primary goal is to construct a redundant, stable, secure, and scalable dark fiber optic network—along with associated communications infrastructure to light the fiber network—that will accommodate the current and future telecommunication needs of the Town in order to enhance capabilities to existing businesses and attract new businesses to the community.

When complete, CFON will provide a resilient backbone network capability for current and future operations allowing for growth, expansion, and scalability.

The anticipated completion date for CFON construction, testing and full operation is: **June 1, 2017.**

There will be three (3) phases of the project:

- **Phase I: Network Design Consultant Selection**
The Request For Information (RFI) process was used by the Town to select a Network Consultant to prepare and complete all necessary CFON Route Planning, Network Design, Engineering, Specifications, Construction Drawings, Construction Permitting, define all Optical Performance & Acceptance Testing Requirements, prepare a Complete Bill of Material and Cost Estimates for a fully functional CFON network within defined performance criteria, Inspection Services for Phase III, and Construction Oversight Services for Phase III. A Network Design Consultant was selected by the Town on March 14, 2016. CFON Phase I Route Planning, Network Design, and Specifications are included in Attachments A & B.

- **Phase II: Operator Selection**
The Town will use an appropriate process under Indiana law to select a qualified entity to be the Operator for CFON after construction and acceptance testing is completed. The Operator will be responsible for post-construction Operations, Maintenance, Performance Monitoring, Problem Resolution, Customer Billing, New Customer Marketing, Last Mile Connectivity to onboard New Customers and manage Network Expansion. These services will be provided to the Town in the context of an agreed to revenue sharing model and a CFON Operator agreement with the Town. A draft document representing a proposed Operator Agreement contemplated by the Town may be found in Attachment F.
- **Phase III: Construction Contractor Selection**
The Town will use an appropriate process under Indiana law to select a qualified entity to construct and install CFON per the Network Design and Specifications documents completed in Phase I. The CFON Operator that will be selected in Phase II along with Town representatives will participate in CFON construction and deployment monitoring per the network design plan with the selected Construction Contractor. The Construction Contractor will install all conduit, fiber optic cable, all communications equipment, hand holes, laterals and perform the optical testing per the CFON Network Design specification documents from Phase I.

This document focuses on Phase II of the CFON project and defines the Request For Proposal (RFP) process the Town will use to solicit proposals for Phase II and to select the Operator who will be responsible for completion of Phase II deliverables. The Operator chosen for Phase II is also eligible for consideration of Phase III of the CFON project.

Respondents are encouraged to indicate any other value-added arrangements, unique business features, sponsorship arrangements, special services, discounts or terms and conditions in their proposal.

The Town intends to select an Operator for Phase II from Respondents to this RFP by **August 22, 2016** and to finalize contract execution as soon thereafter as possible.

Background

The Town seeks to provide gigabit+ connectivity to Town administration facilities, Police, Fire, Education, Government, Medical, Business and Public buildings in order to provide carrier neutral, integrated, redundant, reliable and efficient high speed network communication for daily operations. The Town also seeks to accommodate the current and future telecommunication needs of the Town in order to enhance capabilities to existing businesses and attract new businesses to the community.

Goals of the Project

The Town's primary goal is to provide high-speed network connectivity to Town governmental, education, medical and business facilities, and to drive economic development by attracting new businesses.

The Town intends to construct CFON infrastructure that meets the following goals:

- Retain Town ownership of CFON conduit and fiber optic network with contracted (third-party) maintenance and operational support;
- Ensure CFON network neutrality, universal access, and carrier equal access;
- Select a qualified (third-party) entity as the Operator for CFON operations, maintenance, marketing, billing, and other services described in this RFP;
- Select a qualified (third-party) entity as the Construction Contractor for CFON construction and implementation;
- Facilitate economic development and reduce long-term expenses;
- Utilize existing Town infrastructure and resources, if feasible;
- Provide a secure, scalable, resilient network that is readily expandable; and
- Incorporate smart design techniques for future uses and integration of technology.

The Town's Role

- Upon selection of the Operator, the Town will provide detailed design specifications for review and consideration. The Operator will work with the Town and the Network Design Professional from Phase I to determine any modifications to the proposed CFON route map and engineering specifications. The Town and Operator will agree on the final CFON engineering specifications and route.
- Upon selection of the Operator, the Town will provide mapped and electronic information about existing infrastructure including information about Town owned conduit, and existing water and sewer utilities infrastructure so the proposed CFON fiber route and equipment can be supported and deployed efficiently.
- The Town will help ensure access to existing infrastructure where appropriate and feasible.
- The Town will provide access to Town-owned property that will allow the selected Operator to reach required areas within the Town.
- The Town may choose to purchase CFON materials.
- Town representatives will be available to monitor and participate in all phases of the CFON project with the selected Operator.

Schedule

RFP Responses submitted to the Town should include all proposal requirements in accordance with the Requirements of the Proposal (See Section VI). The schedule for this RFP process follows:

<u>Activity/Event</u>	<u>Completion Date</u>
RFP Available	June 29, 2016
Deadline for Submission of Written Questions	July 25, 2016 2:00 p.m.
Pre-Submission Conference at Chesterton Town Hall	August 1, 2016 2:00 p.m.
Proposal Due Date	August 8, 2016 5:00 p.m.
Anticipated selection of CFON Operator at Chesterton Redevelopment Commission Meeting	August 22, 2016 6:30 p.m.

The above schedule is for information purposes only and is subject to change at the Town's discretion.

Reservation of Rights

1. The Town reserves the right in its sole and absolute discretion to accept or reject any or all proposals, or alternative proposals, in whole or in part.
2. The Town reserves the right to waive, in its sole discretion, any informalities or irregularities in terms or conditions of any proposal if determined by the Town to be in its best interest.
3. The Town reserves the right to request additional information from any or all Respondents and consultants.
4. The Town reserves the right to reject any proposal that it determines to be unresponsive and deficient in any of the information requested within this RFP.
5. The Town reserves the right to change the scope of the project.
6. The Town reserves the right to select one or more consultants to perform services.
7. The Town reserves the right to retain all proposals submitted and to use any ideas in a proposal regardless of whether that proposal is selected. Submission of a proposal indicates acceptance by the Respondent of the conditions contained in this RFP, unless clearly and specifically noted in the proposal submitted.
8. The Town reserves the right to disqualify proposals that fail to respond to any requirements outlined in this RFP, or fail to enclose copies of the required documents outlined within RFP.

Town Contact Details and Questions

Responses to this RFP should be submitted to the Town Manager no later than
5:00 PM August 8, 2016.

Questions regarding any aspect of this RFP document, the Chesterton Fiber Optic Project or the Town of Chesterton should be submitted in writing to:

C. Bernard Doyle
Town Manager
1490 Broadway, Suite 4
Chesterton, IN 46304
Work Phone: 219-926-1098
Mobile Phone: 219-242-5475
Email: berniedoyle@chestertonin.org

SECTION II – Definitions

Business Support Systems (BSS)

Business support systems (BSS) are the components that a telecommunications service provider uses to run its business operations towards customers. Together with operations support systems (OSS), they are used to support various end-to-end telecommunications services. BSS deals with the taking of orders, billing, payment issues, revenue, etc. It supports four processes: product management, order management, revenue management and customer management.

CAPEX

Capital expenditure, or CAPEX, are funds used by a company to acquire or upgrade physical assets such as property, industrial buildings or equipment.

CFON or Chesterton Fiber Optic Network

The CFON will be a redundant fiber optic loop in the Service Area with the following characteristics (please see Attachment A & B for further details on CFON route map and specifications):

- Approximately 15 miles of new fiber optic cable, conduit, and associated equipment;
- 100% of the new fiber currently planned will be in underground conduit;
- High strand counts (100% of the fiber backbone will be 144 and 288 strands);
- Slack loops will be placed in hand holes an average of every 0.25 miles;
- Active components supporting Carrier Ethernet and SONET/WDM are planned; and
- CFON will be carrier neutral and run on an open access basis.

CFON Acceptance Date

CFON Acceptance Date is the date on which the Operator accepts the CFON and becomes responsible for operating, managing, monitoring, and maintaining it.

CFON Acceptance Testing

Upon completion of fiber cable installation and termination, the CFON shall be tested to include at a minimum:

1. Optical Attenuation (“Insertion Loss” Method)
2. Verification of Link Integrity (OTDR)
3. Optical Return Loss (ORL)

Refer to Appendix B.5 for further discussion on Optical Attenuation, Verification of Link Integrity (OTDR) and Optical Return Loss (ORL) testing.

CFON Anchor Institutions (CAIs)

CFON Anchor Institutions (CAIs) are governmental entities that must be connected to the CFON by the selected Operator as part of the initial design and construction. A list of CAIs can be found in Attachment C.

CFON Service Area

The CFON Service Area (Service Area) is defined as all property located within the corporate boundaries of the Town of Chesterton, Indiana. Additionally, the Service Area may include areas outside the Town of Chesterton, Indiana that are agreed to by the Town and the selected Operator.

CFON Meet-Me-Room

The CFON fiber plant includes termination at a carrier neutral colocation facility located in the Town Administration Building located at 15th Street and Broadway in Chesterton, IN.

CFON Operator or Operator

The Operator is the person or entity selected during CFON Phase II that will be responsible for operating, maintaining, managing, monitoring, repairing, and upgrading the CFON pursuant to the Operator Agreement.

CFON Operations Manual

The CFON Operations Manual will describe all aspects of CFON operations, including but not limited to, route design, technical specifications, operational procedures, policies, governance, Service Level Agreements, rate structure, change control approvals, and any processes and procedures necessary to operate the CFON consistent with the Operator Agreement.

CFON Specifications

Please refer to Attachment B for a detailed discussion on required CFON Specifications.

Dark Fiber

A strand of fiber optic cable that is not lit.

End-Users

End-users include residential retail customers, as well as government, industrial, and business retail customers who are not Wholesale Customers.

Internet Service Provider (ISP)

An Internet Service Provider is an organization or entity that provides services for accessing and using the Internet.

Key Performance Indicators or KPIs

KPIs are the standards against which the Town and Wholesale Customers can evaluate the Operator's success in meeting the Service Level Agreements, and the revenue models in the Operator Agreement.

Last Mile

Last Mile refers to the final leg of CFON's delivery components, mechanisms, and equipment, to Retail Customers and End-users on their premises.

Last Mile Operator

An Internet Service Provider that lights fiber optic cable from the fiber optic backbone along a relatively short distance to and from the customer (business or home).

Lit Bandwidth

A specified capacity for transmitting data over lit fiber optic cable. The service provider owns and maintains the equipment to light the fiber optic cable.

Operational Support Systems (OSS)

An operational support system (OSS) is a set of programs that help a communications service provider monitor, control, analyze and manage a fiber optic, telecommunications or computer network.

Outside Plant Network Operations

Outside Plant (OSP) installations of fiber optic cable are installed outside a building or premises to create a fiber optic network or loop and may include installing aerial cable, direct-buried cable, underground cable in conduit or installing conduit or innerduct and then pulling cable, or placing cable underwater. Outside Plant Network Operations is the set of management and control activities for an outside plant fiber optic network or loop. Some of these management and control activities include network monitoring, incident response, communications management, problem reporting, problem resolution and maintenance.

Points of Interconnection or POI

A point of interconnection is the physical linking of a carrier's network with equipment of facilities not belonging to that network. The term may refer to a connection between a carrier's facilities and the equipment belonging to its customers, or to a connection between two (or more) carriers.

Retail Customers

Retail Customers are the persons and entities purchasing services delivered over the CFON, for their own use or consumption. Retail Customers will generally comprise the vast majority of CFON end-users.

Retail Services

Retail Services include, but are not limited to, the provision of Internet, video, and voice services to End-users.

Retail Internet Service Providers or Retail ISPs

Retail ISPs are entities, including the Operator, providing retail Services to end-users. The Operator will provide data transport services on the CFON to third party Retail ISPs, pursuant to separately negotiated contracts.

Routine Capital Expenditure or Routine-CAPEX

Routine-CAPEX includes all expenditures necessary to maintain, upgrade, and update CFON in order to ensure ongoing operational service levels as defined in the Operator Agreement with the Town.

Service Level Agreements or SLAs

SLAs define the minimum performance standards the Operator must meet for CFON services.

Success-Based Capital Expenditures or Success-CAPEX

Success-CAPEX includes all expenditures necessary to extend the CFON to new areas and new customers, including expenditures to maintain, upgrade, and update the CFON extensions, laterals, and equipment.

Wholesale Customers

Wholesale Customers include all third-party Retail ISPs who sell services to end-users, other carriers transmitting data across the CFON, as well as end-users who purchase wholesale services from the Operator.

Wholesale Services

Wholesale services include, but are not limited to, the sale of lit bandwidth or dark fiber to retail ISPs, other carriers and business entities.

Available Assets in CFON Service Area

The Operator will have access to the entire CFON Network (as defined in Section II), subject to any restrictions contained in the Operator Agreement (to be executed after Operator is selected) and the requirements outlined in Section III of this RFP. In addition, the Town may make, on a best efforts basis, certain local government assets available to, or make best efforts to obtain access on behalf of, the Operator in order to reduce the cost of network operation and to expand access to potential revenue sources. Such assets may include space in Town facilities, easements, rights-of-way, and conduit. At this time, the Town is unable to specifically identify such assets or to commit to access.

SECTION III – Operator Responsibilities & Requirements

Operator Responsibilities

This section establishes the responsibilities and requirements of the Operator.

CFON Network Openness & Carrier Neutrality Goal

The Operator must implement an open network and carrier neutrality policy for the CFON. Each Response must include a description of how the Respondent will meet the CFON Network Openness policy.

The CFON will be a Town owned, carrier-neutral, non-discriminatory-access network. It will offer wholesale and retail connectivity at reasonable prices and under non-discriminatory terms to network service providers (NSPs): ISPs, CLECs, wireless ISPs, fiber providers, mobile data providers, customers, and other entities. The CFON will foster a competitive market in which NSPs serve community anchor institutions, businesses, and the public. The Town is committed to the principles of openness, non-discrimination, and customer choice. Everything about CFON—from technical standards to operating policies, from financial terms to the location of facilities—reflects that commitment. Interconnection policies, rates, terms, and conditions will be reasonable, nondiscriminatory, public, and applicable to any qualified party wishing to interconnect. The Operator must meet or exceed the openness, non-discrimination, interconnection, and carrier choice obligations as set forth in this policy.

Selection criteria for the Operator will include commitment to these principles and obligations as well as operational capability to fulfill them in an open, dynamic, multi-carrier environment. The Town will make these obligations part of the negotiated Operator Agreement. The Respondent must provide in their response a description for a proposed form and forum for dispute resolution with respect to interconnection issues.

The physical network and its geographic layout are designed to facilitate interconnection, to not favor one provider over another, and to support multiple last-mile carriers coexisting in the same geographic area. All routes will have sufficient fiber to support multiple NSPs, and slack loops located at frequent intervals to facilitate interconnection and reduce the expenses of last mile connections. The Town's policies as embodied in the Operator Agreement will preclude monopolization of the CFON. Additional field interconnection facilities for service providers will be made available at a carrier-neutral Meet-Me-Room location in the Town.

Through the Operator Agreement, the Town will require the selected Operator to use generally accepted technical measures to allocate bandwidth, to prevent security risks, attacks, and other harmful activities, and to provide acceptable services to all customers, and that such measures be administered in an open, application-neutral, and nondiscriminatory manner.

Minimum Contract Length

The Operator Agreement will have an initial term of a minimum of ten (10) years and shall

be automatically renewed for additional periods of ten (10) years unless either party provides written notice to the other party not less than two (2) years prior to the end of such initial term or any subsequent renewal term that the Operator Agreement will be renegotiated or terminated.

Network Operations

The Operator will be responsible for 24/7 network operation, management, monitoring, and maintenance of the CFON and for facilitating non-discriminatory network access and interconnection by other providers and carriers. The Operator will be responsible for maintaining the CFON to a high quality standard, in line with similar fiber networks providing mission critical data services. Each Response should include proposed Service Level Agreements (SLAs) for CFON wholesale customers, proposed Key Performance Indicators (KPI) for the Town to track, and the Respondent's expected performance against those KPIs.

Sales and Provisioning of Service

The Operator will be fully responsible for (i) all sales and provisioning of services to all retail and wholesale customers it signs on to the CFON; and (ii) the provisioning of services to all other providers and carriers directly connected to the CFON. The Operator is required to make good faith efforts to sell services on the CFON. The Operator will have the opportunity to earn revenues in accordance with the requirements of this RFP and the Operator Agreement. Retail Internet Service Providers (ISPs) utilizing the CFON, will need to compete for retail customers through enhanced service offerings or reduced pricing.

Service Offering Overview and Suggested Pricing Schedule

All Responses must provide a detailed and comprehensive list of products and services that the Operator will offer, along with a proposed CFON pricing schedule for all products and services. This discussion should include the types of services to be offered initially as well as a discussion of the type of services expected to be offered in the future and when. Each Respondent must also provide a CFON capacity plan that estimates initial CFON capacity by service offering type and bandwidth utilization for each service type. Each Respondent must include a CFON growth projection in the capacity plan by service offering type and bandwidth utilization, and corresponding price schedules.

The Operator will make lit Ethernet bandwidth services available to (i) CFON Anchor Institutions; (ii) Retail ISPs at specific POIs; and (iii) other customers directly connected to the CFON.

In addition, the Operator can choose to make services available on the CFON or via laterals constructed from the CFON available for purchase by any or all of the following:

- Carriers wishing to transit the CFON
- Competitive Local Exchange Carriers (CLECs) and ISPs wishing to serve commercial businesses and residents

- Large commercial businesses desiring to connect directly to the CFON
- Wireless carriers at towers or switch locations
- Any other potential customer that the Operator deems viable / attractive outside of the directly connected CAIs and interconnection points

The Operator may offer Dark Fiber as a service. Respondents should indicate in their proposal whether they plan to offer dark fiber as a service, and include a proposed pricing schedule.

The Operator is required to offer retail bandwidth services, and it may provide such retail bandwidth services through a separate retail entity. The Operator will provide access to the CFON to all qualified customers on a non-discriminatory basis, in accordance with the carrier neutral and equal access policy of the Town and the CFON.

Retail Service

The Operator must provide retail, last mile services on the CFON to the CAIs. The Operator is also expected to provide retail services to other end-users. Prices charged by the Operator must be competitively neutral with respect to the prices charged to all other Retail ISPs utilizing the CFON for similar products and under similar operational and interconnection terms. The Operator Agreement will include audit rights for the Town to ensure that such pricing, terms, and conditions (including allocation of costs) are consistent with respect to such Retail ISPs and with the Town's mission.

Retail Services to CFON Customers

Existing customers in the Service Area will not be required to purchase services on the CFON. Retail ISPs (the Operator included) will need to win customers, through enhanced service offerings or reduced pricing, from their existing service providers or transition service from other underlying networks to the CFON.

Customer Service

The Operator will provide customer service for all services it provides across the CFON, using a level of care and service that is consistent with industry accepted standards. The Town, at its sole discretion, may consider standards proposed by the Operator that are consistent with the level of care and service provided by the Operator to customers on an existing high-quality commercial network. The Operator will be responsible for developing SLAs for all of its customers. The Town will monitor the Operator's customer service performance via Key Performance Indicators (KPIs) for items such as number of help desk tickets, response times, etc. The Operator will not be responsible for retail end-user care and customer service to the retail customers of third-party Retail ISPs.

Billing and Collections

The Operator will handle all billing and collections for the CFON, including the implementation of new, or integration with existing, Operational Support Systems (OSS) and Business Support Systems (BSS), to ensure proper billing and service. The Operator as the

will not be responsible for retail customer billing and collection for the retail customers of third-party Retail ISPs.

CFON Repair

Routine and emergency CFON maintenance and repairs, as well as network relocations, will be the sole responsibility of the Operator, and the Operator will be responsible for all costs associated with any CFON repair. Respondents must include defined response times for CFON routine and emergency repairs in their proposal, including a CFON maintenance plan, schedule, and annual cost estimate.

CFON Maintenance, Upgrades and Updates

The Operator will be required to periodically update or upgrade the fiber, electronics, and other components on the CFON over the life of the Operator Agreement such that its customers can be assured of adequate access to bandwidth services. The Operator will be required to keep equipment up-to-date and to maintain the quality and reliability of services offered on the CFON. Upgrades to the capacity and performance of the CFON must be made to meet rising levels of demand and to enable the Operator to provide new or enhanced services over the CFON. Cost of updates or upgrades of components of the CFON as well as implementation and maintenance of updates or upgrades will be the sole responsibility of the Operator.

CFON Locates

After the Acceptance Date, the Operator will be responsible for all CFON locates that may be requested by any entity after CFON installation. The Respondent must include in their response a discussion of how this function will be staffed, how this function is currently performed in their organization, and the response time for locates from time of locate request submission for networks currently supported by the Respondent.

Financial Responsibilities Related to Repairs and Expansion

The Operator will pay for all ongoing costs of operating the CFON including (but not limited to), maintenance, repairs, pole attachment fees, rights-of-way fees, insurance costs, and other network, monitoring and operating expenses. The Operator will not be responsible for operating the network until it has accepted CFON. However, the Respondent should model its ramp-up of its operating expenses according to the anticipated timing of the CFON deployment and new customer growth estimate.

The Operator will be responsible for providing adequate insurance on the CFON, pursuant to the Operator Agreement, which, at a minimum, shall include: Worker's Compensation, Employer's Liability, Commercial General Liability, Automobile, Umbrella / Excess Coverage, Errors and Omissions, and Data Protection Insurance.

The Operator will NOT be responsible for funding the cost of constructing the initial CFON design, as defined in CFON Phase I route design and specifications, which is outside the

scope of this RFP and will be awarded by the Town during CFON Phase III. The Operator, will, however, be responsible for all costs associated with CFON extension and expansion beyond the initial design, including all costs associated with installation, operation, and maintenance of laterals connecting customers to the CFON backbone.

The Operator will be responsible for any and all annual payment obligations to the Town associated with the CFON license issued by the Town to the Operator, as outlined in the CFON Operator Agreement.

The Operator will be responsible for all CFON Routine-CAPEX, as well as any Success-CAPEX for network extensions after initial CFON construction per the CFON route design and specifications and after CFON acceptance by the Operator.

Success-CAPEX for CFON extensions and connections

The Operator is responsible for all Success-CAPEX costs incurred in building out a new CFON extension. The scope of costs shall include the customer facing access port and all facilities between this port up to and including the network terminating equipment on the customer site. The Operator will also be responsible for Routine-CAPEX of any laterals or equipment made with their own Success-CAPEX (such as CAPEX for incremental customer equipment and laterals for new connections) and will need to purchase and maintain insurance for catastrophic related maintenance.

Routine-CAPEX for CFON Maintenance, Upgrade and Update

The Operator will be responsible for all Routine-CAPEX. It will only apply to the maintenance, update, or upgrade of Town-owned fiber and other components on the CFON.

The Operator will have discretion to use monies as necessary, subject to Town's reasonable approval. However, from time to time the Town may audit the network equipment and/or the capacity on the CFON and request the Operator to update existing equipment. The Town reserves the right to compel the Operator to expend necessary funds for Routine-CAPEX to maintain, upgrade or update CFON in the event that the Operator fails to make necessary and appropriate updates, as required and as further specified in the Operator Agreement. The Town also reserves the right to develop a maintenance / network update schedule that will require the Operator to update network equipment every 3-5 years. The CFON Maintenance/Upgrade Schedule will be defined in the CFON Operator Agreement.

The Operator and Town will develop annual, five-, and ten-year budgets for Routine-CAPEX.

Operation's Manual Overview, Performance Reporting, and Metrics

Each response must include an overview of an Operations Manual for an existing fiber network that the Respondent operates or is under contract to operate for another entity.

The Respondent must also provide an executive summary that clearly describes content for a proposed CFON Operations Manual. This discussion should include, and is not limited, to all key operational policies, procedures, SLA's, governance, and change control approval processes. The Response should include a suggested table of contents for all items appropriate for the CFON Operations Manual. Respondents will be evaluated based on the clarity, thoroughness, and content of their responses to the above Operator responsibilities.

The Operator will be required to submit regular performance reports to the Town concerning both the financial and operational performance of the network. Final CFON SLAs and KPIs will be negotiated in the Operator Agreement.

Respondents must include suggested Key Performance Indicators (KPIs) in their proposal.

Examples of potential KPIs may include, but are not limited to, the following:

- Customer complaints: Categorized by customer type (CAI, ISP, Retail Customer, Wholesale Customer) and summary totals for complaint type (service outage, question, billing, new service request, etc.), priority, resolution time, etc.
- Trouble Tickets: Summary totals by day, week, month and year for outstanding, closed, total, average daily new tickets by priority, average daily tickets resolved by priority, average and high resolution time for tickets by priority.
- Network outages: By customer & location, repair time (1hr, 4hrs, etc.) compared to SLA
- Mean Time to Resolution (MTTR): By issue type, priority, and customer
- Fulfillment: Percentages for new customers & new services weekly, monthly, yearly
- Billing: Accuracy & timeliness
- Network Capacity & Performance
- Other reporting as determined by Town and Operator

CFON Marketing Plan Overview, Budget and Staff Profile

Each Response must include an executive summary and overview of a marketing plan for CFON in the context of the planned service offering. Include an overview of the marketing budget and staff profile. The discussion should focus on how and where new customers will be sought to expand CFON usage. New customer discussion must focus on how the marketing plan intends to target existing Town businesses with estimates for capture rate and timeframe, and on how the marketing plan intends to attract new businesses to the Town with estimates for capture rate and timeframe (including a profile of the type of new businesses and from where the new businesses will be targeted), in order to drive CFON growth and achieve the Town's mission of driving economic development. The selected Operator will be required to provide a detailed CFON Market Study and Business Plan within 45 days after execution of the Operator Agreement with the Town.

CFON Phase II Work Plan

Each Response must include a detailed and comprehensive CFON Phase II work plan that clearly describes how, when, and by whom the Respondent intends to provide the services and deliverables requested in this RFP. The work plan should also include an operational

road map for CFON customer onboarding along with a discussion on how the estimated customer growth impacts ongoing CFON revenue, operating costs and CAPEX. This discussion shall include, but not be limited to, how the project will be managed and scheduled, how and when data will be delivered to the Town, communication and coordination, the working relationship between the Respondent and Town staff, and the company's general philosophy in regards to providing the requested services.

Community Communications, Support, and Outreach Plan

The Operator will have a robust Community Connectivity Strategy that allows for easy CFON access from any device. Fundamental to a Community Connectivity Strategy would be how to provide high speed network access to students within and outside of the schools throughout the Duneland School District and the Service Area.

The Operator will be expected to support the Town's efforts to organize a CFON Incubator that is part of a larger Technology and Small Business Incubator so as to facilitate the growth of a technology ecosystem in the Town. Such an incubator may include, but is not be limited to, the following:

- ◆ Code academy: An educational initiative to engage local youth in a program designed to encourage them to develop coding and technology skills.
- ◆ Demo events: Attend local events with a mobile "demonstration center" that would allow community members to experience the power of gigabit Internet. This may also include operating a full-time demo center at the Operator's office presence in Town.
- ◆ Incubator development: Sponsor a local small business incubator that would provide free or low-cost access to technical resources for small businesses. Could also support the code academy and other developers interested in developing applications or services related to broadband or technology.
- ◆ Partnering with and actively soliciting other local companies, organizations, sponsorships, and educational scholarships.
- ◆ Local employment: Where feasible include local support, installers, salespersons, managers, and other staff.
- ◆ Connected public areas: Enable a number of public spaces (such as parks) within the Service Area with free Wi-Fi in consultation with the Town.

Duneland School Corporation Support Plan

The Operator will be required make a good faith effort to integrate the Duneland School Corporation's existing fiber network into the CFON.

Post Selection Deliverables and Testing

CFON Market Study and Business Plan

Within 45 days after execution of the Operator Agreement with the Town, the Operator will provide the Town with a detailed CFON Market Analysis and Business Plan. This analysis will assess the CFON Anchor Institutions, existing businesses in the CFON service area and estimate new CFON customer growth to develop a one, five and ten year projected revenue model, pricing model, operating cost and CAPEX estimate. The CFON Business Plan developed by the Operator must include CFON usage estimates, operational cost estimates, suggested pricing for each service type offered and include estimated annual CAPEX, revenue, expenses, and NOI. The goal of this Market Study is to determine feasibility and timing of CFON operational sustainability, CFON market potential and estimate CFON operational cost breakeven timing following initial network deployment and during new customer ramp up and new customer onboarding phase.

CFON Operations Manual

Within 60 days after execution of the Operator Agreement with the Town, the Operator will provide the Town with a detailed CFON Operations Manual, as defined in Section II.

Operator Review, Advice & Consent on CFON Route Plan & Specifications

The selected Operator must review the CFON route design plan, technical specifications, and work product delivered from Phase I of the project (Attachments A & B). The Operator will work with the Network Design Consultant and the Town on any proposed changes to CFON. The Operator must consent to the final CFON route design and technical specifications in writing, prior to the start of Phase III construction.

1. The Operator must review all comprehensive computerized design maps, detailed CAD drawings and any construction drawings for the final CFON route, including any aerial-to-underground splice-closures, hand-hole placements and locations, and specifications of any communications and optical equipment necessary to meet the performance standards and SLA of a fully functional CFON network. The Operator must recommend any modifications to the drawings and specifications produced by the Network Consultant from Phase I and acknowledge that the CFON drawings and specifications include everything necessary for the Operator to provide the CFON operational support as defined in the CFON Operator Agreement.
2. The Operator will review, advise on, and consent to the design and specification for all aspects of CFON facilities, including but not limited to, conduit design, conduit detailing, fiber detailing, hand-hole detailing, Meet-Me-Room specifications, and all acceptance testing and performance testing required to verify the as-built network in the context of the proposed design and the Operator Agreement.

CFON Testing & Acceptance

The Town will cause the CFON to be tested in accordance with the CFON Acceptance Testing Plan and Schedule. The Operator shall review, advise on, and consent to all required acceptance testing procedures, expected test results for all tests that are part of the acceptance test plan, performance requirements for the CFON route, and schedule after installation of all CFON cable plant and communications equipment.

The Operator shall review, advise on, and consent to all criteria that must be met in order for the Town to accept a fully-functional CFON after installation.

If the CFON meets the Acceptance Testing standards, the Operator will be required to accept the CFON and associated equipment in writing and thereafter will be responsible for CFON operations as defined in the Operator Agreement with the Town.

Appropriate corrective action must be specified and documented by the Operator for any cable or other equipment that fails acceptance testing.

SECTION IV – Revenue Opportunities

The Operator will have a unique opportunity to generate revenue from CFON retail and wholesale customers as outlined above. The Operator will be required to provide bandwidth services to the CAIs. It is expected that the Operator will have an opportunity to negotiate individual contracts with each CAI, and its new CFON customers, and be responsible for support on services rendered.

CFON Revenue Sharing Proposal

The Respondent must include in their response a detailed description of the CFON Revenue Sharing Model they propose for the Town.

CFON Network Extension

The Operator is encouraged to use the underlying network as a starting point for growing the CFON for its own commercial purposes. The Operator will be allowed to invest its own capital to make commercial network extensions from splice points, POIs, and CAI endpoints for other retail and wholesale revenue opportunities. The Town is looking for an Operator to participate in marketing activities that will help fulfill the Town's mission to grow and sustain CFON. In addition to the requirements listed in the RFP, this could involve creative solutions to long-standing problems such as last mile build-out of unserved areas or building out to economic target areas. The Town has a strong preference to find an Operator who is willing to work in concert with the Town's mission to drive economic development through utilization and extension of the CFON.

Points of Interconnection

Since the Operator is required to offer lit bandwidth to any Retail ISP, or an Operator outside of the Service Area, at Points of Interconnection (POIs), the Operator will be required to construct the extensions of the Network from these POIs. Ownership of any CFON extension will revert to the Town upon installation. The Operator may charge a third-party for the cost of connecting to the CFON and for extensions. Such extensions are subject to the ultimate approval of the Town.

CFON Splice Points

The Operator will be given a unique competitive opportunity to extend the portion of the CFON from any splice point to reach additional revenue opportunities. Other ISPs or last mile service providers will not be allowed to splice into the Network without the prior approval of the Operator and Town. All network extensions made by the Operator from direct splice points will carry two extra strands for potential use by the Town. The Operator Agreement will contain parameters for splicing into the CFON to ensure that the structural and operational integrity of the network is maintained.

SECTION V – Operator Qualifications

- A. Each Respondent must complete the Operator Qualifications Worksheet found at Attachment E. In addition, the Respondent will provide a document and supporting information titled Operator Qualifications describing the following requirements:
1. Currently is Operator of a fiber optic network that is at least 80% of the size or value of the CFON network as outlined in this RFP.
 2. Has access to all necessary equipment and has organizational capacity and technical competence necessary to do the work properly and expeditiously.
 3. Maintains a permanent place of business in the State of Indiana.
 4. Maintains a minimum of ten (10) full time employees or full time equivalents.
 5. Provide financial statements in a form acceptable to Town, which evidences the Respondent has adequate financial resources to complete the work being proposed, as well as all other work the Respondent is presently under contract to complete.
 6. A minimum of one (1) similar project reference from within the last three or four (3-4) years, including project description, client/customer point of contact, client/customer mailing address, client/customer telephone number and client/customer email address(s).
 7. Has a record of providing satisfactory operations on existing projects and networks. Criteria that will be considered in determining satisfactory completion of projects by the Operator will include:
 1. Completed contracts in accordance with the Contract Documents.
 2. Diligently pursued operational support for existing contracts according to the industry established operational standards and service levels.
 3. Fulfilled guarantee requirements of the Contract Documents.
- B. The Town will make such investigations as is deemed necessary to evaluate the ability of the Respondent to perform the work described in this RFP. The Respondent shall furnish to the Town all such information and data for this purpose as the Town may request. Before selection of the Operator, the Town shall be satisfied that the Respondent involved meets the above requirements. The Town reserves the right to reject any Respondent if the evidence submitted by, or investigation of, the Respondent fails to satisfy the Town that the Respondent is responsible and qualified to carry out the obligations defined in this RFP and to complete the work contemplated therein.
- C. Respondents must present satisfactory evidence that they are familiar with the class of work specified in this RFP, and that they have the necessary professional experience, capital, tools, machinery and other equipment necessary to conduct the work and complete the required deliverables within the operational requirements specified in this RFP and consummate with industry standards, service levels and to the satisfaction of the Town.

Evaluation Criteria

Selection of the Operator for Phase II of the project will be made on the basis of Proposals submitted in response to this RFP. Any submitted Proposal will be evaluated on many criteria deemed to be in the Town's best interests, including, but not limited to the following:

<u>Item</u>	<u>Weight</u>	<u>Description</u>
1.	20%	<p>Financial stability and viability of Respondent</p> <ul style="list-style-type: none"> Executive Management Profile; Network Operations team overview and experience Completed Operator Qualifications Worksheet (Attachment E)
2.	20%	<p>Fiber Optic Network Operator Experience of Respondent</p> <ul style="list-style-type: none"> Operations manager and staff profile and experience that will be responsible for completion of Phase II deliverables. References for Respondent and references for similar project (s) completed by Respondent Miles of fiber optic network currently supported by Respondent
3.	20%	<p>Operations Manual and CFON Service Level Agreement (SLA) Proposed by Respondent</p> <ul style="list-style-type: none"> Operations Manual Example provided by Respondent Proposed CFON Service Level Agreement (SLA) Operator alignment with Town Project Goals and CFON Network Openness & Network Neutrality Goal
4.	20%	<p>CFON Revenue Sharing Model proposed to Town by Respondent</p> <ul style="list-style-type: none"> CFON Service Offering Overview and Pricing Schedule
5.	15%	<p>CFON Phase II Project Plan & Market Development Proposed by Respondent</p> <ul style="list-style-type: none"> Phase II project plan and delivery timeline including identified person accountable for each project deliverable and task. CFON Marketing Plan CFON Business Plan
6.	5%	<p>Enhancements to Town of Chesterton</p> <ul style="list-style-type: none"> Duneland School Corporation Support Plan Community Communications Plan Community Support and Outreach Plan

SECTION VI – RFP Response Requirements

Each Respondent should organize their RFP response into the following sections:

1. Financial stability and viability of Respondent (Weight 20%)
 - A. Executive Overview of Operator Approach
 - B. Professional Qualifications of Respondent
 - Completed Operator Qualifications Worksheet (Attachment E)

2. Fiber Optic Network Operator Experience of Respondent (Weight 20%)
 - C. Operations Support Systems & Business Support Systems Overview (OSS/BSS)
 - D. Operator Staff Qualifications
 - E. Fiber Networks Under Management
 - F. Past Involvement with Similar Project (s)

3. Operations Manual and CFON Service Level Agreement (SLA) Proposed by Respondent (Weight 20%)
 - G. Operations Manual Example Provided by Respondent
 - H. CFON SLA, Outage Response Time and SLA Metrics
 - I. CFON Key Performance Indicators (KPIs)
 - J. Town Project Goals for CFON

4. CFON Revenue Sharing Model proposed to Town by Respondent (Weight 20%)
 - K. CFON Service Offering Overview and Suggested Pricing Schedule
 - L. CFON Business Model and Revenue Sharing Proposal

5. CFON Phase II Project Plan & Market Development Proposed by Respondent (Weight 15%)
 - M. CFON Phase II Work Plan
 - N. CFON Marketing Plan
 - O. CFON Business Plan

6. Enhancements to Town of Chesterton (Weight 5%)
 - P. Duneland School Corporation Support Plan
 - Q. Community Communications Plan
 - R. Community Support and Outreach Plan

7. Supplemental Information
 - S. Authorized Representative (s)
 - T. Insurance Coverage
 - U. Exhibits

The following section describes the elements that should be included in each proposal.

1. Financial stability and viability of Respondent (Weight 20%)

A. Executive Overview of Operator Approach

Executive summary describing the Respondent and its approach, philosophy and goals toward acting as the Operator for the CFON.

B. Professional Qualifications of Respondent

1. State the full name and address of your organization and, if applicable, the branch office or other subsidiary element that will perform, or assist in performing, the work hereunder. Indicate whether it operates as an individual, partnership, or corporation. If applicable, whether it is licensed to operate in the State of Indiana.

2. Include the name of executive and professional personnel by skill and qualification that will be employed in the work. Show where these personnel will be physically located during the time they are engaged in the work. Indicate which of these individuals you consider key to the successful completion of the project. Identify only individuals who will do the work on this project by name and title. Resumes and qualifications are required for all proposed project personnel, including all subcontractors. Qualifications and capabilities of any subcontractors must also be included.

3. Provide overview and history of the organization, in terms of length of existence, types of services provided, etc. Identify the technical details that make the organization uniquely qualified for this work.

4. Provide examples of networks that are currently under operational contract today. Time permitting broker an on-site tour of said network.

5. Describe the organization's change control process.

6. Include examples of existing Operational contracts and service level agreement for similar projects.

Completed Operator Qualifications Worksheet (Attachment E)

2. Fiber Optic Network Operator Experience of Respondent (Weight 20%)

C. Operations Support Systems & Business Support Systems Overview (OSS/BSS)

A description of capabilities and assets that can be leveraged by the Respondent in providing services, including OSS/BSS operations, Network Operations Center (NOC) facilities, management expertise, sales personnel, and any other relevant factors. Also include a description of the Respondent's OSS/BSS systems and their suitability for providing service to wholesale customers, retail customers and CFON anchor institutions.

D. Operator Staff Qualifications

A summary of qualifications and resumes for individuals who will staff the Operator services.

E. Fiber Networks Under Management

A description of each fiber optic network the Respondent operates, including number of miles and strands, relationship (if any) with public entities, number of customers, and annual revenue.

F. Past Involvement with Similar Project (s)

The written proposal must include a minimum of one (1) example of specific experience and indicate proven ability in operational support on a project for the firm and the individuals to be involved in the project. The proposal should also indicate the ability to meet or exceed defined operational service levels and SLAs. A summary of related projects with the original contracts, service level agreement and cost estimate versus the actual operational cost is required with this section. A complete list of client references must be provided for similar projects currently under operational contract. It shall include the firm name, address, telephone number, project title, and contact person.

3. Operations Manual and CFON Service Level Agreement (SLA) Proposed by Respondent (Weight 20%)

G. Operations Manual Example

Each Respondent must provide an Operations Manual for an existing fiber network that the Respondent operates or is under contract to operate for another entity. Each Respondent must also provide an executive summary that clearly describes content for a proposed CFON Operations Manual.

H. CFON SLA, Outage Response Time and SLA Metrics

A detailed description of proposed CFON SLAs, Outage Response Time and other high-level metrics the Operator will employ.

I. CFON Key Performance Indicators (KPIs)

A description of the Respondent's proposed KPIs for the Network and expected performance against these KPIs. Include a current KPI report for an existing network under management.

J. Town Project Goals for CFON

A description of Respondent's ability to meet the Town's project goals (see page 4 & 5 of RFP), including CFON Network Openness & Network Neutrality Goal (see page 13 of RFP), economic development mission and extension of last mile services. The Respondent should cite examples of similar projects or provide ideas on how the Respondent can meet these objectives using Respondent resources.

4. CFON Revenue Sharing Model proposed to Town by Respondent (Weight 20%)

K. CFON Service Offering Overview and Suggested Pricing Schedule

Provide a detailed and comprehensive overview of the service offering to be made available to the Town and customers using CFON. This discussion should include the types of services to be offered initially as well as a discussion of the type of services that will be offered in the future and when. Provide a CFON capacity plan that estimates initial CFON capacity by service offering type and bandwidth utilization for each service type. Include a CFON growth projection in the capacity plan by service offering type and bandwidth utilization. Provide an overview of the CFON revenue model and pricing model that includes usage estimates and suggested pricing for each service type offered.

L. CFON Business Model and Revenue Sharing Proposal

A detailed discussion explaining the Respondent's proposed business model and revenue sharing proposal with the Town. This summary must be included in a separate sealed envelope clearly marked "CFON Business Model Proposal".

1. Revenue sharing proposals are to include the names, title, hourly rates, overhead factors, and any other details, including hours of effort for each team member by task, and sub-task, by which the overall and project element costs have been derived. The quotation is to relate in detail to each item of the proposed work plan. Respondents shall be capable of justifying the details of the proposal relative to personnel costs, overhead, how the overhead rate is derived, material and time.
2. The revenue sharing model proposed must include the total estimated operating cost and revenue for the CFON when it is 100% completed and annually for the duration of the Operator Agreement term. This total may be adjusted after negotiations with the Town and prior to signing a formal contract, if justified.

5. CFON Phase II Project Plan & Market Development Proposed by Respondent (Weight 15%)

M. CFON Phase II Work Plan

Provide a detailed and comprehensive project plan with tasks, milestones, deliverables, planned completion dates and task ownership that clearly defines how and when the Respondent intends to provide the services and deliverables requested in this RFP. This project plan and associated discussion shall include, but not be limited to: how the project(s) will be managed and scheduled, how and when deliverables will be delivered to the Town, communication and coordination, working relationship between the Respondent and Town staff, and the company's general philosophy in regards to providing the requested services.

N. CFON Marketing Plan

Each Respondent is required to provide in their response a detailed and comprehensive overview of a marketing plan for CFON in the context of the planned service offering. Include an overview of the marketing budget and staff profile. The discussion should focus on how new customers will be sought to expand CFON usage. New customer discussion must focus on how the marketing plan intends to target existing Town businesses with

estimates for capture rate and timeframe. Additionally, new customer discussion must focus on how and where the marketing plan intends to attract new businesses to the Town with estimates for capture rate and timeframe. This discussion should also profile the type of new businesses and from where the marketing plan should mine new businesses to the Town in order to drive CFON growth and drive economic development in the Town.

O. CFON Business Plan

Each Respondent must provide a high-level CFON Business Plan that will assess the CFON Anchor Institutions, existing businesses in the CFON service area and estimate new CFON customers to develop a one, five and ten year projected revenue model, pricing model and operating cost estimate. The CFON Business Plan developed by the Operator must include CFON usage estimates, operational cost estimates, suggested pricing for each service type offered and include estimated annual CAPEX, revenue, expenses, and NOI .

6. Enhancements to Town of Chesterton (Weight 5%)

P. Duneland School Corporation Support Plan

Each Respondent must provide in their response recommendations for supporting the existing Duneland School Corporation fiber network and provide recommendations for how best to integrate the existing DSC network into CFON or alternatively support it as a separate standalone network. This discussion should include review and evaluation of existing technology, topology, communications equipment, ongoing support costs, capital cost, and outage history. This discussion should focus on how the Operator will assist the Town's and the Duneland School Corporation's mission through technology and broadband services.

Q. Community Communications Plan

The Respondent will provide in their response alternatives and a recommendation for a robust Community Connectivity Strategy that allows for easy access from any device.

R. Community Support and Outreach Plan

Each Respondent must include in their response an explanation of how the Respondent can support the Town efforts to organize a Broadband Incubator as part of a larger Technology and Small Business Incubator so as to facilitate the growth of a technology ecosystem.

7. Supplemental Information

S. Authorized Representative (s)

Include the name, phone number, and e-mail address of person(s) in your organization authorized to finalize and execute the Operator Agreement with the Town.

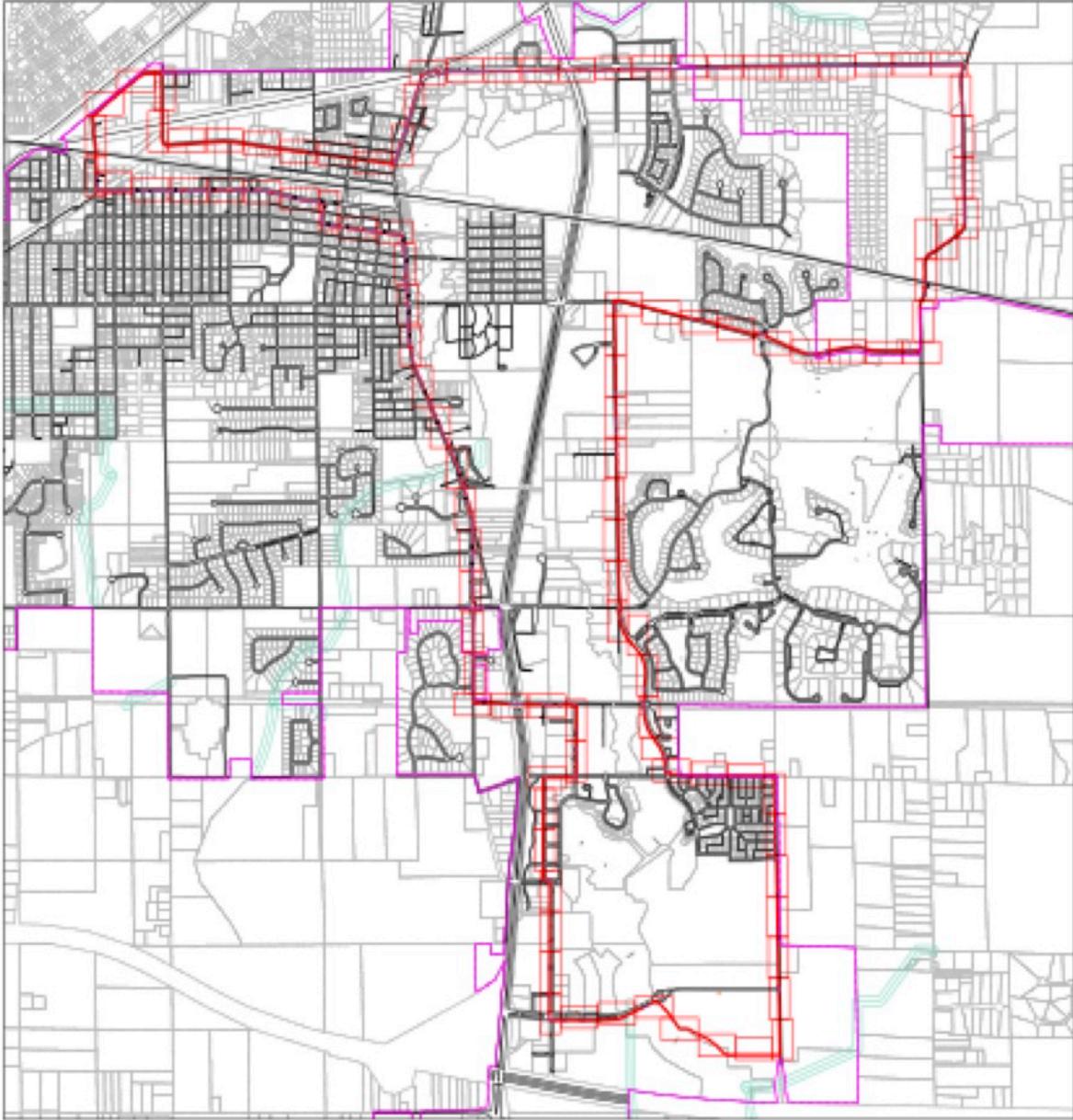
T. Insurance Coverage

Provide a detailed and comprehensive overview and evidence of satisfactory insurance coverage for this project including but not limited to Errors & Omissions insurance coverage. See Section 44 & 45 of Fiber Optic Cable License and Network Operation Agreement (Attachment E).

U. Exhibits

Attachment E – Operator Qualifications Worksheet must be completed with the proposal.
Any other Exhibits the Respondent deems appropriate for their proposal submission.

**Attachment A
CFON Route Map**



Attachment B

CFON Technical Specifications

Attachment B.1	CFON Final Units Summary
Attachment B.2	CFON Optical Specification & Optical Loss Budget
Attachment B.3	CFON Loose Tube Optic Cable Specification
Attachment B.4	CFON Communications Conduit Specification
Attachment B.5	CFON Testing Requirements

Attachment B.1 CFON Final Units Summary

ITEM	DESCRIPTION	UNIT	QUANTITY
1	One 1 1/4" and One 4-way duct placed by PLOW Method	BFOV(1X1.25''')(V4)D	29696
2	One 1 1/4" and One 4-way duct placed by BORE Method	BM60(1X1.25''')(V4)D	39354
3	100' Slack Storage armored fiber coil placed in hand hole	BFO144 COIL	9950
4	A 144 fiber light armored cable placed into 1 1/4" duct	BFO144I	69050
5	100' Slack Storage micro fiber coil placed in handhole	BFO144 Micro COIL	9950
6	A 144 micro fiber placed into 1 micro tube of the 4-way duct	BFO144I Micro	69050
7	A 4' long by 3' wide by 30" deep hand hole placed	BHF(48X36X30)T	99
8	A ground bus mounted inside handhole for locates	BM(GRD BUS)	99
9	A ground rod placed into ground inside hand hole	BM2(5/8(8))	99
10	A passive RFID device used to locate end of empty conduit	Locate Balls	198
11	A length of 3/4" duct placed for future drop out of hand hole	6' duct pieces	198
12	A splice case for the reel ends of fiber	HACO(L)	4
13	A straight fusion splice to join ends together (144 HO1s at 4 cases plus one termination)	HO1	720

Attachment B.2

CFON Optical Specification & Optical Loss Budget

CFON - OPTICAL SPECIFICATION

Communications Protocol Specification – Services provided will be Dark Fiber, GPON and Active Ethernet, WDM, and DWDM.

Optical Equipment - NITCO will recommend Adtran and Cisco access network equipment or their equivalent.

All Optical Performance Testing & Acceptance Testing Requirements are included on other document.

Performance criteria of Splices and hand holes.

1. Underground fiber optic splice closures: Closures shall be fully compliant with Bellcore document GR-771-CORE.

2. Hand Holes: Enclosures, boxes and covers are required to conform to all test provisions of the most current ANSI/SCTE 77 “Specification For Underground Enclosure Integrity” for Tier 22 applications. Maintenance Hand Holes shall be manufactured of high strength polymer concrete material consisting of an aggregate mix bound together with a polymer resin and shall be of sufficient size to accommodate splice closures as specified.

CFON - OPTICAL LOSS BUDGET

For a traditional Single mode cable operating with traditional 1310 nm or 1550 nm lasers, the loss is about 0.25 dB per Kilometer. For planning purposes we use the TIA/EIA standard of 0.4 dB per Kilometer. At most there are 8 to 10 splices adding 0.1 dB each. We also add 0.75 dB for each fiber bulkhead termination. So for a 6 mile route (or 9.66 Km), the total loss would be $0.4 \text{ dB/Km} \times 9.66 \text{ Km} + 10 \text{ splices} \times 0.1 \text{ dB/splice} + 2 \text{ bulkheads} \times 0.75 \text{ dB/bulkhead} = 6.364 \text{ dB}$. Adding a PON 1 by 32 splitter via a cabinet adds another 15 dB of loss. This is well within the normal outside loss budget target of 26 – 32 dB for a typical FTTH system. This is why many systems recommend the largest distance served to be 20 Km or 12.4 miles.

For the CFON Network, the total fiber optic distance around the ring is approximately 79,000 feet or 24.08 Km. At 0.4 dB/Km that would be a fiber loss of 9.63 dB. Add the 4 splices (0.1 dB each) and 2 bulkheads (0.75 dB Each) for a total Network loss of 11.53 dB.

Attachment B.3

CFON Loose Tube Optic Cable Specification

1.0 Cable Design Specifics

All cables supplied must be RUS (Rural Utilities Service) accepted and meet the requirements of RDUP 7 CFR 1755.900, *Telcordia GR-20-CORE Issue 3, ANSI/ICEA S-87-640-2006*.

Recommended environmental temperatures ranges are specified in Table 1.

Table 1 – Recommended Environmental Temperatures

Operating Temperature	-40 to 70°C (-40 to 158°F)
Installation Temperature	-30 to 70°C (-22 to 158°F)
Storage/Shipping Temperature	-50 to 75°C (-22 to 167°F)

2.0 Fiber and Buffer Tube Color Code

The individual fibers and buffer tubes are color coded for ease of identification per *EIA/TIA-598*. Buffer tubes 13 through 24 are marked with a black co-extruded stripe 180° apart for identification purposes. The black tube (Tube 20) will be marked with a white co-extruded stripe. Nominal stripe width shall be 1mm.

Table 2 – Fiber and Buffer Tube Color Code

Fiber or Tube Number	Color	Tube Number	Color
1	Blue	13	Blue-Striped
2	Orange	14	Orange-Striped
3	Green	15	Green-Striped
4	Brown	16	Brown-Striped
5	Slate	17	Slate-Striped
6	White	18	White-Striped
7	Red	19	Red-Striped
8	Black	20	Black-Striped
9	Yellow	21	Yellow-Striped
10	Violet	22	Violet-Striped
11	Rose	23	Rose-Striped
12	Aqua	24	Aqua-Striped

3.0 Fiber Specifications

This document provides fiber specifications for ITU-T G.652 D single-mode fiber in cable constructions. The requirements below must be met in cabled fiber form unless otherwise highlighted.

3.1 Standards References

3.1.1 The Optical Fiber shall meet or exceed the national and international standards for single-mode fiber described in the table below.

Table 3 – Optical Fiber Standards

Standard	Designation	Description
ITU-T	G.652D	extended wavelength band
IEC 60793-2-50	B1.3	extended wavelength band
TIA-492-CAAB	Type IVa	dispersion-unshifted with reduced water peak

3.1.2 The Optical Fiber shall be referenced in the national and international standards for applications utilizing single-mode fiber described in the table below.

Table 3.1 – Application Standards

Standard	Description	Optical Fiber Reference(s)
IEEE 802.3	Ethernet for Subscriber Access Networks. (Includes both PON and point to point applications)	IEC 60793-2-50 B1.3
ITU – G.983.3	Broadband Passive Optical Network (BPON)	ITU-T G.652D
ITU – G.984.2	Gigabit Capable Passive Optical Network (GPON)	ITU-T G.652D

Rationale: Fibers included in the cables must be compliant to the latest versions of internationally-recognized specifications to ensure appropriate compatibility and proper performance with various network protocols over the next several decades.

4.0 **Fiber Material**

4.1 The Optical Fiber shall be comprised of synthetic silica to ensure the best possible long-term mechanical and optical performance. Natural Quartz is not recommended in the fiber core or cladding.

4.2 The Optical Fiber in finished cable form shall meet the transmission specifications in all wavelength bands listed in the tables below. The fiber shall be classified as a “zero water peak” fiber, meeting the attenuation specifications below:

Table 4. Attenuation

Wavelength (nm)	Attenuation (dB/km)	
	Maximum	Typical
1310	0.35	0.33
1383	0.31	0.29
1490	0.27	0.21
1550	0.25	0.19
1625	0.27	0.22

Table 4.1 Attenuation vs. Wavelength Uniformity

Range (nm)	Reference (nm) λ	α
1285-1330	1310	0.03
1360-1480	1385	0.04
1525-1575	1550	0.02
1460-1625	1550	0.04

The attenuation in a given wavelength range does not exceed the attenuation of the reference wavelength (λ) by more than the value α . This data is in fiber form.

Table 4.2 Change in Attenuation at Water Peak

The optical fiber attenuation coefficient at the OH- absorption peak (1383 + 3nm) after exposure to hydrogen shall be <0.31 dB/km and <0.29 dB/km typically. This test simulates long-term hydrogen aging in installed cables. The test shall be performed in fiber form.

Table 4.3 Optical Fiber Macrobending Attenuation

Deployment Condition	Wavelength	Induced Attenuation
1 turn, 32 mm (1.2 inch) diameter	1550 nm	≤0.05 dB
100 turns, 50 mm (2 inch) diameter	1310 nm	≤0.05 dB
	1550 nm	≤0.05 dB
100 turns, 60 mm (2.4 inch) diameter	1550 nm	≤0.05 dB
	1625 nm	≤0.05 dB

Table 4.4 Point Discontinuities in Cable

No attenuation discontinuities greater than 0.10 dB at 1310 nm or 1550 nm shall be present in the finished cable

Table 4.5 Chromatic Dispersion

Zero dispersion wavelength (λ_0)	1302-1322 nm
The maximum dispersion slope (S_0) at λ_0	0.090 ps/nm ² -km
Typical dispersion slope	0.087 ps/nm ² -km
Dispersion Max at 1310 nm	3.5 ps/nm ² -km
Dispersion Max at 1550 nm	18 ps/nm ² -km
Dispersion Max at 1625 nm	22 ps/nm ² -km

Table 4.6 Mode Field Diameter

at 1310 nm	9.2±0.4 μm
at 1550 nm	10.4±0.5 μm

Table 4.7 Cable Cutoff Wavelength:

Cable cutoff wavelength (λ_{cc})	≤ 1260 nm
--------------------------------------------	-----------

Table 4.8 – Geometry

Glass Geometry	
Cladding Diameter	125.0 ± 0.7 μm
Core/Clad Concentricity Error	≤ 0.5 μm, <0.2 μm typically
Cladding Non-circularity	≤ 0.7%
Typical Splice Loss (profile alignment)	<0.02 dB
Coating Geometry	
Coating Diameter (colored)	245 – 260 μm
Coating/Cladding Concentricity Error	≤ 12 μm

Table 4.9 – PMD in Cable

Fiber PMD Link Design Value (LDV) ²	≤ 0.06 ps/(km) ^{1/2}
Maximum Individual Fiber	≤ 0.2 ps/(km) ^{1/2}
Typical Fiber LMC PMD	≤ 0.02 ps/(km) ^{1/2}

Rationale for optical specifications: The number of wavelengths that are being used in optical systems is increasing rapidly, and it is expected that this trend will either continue or accelerate over the next decades as the network is used. Low attenuation values across the entire optical spectrum, including the “water peak” band around 1383 nm are needed to ensure that the network will be compatible with all of the existing and future wavelengths expected to be deployed over the system in the next several decades. The Chromatic Dispersion and fiber and coating geometry specifications are standard industry specifications designed to ensure compatibility and ease of splicing/connectivity. PMD (Polarization Mode Dispersion) is an important parameter for higher speed application requirements.

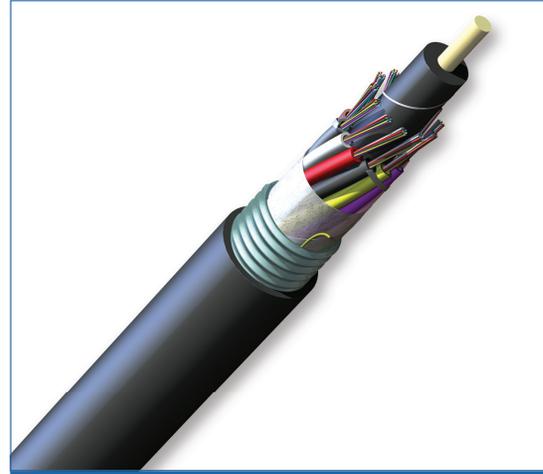
ALTOS® Lite™ Loose Tube, Gel-Free, Single-Jacket, Single-Armored Cable

144 F, Single-mode (OS2)

CORNING

Corning ALTOS® Lite™ gel-free, single-jacket, single-armored cables are designed for campus backbones in direct-buried installations. The loose tube design provides stable and highly reliable transmission parameters for a variety of voice, data, video and imaging applications. These cables also provide high-fiber density within a given cable diameter while allowing flexibility to suit many system configurations.

The single armored construction provides additional crush and rodent protection with a high-strength ripcord under the armor for easy stripping. Gel-free means the cables are fully waterblocked using craft-friendly, water-swellable materials which make cable access simple and require no clean up. The flexible, craft-friendly buffer tubes are easy to route in closures, and the SZ-stranded, loose tube design isolates fibers from installation and environmental rigors while allowing easy mid-span access. These cables have a medium density polyethylene jacket that is rugged, durable and easy to strip.



Part Number: 144EUC-T4100D20

Features and Benefits

Gel-free waterblocking technology

Craft-friendly cable preparation

Medium-density polyethylene jacket

Rugged, durable and easy to strip (while providing superior protection against UV radiation, fungus, abrasion and other environmental factors)

Corrugated steel tape armor

Provides rodent resistance for direct-buried applications

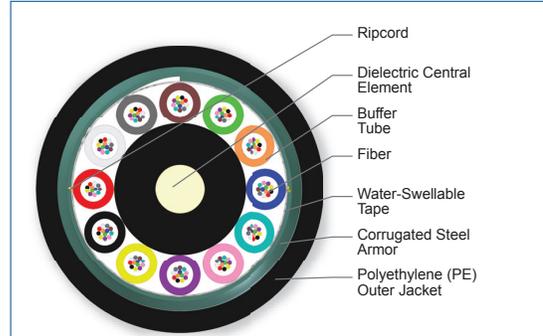
Standards

Common Installations

Outdoor lashed aerial, duct and direct-buried; indoor when installed according to National Electrical Code® (NEC®) Article 770

Design and Test Criteria

ANSI/ICEA S-87-640



Cross Section of Part Number: 144EUC-T4100D20

ALTOS® Lite™ Loose Tube, Gel-Free, Single-Jacket, Single-Armored Cable

144 F, Single-mode (OS2)

CORNING

Specifications

General Specifications	
Environment	Outdoor
Application	Aerial, Direct Buried, Duct
Cable Type	Loose Tube
Product Type	Armored
Fiber Category	Single-mode (OS2)

Temperature Range	
Storage	-40 °C to 70 °C (-40 °F to 158 °F)
Installation	-30 °C to 70 °C (-22 °F to 158 °F)
Operation	-40 °C to 70 °C (-40 °F to 158 °F)

Cable Design	
Central Element	Dielectric
Fiber Count	144
Fiber Coloring	Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua
Fibers per Tube	12
Number of Tube Positions	12
Number of Active Tubes	12
Buffer Tube Color Coding	Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua
Buffer Tube Diameter	2.5 mm (0.1 in)
Tape	Water-swellaable
Number of Ripcords	2
Tensile Strength Elements and/or Armoring - Layer 1	Corrugated steel tape armor
Outer Jacket Material	Polyethylene (PE)
Outer Jacket Color	Black
Maximum Fibers per Tube	12

Mechanical Characteristics Cable	
Max. Tensile Strength, Short-Term	2700 N (600 lbf)
Max. Tensile Strength, Long-Term	890 N (200 lbf)
Weight	245 kg/km (164 lb/1000 ft)

Product Specification 144EUC-T4100D20_NAFTA_AEN
Page 2 | Revision date 2016-03-02

MiDia[®] FX PLUS Cable Loose Tube



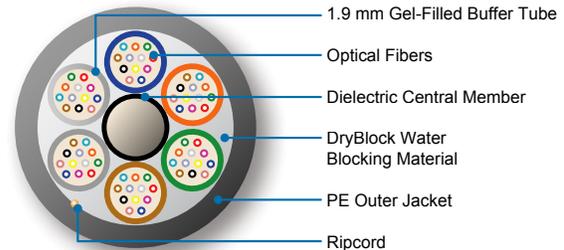
Maximizing the Capacity and Cost-Effectiveness of Metropolitan Fiber Access

Product Description

The OFS MiDia[®] FX PLUS Cable is a reduced diameter cable that can help dramatically lower the cost of fiber optic deployment while maximizing capacity in congested metropolitan networks. Specifically designed for air-blown installation using microduct systems, MiDia FX PLUS Cable is size-optimized for fiber counts up to 144.

To construct this all-dielectric cable, the optical fibers are placed in space-efficient, gel-filled buffer tubes that protect the fibers. The color-coded tubes are then stranded around a dielectric central member using the reverse oscillating lay (ROL) stranding technique for easy, mid-span fiber access. DryBlock[®] water-blocking material is then applied for exceptional water penetration resistance and faster cable preparation. A ripcord and a highly durable polyethylene (PE) jacket complete the cable construction.

MiDia[®] FX PLUS Cable



Why the MiDia FX PLUS Cable?

The MiDia FX PLUS Cable's small outer diameter and high fiber density help maximize capacity in heavily congested duct systems where space is at a premium (as in city networks).

The lightweight, flexible design of MiDia FX PLUS Cable can also save time and money with fast and easy air-blown installation. By using the air-blown method with inexpensive microduct networks, this cable further helps save on build costs by eliminating the need for expensive and disruptive excavation along with procuring costly rights-of-way.

MiDia FX PLUS Cable also helps service providers to reduce their initial network build investment by deploying fiber only as needed to meet demand. This capability can help providers in the future to consistently maintain the highest performance fibers in their networks, while avoiding the cost of procuring additional rights-of-way and constructing new ducts.

Features and Benefits

- Optimized for air-blown, microduct installations, including networks in heavily congested metropolitan areas
- Lower deployment costs with fast and easy installation
- Reduced diameter and high fiber density ratio maximize capacity in limited spaces
- Deferred build costs with fiber deployed only as needed
- DryBlock design for quicker, cleaner cable preparation for jointing
- Meets Telcordia Technologies GR-20 standards for environmental and mechanical performance
- 300 pound/1335 N Maximum Rated Cable Load (MRCL)
- Available with OFS application-specific fibers, including AllWave[®] Zero Water Peak (ZWP) Single-Mode Fiber, TrueWave[®] RS Low Water Peak (LWP) Single-Mode Fiber and Multimode Fibers

Specifications			
Fiber Count:	2-72	74-96	98-144
Cable Outer Diameter in. (mm):	0.29 (7.3)	0.34 (8.7)	0.45 (11.3)
Cable Weight lb/kft (kgm/km):	30.2 (45)	45 (67)	73.8 (110)
Performance Standard			
Tested per Applicable Requirements of ANSI/ICEA S-87-640, TIA/EIA 455 (IEC 60794) and Telcordia GR-20-CORE Issue 2			
Handling			
Minimum Bend Radius, With Load:	20 x OD*		
Minimum Bend Radius, With No Load:	10 x OD		
Minimum Bend Radius, Storage Coils:	10 x OD		
Maximum Rated Cable Load (MRCL):	300 lbf (1335 N)		
Maximum Long Term Load	90 lbf (400N)		
Temperature	Installation: -15°C to 60°C (5°F to 140°F) Operation: -40°C to 70°C (-40°F to 158°F) Storage: -40°C to 70°C (-40°F to 158°F)		
* OD = Outer Diameter of Cable			
Note: Due to the small cable diameters involved, OFS does not recommend that the buffer tubes for MiDia FX PLUS Cable be express routed at access points.			

MiDia FX PLUS Cable Ordering Information			
Example: AT-3BE43ST-NNN¹			
Part Number: AT- <u>S1</u> <u>S2</u> <u>SF</u> <u>S3</u> <u>S4</u> <u>S5</u> <u>S6</u> - <u>NNN</u>			
S1 = Fiber Selection	SF = Fiber Type	S5 = Core Type	
3 = 1310/1550 nm (AllWave® ZWP Fiber)	E = AllWave ZWP	S = 1.9 mm Gel-Filled Buffer Tubes	
6 = 1550 nm (TrueWave® RS LWP Fiber)	6 = TrueWave RS LWP		
R = 850/1300 nm (Multimode)	9 = 62.5/125 µm Multimode	S6 = Fibers Per Tube	
	2 = 50/125 µm Multimode	T = 12 fibers	
S2 = Fiber Transmission Performance	S3 = Sheath Construction	NNN = Fiber Count = 002 to 144	
B = 0.35/0.31/0.27/0.25/0.27 dB/km @ 1310/1385/1490/1550/1625 nm (AllWave ZWP)	4 = MiDia FX PLUS		
2 = 0.25 dB/km @ 1550 nm (TrueWave RS LWP)	S4 = Tensile Load		
U = 3.4/1.0 dB/km and 200/500 MHz-km @ 850/1300 nm (62.5 µm Multimode)	3 = 300 lb (1335 N)		
K = 2.5/0.7 dB/km and 500/500 MHz-km @ 850/1300 nm (50 µm Multimode)			
¹ Part Number shown is for standard AllWave ZWP attenuation and standard cable print: Maximum AllWave ZWP attenuation: 0.35/0.31/0.27/0.25/0.27 dB/km (1310/1385/1490/1550/1625 nm) Standard Print, example (MiDia FX PLUS Cable): OFS OPTICAL CABLE AT-3BE43ST-NNN [MM-YY] [HANDSET SYMBOL] [NNN] F [SERIAL #]			
² Contact OFS Order Management for information on other cable variations, including additional fiber types, attenuation, and custom cable print.			



Use electronic files, available at:
www.ofsoptics.com - Use less paper



AllWave, DryBlock, MiDia, and TrueWave are registered trademarks of OFS FITEL, LLC.

For additional information please contact your sales representative. You can also visit our website at www.ofsoptics.com or call 1-888-fiberhelp (1-888-342-3743) from inside the USA or 1-770-798-5555 from outside the USA.

OFS reserves the right to make changes to the prices and product(s) described in this document at any time without notice.

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OFS
Marketing Communications
osp-131-0809



Attachment B.4

CFON Communications Conduit Specification

General

The properties and dimensions shall be in accordance with ASTM F 2160 standard specification for "Solid Wall High Density Polyethylene (HDPE) Conduit Based on Controlled Outside Diameter (OD)". Suggested standards for various options like pull tape installation, color coding and pre-lubrication of the conduit are also addressed.

1.0 Materials

- 1.1 Conduit shall be made from high-density polyethylene (HDPE). The HDPE shall meet or exceed the properties listed in ASTM D-3350 for minimum cell classification of 334470 C (black minimum 2% carbon black) or E (color with UV stabilizer). Properties are listed below in Table 1.1

TABLE 1-1 Material Requirements			
Cell	Properties	Requirements	Standards
(3)	Density	0.940 - 0.955	ASTM D 792 or 1505
(3)	Melt Flow Index (190/2.160)	0.4 -0.15 g/10 minutes max	ASTM D 1238
(4)	Flexural Modulus	80,000 psi minimum	ASTM D 790
(4)	Tensile Strength at Yield	3000 psi minimum	ASTM D 638
(7)	Environmental Stress Crack Resistance	Condition B, F10 Max, 10% Igepal, 96 hrs, minimum	ASTM D 1693
(0)	Hydrostatic Design Basis	Not Pressure Rated	ASTM D 2837
-	Brittleness Temperature	-60 degrees C	ASTM D 746
-	Elongation	400% minimum	ASTM D 638
C	Class E	Colored with UV Stabilizer	ASTM D 3350
E	Class C	Minimum 2% Carbon Black	ASTM D 3350

- 1.2 If certified test reports are required by the purchaser they shall be requested and agreed to at the time of purchase. Certification shall be provided in accordance with this specification unless changes are agreed and authorized in writing by the seller.
- 1.3 A run code will be printed on each production lot that is traceable to the resin used in the manufacture of the conduit.
- 1.4 Clean rework material from the manufacturers own production may be used, either alone or blended with virgin compound. The finished conduit made by using a portion of rework material shall meet all of the material and physical requirements of this specification.

2.0 Dimensions and lengths

- 2.1 Conduit shall be SDR-11 (Standard Dimension Ratio 11)
- 2.2 Nominal outside diameter (OD) shall be 1.660 in, OD tolerance +/- 0.008.
- 2.3 Minimum wall thickness shall be 0.151 in.
- 2.4 The Ovality shall be measured as defined in ASTM D 2122 and calculated as follows:

$$\% \text{ Ovality} = \frac{\text{Maximum OD} - \text{Minimum OD}}{\text{Average OD}} \times 100$$

Maximum allowable ovality of 3" and smaller conduit shall be less than 10% when conditioned in accordance and measured in accordance with the above formula.

3.0 FRICTION REDUCTION

- 3.1 Friction-reducing ribs and lubricants shall be available for use in empty conduit for reducing the coefficient of friction between the cable and the inner wall of the conduit.
- 3.2 Internal spiral ribs for reducing friction shall oscillate to assure that no unidirectional twist force is introduced during the cable installation and to maximize friction reduction.
- 3.3 Internal ribs shall be no greater than 0.035" in height and spaced apart no more than 0.20 inch.
- 3.4 Interior lubrication:
 - 3.4.1 Interior lubrication shall be compatible with all cable jacket materials.
 - 3.4.2 The lubricant shall be compatible with the conduit materials.
 - 3.4.3 Where conduit is to be factory lubricated the lubrication shall be a permanent silicone emulsion that will not lose its lubricity over time.

4.0 Surface Appearance and Workmanship

- 4.1 There shall be no foreign particles embedded into the plastic surface as a result of the extrusion process.
- 4.2 There shall not be any surface distortions that penetrate either internally or externally into the conduit wall greater than 10% of the minimum wall thickness.
- 4.3 There shall not be any holes, visible cracks or defects that could cause damage or compromise the physical strength of the conduit.

5.0 Required and Optional Conduit Markings

- 5.1 The required markings on the conduit shall be legible, spaced at intervals not to exceed 5 ft. and include:
 - ASTM (letter-Number designation) or applicable standard and material designation HDPE
 - Trade size
 - Type, wall thickness, schedule or dimensional ratio
 - Manufacturer's name or trademark & Plant location
 - Manufacturing run or lot code from which date can be determined
 - Month & year of manufacture
 - The word "Aerial" or "UV" for above ground applications
 - Sequential meter or foot markings with an accuracy of +/-2% shall be made available upon request. Note accuracy should not be confused with cut length tolerances. Start and finish footage markings shall be noted on the product identification tags.
- 5.2 Optional surface printing
 - 5.2.1 Industry specific markings such as telephone symbols for communication or lightning bolt symbol can be used to indicate conduit is a carrier of electrical conductor(s), etc.
 - 5.2.2 The print line may include special markings as agreed to between the manufacturer and buyer.

6.0 Conduit Color Identification

- 6.1 Color designations for the conduit shall be accomplished by using one of three methods; complete wall coloring, longitudinally extruded color stripes or a co-extruded color shell.
- 6.2 Most colors are available, typically orange is used by communication companies, red by power utilities and yellow is no longer available for conduit applications as it is used exclusively for gas pipe.
- 6.3 The extrusion resins used for color striping or jacketing conduit shall be a co-extruded part of the major wall and shall be materials that will not degrade the conduit wall's performance.
- 6.4 There shall be a minimum of 3 stripes spaced at approximately equal distance apart longitudinally co-extruded as part of the conduit wall. The stripes shall have a depth of $.025" \pm .005"$ and of sufficient width and color intensity to be seen from a distance of 20 feet.
- 6.5 The co-extruded shell shall be uniform in color and thickness, as commercially practical, for the entire circumference of the conduit. The thickness of the shell shall be $.025" \pm .005"$

7.0 Packaging

7.1 Coilable conduit shall be available on plastic steel or wooden reels or as individual coils

7.1.1 The minimum drum diameter shall be consistent with the following recommendation: Drum Diameter \leq (Duct Diameter/.0555).

7.1.1.1 Coils shall be shipped on specially designed cradle pallets to protect the outer wraps from damage.

7.1.1.2 The eye of the coil shall be facing to the side to facilitate field loading onto coil handling equipment.

7.2 Both the inside and outside ends of the conduit shall be capped to protect against water and debris entering the conduit during shipment and storage.

SMOOTHWALL

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800-847-7661



FEATURES:

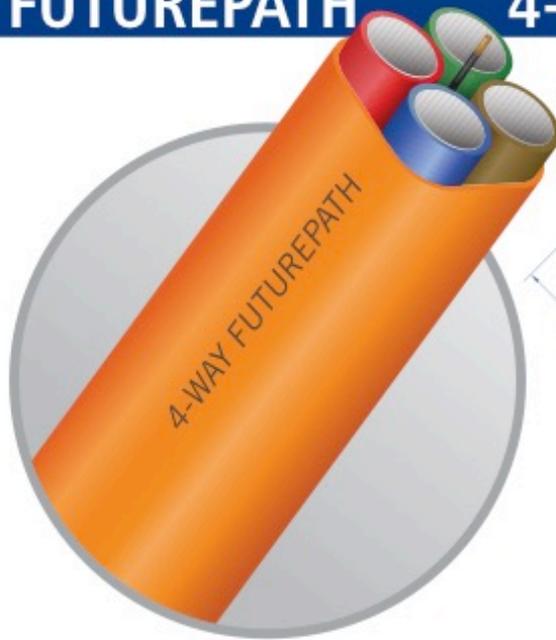
- Available from ½" to 16" diameters
- Manufactured from flexible HDPE, makes gradual bends without special equipment
- Continuous lengths reduce joining costs
- Excellent low temperature properties, allows installation in cold climates
- Outstanding long term cable protection from shifting ground, rock and root impingement
- Provides a permanent pathway, simplifies future cable repairs or replacement
- Available with UV protectant for aerial/lashed placement
- UL Listing Available from ½" - 6" for SDR 13.5, SCH 40 and SCH 80

INSTALLATION APPLICATION:	Existing Conduit, Plow, Direct Burial, Aerial
MARKET APPLICATION:	 Telecom  CATV  Enterprise  C&I  Energy  DOT
COLOR/STRIPE:	 C (Custom)
OPTIONS:	<p>FOOTAGE MARKINGS Sequential foot or meter markings. Custom print streams available.</p> <p>SILICORE™  SILICORE is co-extruded with the tough HDPE jacket creating a super, slick permanent lining. SILICORE lined ducts allow for higher speed cable jetting and longer cable pulls.</p> <p>PREINSTALLED TAPE Factory pre-installed Bull-Line™ Pull Tape with EVEN-LOAD™, ensures extra slack at any access point throughout the reel. Available 500lb - 6,000lb tensile strength or locatable.</p> <p>PREINSTALLED CABLE Specify single or multiple cables to be factory pre-installed. Cable types: Service Drops, Fiber, Coaxial, 600Volt Al, 600 Volt Cu, Medium Voltage.</p>

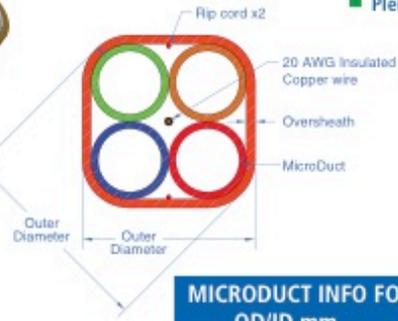
FUTUREPATH

4-WAY

TL9000



Available Materials:
 ✓ HDPE ● Riser Rated
 ■ Plenum ★ LSHF



MICRODUCT INFO FOR 4-WAY:	
OD/ID mm	MIN ID mm/in
22/16	15.5/0.61
18/14	13.6/0.54
16/13	12.8/0.50
16/11.76	11.54/0.45
14/10	9.8/0.39
12.7/10	9.8/0.39
10/8	7.9/0.31
8.5/6	5.9/0.23
5/3.5	3.4/0.13

OD/ID (mm)	Nom OD (in.)	Over Sheath (in)	Weight (#/ft)	Bend Radius Supported (in.)	Bend Radius Unsupported (in.)	Safe Working Pull Strength (lbs)
22 / 16	1.78/2.13	0.050	0.531	18 / 22	36 / 44	2,840
18 / 14	1.56 / 1.86	0.070	0.417	16 / 19	32 / 38	2,243
18 / 14 (Thicker OS)	1.62 / 1.91	0.100	0.482	16 / 20	32 / 40	2,598
16 / 13	1.39 / 1.65	0.070	0.308	14 / 17	28 / 34	1,658
16 / 13 (Thicker OS)	1.45/1.71	0.100	0.370	15 / 17	30 / 34	1,996
16 / 13 (Flat)	0.73 / 2.62	0.050	0.290	8 / 26	16 / 52	1,516
16 / 11.76	1.40 / 1.66	0.070	0.376	14 / 17	28 / 34	2,015
16 / 11.76 (Thicker OS)	1.46/1.72	0.100	0.439	15 / 17	30 / 34	2,359
14 / 10	1.25/1.47	0.070	0.320	12 / 15	24 / 30	1,709
12.7 / 10	1.14/1.34	0.070	0.236	12 / 14	24 / 48	1,260
12.7 / 10 (Thicker OS)	1.20 / 1.41	0.100	0.289	12 / 14	24 / 28	1,549
12.7 / 10 (Flat)	0.060 / 2.09	0.050	0.223	6 / 21	12 / 42	1,189
10 / 8	0.87 / 1.04	0.040	0.120	9 / 11	18 / 21	635
10 / 8 (Thicker OS)	0.93 / 1.09	0.070	0.157	10 / 11	20 / 22	837
8.5 / 6 (No Locate)	0.79 / 0.93	0.060	0.136	8 / 10	16 / 20	733
5 / 3.5 (No Locate)	0.48 / 0.56	0.040	0.050	5 / 6	10 / 12	276

Unsupported Bend Radius guidelines should be followed during the installation process. The Supported Bend Radius are post-installation measurements.



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Attachment B.5

CFON Testing Requirements

Testing Requirements

OTDR Test Procedure on Distribution Fibers - (Figure 1)

1. Test all fibers between the OLT (Optical Line Termination which will be at the Central Office, Remote or Hub) and the Network Interface Device Optical (NIDO) in both directions at 1310nm & 1550nm. Along with the trace, test results must show a summary of all events (splices, connectors, launch & termination fiber, etc.) with loss & reflection for each event. A "launch fiber" 1000m in length is to be used such that all connectors & splices in the fiber run can be accurately captured. The same length fiber is to be used in both directions. A terminating fiber with a length between 500m & 900m shall be attached at the terminating end of all forward OTDR traces and used as the launch fiber for the reverse trace. See Figure 1.
2. For all unassigned fibers a forward trace is required along with verification to the end of the cable.
3. Test Results:
 - A. Trace data files shall be stored in .trc format.
 - B. OTDR test files results shall be named in accordance with Table 1 in order to clearly identify the cable, direction of trace, fiber and wavelength.
 - C. Length of launch & terminating fiber is to be recorded (OTDR trace) and provided with the test results so the reviewer will know what length launch & termination fiber was utilized during testing.
 - D. A bidirectional trace file is required to accurately assess splice losses. (Avg. of forward & reverse trace)
 - E. Traces shall be shot at one pulse width that is stable enough for the longer traces and short enough to provide clarity and distinction on the shorter ones. A pulse width of 100ns or equivalent appears to work well with the required launch & termination fiber lengths along with the fiber being tested.
 - F. Test result need to be provided electronic form, CD or USB, with files clearly labeled as to location, route, direction, fiber & wavelength.

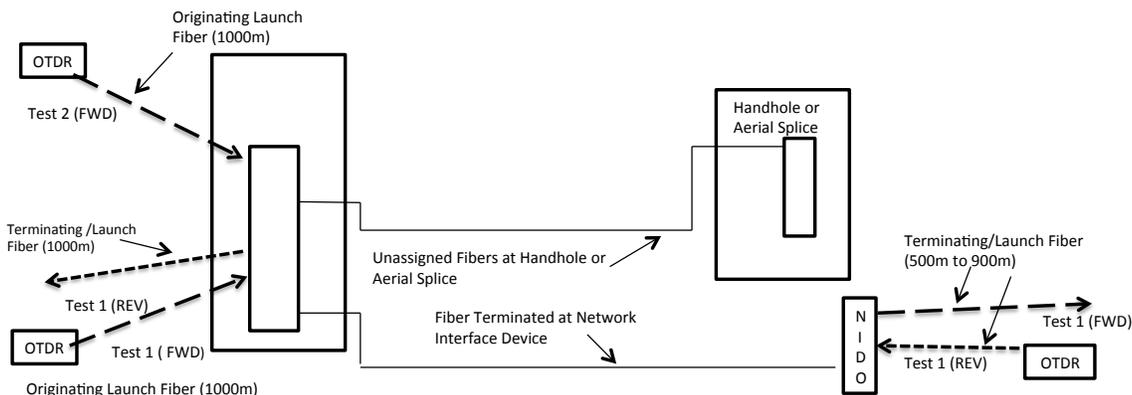


Figure 1 – OTDR Testing on Distribution Fiber

Attachment B.5

CFON Testing Requirements

Testing Requirements

OTDR Test Procedures on Feeder & Trunk Fibers

1. Test all fibers between Wire Centers (Central Office or Remote) and the Hub Splitter in both directions at 1310nm & 1550nm. Along with the trace, test results should show a summary of all events (splices, connectors, etc.) with loss & reflectance for each event. A "launch fiber" 1000m in length is to be used such that all connectors & splices in the fiber run can be accurately captured. A terminating fiber with a length between 500m & 900m shall be attached at the terminating end of all forward OTDR traces and used as the launch fiber for the reverse trace. See Figure 2.
2. For all unassigned fibers a forward trace is required along with verification to the end of the cable.
3. Test Results:
 - A. Trace data shall be stored in .trc format.
 - B. OTDR test file results shall be named in accordance with Table 1 in order to clearly identify the cable, direction of trace, fiber and wavelength.
 - C. Length of launch & termination fiber is to be recorded (OTDR trace) and provided with the test results so the reviewer will know what length launch & termination fiber was utilized during testing.
 - D. A bidirectional trace file is required to accurately assess splice losses. (Avg. of forward & reverse trace)
 - E. Traces shall be shot at one pulse width that is stable enough for the longer traces and short enough to provide clarity and distinction on the shorter ones. A pulse width of 100ns or equivalent appears to work well with the required launch & termination fiber lengths along with the fiber being tested.
 - F. Test result need to be provided electronic form, CD or USB, with files clearly labeled as to location, route, direction, fiber & wavelength.

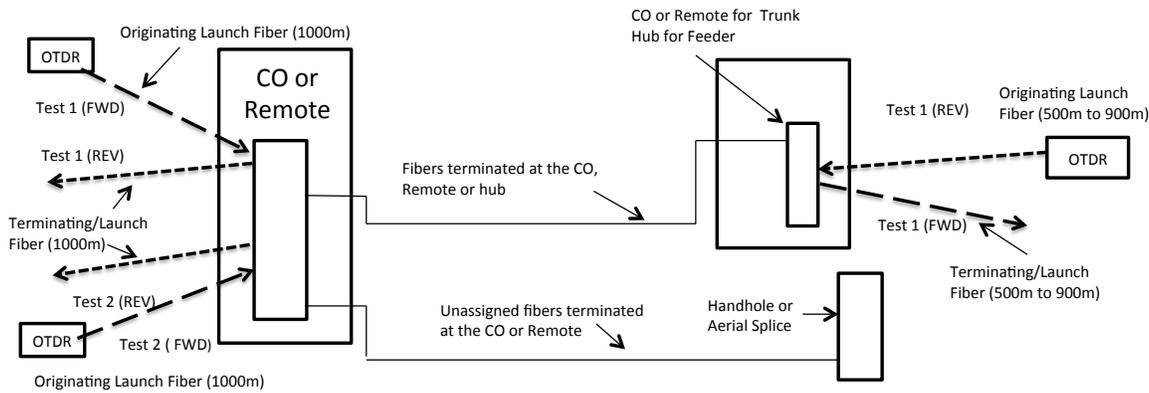


Figure 2 – OTDR Testing on Feeder and Trunk Fibers

Attachment B.5

CFON Testing Requirements

Testing Requirements

Power Level Requirements

1. Run bidirectional power loss tests at both 1310nm & 1550nm from the termination panel in the CO or Remote to the panel at the CO or Remote at the other when testing trunk fibers.
2. Run bidirectional power loss tests at both 1310nm & 1550nm from the CO or Remote to the Hub when testing feeder fibers.
3. Run bidirectional power loss tests at both 1310nm & 1550nm from the Remote or Hub to the NIDO when testing distribution fibers.
4. For each fiber at both 1310nm & 1550nm there will be a loss reading A→B, B→A and the average loss.

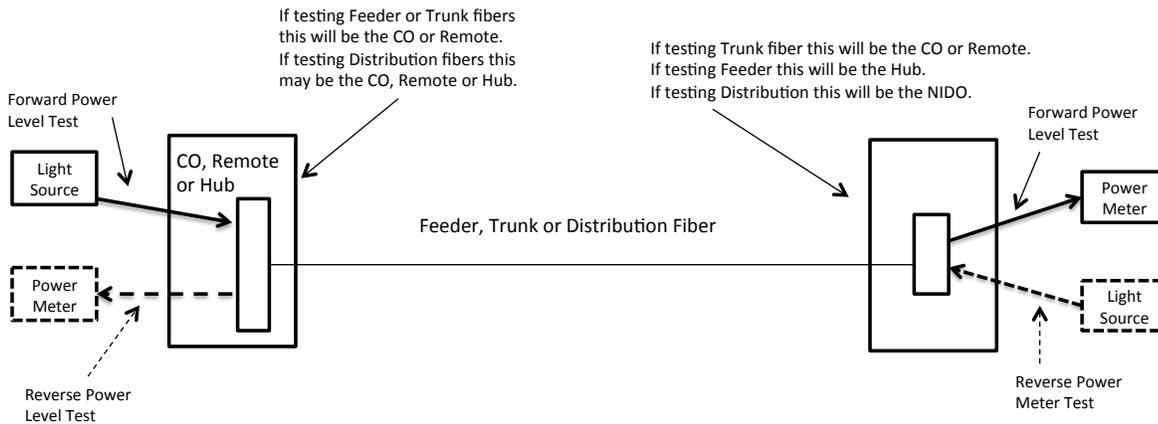
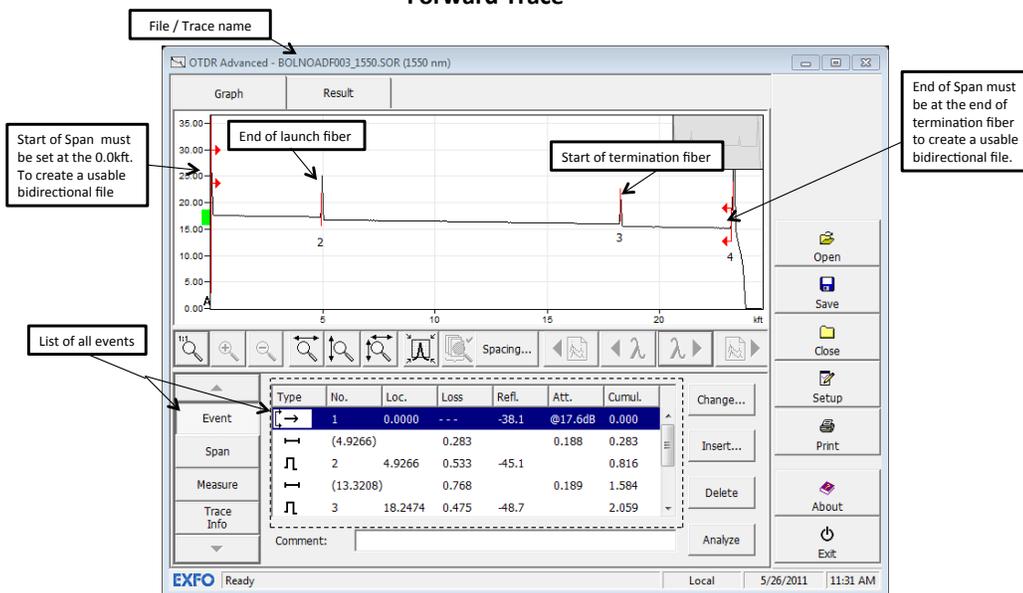


Figure 3 – Power Level Testing on Feeder, Trunk and Distribution Fibers

Attachment B.5 CFON Testing Requirements

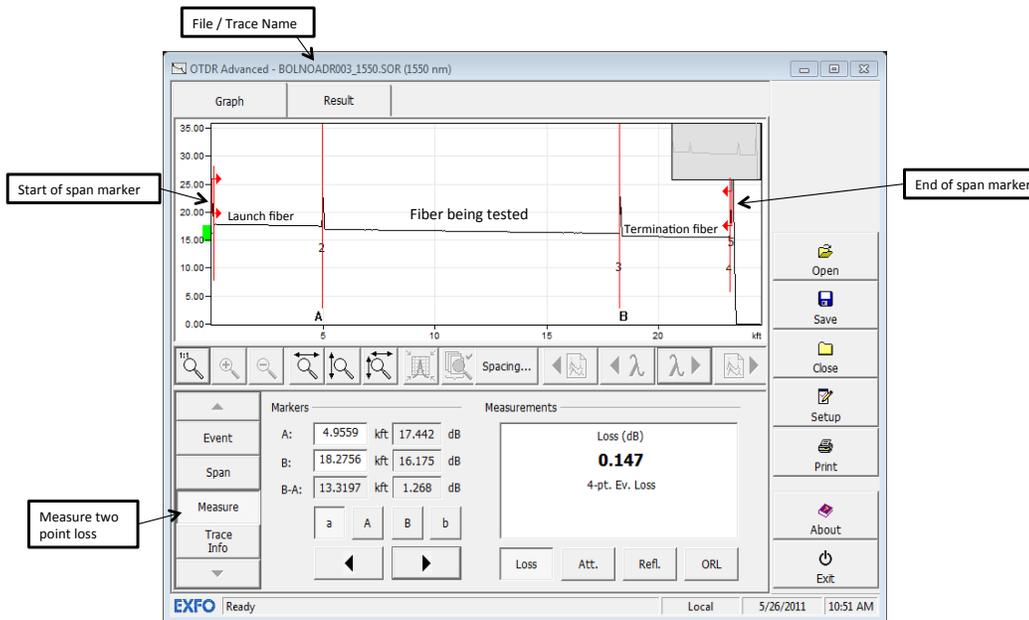
Forward Trace

Testing Requirements



Reverse Trace

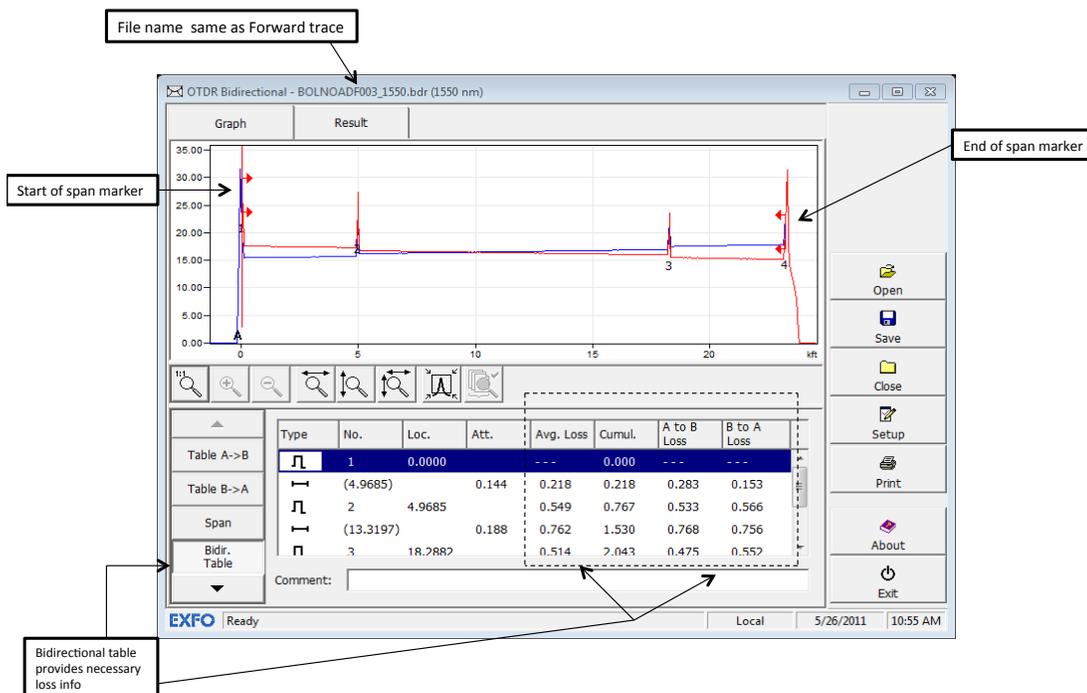
Test Procedures



Attachment B.5 CFON Testing Requirements

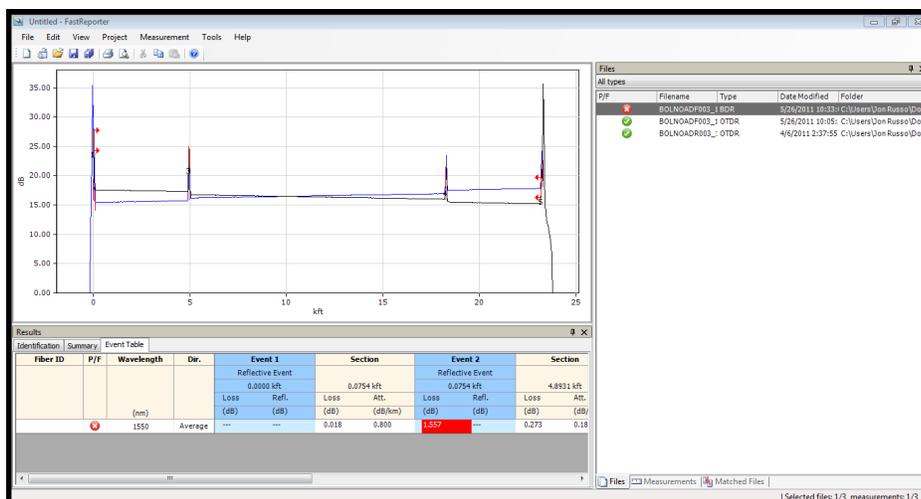
Bidirectional Trace

Test Procedures



Test Procedures

Bidirectional Document in FastReporter by EXFO



Attachment C CFON Anchor Institutions (CAIs)

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>STREET ADDRESS</u>	<u>CITY, STATE, ZIP CODE</u>
	<u>TOWN GOVERNMENT SECTOR</u>		
1	CHESTERTON MUNICIPAL COMPLEX	1490 BROADWAY	CHESTERTON, IN 46304
2	CHESTERTON FIRE DEPARTMENT	702 BROADWAY	CHESTERTON, IN 46304
3	CHESTERTON POLICE DEPARTMENT	790 BROADWAY	CHESTERTON, IN 46304
4	CHESTERTON TOWN HALL	726 BROADWAY	CHESTERTON, IN 46304
5	TOWN OF CHESTERTON UTILITY	300 N LEAGUE LN	PORTER, IN 46304
6	CHESTERTON UTILITY	609 GRANT ST A&B	CHESTERTON, IN 46304

Attachment D
Town of Chesterton Businesses & Locations
(Based on Current Town Business Registration)

See next four pages

BUSINESS NAME	BUSINESS ADDRESS	BUSINESS ADDRESS 2	TYPE OF BUSINESS
1ST SOURCE BANK	1500 S CALUMET RD	CHESTERTON, IN 46304	BANK
1ST SOURCE BANK	800 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	
ABL HOLDINGS, LLC	119 S CALUMET	CHESTERTON, IN 46304	
ABOVE BOARD CONSTRUCTION	221 N CALUMET RD	CHESTERTON, IN 46304	CONSTRUCTION
ACCUCAST PRODUCTS, LLC	1631 PIONEER TRAIL	CHESTERTON, IN 46304	CAST STONE FABRICATOR
ACCURATE HEARING AID SERVICES, LLC	542 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	LICENSED HEARING AID DEALER
ADS LOGISTICS CO, LLC	116 E 1100 N	CHESTERTON, IN 46304	TRANSPORTATION, MAINTENANCE SHOP AND CORPORATE OFFICE
ADVANCE AMERICA #3321	757 INDIAN BOUNDARY RD STE 5	CHESTERTON, IN 46304	LENDER & PRECIOUS METALS DEALERS
ADVANCE AUTO PARTS #6363	801 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	AUTOMOTIVE RETAIL
ALBERT PHOTOGRAPHICS	105 S CALUMET	CHESTERTON, IN 46304	PHOTOGRAPHY
ALLEGIOUS CREDIT UNION	315 BROADWAY	CHESTERTON, IN 46304	CREDIT UNION
ALLSAFE STORAGE, LLC	111 BROWN AVE	CHESTERTON, IN 46304	STORAGE
ALLSTATE INSURANCE - ELAINE MORRIS	711-1 PLAZA DR	CHESTERTON, IN 46304	INSURANCE
ALLURE TAN & SPA	371 INDIAN BNDRY RD #3	CHESTERTON, IN 46304	TANNING SPA
AMERICAN LEGION POST #170	798 WABASH	CHESTERTON, IN 46304	NON-PROFIT
AMERIPRISE FINANCIAL	364 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	FINANCIAL INVESTMENT ADVICE & PLANNING
AMT COMPUTERS	540 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	COMPUTER SALES & SERVICE
ANTON INSURANCE AGENCY, INC.	155 S CALUMET RD	CHESTERTON, IN 46304	FULL SERVICE INSURANCE AGENCY
APPAREL THAT WORKS!	175 E US HWY 20, UNITS 3-7	CHESTERTON, IN 46304	RETAIL
APPLEBEE'S	791 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	RESTAURANT
AQUA SPA NAILS	761 INDIAN BDRY RD STE 2	CHESTERTON, IN 46304	NAIL SALON
ARBY'S	706 PLAZA DR	CHESTERTON, IN 46304	FAST FOOD RESTAURANT
ARK OF THE DUNES ANIMAL HOSPITAL	135 E 1100 N	CHESTERTON, IN 46304	VETERINARY CLINIC/HOSPITAL
ARTSMITH STUDIO	325 CALUMET RD	CHESTERTON, IN 46304	ART STUDIO
ASHLEY'S JEWELRY BY DESIGN	221 BROADWAY	CHESTERTON, IN 46304	RETAIL JEWELRY
ASPEN PINES APARTMENTS	506 W 1100 N	CHESTERTON, IN 46304	APARTMENT RENTAL
AT HOME QUALITY CARE	751 E PORTER AVE STE 9	CHESTERTON, IN 46304	HOME HEALTH CARE
AUCTION BAY ONLINE	107 S CALUMET RD	CHESTERTON, IN 46304	SELL FOR OTHERS ON EBAY
AUTO CLINIC, INC.	1002 S CALUMET RD	CHESTERTON, IN 46304	AUTOMOTIVE
AUTOZONE #4511	772 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	RETAIL AUTO PARTS & ACCESSORIES
B & B DEVELOPERS (BENNETS)	1050 BROADWAY	CHESTERTON, IN 46304	RENT STORAGE UNITS
BANTER FLOORS & MORE, INC (SCOTT POSTMA)	206 N CALUMET (2350 ARNDT ST)	CHESTERTON, IN 46304	RETAIL FLOORING STORE
BARK OF THE TOWN	207 BROADWAY	CHESTERTON, IN 46304	DOG GROOMING FACILITY
BARRINGTON BRIDGE APARTMENTS	120 ABBEY LANE	CHESTERTON, IN 46304	APARTMENT HOUSING
BARTRONICS	112 S 12TH ST	CHESTERTON, IN 46304	PROFESSIONAL TWO-WAY RADIO SALES & SERVICE
BEDROCK & BOULDERS, INC	164 E US HWY 20	CHESTERTON, IN 46304	LANDSCAPE SUPPLY
BELIEVE ATHLETIC GEAR LLC	1094 LOMBARDY CT	CHESTERTON, IN 46304	ONLINE APPAREL SALES
BENNETT RENTALS & BENNETT STORAGE, INC	175-1 E US HWY 20	CHESTERTON, IN 46304	RENT STORAGE UNITS
BERGLUND CONSTRUCTION	126 VENTURI DR	CHESTERTON, IN 46304	CONSTRUCTION CO.
BEST WESTERN INDIAN OAK	558 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	HOTEL/MOTEL
BHARATHI & CO LLC	425 SAND CREEK DR	CHESTERTON, IN 46304	PROFESSIONAL
BID OF HISTORY AUCTIONS	1585 S CALUMET RD	CHESTERTON, IN 46304	AUCTION HOUSE
BIG ROCK MANAGEMENT CORP	900 BROADWAY STE B	CHESTERTON, IN 46304	MULTIFAMILY PROPERTY MANAGEMENT
BLEU LOTUS YOGA	362 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	YOGA STUDIO
BMO HARRIS BANK	502 E 1100 N	CHESTERTON, IN 46304	FINANCIAL INSTITUTION
BOB EVANS RESTAURANT #499	475 GATEWAY BLVD	CHESTERTON, IN 46304	RESTAURANT
BOYS AND GIRLS CLUB OF PORTER COUNTY - DUNELAND CLUB	521 W 1100 N	CHESTERTON, IN 46304	PRIVATE, NOT-FOR-PROFIT, YOUTH SERVICE ORGANIZATION
BRAINSTORM COMPUTERS, INC	421 W INDIANA AVE	CHESTERTON, IN 46304	MANAGED IT SERVICES & COMPUTER REPAIR
BRANDS THAT STAND	PO BOX 944	CHESTERTON, IN 46304	CONSULTING BUSINESS
BRIAN C. MCGUIE DDS, PC	700 S CALUMET RD STE 2	CHESTERTON, IN 46304	DENTAL OFFICE
BROADWAY AMSTAR	860 BROADWAY	CHESTERTON, IN 46304	FILLING STATION & CAR WASH
BROADWAY SOFT WASH	113 N 8TH ST	CHESTERTON, IN 46304	CAR WASH
BROADWAY WINE & SPIRIT	804 BROADWAY	CHESTERTON, IN 46304	RETAIL LIQUOR STORE
BROSS SELF STORAGE / BROSS REALTY	315 S CALUMET RD	CHESTERTON, IN 46304	REAL ESTATE/STORAGE
BROWN'S MINI STORAGE, LLC	P.O. BOX 583	CHESTERTON, IN 46304	SELF STORAGE
BT AQUATICS	247 S 21ST ST	CHESTERTON, IN 46304	ONLINE SALTWATER CORAL BUYING AND SELLING
BULLETTES HAIR SALON	141 S CALUMET RD	CHESTERTON, IN 46304	HAIR SALON
BURGER KING #5158	535 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	FAST FOOD RESTAURANT
BUTLER WINERY	401 BROADWAY	CHESTERTON, IN 46304	WINE TASTING & SALES
BYRON'S BARBER SHOP	121 S CALUMET RD	CHESTERTON, IN 46304	BARBER SHOP
C & J ELECTRICAL CONSTRUCTION	1608 FOX POINT DR	CHESTERTON, IN 46304	ELECTRICAL CONSTRUCTION & REMODELING
CALUMET MARATHON	400 S CALUMET RD	CHESTERTON, IN 46304	GAS WITH CONVENIENCE STORE
CAMS 4X4	1001 BROADWAY	CHESTERTON, IN 46304	AUTOMOTIVE SHOP
CARQUEST OF CHESTERTON	419 BROADWAY	CHESTERTON, IN 46304	CARPARTS
CEC CONTROL	100 BROWN AVE	CHESTERTON, IN 46304	ENGINEERING CONTROLS
CENTIER BANK	1600 SOUTH CALUMET	CHESTERTON, IN 46304	BANK
CENTIER BANK	103 BROADWAY	CHESTERTON, IN 46304	BANK
CENTIER BANK	104 GRANT STREET	CHESTERTON, IN 46304	BANK
CHASE BANK	109 BROADWAY	CHESTERTON, IN 46304	BANK
CHASE BANK	150 INDIANA	CHESTERTON, IN 46304	BANK
CHELLES	211 BROADWAY	CHESTERTON, IN 46304	BOUTIQUE
CHESTERTON UNITED METHODIST CHURCH	434 S 2ND ST	CHESTERTON, IN 46304	RELIGIOUS
CHESTERTON ART CENTER	115 S 4TH ST	CHESTERTON, IN 46304	EDUCATION, GALLERY & SALES
CHESTERTON BICYCLE STATION, INC	116 S 4TH ST	CHESTERTON, IN 46304	BICYCLE SALES & SERVICE
CHESTERTON CAKE SHOPPE	139 S CALUMET	CHESTERTON, IN 46304	CAKE SHOP
CHESTERTON DONUT INC. (DUNKIN DONUTS)	701 PLAZA DR	CHESTERTON, IN 46304	COFFEE, DONUT & SANDWHICH SHOP
CHESTERTON FEED & GARDEN CENTER, INC	400 LOCUST ST	CHESTERTON, IN 46304	RETAIL GARDEN, GIFTS, ETC
CHESTERTON HEALTH AND EMERGENCY CENTER	770 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	HEALTHCARE EMERGENCY CENTER, LAB, ETC.
CHESTERTON KFC/A&W	1877 CENTER ST	PORTAGE, IN 46368	QUICK SERVICE RESTAURANT
CHESTERTON MEDICAL CENTER	650 DICKINSON RD	CHESTERTON, IN 46304	HEALTH CARE
CHESTERTON PHYSICAL THERAPY, INC	425 SAND CREEK DR. N SUITE C	CHESTERTON, IN 46304	HEALTH CARE
CHESTERTON PRINTING CO	119 BROADWAY	CHESTERTON, IN 46304	SIGN, APPAREL, PROMOTIONAL ITEM PRINTING
CHESTERTON STONE & LANDSCAPE / ACCU-TRIM LAWN CARE SERVICES	1515 W INDIANA AVE	CHESTERTON, IN 46304	LANDSCAPE & PROPERTY MAINTENANCE
CHESTERTON TRAVEL	109 E PORTER AVE	CHESTERTON, IN 46304	TRAVEL AGENCY
CHESTERTON TRIBUNE, INC.	193 S CALUMET RD (PO BOX 919)	CHESTERTON, IN 46304	NEWSPAPER PUBLISHING
CHURCH OF CHRIST	219 S 15TH ST	CHESTERTON, IN 46304	CHURCH
CINDY'S DAY CARE	1117 MORNINGSIDE RD	CHESTERTON, IN 46304	DAY CARE
CITY ELECTRIC SUPPLY #426	1541 S CALUMET RD	CHESTERTON, IN 46304	ELECTRICAL EQUIPMENT
CMS TECHNOLOGIES, INC	147 NORTH JACKSON BLVD	CHESTERTON, IN 46304	CUSTOM INJECTION PLACTIC HOLDING
COCO'S CANINE CABANA	1601 S CALUMET AVE	CHESTERTON, IN 46304	DOGGIE DAYCARE & BOARDING
COFFEE CREEK STUDIOS AND ART GALLERY	109 S CALUMET	CHESTERTON, IN 46304	ART GALLERY
COLEMAN INSULATION COMPANY	890 WABASH AVE	CHESTERTON, IN 46304	MECHANICAL INSULATION CONTRACTOR
CONTINUITY, LLC	1437 CALAIS CT	CHESTERTON, IN 46304	BUSINESS CONSULTANT
CROCKER BIBLE BAPTIST CHURCH	275 W 1050 N	CHESTERTON, IN 46304	CHURCH
CULVER'S OF CHESTERTON	3000 MATSON DR	CHESTERTON, IN 46304	FAST FOOD RESTAURANT
CURVES	1587 S CALUMET RD STE B	CHESTERTON, IN 46304	WOMENS FITNESS FACILITY
CUTS & SHAVES BARBER SHOP	1050 BROADWAY STE 38	CHESTERTON, IN 46304	BARBER SHOP
CYS/PHARMACY #6910 ATTN. KEVIN V. DANIEL LICENSING COORDINATOR	505 E 1100 N	CHESTERTON, IN 46304	RETAIL/PHARMACY
DANNY O'S	1050 S CALUMET RD	CHESTERTON, IN 46304	RESTAURANT/PUB
DATA BANK	1040 WABASH AVE	CHESTERTON, IN 46304	DOCUMENT MANAGEMENT
DATAGRAPHIC PRINTING & COPYING	132 S CALUMET RD	CHESTERTON, IN 46304	OFFSET PRINTING, COPYING, FAXING...
DAVID E. BAUM LAW OFFICE, PC	324 S CALUMET RD.	CHESTERTON, IN 46304	PROFESSIONAL LAW OFFICE
DAVIES & ASSOCIATES LAND SURVEYING	1105 N 100 E	CHESTERTON, IN 46304	LAND SURVEYING
DAVITA	711 PLAZA DR	CHESTERTON, IN 46304	HEALTH CARE, DIALYSIS
DEANS TIRE & LUBE, INC	1603 S CALUMET ST	CHESTERTON, IN 46304	TIRE AND LUBE REPAIR
DEER RUN APARTMENTS	111 W TAYLOR ST	CHESTERTON, IN 46304	APARTMENT BUILDING/PROPERTY MANAGEMENT

DETAILS DRY CLEANING	105 W PORTER AVE	CHESTERTON, IN 46304	DRY CLEANER
DI LA BELLA	320 S CALLUMET	CHESTERTON, IN 46304	HAIR SALON & SPA
DIDELOT-HOLLINGSWORTH ASSOCIATES	101 W MORGAN	CHESTERTON, IN 46304	PSYCHOTHERAPY PRACTICE
DISAPPEAR GEAR	1050 BROADWAY STE 2	CHESTERTON, IN 46304	OUTSIDE GEAR, FIRE ARMS ALES, WEAPONS & SAFETY CLASSES
DOG DAYS ICE CREAM	123 S CALLUMET	CHESTERTON, IN 46304	ICE CREAM PARLOR
DOLLAR MART AND MORE, INC	836 BROADWAY	CHESTERTON, IN 46304	GROCERY & KITCHENWARE
DON JOHNSON MARTIAL ART	535 BROADWAY	CHESTERTON, IN 46304	MARTIAL ARTS
DORTHY A. SEBERT, CPA, PC	800 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	CPA OFFICE
DQ GRILL & CHILL	552-1 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	FOOD/ICE CREAM
DR. JOSEPH BRETT	209 SOUTH CALLUMET RD STE 7	CHESTERTON, IN 46304	ORTHODONTIST
DRIFTWOOD COMMONS, LLC	1100 S CALLUMET	CHESTERTON, IN 46304	COMMERCIAL
D'S SUPER CAR WASH, INC	1501 BROADWAY	CHESTERTON, IN 46304	SELF SERVICE CAR WASH
DUNELAND CARPET CONNECTION	900 BROADWAY	CHESTERTON, IN 46304	RETAIL FLOORING AND CERAMIC
DUNELAND CHAMBER OF COMMERCE	220 BROADWAY	CHESTERTON, IN 46304	BUSINESS MEMBER ORGANIZATION
DUNELAND COLLISION & REPAIR	107 N 15TH ST	CHESTERTON, IN 46304	BODY SHOP
DUNELAND COUNSELING CENTER	215 W INDIANA AVE	CHESTERTON, IN 46304	COUNSELING CENTER
DUNELAND DENTAL GROUP	106 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	DENTAL OFFICE
DUNELAND EXHAUST AND AUTO	1011 BROADWAY	CHESTERTON, IN 46304	AUTO REPAIR
DUNELAND FAMILY YMCA	215 ROOSEVELT ST	CHESTERTON, IN 46304	NON-PROFIT MEMBERSHIP SERVING COMMUNITY
DUNELAND GROUP, INC	1498 POPE CT	CHESTERTON, IN 46304	BUSINESS & PROFESSIONAL SERVICES
DUNELAND LANDSCAPE, LLC	1091 N ST RD 149 #100	CHESTERTON, IN 46304	LANDSCAPE MAINTENANCE & CONSTRUCTION
DUNELAND LAUNDRY, LLC	600 BROADWAY	CHESTERTON, IN 46304	COIN LAUNDRY
DUNELAND MONTESSORI ACADEMY	P.O. BOX 797	CHESTERTON, IN 46304	PRIVATE EDUCATIONAL FACILITY
DUNELAND PIZZA	P.O. BOX 631	CHESTERTON, IN 46304	PIZZERIA
DUNELAND UNITED CHURCHES RESALE, INC	801 BROADWAY	CHESTERTON, IN 46304	RETAIL
DUNES INFORMATION SYSTEMS	419 S JACKSON BLVD	CHESTERTON, IN 46304	IT CONSULTANTS MANAGING & SYSTEMS FOR SMB CLIENTS
DUNES OFFICE & SHOP EQUIPMENT	106 S 12TH ST	CHESTERTON, IN 46304	OFFICE FURNITURE RETAIL
DUNES VAPE SHOP	1050 BROADWAY SUITE 22	CHESTERTON, IN 46304	RETAIL VAPE SHOP
DWA UNIFORMS	136 GRANT AVE	CHESTERTON, IN 46304	OFFICE
EAST WIND STUDIO	101 S 2ND ST	CHESTERTON, IN 46304	
EASTWIND ACUPUNCTURE	210 N CALLUMET RD	CHESTERTON, IN 46304	CHINESE MEDICAL CLINIC/HEALTHCARE
ECLIPSE PERFORMING ARTS	757 INDIAN BOUNDARY RD STE 6	CHESTERTON, IN 46304	DANCE STUDIO
ECONO LODGE	713 PLAZA DR	CHESTERTON, IN 46304	MOTEL
EDMONDS & EVANS FUNERAL HOME	517 BROADWAY	CHESTERTON, IN 46304	FUNERAL HOME
EDWARD JONES INVESTMENTS	310 S CALLUMET RD	CHESTERTON, IN 46304	FULL SERVICE FIRM
EDWARD JONES INVESTMENTS	538 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	STOCKHOLDER / DEALER
EL CANTARITO MEXICAN CUISINE	709 PLAZA DR #5	CHESTERTON, IN 46304	RESTAURANT
EL SALTO MEXICAN RESTAURANT	757 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	FULL SERVICE RESTAURANT & BAR
ELLA'S BELLA	119 BROADWAY STE 1	CHESTERTON, IN 46304	WOMENS FASHION RETAIL
ERIE LAMON, LLC (PORTER RIDGE APARTMENTS)	PO BOX 811 (1101 W PORTER AVE)	WHEATON, IL 60187	REAL ESTATE OWNER
FAMILY EXPRESS (FE31)	1681 PIONEER TRAIL	CHESTERTON, IN 46304	CONVENIENCE STORE/FUELING STATION
FERRELLGAS	301 N 15TH ST	CHESTERTON, IN 46304	
FIDELITY NATIONAL TITLE	160 RAIL RD STE 2	CHESTERTON, IN 46304	TITLE INSURANCE
FIRST CARE CONSULTING LLC	1575 S CALLUMET RD	CHESTERTON, IN 46304	
FIRST STATE BANK OF PORTER	429 N CALLUMET RD	CHESTERTON, IN 46304	BANK
FLANNERY'S TAVERN	P.O. BOX 2684	CHESTERTON, IN 46304	TAVERN
FLOWER CART	145 S CALLUMET RD	CHESTERTON, IN 46304	FLORIST & RETAILER
FLYING MERMAIDS	206 S CALLUMET RD STE A	CHESTERTON, IN 46304	RETAIL BOUTIQUE
FRAMING CONCEPTS	219 BROADWAY	CHESTERTON, IN 46304	RETAIL - CUSTOM FRAMING & ART GALLERY
FRANCISCAN OMNI HEALTH & FITNESS	810 MICHAEL DR	CHESTERTON, IN 46304	HEALTH & FITNESS CENTER
FRONTLINE FOUNDATIONS, INC	1008 BROADWAY	CHESTERTON, IN 46304	NON-PROFIT ORGANIZATION
GARY'S AUTO REPAIR	1515 W INDIANA	CHESTERTON, IN 46304	AUTOMOTIVE REPAIR
GASTON'S TOWING & AUTO REPAIR, LLC	1051 WABASH AVE	CHESTERTON, IN 46304	TOWING & AUTO REPAIR
GASTRO 49 PUB & EATERY	361 N CALLUMET RD	CHESTERTON, IN 46304	RESTAURANT/PUB
GELSO SOMOS PIZZERIA	371 INDIAN BOUNDARY	CHESTERTON, IN 46304	PIZZERIA
GEORGE R. LIVARCHIK ATTORNEY AT LAW	424 BROADWAY	CHESTERTON, IN 46304	ATTORNEY AT LAW
GEORGE'S GYROS SPOT	325 N CALLUMET RD	CHESTERTON, IN 46304	RESTAURANT FAST FOOD
GLAD RAGS	870 E SIDEWALK RD	CHESTERTON, IN 46304	RETAIL SALES OF WOMENS CLOTHING & ACCESSORIES
GLOBAL TRADERS & SUPPLIERS, INC	418 B ROBERTS RD	CHESTERTON, IN 46304	WHOLESALE IN CORPORATE ADVERTISEMENT
GLOBE STAR, LLC	621 BROADWAY	CHESTERTON, IN 46304	OFFICE SPACE FOR HOME CARE EMPLOYEES
GOOD TO GO BY LUCREZIA	420 S CALLUMET RD	CHESTERTON, IN 46304	DELI, OLIVE OIL & WINE SHOP
GRAN GOOSE INN	350 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	LODGING (B & B)
GREAT CLIPS	257 INDIAN BOUNDARY RD STE. 2	CHESTERTON, IN 46304	HAIR SALON
GREEN GARAGE	209 BROADWAY	CHESTERTON, IN 46304	RETAIL
GREGORY T. BABCOCK, ATTORNEY	111 S CALLUMET RD.	CHESTERTON, IN 46304	LAW PRACTICE
H & R BLOCK	709 PLAZA DR STE 7	CHESTERTON, IN 46304	BUSINESS & PERSONAL TAX PREP & BOOK KEEPING
HAINES COLLISION	1516 BROADWAY	CHESTERTON, IN 46304	AUTO COLLISION
HAIR CUTTERY	524 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	BEAUTY SALON & RETAIL
HAIR'S THE THING	205 BROADWAY	CHESTERTON, IN 46304	FULL SERVICE HAIR SALON
HAND, JENNIFER L.	300 S CALLUMET RD	CHESTERTON, IN 46304	ATTORNEY
HARRIS WELSH & LUKMANN	107 BROADWAY	CHESTERTON, IN 46304	LAW OFFICE
HERITAGE ADVISORY GROUP	1496 POPE CT STE 1	CHESTERTON, IN 46304	INSURANCE
HERR-VOSS STAMCO, INC.	1079 INDUSTRY DR	CHESTERTON, IN 46304	STEEL INDUSTRY
HIESTAND LAW OFFICES, LLC	117 BROADWAY	CHESTERTON, IN 46304	LAW OFFICE
HILTON GARDEN INN CHESTERTON	501 GATEWAY BLVD	CHESTERTON, IN 46304	HOTEL & RESTAURANT
HOGAN CONSULTING GROUP, INC	850/870 E SIDEWALK RD STE 201	CHESTERTON, IN 46304	INFORMATION TECH SALES & SERVICE
HOPKINS ACE HARDWARE	325 S CALLUMET RD	CHESTERTON, IN 46304	RETAIL HARDWARE
HOPKINS SMALL ENGINES	427 S CALLUMET RD	CHESTERTON, IN 46304	SALES OF LAWN & GARD EQUIP/ REPAIR & MAINTENANCE
HORIZON BANK	423 S ROOSEVELT	CHESTERTON, IN 46304	BANK
HOT DIGGITY DAWG	119 S CALLUMET	CHESTERTON, IN 46304	CAFE/RESTAURANT
HOUSE OF BERGGREN	686 BROADWAY	CHESTERTON, IN 46304	ANTIQUA/HAIR SALON/RETAIL
HUNGRY, INC.	539 W BROADWAY	CHESTERTON, IN 46304	FOOD TRUCK/ KITCHEN & PICK UP/ CATERING
HUNTERS BREWING, INC	1535 S CALLUMET RD	CHESTERTON, IN 46304	BREWERY W/ TAP ROOM
INDIAN SUMMER BOUTIQUE	131 S CALLUMET RD	CHESTERTON, IN 46304	RETAIL BOUTIQUE
INDIANA FARM BUREAU	402 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	INSURANCE SALES
INTEGRATIVE COUNSELING SERVICES & BRINGING ISRAEL TO AMERICA	1100 S CALLUMET RD UNIT 3A	CHESTERTON, IN 46304	ADDICTION COUNSELING/ SPIRITUAL MENTORING
INTERNATIONAL MANAGEMENT & HOLDING CO, INC	375 S ROOSEVELT ST	CHESTERTON, IN 46304	OFFICE
IU HEALTH LAKESHORE SURGICARE	3111 VILLAGE POINT	CHESTERTON, IN 46304	SURGEN CENTER
IVYS BOHEMIA HOUSE	321 BROADWAY	CHESTERTON, IN 46304	RESTAURANT
JACK CONNORS, INC	701 E PORTER AVE	CHESTERTON, IN 46304	AUTO DEALER
JACKSON TOWNHOUSE APARTMENTS	P.O. BOX 2499	CHESTERTON, IN 46304	APARTMENT RENTAL
JAMES F. GIANNINI & ASSOCIATES	105 S 2ND ST	CHESTERTON, IN 46304	PROFESSIONAL SERVICES INCLUDING ARCHITECTURE, ENGINEERING AND DESIGN/BUILD
JAMES O'CONNOR MARTIAL ARTS	534 BROADWAY	CHESTERTON, IN 46304	MARTIAL ARTS & FITNESS
JEWEL-OSCO STORE #3189	747 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	RETAIL GROCER STORE & PHARMACY
JIFFY LUBE #2560	802 AHRENS RD	CHESTERTON, IN 46304	AUTOMOTIVE OIL CHANGE & PREVENTITIVE MAINTENANCE SERVICE
JIMMY JOHNS	524 INDIAN BOUNDARY RD STE 3	CHESTERTON, IN 46304	RESTAURANT (SUB SANDWICHES & DELIVERY)
JOE'S TOWING, INC	111 WAVERLY RD	CHESTERTON, IN 46304	TOWING/RECOVERY/STORAGE/IMP/POUND
JOHNSON CHIROPRACTIC	114 N CALLUMET RD	CHESTERTON, IN 46304	CHIROPRACTIC OFFICE
JOHNSON'S AUTOMOTIVE	301 N CALLUMET RD	CHESTERTON, IN 46304	AUTOMOTIVE
KATHY'S ANTIQUE SHOP	1599 S CALLUMET RD	CHESTERTON, IN 46304	SELLING ANTIQUES & GIFTS
KENNETH FERNANDEZ AGENCY LLC	179 S CALLUMET RD	CHESTERTON, IN 46304	INSURANCE
KIM'S ACCOUNTING SERVICE	1315 BROADWAY	CHESTERTON, IN 46304	ACCOUNTING/BOOKKEEPING
KIPPERS AREA STORE-ALL	P.O. BOX 816	CHESTERTON, IN 46304	STORAGE UNITS
KITTRIDGE & ZEHNER, P.C.	209 S. CALLUMET RD STE 1	CHESTERTON, IN 46304	CPA OFFICE
K-MART	750 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	RETAIL
KONA ICE OF THE DUNES, LLC	550 N UNION PLACE	GARY, IN 46403	TROPICAL SHAVED ICE MOBILE FOOD TRUCK
KOSKIMAKI, LAURA	118 N 18TH ST APT 4	CHESTERTON, IN 46304	HOUSE KEEPING / JANITORIAL
KOUNTRY WILD SALOON	1050 BROADWAY STE 36	CHESTERTON, IN 46304	BAR
KRAMER & LEONARD, INC	312 ROBERTS RD	CHESTERTON, IN 46304	OFFICE PRODUCTS/SUPPLIES/FURNITURE/ETC

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SPEEDWAY, LLC. #5522 LICENSE DEPT	P.O. BOX 1580 (502 GATEWAY BLVD)	SPRINGFIELD, OH 45501-1580	RETAIL GAS STATION/CONVENIENCE STORE
SPEEDWAY, LLC. #7527 LICENSE DEPT	P.O. BOX 1580 (458 N CALUMET RD)	SPRINGFIELD, OH 45501-1580	RETAIL GAS STATION/CONVENIENCE STORE
SPEEDWAY, LLC. #6686 LICENSE DEPT	P.O. BOX 1580 (752 INDIAN BOUNDARY RD)	SPRINGFIELD, OH 45501-1580	RETAIL GAS STATION/CONVENIENCE STORE
SPEEDY MART (RAZM CORPORATION)	1175 BROADWAY	CHESTERTON, IN 46304	GAS STATION/GROCERY/PIZZA CARRY OUT
SPIKE & BUDDY'S	320 S CALUMET RD	CHESTERTON, IN 46304	INTERIOR DESIGN/HOME DECORATION/SALES
SRM TECHNOLOGY, LLC	512 OAKWOOD DR	CHESTERTON, IN 46304	COMPUTER REPAIR
ST. PATRICK CHURCH	638 N CALUMET RD	CHESTERTON, IN 46304	CHURCH/SCHOOL
STANDARD BANK AND TRUST	755 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	FINANCIAL INSTITUTION
STARIN MARKETING, INC	136 VENTURI DR	CHESTERTON, IN 46304	ELECTRONICS DISTRIBUTOR
STATE FARM INSURANCE	536 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	INSURANCE SALES
STATE FARM INSURANCE - CHRIS NIELSEN	751 E PORTER AVE STE 4	CHESTERTON, IN 46304	INSURANCE SALES
STATE FARM INSURANCE - JIM WELLS	422 BROADWAY	CHESTERTON, IN 46304	INSURANCE SALES
STEEL FAMILY HEALTH CARE PHARMACY	2022 KELLE DR	CHESTERTON, IN 46304	RETAIL DRUG STORE
STEPHANIE SWANSON JEWELRY DESIGN	145 S CALUMET RD	CHESTERTON, IN 46304	REPAIR/JEWELER
STEPHEN L. LUCAS, D.D.S.	423 SAND CREEK DR	CHESTERTON, IN 46304	DENTISTRY
STEVEN P. WALKER, DDS	207 S 4TH ST	CHESTERTON, IN 46304	DENTAL OFFICE
STOUT PLASTIC WELD	921 BROADWAY	CHESTERTON, IN 46304	PLASTIC WELDING/UHAUL DEALERSHIP
STRACK & VAN TIL	1600 PIONEER TRAIL	CHESTERTON, IN 46304	RETAIL
SUBWAY	705 #2 PLAZA DR	CHESTERTON, IN 46304	SUBWAY SANDWICH SHOP
SUMMER SONG OF HIGHLAND, INC	9715 SPRING ST	HIGHLAND, IN 46322	
SUMMERS PLUMBING HEATING COOLING	1575 S CALUMET RD	CHESTERTON, IN 46304	PLUMBING HEATING & COOLING
SUNRISE FAMILY RESTAURANT	475 SAND CREEK DR	CHESTERTON, IN 46304	RESTAURANT
SUZANNE PHILBRICK, ATTORNEY	515 BROADWAY	CHESTERTON, IN 46304	ATTORNEY
SWEETVILLE	201 S CALUMET RD	CHESTERTON, IN 46304	CANDY/FUDGE/SWEETS RETAIL
TABZ TOWING SERVICES	107 N 15TH ST	CHESTERTON, IN 46304	AUTOMOTIVE TOWING
TACO BELL	702 PLAZA DR	CHESTERTON, IN 46304	FAST FOOD RESTAURANT
TAO CHENS	532 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	CHINESE RESTAURANT
TASTE OF INDIA	418 ROBERTS RD	CHESTERTON, IN 46304	RESTAURANT
TEACHERS CREDIT UNION	104 E 1100 N	CHESTERTON, IN 46304	FINANCIAL INSTITUTION
TECH KITCHEN & BATH	709 PLAZA DR STE 6	CHESTERTON, IN 46304	KITCHEN & BATH DESIGN
THE BEAUTY & BODY SHOP, LLC	420 BROADWAY	CHESTERTON, IN 46304	HAIR & TANNING SALON
THE BRASSIE GOLF CLUB	1110 PEARSON DR	CHESTERTON, IN 46304	GOLD COURSE
THE ELEMENTS OF ENTERTAINMENT	119 S CLAUIMET AVE STE 202	CHESTERTON, IN 46304	
THE GROSSBAUER GROUP	890 SIDEWALK RD STE 200	CHESTERTON, IN 46304	ADVERTISING AGENCY / WEBSITE DESIGN
THE LAPORTE SAVINGS BANK	851 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	RETAIL & COMMERCIAL BANK
THE LESSON LOFT (JENNIFER VANNELL)	103 W MORGAN AVE	CHESTERTON, IN 46304	
THE LIVING ROOM/ROAD TO LIFE CHURCH	135 S CALUMET RD	CHESTERTON, IN 46304	CHRISTIAN BOOK STORE
THE MARRAM SCHOOL	135 LINCOLN AVENUE (MAC - LOWER LEVEL)	CHESTERTON, IN 46304	SCHOOL FOR HOMESCHOOL CHILDREN
THE PORT DRIVE-IN	PO BOX 54	BEVERLY SHORES, IN 46301	RESTAURANT
THE UPS STORE #4043	709 PLAZA DR STE 2	CHESTERTON, IN 46304	SHIPPING & RETAIL
THE WAXI TAXI (DISBATCH)	119 S CALUMET	CHESTERTON, IN 46304	TAXI SERVICE
THIERRY LYLES PHOTOGRAPHY	206 S CALUMET RD STE C	CHESTERTON, IN 46304	PHOTOGRAPHY STUDIO/OFFICE
THIRD COAST SPICE CAFE	761 INDIAN BOUNDARY RD STE 6	CHESTERTON, IN 46304	RESTAURANT
THOMPSON ENVIRONMENTAL, INC	316 W INDIANA AVE	CHESTERTON, IN 46304	ENGINEERING CONSULTING FIRM
TIGER LILY CAFE & GIFTS	1505 S CALUMET RD STE 2	CHESTERTON, IN 46304	CAFE & RETAIL SHOP
TIGER MARTIAL ARTS	1583 S CALUMET RD	CHESTERTON, IN 46304	MARTIAL ARTS & FITNESS
TINR BUBBLES, INC	451 ROBERTS RD	CHESTERTON, IN 46304	CAR WASH
TRANSPORT LABOR CONTRACT/LEASING, INC	802 WABASH AVE STE 1	CHESTERTON, IN 46304	PROFESSIONAL EMPLOYER ORGANIZATION
TRAPMASTERS PLUMBING	1720 WOOD ST	CHESTERTON, IN 46304	PLUMBING
TRINITY SALON	700 S CALUMET RD. STE 1	CHESTERTON, IN 46304	BEAUTY SALON
TROUT GLASS & MIRROR	1579 S CALUMET RD	CHESTERTON, IN 46304	GLASS & GLAZING CONTRACTOR
UNITED STATES POSTAL SERVICE	1070 SOUTH CALUMET RD	CHESTERTON, IN 46304	RETAIL & DELIVERY OF MAIL
UPPER DECK LOUNGE	139 1/2 S CALUMET RD	CHESTERTON, IN 46304	SPORTS BAR & LOUNGE
USA LOGISTICS, INC	1801 TECHNOLOGY DR	CHESTERTON, IN 46304	TRANSPORTATION PROVIDER
VAL'S FAMOUS PIZZA & GRINDERS	112 S 11TH ST	CHESTERTON, IN 46304	FULL SERVICE RESTAURANT
VENICE PIZZA	1453 BROADWAY	CHESTERTON, IN 46304	PIZZERIA
VIC ROBERTS DEVELOPMENT, INC	PO BOX 7688	CHESTERTON, IN 46304	CONSTRUCTION
VILLA NOVA PIZZERIA	213 BROADWAY	CHESTERTON, IN 46304	PIZZA
VIRGIL J GASSOWAY DDS	605 S CALUMET RD	CHESTERTON, IN 46304	DENTAL OFFICE
VIRK'S TOWN MART	525 INDIAN BNDRY RD	CHESTERTON, IN 46304	RETAIL GAS STATION/CONVENIENCE STORE
VIRTUAL INNOVATIONS, INC.	132 VENTURI DR	CHESTERTON, IN 46304	COMPUTER CONSULTING & SALES
VISION POINT	528 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	OPTICAL RETAIL
VISION PROPERTIES, LLP	PO BOX 92	WABASH, IN 46992	REAL ESTATE HOLDING COMPANY
VV ASIAN	442 SAND CREEK DR STE 16	CHESTERTON, IN 46304	ASIAN RESTAURANT
WALGREENS #04946	580 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	RETAIL DRUG STORE & SUNDRIES
WATERBIRD BANQUET CENTER	526 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	BANQUET CENTER
WATERBIRD LAKESIDE INN	556 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	HOTEL/MOTEL
WATERBIRD SPA	348 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	SPA
WATERS OF DUNELAND LLC	110 BEVERLY DR	CHESTERTON, IN 46304	CHILD CARE CENTER
WEE CARE CHILD DEVELOPMENT CENTER, INC.	421 SANDCREEK DR	CHESTERTON, IN 46304	FAST FOOD RESTAURANT
WENDY'S	748 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	PUBLIC LIBRARY/SERVICES/MEETING ROOM
WESTCHESTER PUBLIC LIBRARY	200 W INDIANA AVE	CHESTERTON, IN 46304	PUBLIC LIBRARY/SERVICES/MEETING ROOM
WESTCHESTER PUBLIC LIBRARY SERVICE CENTER	100 W INDIANA AVE	CHESTERTON, IN 46304	FAST FOOD RESTAURANT
WHITE CASTLE	525 INDIAN BOUNDARY RD	CHESTERTON, IN 46304	FUNERAL & DEATH SERVICE
WHITE-LOVE FUNERAL HOME	525 S 2ND ST	CHESTERTON, IN 46304	LAW OFFICE
WILLIAM H. O'TOOLE & ASSOCIATES	101 BEVERLY DR. SUITES A & B	CHESTERTON, IN 46304	WOODWORKING
WILLYS WOODWORKING	983 N 50 W	CGESTERTON, IN 46304	HEALTH CARE CONSULTING
WILSON-STRONKS, LLC	119 BROADWAY SUITE 102	CHESTERTON, IN 46304	INSURANCE AGENCY
WINEY INSURANCE AGENCY	762 S CALUMET	CHESTERTON, IN 46304	MUSIC LESSONS
WOODSHED MUSIC INSTRUCTION	107 S 2ND ST	CHESTERTON, IN 46304	RETAIL SALES
YESTERDAY'S TREASURES	700 BROADWAY	CHESTERTON, IN 46304	YOGA STUDIO
YOGA MECCA, LLC	1587 N STE. S CALUMET RD	CHESTERTON, IN 46304	MENTAL HEALTH COUNSELING/THERAPY
YOUR LIFE SOLUTIONS, LLC	1496 POPE CT STE 2	CHESTERTON, IN 46304	OPHTHALMOLOGY OFFICE
ZALE EYE CENTER: ZALE DOUGLAS A MD	711 S CALUMET RD	CHESTERTON, IN 46304	

ADDISON POINTE HEALTH & REHABILITATION CENTER	680 DICKINSON RD	CHESTERTON, IN 46304
PORTER HEALTH SYSTEMS	442 SAND CREEK DR N STE 103	CHESTERTON, IN 46304
NORTHWEST INDIANA PET/CT CENTER	1505 S CALUMET RD STE 7	CHESTERTON, IN 46304
URSCHEL LABORATORIES	1200 CUTTING EDGE DR	CHESTERTON, IN 46304

Attachment E Operator Qualifications Worksheet

A. Information about the Respondent

1. Company Name _____
2. Legal Name (if different) _____
3. Number of Years In Business _____
4. Number of years responsible for Operational activities similar to this project _____
5. Contact Person _____
6. Full Mailing Address _____
7. Telephone Number _____
8. Fax Number _____
9. Email Address _____
10. Name and Phone Number of Bonding Company _____
11. Number of Full-Time Employees _____
12. Number of Operations personnel (minimum of 2) _____
13. Names and titles of personnel who would work on this project (attach brief experience listings for each focusing on similar projects):

14. Name of person who would be Project Manager for this project (attach experience listing with similar projects):

B. Qualifications and Requirements

No exceptions may be taken to the following:

1. If more than one (1) company is involved in the CFON Operations, there must be a Prime Contractor. This Prime Contractor assumes responsibility for all other entities involved.
2. List Prime Contractor here: _____
3. The response must include a statement from all involved agreeing that the configuration will work as specified and that all will work under the Prime Contractor to resolve any operational & support problems to CFON at no additional cost to the client. Write statement below.

C. Experience and Existing Customers

1. How many similar systems does the Respondent have Operational responsibility for within 200 miles of the Town of Chesterton, IN? How many statewide? How many nationwide?

Area _____ Statewide _____ Nationwide _____

D. Workload

1. How many separate Operational contracts of this type are currently under contract by your company?

2. How many projects do you estimate your company will be doing concurrently with this project? _____

E. References

To be a qualified Operator the Respondent must include below three (3) references for one or more similar projects. Preference will be given to Respondents with references for projects of similar size and complexity. References will be contacted – please verify information before submitting. All references will be called. Please inform your contacts that a 10-15 minute call may be anticipated.

1. Reference 1

Organization Name _____

Address _____

Type of Business _____

Contact Person _____

Telephone Number _____

Email Address _____

Secondary Contact Person _____

Telephone Number _____

Email Address _____

Dates of Installation _____

Description of System _____

2. Reference 2

Organization Name _____

Address _____

Type of Business _____

Contact Person _____

Telephone Number _____

Email Address _____

Secondary Contact Person _____

Telephone Number _____

Email Address _____

Dates of Installation _____

Description of System _____

3. Reference 3

Organization Name _____

Address _____

Type of Business _____

Contact Person _____

Telephone Number _____

Email Address _____

Secondary Contact Person _____

Telephone Number _____

Email Address _____

Dates of Installation _____

Description of System _____

F. Subcontractors/Partners

1. The applicable terms and provisions of the CFON Operator Agreement shall bind every subcontractor. Further information about subcontractors may be requested prior to award.
2. Identify all subcontractors or partners used for any purposes. Failure to disclose subcontractors/partners may lead to disqualification. Include separate sheet(s) labeled "Subcontractors/Partners" if necessary.

Business Name	Years Experience	Function	Minority Status
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

G. References for Subcontractors/Partners

Include below two (2) references for EACH subcontractor (duplicate this page if needed for multiple subcontractors). Again, preference will be given to Respondents with references for similar projects.

1. Reference 1

Organization Name _____

Address _____



Type of Business _____

Contact Person _____

Telephone Number _____

Email Address _____

Dates of Installation _____

Description of System _____

2. Reference 2

Organization Name _____

Address _____

Type of Business _____

Contact Person _____

Telephone Number _____

Email Address _____

Dates of Installation _____

Description of System _____

H. Potential services after CFON Operator selected

1. How many project management personnel trained in project management and project construction oversight does Respondent employ in the client' s area? Please indicate location closest to the client.

Service Personnel _____ Location _____

2. List names and job titles of project management personnel who would be assigned to the CFON project for construction management:

3. Provide the address of Respondent' s office(s) closest to the Town:

Company _____

Address _____

Telephone Number _____

4. Who will maintain documentation inventory and project deliverables? At what location?

Company _____

Address _____

Telephone Number _____

5. What critical project deliverables or components are kept at this location?

6. What response time can Respondent supply in an emergency situation?

Phone Response: _____ hours On-site response _____ hours

7. What response time does Respondent offer in a non-emergency situation?

Phone Response: _____ hours On-site response _____ hours

Each Respondent must complete this document and provide supporting information describing the following requirements:

1. Respondent is currently the Operator of a fiber optic network that is at least 80% of the size or value of the CFON network as outlined in this RFP. Yes: _____
No: _____
2. Respondent has access to all necessary equipment and has organizational capacity and technical competence necessary to do the work properly and expeditiously. Yes: _____
No: _____
3. Respondent maintains a permanent place of business in the State of Indiana. Yes: _____
No: _____
4. Respondent maintains a minimum of ten (10) full time employees or full time equivalents. Yes: _____
No: _____
5. Respondent has adequate financial resources to complete the work being proposed, as well as all other work the Respondent is presently under contract to complete. Provide financial statements in a form acceptable to Town, which evidences these resources. Yes: _____
No: _____
6. At least one (1) similar project references from within the last five (5) years include project description, client/customer point of contact with mailing address, telephone number, and email address(es). (References may be the same as in Section E of the Qualifications Worksheet). Yes: _____
No: _____
7. Respondent has a record of providing satisfactory operations on existing projects and networks. Criteria that will be considered in determining satisfactory completion of projects by the Respondent will include:
 - a. Completed contracts in accordance with the Contract Documents.
 - b. Diligently pursued operational support for existing contracts according to the industry established operational standards and service levels.
 - c. Fulfilled guarantee requirements of the Contract Documents.Yes: _____
No: _____

ATTACHMENT F

FIBER OPTIC CABLE LICENSE AND NETWORK OPERATION AGREEMENT

Chesterton Redevelopment Commission
Town of Chesterton, Indiana

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FIBER OPTIC CABLE LICENSE AND NETWORK OPERATION AGREEMENT

THIS FIBER OPTIC CABLE LICENSE AND NETWORK OPERATION AGREEMENT (“Agreement”) is entered into effective _____, 2016 (“Effective Date”), by and between the Chesterton Redevelopment Commission (“Commission”), a special taxing district existing under Indiana Code § 36-1-2-18, with its principal offices at _____, Chesterton, Indiana (hereinafter “Commission”), and _____, a _____ corporation located at _____ (“Licensee”).

RECITALS

WHEREAS, to provide additional services to businesses currently located in the Town of Chesterton (“Town”), and to facilitate future economic development in the Town, the Commission desires to construct and deploy a new fiber optic cable network throughout certain areas of the Town to be known as the Chesterton Fiber Optic Network (“CFON”) shown on **Exhibit A** hereto.

WHEREAS, the Commission desires to structure the CFON in a manner that enables the provision of high capacity broadband and other services and capabilities in a competitive, open environment.

WHEREAS, the Commission previously has entered into an agreement with a qualified private-sector entity to design the CFON to offer gigabit broadband Internet access service and other services to businesses and government offices.

WHEREAS, the Commission has identified and selected Licensee as the best candidate to operate the CFON on a nondiscriminatory basis, and to that end has negotiated this Agreement with Licensee.

WHEREAS, to effect the purposes set forth above, the Commission desires to license to Licensee access to the CFON to light, operate, manage, monitor and maintain the fiber optic cable and associated equipment comprising the CFON and to also allow Licensee to also offer telecommunication services to customers using CFON as set forth in this Agreement.

WHEREAS, Licensee desires to accept such license to operate, manage, monitor and maintain the CFON on a nondiscriminatory basis and to offer telecommunication services, as further set forth in, and subject to the provisions of, this Agreement.

NOW, THEREFORE, in consideration of the mutual promises set forth below, and for other good and valuable consideration, the adequacy and receipt of which are hereby acknowledged, the Commission and Licensee agree as follows:

- 1. Definitions** – In this Agreement, the following terms shall have the following meanings:

- 1.1 “Acceptance Date” means the date on which Licensee accepts the CFON from the Commission and becomes responsible for operating, managing, monitoring and maintaining it.
- 1.2 “Agreement” means this Agreement, any and all Exhibits and Attachments thereto, and any addenda or written amendments to which the Parties may agree from time to time.
- 1.3 “Authorizations” means the permissions the Licensee must have to perform its obligations under this Agreement, which may include licenses; permits; zoning approvals; variances; exemptions; grants of authority to use public rights of way or facilities; agreements to make attachments; and any other approval of a governmental authority or third persons with respect to (i) operating, managing, monitoring and maintaining the CFON, or (ii) any requirement for engaging in a telecommunications business or enterprise.
- 1.4 “CFON” means the Chesterton Fiber Optic Network, a redundant fiber optic loop and associated equipment to be constructed by the Commission and operated, managed, monitored and maintained by Licensee.
- 1.5 “CFON Meet-Me-Room” means the carrier neutral colocation facility to be located in the Town Administrative Building.
- 1.6 “CFON Route” means the physical path traversed by the Fiber Optic Strands that make up the CFON as set forth on **Exhibit A** and in applicable maps and related documents.
- 1.7 “Customer Premises” means a government building, commercial building, residence, multi-dwelling unit, or buildable lot that can be feasibly and reasonably served by the CFON.
- 1.8 “Customer Premises Equipment” (“CPE”) means terminal and associated equipment and inside wiring located at a customer’s Premises which are necessary for the receipt of Services, and which are provided and installed by Licensee or by another provider.
- 1.9 “Effective Date” means the last date upon which this Agreement is executed by the parties after approval by the Commission.
- 1.10 “Fiber Optic Strands” means fiber optic cable strands to be installed by the Commission.
- 1.11 “FTTP” means fiber to the premises service.
- 1.12 “Internet Service Provider” (“ISP”) means an Internet Service Provider unaffiliated with Licensee which provides retail services utilizing data transport services provided by Licensee via the CFON.

- 1.13 “Lateral Legs” means the last mile service extensions installed by Licensee to connect a Premises to the CFON and after construction are dedicated to the Commission and become a part of the CFON.
- 1.14 “License” means the rights conferred by this Agreement to light, operate, manage, monitor and maintain the CFON.
- 1.15 “Retail Service Provider” means Licensee in its separate capacity as an Internet service provider providing retail services to end users.
- 1.16 “Maintenance” means work that must be performed to maintain and upgrade the Fiber Optic Strands, Lateral Legs and other components of the CFON over the life of the Agreement to ensure adequate access to bandwidth and continuity of an acceptable signal in conformance with a manufacturer's specifications, and capable of enabling Licensee to meet the Service Level Agreement set forth herein.
- 1.17 “Network Operator” means Licensee in its role under this Agreement, operating, managing, monitoring and maintaining the CFON.
- 1.18 “Outside Plant” means the CFON and equipment and structure(s) owned by the Commission that are used to house or support the CFON, to which Licensee is granted a right of access under this Agreement.
- 1.19 “Repair” means work that must be performed by Licensee to resolve outages in service.
- 1.20 “Service Level Agreement” means the performance standards to be met by Licensee.
- 1.21 “Subscriber” means a government, business or residential customer of retail Services being provided by an ISP or by Licensee Service Provider.
- 1.22 “Video Service” means a multichannel video programming delivery service, as such term is defined under federal law and interpreted by the Federal Communications Commission, or its substantial equivalent.
- 1.23 “Voice Service” means interconnected VoIP service, as such term is interpreted by the Federal Communications Commission, or its substantial equivalent.

2. Grant/Acceptance of License

- 2.1 Subject to the terms of this Agreement, the Commission hereby grants to Licensee the License to occupy, operate, manage, monitor and maintain the CFON for the benefit of the Town and the customers connected to CFON.
- 2.2 Licensee hereby accepts the License granted to it under the terms and conditions set forth in this Agreement.

3. Term and Termination

3.1 Commencement / Renewal

This Agreement, and the license granted hereunder, shall commence on the Effective Date and continue for an initial term of ten (10) years from the Acceptance Date (“Initial Term”), unless terminated sooner under the provisions of this Agreement. The Initial Term shall be automatically renewed for additional periods of ten (10) years unless each either party provides written notice to the other party no less than two (2) years prior to the end of the Initial Term or any renewal term that this Agreement will be terminated or renegotiated.

3.2 Termination

3.2.1 For Material Breach. Either Party may terminate this Agreement in the event of a material breach of this Agreement by the other Party, consistent with and subject to the procedures and remedies for breach set forth in Section 20.1.

3.2.2 For Convenience. After the expiration of the Initial Term, if the Commission determines in its sole discretion that this Agreement or the operation of the CFON is not functioning as anticipated, is causing economic hardship, or is commercially impracticable, the Commission may terminate this Agreement upon six (6) months’ written notice.

3.2.3 Effect of Any Termination. Upon any termination of this Agreement, Licensee shall immediately relinquish and quit all claims under the License, except for rights and obligations specifically designated to survive termination. The CFON and any equipment installed by Licensee, including Customer Premises Equipment not already owned by the Commission shall become the property of the Commission.

4. Testing and Acceptance of the CFON

4.1 Testing of the CFON

The Commission is developing engineering plans for installation of the CFON and intends to install the CFON at its sole cost and expense. Licensee shall review the CFON Route, design, technical specifications and other materials prepared by the Commission’s design consultant. Licensee shall advise the Commission of any proposed changes to the CFON and will accept the final design prior to the start of construction. Upon completion of the installation, the Commission will make the CFON available for inspection by Licensee and will test the CFON at its expense. The Commission will also provide Licensee with as-built drawings for its inspection prior to testing. Licensee will be permitted to observe the testing of the CFON and will be provided with test results. The expected performance standards for the CFON are set forth on **Exhibit B**.

4.2 Acceptance of the CFON

In the event that the inspection/testing discloses a material deviation from the standards set forth in Exhibit B, such deficiency may be remedied by the Commission at its expense, or at its sole option, the Commission may terminate this Agreement for convenience without further obligation to Licensee under Section 3.2.2. Upon completion of inspection and successful testing, Licensee shall notify the Commission in writing of its acceptance of the CFON. Upon receipt by the Commission of a written acceptance of the CFON by Licensee, the Acceptance Date will be established and Licensee's performance responsibilities under this Agreement shall commence. If Licensee fails to participate in inspection and testing or fails to notify the Commission of its acceptance of the CFON, Licensee will be deemed to have accepted the CFON, and Licensee shall have waived any objections to the design or performance of the CFON.

5. Access to CFON by Licensee

Upon the occurrence of the Acceptance Date, Licensee personnel or its agents shall have continuing reasonable direct ingress and egress to the Commission's Outside Plant so as to allow Licensee to operate, manage, monitor and maintain the CFON. Licensee personnel and its agents shall, while on such property, comply with all industry standard rules, regulations, and procedures, and other requirements.

6. Licensee Responsibilities

Throughout the Term of this Agreement, and as described more specifically in this Section, Licensee shall operate in two capacities – as the Network Operator providing wholesale services and as a Retail Service Provider providing retail services to end users:

- 1) as Network Operator of CFON, Licensee shall:
 - (i) light, operate, manage, monitor and maintain the CFON twenty-four (24) hours per day, seven (7) days per week, and
 - (ii) provide wholesale lit bandwidth and data transport services to ISPs and to the Retail Service Provider on a nondiscriminatory basis twenty-four (24) hours per day, seven (7) days per week; and
- 2) as the Retail Service Provider, Licensee shall provide retail services twenty-four (24) hours per day, seven (7) days per week, to business, government and residential customers who contract for such service from Licensee.

6.1 Responsibilities As Network Operator

6.1.1 Generally

As Network Operator, and as may be more fully described elsewhere in this

Agreement, Licensee shall, at its expense:

- A. Light, operate, manage, monitor and maintain the CFON so as to operate an open access community broadband network;
- B. Establish and equip a carrier neutral Meet-Me-Room in space provided by the Commission;
- C. Seek the prior written approval of the Commission to install Lateral Legs and/or sublicense Fiber Optic Strands or bandwidth;
- D. Install Lateral Legs to enable the provision of Service by ISPs and by Retail Service Provider;
- E. Repair the CFON and Lateral Legs, including cabling;
- F. Maintain and upgrade the CFON, Lateral Legs and other equipment, provide data transport services and the delivery of services to customers by Licensee, and to prevent obsolescence, facilitate technical changes, and keep up with changing technology;
- G. Provide sales, marketing and promotional support for use of CFON;
- H. Perform billing and collection services for all services by Licensee over the CFON;
- I. Offer and provide data transport services to qualified ISPs on non-discriminatory competitive terms;
- J. Execute any and all necessary splicing tasks between equipment and cabling owned by Licensee;
- K. Provide technical support to ISPs relating to data transport services provided by Licensee;
- L. Acquire and maintain, at its expense, all applicable Authorizations relating to the installation and use of the CFON; and
- M. Onboard new Customers.

6.1.2 Open Access / Nondiscrimination

Licensee shall offer and provide data transport services to any qualified ISP for the provision of retail services. Licensee shall negotiate with each such ISP on a good faith basis, and shall not discriminate among similarly situated ISPs, or in favor of a Retail Service Provider, for the purpose of effecting a competitive advantage.

Licensee shall not be required to execute substantively identical agreements with all ISPs. Licensee may negotiate agreements with ISPs on an individual basis, with varying terms and conditions based upon bona fide distinctions among such ISPs as to scale and volume, the nature of Services to be provided, and other similar factors. In the event of a dispute between Licensee and an ISP regarding the neutrality of Licensee's proposed terms of interconnection, such dispute shall be resolved as set forth on **Exhibit C**.

6.1.3 Customer Connections to CFON

As Network Operator, Licensee shall be responsible for installation of Lateral Legs and shall facilitate the connection of all Customer Premises Equipment necessary to connect a Subscriber Premises to the CFON enabling the provision of services by ISPs or by Retail Service Provider as follows:

6.1.3.1 Business locations. Licensee is responsible for any and all wiring and construction necessary to connect the CFON to the connection panel in the telecommunications room or demarcation point within the Subscriber Premises.

6.1.3.2 CFON Anchor Institutions. Licensee shall install the extensions and equipment necessary, and connect the CFON Anchor Institutions listed on **Exhibit D** hereto to the CFON at no cost to them. Monthly Internet services shall be provided at no cost to the Anchor Institutions.

6.1.3.3 Residential Locations. Licensee is responsible for any and all wiring and construction necessary to connect the Customer Premises Equipment to the CFON.

6.1.3.4 Authorizations. Licensee shall acquire all necessary licenses, permits, permission to enter, occupy and perform any work on a Customer Premises. Licensee accepts all risks associated with such activity, including but not limited to the risks of unanticipated costs or delays.

To the extent that it is necessary to construct Lateral Legs or other extensions of the CFON to enable the provision of service to a customer, such installations must be approved in advance in writing by the Commission.

6.1.4 Ownership of Equipment.

The Commission shall own the CFON, any Lateral Legs installed by Licensee, all equipment located in the Meet-me-Room, and any other equipment installed in the right of way of the Town. Any Customer Premises Equipment used to receive, route, or process a Service (such as a set-top box or in-home router) leased or sold by an ISP or by Licensee remains the property of Licensee, the ISP or the purchasing Customer, as applicable.

6.1.5 Relationship with the ISPs and Retail Service Provider.

As Network Operator, Licensee is solely responsible for all aspects of the relationship involving the provision of data transport services by Licensee to ISPs or Retail Service Provider as follows:

6.1.5.1 ISP Support. Licensee, and not the Commission, is solely responsible for receiving, servicing, and resolving directly all requests for support, including but not limited to technical, billing and sales and marketing inquiries. Under no circumstances shall Licensee direct any ISP or Retail Service Provider to contact the Commission for customer support.

6.1.5.2 Billing / Collections. Licensee shall be responsible for all invoicing, billing and collection activities.

6.1.5.3 Sales / Marketing. Except as otherwise provided in this Agreement, Licensee shall be responsible for any and all sales and marketing activities, including but not limited to pricing of services, description of services, and promotional activities.

6.1.5.4 Bad Debts. Licensee shall be responsible for any and all bad debts.

6.1.6 Dedication of Lateral Legs to Commission

Licensee is responsible for the installation of all last mile service extension Lateral Legs from points of interconnection on the CFON. Upon completion, those extensions shall be dedicated to the Commission and become the property of the Commission. Thereafter, those Lateral Legs shall be subject to the terms of this Agreement.

6.1.7 Network Operator Performance Metrics and Standards

The Service Level Agreement and Key Performance Indicators for Licensee's services as the Network Manager are set forth on **Exhibit E** hereto. Licensee shall provide Service that meets these metrics.

6.2 Responsibilities as Retail Service Provider

6.2.1 Retail Internet Service

Licensee in its capacity as Retail Service Provider may offer and provide business, government and residential customers Internet Service via the CFON.

6.2.2 Voice and Video Services

Retail Service Provider may also offer Voice and Video Services via the CFON.

6.2.3 Internet Service Authorizations

Retail Service Provider shall obtain and maintain throughout the Term at its expense all necessary Authorizations relating to the provision of Internet, Voice and Video Service to customers and shall comply with all applicable laws and regulations relating to the provision of such services.

6.2.4 Customer Service Responsibilities

As Retail Service Provider, Licensee shall be solely responsible for all aspects of the customer relationship involving customers for retail services provided by Licensee, as set forth in this subsection.

6.2.4.1 Customer Support. Licensee is solely responsible for receiving, servicing, and resolving directly all requests for support from Subscribers, including but not limited to technical, billing, and sales and marketing inquiries. Under no circumstances shall Licensee direct any Subscriber to contact the Commission for customer support.

6.2.4.2 Billing/Collections. Licensee is responsible for all invoicing, billing and collection activities relating to its Subscribers.

6.2.4.3 Sales/Marketing. Except as otherwise provided in this Agreement, Licensee is responsible for any and all sales and marketing activities relating to Licensee's Services, including but not limited to pricing of services, description of services, and promotional activities.

6.2.4.4 Bad Debts. Licensee is responsible for any and all bad debts associated with its Subscribers.

7. Structural Separation

Licensee will enact appropriate business practices and processes to create structural and operational separation between the Network Operator and Retail Service Provider functions. At a minimum:

- A. Licensee may establish separate offices for Network Operator and Retail Service Provider functions, respectively;
- B. As Network Operator, Licensee shall provide data transport services on an open access, nondiscriminatory basis, as set forth in Section 6.1.2 of this Agreement.

8. Repair of CFON

Licensee is responsible for all routine and emergency CFON Repair as well as network relocations. Response times for CFON routine and emergency Repair are set forth in the Service Level Agreement attached as **Exhibit E**. Licensee is responsible for all costs associated with any CFON Repair.

9. Maintenance of CFON

Licensee is responsible for all Maintenance, updates or upgrade to the Fiber Optic Strands, electronics, and other components on the CFON over the life of the Agreement so that customers are assured of service that meets the requirements set forth in **Exhibit E**, and adapts to changing technology. Licensee shall update components of the CFON to keep equipment up-to-date and to maintain the quality and reliability of Service offered on the CFON. The cost of Maintenance, updates or upgrades of components of the CFON as well as implementation and maintenance of updates or upgrades are the sole responsibility of Licensee.

10. Service Fees Charged By Licensee

Fees charged by Licensee for wholesale service to ISPs and to Retail Service Provider shall be designed to promote use of CFON according to industry standard practices. Initial fees for such wholesale service are set forth in **Exhibit F**.

11. CFON Market Study / Community Communications Plan

Within forty-five (45) days of the Acceptance Date, Licensee shall submit to the Commission a Market Study and a proposed Community Communications Plan designed to promote use of the CFON and facilitate the growth of a technology ecosystem within the Town of Chesterton. Such Plan shall address the elements set forth in the RFP published by the Commission.

12. CFON Operations Manual

Within sixty (60) days of the Acceptance Date, Licensee shall submit to the Commission its CFON Operations Manual outlining its proposed operation of the CFON.

13. License Fees Paid by Licensee to Commission

As consideration for the License described in this Agreement, Licensee shall pay the Commission compensation as described in **Exhibit G**. License fees shall be paid to the Commission on a quarterly basis, and payment shall be due within thirty (30) days of the close of the calendar quarter.

14. Commission's Responsibilities

- 14.1 The Commission shall construct the CFON to allow Licensee's performance to meet the performance specifications set forth on **Exhibit E**.
- 14.2 The Commission shall provide Licensee with as built drawings of the CFON and shall permit Licensee to inspect the CFON upon completion of the installation and to participate in all testing of the CFON.
- 14.3 The Commission shall provide Licensee with information about the Town's existing infrastructure and shall provide Licensee with reasonable access to such infrastructure in connection with the inspection and/or operation of the CFON.
- 14.4 The Commission will facilitate the issuance of any authorizations from the Town necessary to allow Licensee to be in the public ways of the Town.
- 14.5 The Commission shall procure space in facilities owned by the Town so that Licensee can create at its expense a carrier neutral Meet-Me-Room in such space. The Meet-Me-Room License Agreement is set forth on **Exhibit H** hereto.
- 14.6 The Commission shall process all requests made by Licensee for approval to install Lateral Legs and associated equipment in a reasonable time after receipt from Licensee of all information requested by the Commission.

15. Data Protection

Licensee shall protect all Personal Information as defined in **Exhibit I** and take all actions outlined in **Exhibit I** and otherwise comply with all applicable federal, state and local laws governing the protection of Personal Information.

16. Insurance

Licensee shall purchase and maintain at its own expense at least the minimum coverages, limits and terms of insurance set forth below, as will protect Licensee and the Commission from claims that may arise out of or result from the Services provided by Licensee, its employees, subcontractors, consultants or other parties, if any, for whom Licensee is responsible.

- **Workers Compensation** Statutory Requirement
- **Employer's Liability**

Bodily Injury by Accident	\$500,000 each accident
Bodily Injury by Disease	\$500,000/policy limits

Bodily Injury by Disease \$500,000/each
employee

- **Commercial General Liability**

General Aggregate	\$2,000,000
Products/Completed Operations Aggregate	\$2,000,000
Personal Injury (with Employment Exclusion Deleted) and Advertising Injury	\$1,000,000
Each Occurrence Limit	\$1,000,000
Damages to Rented Premises	\$100,000

Coverage provided by this policy shall include contractual coverage for liability assumed by contract. Products/Completed Operations Coverage shall be maintained for two (2) years following the end of the term of this Agreement and Licensee shall provide a Certificate of Insurance showing that this coverage remains in effect at Substantial Completion of the Project and periodically during the following two (2) year period as requested by the Commission.

- **Automobile** (for all owned, non-owned and hired vehicles, as well as uninsured and underinsured vehicles)

Combined Single Limit	\$1,000,000
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- **Umbrella/Excess** Separate Umbrella policy (written in excess of the Commercial General Liability, Employer’s Liability and Auto policies on a follow form basis).

General Aggregate	\$4,000,000
Each Occurrence	\$4,000,000

- **Errors and Omissions** Policy providing coverage for claims arising out of the performance of the Licensee’s Services and caused by any error, omission or negligent act for which the Licensee is liable, with a per claim limit of \$3,000,000, an aggregate limit of \$3,000,000 and a self-insured retention or deductible not to exceed \$50,000. If written on a “claims made” basis the coverage shall be maintained not only throughout the term of this Agreement, but also for a minimum of three (3) years following termination. Licensee shall provide a Certificate of Insurance showing that the coverage remains in effect.

Licensee’s Worker’s Compensation, Employer’s Liability, Commercial General Liability, Automobile and Umbrella/Excess policies shall be endorsed to provide waiver of subrogation in favor of the Commission and its officers, board members, employees, agents and representatives.

The Commission and its officers, board members, employees, agents and representatives (as their interests may appear) shall be added as additional insureds to Licensee's Commercial General Liability, Automobile and Umbrella/Excess policies.

The coverage provided by the Licensee's insurance as set forth herein shall be primary and noncontributory (including Umbrella/Excess policy to be exhausted vertically above Licensee's Commercial General Liability, Employer's Liability and Automobile policies), with any and all insurance maintained by the Commission to be excess of Licensee's insurance as specified and required above.

All required insurance shall be procured from insurance companies authorized to do business in the State of Indiana and having an A.M. Best Rating of A- (or better). Upon acceptance of CFON, Licensee shall deliver to the Commission a Certificate or Certificates of Insurance evidencing that the required coverages, limits and terms of insurance are in effect. Licensee shall also provide, if requested by Commission, a duly executed Certificate of Compliance issued by the Indiana Worker's Compensation Bureau confirming that the required Worker's Compensation insurance is in full force and effect. If one or more of the policies providing the required coverages, limits and terms of insurance set forth above expire or renew during the term of this Agreement, an updated Certificate of Insurance shall be provided at least ten (10) days before the expiration or renewal of the existing policy, confirming that the required coverages, limits and terms of insurance will remain in place under either a renewal of the existing policy or the procurement of a new policy. The Commission shall also have the right at any time during the term of the Agreement (and during any period in which extended coverages are required) to periodically request that an updated Certificate or Certificates of Insurance be provided to confirm that the required coverages, limits and terms of insurance remain in effect. Licensee shall provide such updated Certificate or Certificates within ten (10) days of receiving such request.

17. Data Protection Insurance

Licensee shall obtain technology/miscellaneous errors and omissions liability insurance with privacy coverage endorsement, with limits of at least \$5,000,000 per claim. This coverage shall provide coverage for intentional or unintentional disclosure of Personal Information. Coverage will also extend to liability for transmittal of a virus or malicious code, and denial of access/denial of service. Coverage shall be included for costs for regulatory action defense fines/penalties, privacy breach notification, fraud monitoring and public relations expenses – whether computer related or not. Security and privacy liability shall be in an amount not less than \$5,000,000 per claim and in the aggregate. The Commission shall be an additional insured under such coverage, and Licensee shall provide the Commission with evidence of such coverage.

18. Indemnification

Licensee shall, to the fullest extent permitted by law, defend, indemnify and hold harmless

the Commission and its officers, board members, employees, agents and representatives, and the Town of Chesterton (“Indemnitees”), from and against all claims, damages, losses and expenses, including but not limited to attorney’s fees, arising out of or relating to the acts or omissions of Licensee or those for whom the Licensee is responsible, but only to the extent caused by the negligent acts or omissions of the Licensee (or anyone for whom Licensee is responsible) and regardless of whether caused in part by one or more of the Indemnitees. This indemnification obligation shall survive termination of this Agreement. The Commission shall have the right to choose its own counsel to represent it in connection with any claim arising from this Agreement or the operation of the CFON. This counsel shall be compensated by Licensee. With respect to any claim against one or more Indemnitees asserted by an employee of Licensee (or by an employee of those for whom Licensee is responsible), the indemnification obligation set forth herein shall not be reduced or limited by any statutory cap or other limitation on the amount or type of damages, compensation or other benefits payable by Licensee (or those for whom Licensee is responsible) under worker’s compensation acts, disability benefit acts or other employee benefit acts.

19. Reporting / Audit

Licensee shall submit monthly, quarterly and annual reports to the Commission so as to enable the Commission to determine whether Licensee is complying with the Service Level Agreement and key Performance Indicators attached as **Exhibit E**. Licensee shall provide the Commission with all information requested by the Commission in connection with the submission of these reports.

Licensee shall submit to the Commission within _____ days of the close of Licensee’s fiscal year an audited annual financial statement of the operations of the CFON. The Commission shall have the right to inspect and/or to further audit Licensee’s books and records regarding the operation of the CFON upon written request delivered to Licensee not later than thirty (30) days prior to any inspection.

20. Termination for Breach

20.1 Material Breach

A Material Breach under this Agreement shall occur if (a) a Party fails to perform one or more of its responsibilities as set forth in Sections 6 through 17 of this Agreement, (b) such breach is not excused by any provision of this Agreement, and (c) such breach continues un-remedied for a period of sixty (60) days following receipt of written notice from the non-breaching Party. If the breach by its nature cannot be cured within sixty (60) days and the breaching Party within that time has commenced its cure, there shall be no Default as long as the Party diligently continues such cure to completion.

20.2 Remedies

Upon the occurrence of a Material Breach, the non-breaching Party shall have the

right, subject to the express limitations contained in this Agreement, to terminate this Agreement, including the License for which it provides. Nothing in this Agreement shall preclude either Party from also pursuing other available remedies, including damages, injunctive relief, and costs. The Commission is entitled to recover its attorneys' fees as the prevailing Party in any action brought under this Agreement as set forth in Section 22 of this Agreement.

20.3 Equitable Relief

In the event of a Material Breach or threatened Material Breach by Licensee of any provision of the Agreement, Licensee recognizes the substantial and immediate harm that a breach or threatened breach will impose upon the CFON and/or the Commission, and further recognizes that in such event monetary damages may be inadequate to fully protect the Commission. Accordingly, in the event of a Material Breach or anticipated Material Breach of this Agreement, Licensee consents to the Commission's entitlement to ex parte, temporary, preliminary or permanent injunctive, or any other equitable relief, necessary to protect and enforce the Commission's rights hereunder and prevent Licensee from further breach of the obligations set forth herein. Licensee expressly waives any requirement based on a statute, rule of procedure, or other source, that the Commission post a bond as a condition of obtaining any of the above-described remedies. Nothing herein shall be construed as prohibiting the Commission from pursuing any other remedies available at law or in equity for such breach or threatened breach, including the recovery of damages and attorneys' fees.

21. Performance and Payment Bond or Letter of Credit

Within 30 days following the Acceptance Date, Licensee shall cause the issuance of, and make available for redemption by the Commission, as described in this subsection, a performance and payment bond or irrevocable letter of credit, to the satisfaction of the Commission, in the amount of two million dollars (\$2,000,000), which shall remain effective and updated throughout the Term. Licensee shall immediately provide a copy of all related documents, and any updates to such documents made during the Term to the Commission. The Commission shall have the right to redeem and collect on all or a portion of the bond or letter of credit in the event of a Material Breach by Licensee, upon presentation to the issuing bank or surety of a demand for payment accompanied by a certificate of such breach. The bond or letter of credit may be drawn upon to the extent necessary to effect a cure of Licensee's breach and/or to mitigate or offset damages cause thereby.

22. Dispute Resolution

The Commission and Licensee specifically acknowledge and agree that the sole and exclusive venue for any lawsuit filed as a result of a dispute related to this Agreement shall be the Circuit or Superior Courts for Porter County, Indiana. Licensee agrees to indemnify and hold harmless the Commission and the Town from any claim, demand, action, damage or expense (including its attorney fees and other dispute resolution expenses) arising out of

Licensee's performance under this Agreement. The Commission shall also be entitled to recover its reasonable attorney's fees, expert costs, witness fees, court costs and other litigation expenses which it incurs in successfully prosecuting or defending any dispute with Licensee.

23. Sublicense and Assignment

No portion of the responsibilities under this Agreement may be sublicensed and/or assigned or otherwise discharged by other than the Licensee, except with the written consent of the Commission. The Commission's consent to a sublicense or to an assignment or other disposition of any obligations under this Agreement shall not be construed to relieve Licensee of any responsibility for fulfillment of its other obligations under this Agreement.

24. Non-Discrimination

Pursuant to Ind. Code § 22-9-1-10, during the term of this Agreement, Licensee shall not discriminate against any employee or applicant for employment with respect to hiring, tenure, terms, conditions or privileges of employment, or any other matter directly or indirectly related to employment, because of race, religion, color, sex, national origin, ancestry, age or disability. Licensee agrees to abide by all local, state and federal laws, rules and regulations which apply to employment related matters, including, but not limited to, prohibitions against discrimination. Licensee's failure to adhere to the requirements set forth herein shall be considered a material breach of this Agreement and grounds for termination of the Agreement by the Commission.

25. Employment Eligibility Verification

As set forth on **Exhibit J** hereto, Licensee has enrolled in and verifies the work eligibility status of all hired employees of the Licensee through the E-Verify program as described in Ind. Code § 22-5-1.7-3. Licensee is not required to verify the work eligibility status of all newly hired employees through the E-Verify program if the E-Verify program no longer exists. Prior to commencing its Services, Licensee shall sign **Exhibit J**, affirming that the Licensee does not knowingly employ any unauthorized aliens. Neither Licensee nor any of its subcontractors or consultants may knowingly (a) employ or contract with an unauthorized alien or (b) retain an employee or contract with a person that the Licensee, subcontractor or consultant subsequently learns is an unauthorized alien. If Licensee uses subcontractors or consultants to provide any services or other work under this Agreement, Licensee must obtain certification from each subcontractor or consultant that it (a) does not knowingly employ or contract with any unauthorized aliens, and (b) has enrolled and is participating in the E-Verify program.

26. No Investment in Iran

As set forth in **Exhibit K**, and in accordance with Ind. Code § 5-22-16.5 Licensee certifies that Licensee is not engaged in investment activities in Iran as described in Ind. Code § 5-22-16.5. Licensee shall sign **Exhibit K** prior to commencing services under this Agreement.

27. Authority and Non-Collusion

The undersigned attests, subject to the penalties for perjury, that he or she is the duly authorized representative, agent, member or officer of the Licensee, that he or she has not, nor has any other member, employee, representative, agent or officer of the Licensee, directly or indirectly, to the best of his or her knowledge, entered into or offered to enter into any combination, collusion or agreement to receive or pay, and that he or she has not received or paid, any sum of money or other consideration for the execution of this Agreement other than that set forth herein on the face of this Agreement.

28. Entire Agreement

This Agreement represents the entire and integrated agreement between the Commission and Licensee and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written agreement signed by both the Commission and Licensee.

29. Execution

This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. An electronic or facsimile signature of any party shall be considered to have the same binding effect as an original signature.

30. Governing Law

This Agreement shall be governed by and construed in accordance with the procedural and substantive laws of the State of Indiana, without reference to Indiana's choice of law principles.

31. Access to Records

Licensee shall, during the term of this Agreement and for a period of three (3) years following termination of this Agreement, maintain all applicable books and records relating to the services which it performs under this Agreement. The Commission shall have the right, at any time during this period, to review and/or audit the books and records of Licensee applicable to the services provided under this Agreement. The Commission may conduct such review by its own employees or the Commission may elect to retain an auditor, accountant or other consultant to conduct such review or to audit such books and records. Licensee agrees to fully comply with the Commission's review and/or audit, including making its books and records applicable to its services available during normal working hours at no cost to the Commission.

32. Notices

Any notice, demand, complaint, request or submission required to be given under this Agreement shall be in writing and shall be served by personal delivery, United States mail, courier service, overnight delivery or electronic mail as follows:

Upon the Commission: Town of Chesterton Redevelopment
Commission
c/o C. Bernard Doyle, CPM
Town Manager
1490 Broadway, Suite 4
Chesterton, IN 46304
berniedoyle@chestertonin.org

Upon Licensee: _____

TOWN OF CHESTERTON
REDEVELOPMENT COMMISSION

LICENSEE

By: _____

By: _____

Printed: _____

Printed: _____

Title: _____

Title: _____

Date: _____

Date: _____