

OFFICE OF STRATEGIC PROCUREMENT
UNIVERSITY OF MAINE SYSTEM
16 CENTRAL STREET
BANGOR ME 04401

**REQUEST FOR PROPOSAL FOR
DARK FIBER NETWORK (NETWORK MAINE)
FOR THE UNIVERSITY OF MAINE SYSTEM**

1.0 GENERAL INFORMATION:

- 1.1 Purpose: The University of Maine System (UMS) is seeking proposals for the provision of a Dark Fiber Network.

This Request for Proposals (RFP) states the instructions for submitting proposals, the procedure and criteria by which a vendor may be selected and the contractual terms by which the UMS intends to govern the relationship between it and the selected vendor.

- 1.2 Definition of Parties: The University of Maine System will hereinafter be referred to as the "University" or "UMS." Respondents to the RFP shall be referred to as "Bidders." The Bidder to whom the contract is awarded shall be referred to as the "Contractor."

- 1.3 Background: The University of Maine System is comprised of seven geographically dispersed institutions of higher education; 11 University College outreach centers that offer on- and off-site access to System-wide courses and programs; a Board of Trustees and Chancellor, who together determine the nature, purpose, and direction of the universities and their respective programs, services, missions and budgets; and a System Office that performs a wide variety of policy and administrative support services for the 34,000 students and 5,000 employees of the University of Maine System.

NetworkMaine will be composed of Academic, Healthcare, Research, and Government Member Institutions. The NetworkMaine infrastructure will tie together these institutions effectively creating an e-Corridor linking the members not only to one another, but also to carriers and carrier facilities throughout the region. The network will primarily transport research and academic traffic, but is also intended to allow Healthcare and Government Member Institutions to form partnerships and collaborations with the region's Academic, and Research Member Institutions. All of NetworkMaine's Members may choose to use the enabling infrastructure to purchase additional services including point-to-point wavelengths, Internet access, and collocation at facilities where NetworkMaine has a presence.

The University intends to build a dark-fiber based network that will assure Maine's research and education community has the infrastructure to compete with peers throughout the United States and the world. This activity is critical not only to our institutions' ability to recruit top research faculty, but also as an important component in Maine's ability to retain high-technology research that depends on high-performance, carrier-independent dedicated access to similar national and international networks. This RFP is intended to allow the University to complete a fair and comprehensive evaluation of the dark-fiber solutions proposed by all vendors who have responded. From among the responses the University intends to analyze and select the best option(s) for completion of all stated objectives.

- 1.4 Scope: The University will approach the Bidder community as a single entity on behalf of

the institutions of research and higher education in Maine. The University will solicit proposals that encompass solutions for Maine, New Hampshire, and Massachusetts.

The University intends to secure long-term access to dark-fiber throughout the region to interconnect existing in-state dark fiber initiatives and to bring Maine in sync with existing dark fiber initiatives throughout the US. **The University intends to acquire dark fiber on an existing carrier's network through the traditional IRU process, however the University will entertain a public/private partnership to build jointly owned infrastructure.**

The University would prefer to use a single contractor. Bidders are encouraged to partner with other providers in order to provide a unified program across the entire region. However, if necessary, the University will select multiple Bidders. In the case that a multi-Bidder solution is selected, straightforward interconnection procedures become critically important evaluation criteria.

The University will evaluate the response to this RFP with consideration for both one-time costs and operating costs through the term. The University will analyze options based on a 5, 10 and 20-year operating window and will seek the solution that provides the lowest cost and the greatest flexibility during these time frames.

The University is seeking Bidders to provide price-protection on additional strands of fiber throughout the NetworkMaine footprint for 5 years. In addition, offering the option of obtaining additional collocation space throughout the NetworkMaine footprint for 5 years, with price-protection, will be viewed as highly favorable.

The University is interested primarily in IRU-type pricing with a greater up-front payment and a lesser annual maintenance cost. It is anticipated that proposals will contain an initial IRU cost with annual maintenance costs. **The University will use IRU pricing and ongoing maintenance costs for overall cost comparisons. The University welcomes proposals with optional payment plans in addition to IRU pricing. However, the University will be unable to evaluate proposals that do not include IRU-type pricing.**

The University actively seeks Bidders willing to build out their network where necessary to reach University facilities, in a way that is mutually beneficial to both parties. The University also welcomes Bidder partnerships with other companies for local dark-fiber loops from a Bidder's existing facilities to University-related facilities.

The University anticipates that this RFP describes only the first phase of the dark fiber project and welcomes Bidder proposals that would offer the University the opportunity to easily extend any contract to the east, west and north of these initially identified areas.

Bidders should include detailed technical information in the RFP response. **Ideally, this information should include detailed route maps, mid-span splice locations along those routes, and fiber-access locations on any additional routes available in the Northeast region.**

- 1.5 Underlying NetworkMaine Rationale: The University understands that while some service providers readily lease long haul dark fiber to the educational community, other service providers have yet to adopt business policies that embrace the provisioning of dark fiber resources to customers like the University. The University believes its requirement to build a cutting edge research and educational network make it an ideal candidate for a leased dark fiber arrangement. In reality, a managed services approach can only fulfill a portion of the University's needs. Those needs left unmet represent some of the most critical reasons for building NetworkMaine.

The University encourages prospective Bidders to consider the following prior to submitting an RFP response:

1.) The University intends to use the fiber network for experimental research on optical networking. By example, some of the University's peer organizations are already actively involved in an international effort to prototype "lambda switching" and "hybrid optical packet networks". Some of these efforts include experimental dynamic configuration of wavelengths. The experimental nature of this research would simply not be wise or even possible through a lit service. The results of this type of experiment in a large scale environment are invaluable, and could lead to a new generation of services and equipment that benefit the University as well as the larger carrier and network equipment provider community.

2.) NetworkMaine members expect to purchase additional services, such as IP services, local loops, lambdas and support services. Some of these services may be provided by the University. However, it is expected that a substantial portion of these services will be purchased from one or more outside vendors with a presence at NetworkMaine facilities. The University anticipates that many of NetworkMaine's initial members may connect directly to the NetworkMaine backbone via privately owned or leased fiber or other local options. However, as additional sites are brought to the NetworkMaine ring, the University anticipates that many members may want to peel-off spare bandwidth on their local loops into the NetworkMaine sites to procure commercial services from the NetworkMaine provider. Additionally, the University anticipates that many additional sites will want to attach beyond the initial PoP sites. This will result in an opportunity for additional lit services back haul, local loops and other services to bring those sites to the NetworkMaine points of presence.

3.) Nationally, research and education organizations are already building networks that have dark-fiber based architectures similar to the proposed NetworkMaine network. Maine can not afford to allow it's institutions of higher education to be left out. Bidders, in joining with the existing contractors that have already agreed to provide leased fiber to the University, have the opportunity to place themselves at the center of an important connectivity platform for the State's future.

- 1.6 Partial Proposals and Bidder Partnerships: The University understands that not all Bidders have a solution that fully addresses all of the sites the University intends to connect. The University strongly encourages Bidders with significant owned facilities in the Northeast to submit proposals that identify what locations they can serve. **The University strongly encourages Bidders to include in their proposal fiber swaps, partnerships, or other means by which an aggregate solution for the entire region could be proposed under a single contractual arrangement.**

Proposals that address only portions of this RFP will be considered less attractive than those proposals that appear to provide a complete solution. In general, the University expects, at a minimum, to see several complete proposals for the "West Side", "East Side" and "Southern Spur". Individual proposals for each component are encouraged as well. It is also anticipated that some Bidders may present partial solutions for an individual side of the ring or spur. These partial solutions for each side or spur will be considered significantly less attractive than solutions that include all required elements for a specific side or spur.

- 1.7 Support Services and Integrated Solutions: The University's primary intention in issuing this RFP is to secure a long-term dark fiber network upon which the University can

develop research and education services for the region. **The University will not accept a lit services solution in place of this primary objective.** Only after the fiber is secured and the University's ability to provision its own services on that fiber are in place will the University consider additional lit services. Already the marketplace has responded with dark-fiber offerings from at least three (3) vendors, and the University is assured that a dark fiber solution that meets its needs is available from commercial providers within the region.

The University may be interested in a strong partnership with a provider that could provide remote-hands support and possible installation and provisioning of equipment. The NetworkMaine team will weigh the benefits of such an arrangement against the flexibility and costs related to self-installing and self-maintaining its equipment.

To the extent that a Bidder wishes to propose additive lit services, remote hands, equipment installation, equipment sales, etc., the NetworkMaine team will actively investigate the benefit of those options. However, these proposals must be separable from the dark fiber solution, and any proposed services above and beyond dark fiber and collocation services should be proposed in an a la carte manner.

1.8 Evaluation Criteria: Proposals will be evaluated on many criteria deemed to be in the University's best interests, including, but not limited to completeness of the solution, presence in primary cities, collocation readiness and availability, site access policies, openness of cross-connect policy, fiber characteristics, interconnection procedures, all non-recurring and recurring costs, delivery timeline, financial stability and viability, and references.

1.9 Communication with the University: It is the responsibility of the Bidder to inquire about any requirement of this RFP that is not understood. Responses to inquiries, if they change or clarify the RFP in a substantial manner, will be forwarded by addenda to all parties that have received a copy of the RFP. The University will not be bound by oral responses to inquiries or written responses other than addenda.

Inquiries must be made to: Kevin Carr
Office of Strategic Procurement
University of Maine System
16 Central Street
Bangor, Maine 04401
(207) 973-3307

1.10 Award of Proposal: Presentations may be requested of two or more Bidders deemed by the University to be the best suited among those submitting proposals on the basis of the selection criteria. After presentations have been conducted, the University may select the Bidder which, in its opinion, has made the proposal that is the most responsive and most responsible and may award the contract to that Bidder. The University reserves the right to waive minor irregularities. Scholarships, donations, or gifts to the University will not be considered in the evaluation of proposals. The University reserves the right to cancel this RFP or reject any or all proposals in whole or in part, and is not necessarily bound to accept the lowest cost proposal if that proposal is contrary to the best interests of the University. Should the University determine in its sole discretion that only one Bidder is fully qualified, or that one Bidder is clearly more qualified than any other under consideration is, a contract may be awarded to that Bidder without further action.

During final contract negotiations, the Bidder will provide an opportunity to visit at least one of each type of fiber collocation sites it may have along its routes (i.e.: typical running line, typical gateway and perhaps any extraordinary site types.) The Bidder will provide actual OTDR readings on the fiber pairs and cross-connect jumpers that will be assigned

to the University during this phase of negotiation. **The Bidder should indicate in its proposal response how quickly, upon notice that it is a finalist for the contract award it would be able to make these site visits, fiber assignments and test results available. The Bidder should also indicate its maximum turn-around for final assignment and collocation rack availability upon final signature of a contract.**

- 1.11 Award Protest: Bidders may appeal the award decision by submitting a written protest to the Director of Strategic Procurement within five (5) business days of the date of the award notice, with a copy to the successful Bidder. The protest must contain a statement of the basis for the challenge.
- 1.12 Confidentiality: The information contained in proposals submitted for the University's consideration will be held in confidence until all evaluations are concluded and an award has been made. At that time, the winning proposal will be available for public inspection. **Pricing and other information that is an integral part of the offer cannot be considered confidential after an award has been made.** The University will honor requests for confidentiality for information of a proprietary nature to the extent allowed by law. Clearly mark any information considered proprietary.
- 1.13 Costs of Preparation: Bidder assumes all costs of preparation of the proposal and any presentations necessary to the proposal process.
- 1.14 Debarment: Submission of a signed proposal in response to this solicitation is certification that your firm (or any subcontractor) is not currently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this transaction by any State or Federal department or agency. Submission is also agreement that the University will be notified of any change in this status.
- 1.15 Proposal Understanding: By submitting a proposal, the Bidder agrees and assures that the specifications are adequate, and the Bidder accepts the terms and conditions herein. **Any exceptions should be noted in your response.**
- 1.16 Proposal Validity: Unless specified otherwise, all proposals shall be valid for 90 days from the due date of the proposal.
- 1.17 **Pre-Proposal Conference: A conference will be held on Friday, March 9, 2007 at 9:00 a.m. local time at Neville Hall, University of Maine, Orono, ME. The purpose of this conference is to answer questions and provide further clarification as may be required. Please hold all questions until this meeting. Attendance by all prospective bidders is optional. Firms planning to attend this pre-proposal conference should contact Erin Tapley 207-973-3313 no later than 4:30 p.m. local time on Wednesday, March 7, 2007, with the names and titles of the individuals who will attend.**
- 1.18 Proposal Submission: A **SIGNED ORIGINAL** and six (6) copies of the proposal must be submitted to the Office of Strategic Procurement, University of Maine System, 16 Central Street, Bangor, Maine 04401, in a sealed envelope by close of business on **Friday, March 23, 2007**, to be date stamped in order to be considered. Normal business hours are 8:00 a.m. to 5:00 p.m., Monday through Friday. Proposals received after the due date will be returned unopened. There will be no public opening of proposals (see Confidentiality clause). Vendors are strongly encouraged to submit proposals in advance of the due date to avoid the possibility of missing the due date because of unforeseen circumstances. Vendors assume the risk of the methods of dispatch chosen. The University assumes no responsibility for delays caused by any package or mail delivery service. Postmarking by the due date WILL NOT substitute for receipt of proposal. In the event that the University is closed due to inclement weather on the day that a proposal is

due, proposals will be accepted on the next day that the University is open. Vendors may wish to call 207-973-3298 if the weather is bad, to learn if the University has closed. Additional time will not be granted to any single vendor, however, additional time may be granted to all vendors when the University determines that circumstances require it.

FAXED OR E-MAIL PROPOSALS WILL NOT BE ACCEPTED.

Proposals must be submitted in a sealed envelope clearly marked with the proposal number and due date on the outside as follows:

Name of Bidder
Address of Bidder
Due Date
RFP #

2.0 GENERAL TERMS AND CONDITIONS:

The University anticipates that there will be at least two, if not three, contract frameworks that will result from this RFP process. First, the University and the Contractor will enter into a 20 Year IRU for at least one fiber backbone (1 pair) of fibers among designated sites. Second, the University and the Contractor will enter into a 5-year maintenance and collocation agreement with three (3) five-year renewals. The separation of the IRU from the maintenance agreement allows for adjustments in market and technology changes that may occur in the research and education market over each five year period. The University's interest in providing a cutting-edge, flexible backbone network is best served by the flexibility that a bifurcated fiber agreement will bring. Finally, depending on the ability of the Contractor to also offer local fiber loops and potentially lit services from the fiber POPs to NetworkMaine edge sites, the University and the Contractor will arrange a blanket agreement under which NetworkMaine participants could contract with the provider for local loops into their facilities.

- 2.1 Contract Documents: **Draft contract documents must be included with the RFP response.**
- 2.2 Contract Modification and Amendment: The parties may adjust the specific terms of this contract (except for pricing) where circumstances beyond the control of either party require modification or amendment. Any modification or amendment proposed by the Contractor must be in writing to the Office of Strategic Procurement. Any agreed upon modification or amendment must be in writing and signed by both parties.
- 2.3 Contract Term: The contract term shall be twenty (20) years for the fiber IRU. The contract term shall be five (5) years for the maintenance agreement with three (3) five-year renewals.
- 2.4 Contract Data: The Contractor is required to provide the University with detailed data concerning the contract at the completion of each contract year or at the request of the University at other times. The University reserves the right to audit the Contractor's records to verify the data.
- 2.5 Contract Validity: In the event one or more clauses of the contract are declared invalid, void, unenforceable or illegal, that shall not affect the validity of the remaining portions of the contract.
- 2.6 Cancellation/Termination: If the Contractor defaults in its agreement to provide personnel or equipment to the University's satisfaction, or in any other way fails to provide service in accordance with the contract terms, the University shall promptly notify the Contractor of

such default and if adequate correction is not made within five (5) calendar days, the University may take whatever action it deems necessary to provide alternate services and may, at its option, immediately cancel this Contract with written notice. Cancellation does not release the Contractor from its obligation to provide goods or services per the terms of the contract during the notification period.

- 2.7 Clarification of Responsibilities: If the Contractor needs clarification of, or deviation from, the terms of the contract, it is the Contractor's responsibility to obtain written clarification or approval from the Office of Strategic Procurement.
 - 2.8 Litigation: This Contract and the rights and obligations of the parties hereunder shall be governed by and construed in accordance with the laws of the State of Maine without reference to its conflicts of laws provisions. The Contractor agrees that any litigation; action or proceeding arising out of this Contract shall be instituted in state court located in the State of Maine.
 - 2.9 Assignment: Neither party of the contract shall assign the contract without the prior written consent of the other, nor shall the Contractor assign any money due or to become due without the prior written consent of the University.
 - 2.10 Equal Opportunity: In the execution of the contract, the Contractor and all subcontractors agree, consistent with University of Maine System policy, not to discriminate on the grounds of race, color, religion, sex, sexual orientation, including transgender status or gender expression, national origin or citizenship status, age, disability or veteran status and to provide reasonable accommodations to qualified individuals with disabilities upon request.
 - 2.11 Independent Contractor: Whether the Contractor is a corporation, partnership, other legal entity, or an individual, the Contractor is an independent contractor. If the Contractor is an individual, the Contractor's duties will be performed with the understanding that the Contractor is a self-employed person, has special expertise as to the services which the Contractor is to perform and is customarily engaged in the independent performance of the same or similar services for others. The manner in which the services are performed shall be controlled by the Contractor; however, the nature of the services and the results to be achieved shall be specified by the University. The Contractor is not to be deemed an employee or agent of the University and has no authority to make any binding commitments or obligations on behalf of the University except as expressly provided herein. The University has prepared specific guidelines to be used for contractual agreements with individuals (not corporations or partnerships) who are not considered employees of the System.
 - 2.12 Indemnification: The Contractor agrees to be responsible for, and to protect, save harmless, and indemnify the University and its employees from and against all loss, damage, cost and expense (including attorney's fees) suffered or sustained by the University or for which the University may be held or become liable by reason of injury (including death) to persons or property or other causes whatsoever, in connection with the operations of the Contractor or any subcontractor under this agreement.
- 3.0 PERFORMANCE TERMS AND CONDITIONS:
- 3.1 Contract Administration: The Associate Director for Communications and Network Services shall be the University's authorized representative in all matters pertaining to the administration of this contract.
 - 3.2 Payments: Payment will be upon submittal of an invoice to UMS-ITS Network Services,

Computing Center, 5752 Neville Hall, Orono, ME 04469 by the Contractor on a net 30 basis unless discount terms are offered. Invoices **must** include a purchase order number.

3.3 Employees: The Contractor shall employ only competent and satisfactory personnel and shall provide a sufficient number of employees to perform the required services efficiently and in a manner satisfactory to the University. If the Contract Administrator or designee, notifies the Contractor in writing that any person employed on this contract is incompetent, disorderly, or otherwise unsatisfactory, such person shall not again be employed in the execution of this contract without the written consent of the Contract Administrator.

3.4 Build-out Deadline: Facilities must be in place and tested to the University's satisfaction within ninety (90) days of contract execution. The build-out deadline will be adjusted and mutually agreed upon for a jointly owned new fiber build.

3.5 Requirements:

3.5.1 General Overview of Fiber Ring Requirements:

The University seeks to purchase a fiber network ring of at least two fibers that would connect Ellsworth through Bangor, Waterville, Augusta, and Lewiston to Portland, Maine then to Bath, Wiscasset, Belfast, and close back to Ellsworth, Maine. The University also seeks to purchase a spur from Portland, Maine to Boston/Cambridge, MA.

The University anticipates that there are some locations where the University might be better served by meeting the Contractor's fiber network with a mid-span meet-me at a splice case, as opposed to connecting or backhauling to the nearest collocation site. The University has specifically requested the locations of splice cases in the areas where this is likely.

The University anticipates installing a 10 Gbps/wavelength capable DWDM network on the Contractor's fiber. Contractor will provide either non-zero dispersion shifted fiber, NZDSF - ITU G.655, or non-dispersion compensated fibers, NDSF - ITU G.652 (G.652.D preferred), consistently throughout the network to simplify engineering and maintenance of the University DWDM electronics. DSF fiber (ITU G.653) is generally not acceptable and would only be considered if the previously stated fiber characteristics were unavailable. **Bidders must identify the fiber type they use in their response.**

The University is in the process of building two fiber optic routes that will spur off of the NetworkMaine ring; one from Bangor to Orono along Route 2 with the other from Ellsworth to Bar Harbor along Route 3. The University is interested in making fiber optic strands from these build outs available to vendors in trade for lower IRU pricing. **Bidders interested in this option should include in their response proposed parameters, terms and conditions of such an arrangement.**

See Appendix 1 for diagrams depicting the routes.

3.5.2 Collocation Requirements:

The University intends to use equipment and machine rooms at its own locations wherever possible to house equipment for the NetworkMaine ring. In Bangor, Augusta, Lewiston, Portland, and Belfast the University's own facilities will be interconnected to the long-line fiber provided by the Contractor. (The fiber interconnection requirements to use the University's own sites are described in the fiber requirements that follow.) In addition the University has access to collocation space in both 1 Summer St., Boston and 300 Bent St., Cambridge through its affiliation with the Northern Crossroads GigaPoP.

Bidders should provide pricing to bring fiber to either of these locations.

In all other locations, the University requires a collocation rack in the Contractor's facilities to house optical regeneration or add-drop equipment. In general, assuming NZDSF fiber, the University will require a single collocation rack and power at intervals of no more than 50 to 60 miles. The requirements for these collocation sites are as follows:

- Contractor must provide around the clock, seven days per week with no interruption (7x24) access by University designated staff, visitors or contractors for any reason related to the operation of the University's equipment, including installation, monitoring, repair or maintenance purposes. **As part of the RFP, Bidder must attach a copy of its policies and any potential fees related to the University's access.**
- Collocation Racks must provide the following power at each rack.
 - -48vdc dual power feeds of 30 amps each for running line sites.
 - -48vdc dual power feeds of 60 amps each for any primary University site where equipment will be located
 - Convenience power outlets of 120 volt AC within 8 feet of the University rack.
- **In listing their collocation capabilities, Bidders should indicate if plain-old-telephone service is available in each of the collocation sites in the RFP response. Additionally, Bidders should outline any costs to the University to extend POTS service from the telco demarcation point to the University collocation racks in the RFP response.**
- **Cross connect expectations and contractual requirements must be fully detailed in the RFP response including costs to connect from University collocation racks to Bidder long-line fibers, costs to cross-connect to other vendors already in each facility, and approaches and costs to bring new University provided fibers to meet-me or termination locations at each facility.**

3.5.3 Cross Connect and Open Interconnection Requirements:

The University requires that the Contractor support "vendor neutral" or "open interconnection cross connect" requests within its facilities. **Pricing for cross connects should be included in the RFP response and include both recurring and non-recurring costs for the initial NetworkMaine network described.** It is possible that after the initial build, the University will require additional cross-connects to University provided fiber, to the LEC's terminal at a POP or to alternate carriers. **At locations where these options are available, the Bidder must describe any cross-connect policies and all related cross-connect non-recurring and recurring costs in its RFP response.**

Bidders should include cross-connect costs for long-haul fiber interconnection to the NetworkMaine collocation racks in the long-term operating costs charged to the University to the extent possible. The University expects a mostly static environment on the long-haul fibers after initial installation. **The University will heavily weight the openness and costs of a vendor's cross-connect policy - this will be one of the primary evaluation criteria of proposals. Ideally, Bidders should build cross-connect costs into the initial purchase arrangement and reduce recurring long-term cross-connect costs.**

3.5.4 Meet-Me Hole and Mid-Span Interconnection Splicing:

The Bidder should detail policies and guidelines that document Meet-Me Manhole and Mid-Span Interconnection procedures along with detailed costs for these activities in its RFP response.

Bidders may assume that the University can bring fiber physically to a Bidder-provided mid-span splice point on a Bidder's long-haul network. **Bidder should detail the operational requirements and costs to splice those University fibers into the University-leased fibers at the Mid-Span splice point in its RFP response. In scenarios where Bidder fiber is not accessible to University-provided fiber (such as where the Mid-Span Meet-Me Point is on a high voltage transmission line tower), the Bidder shall indicate in its RFP response procedures for constructing an accessible meet-me point as well as estimated per-foot construction costs based on prior similar build-outs.**

3.5.5 Remote Hands Support:

The University seeks pricing for Remote Hands Support during normal business hours as well as off-hours emergency support for some fiber site locations. **Bidder should provide a description of how they envision such a service working in its RFP response. The Bidder should detail pricing for these services in the pricing matrix provided in Section 4.x of this RFP. These services should be priced a-la-carte with the full knowledge that the University may choose to contract for only selected services (or for no services at all).**

These services would include:

1. Power On/Off
2. Eyes on Equipment (with telephone support from the University team)
3. Connect / Disconnect and Loop-Back optical fibers
4. Cross Connects

3.5.6 University Leased Dark Fiber and Site Requirements:

In each of the fiber ring detail sections that follow, the University identifies the preferred locations where the University wishes to interconnect its services with the Contractor's network. In all cases, the cities indicated where the network must appear are mandatory and must be serviced by the fiber provider. Given the number of Bidders who are expected to respond to this RFP, and the lack of common cable routes or open collocation sites on some portions of this route, the University has identified three (3) typical scenarios to which it asks the Bidders to respond. For each instance, the Bidder should provide all of the information requested for the scenario that most closely resembles their situation in a given city.

As described previously, Bidders who cannot serve all of the cities required by the University will be viewed as offering a significantly less desirable solution than those Bidders who provide a complete solution for all of the required NetworkMaine sites.

Scenario 1: The Bidder's cable already is located in the University designated facility:

The Bidder must detail all non-recurring and recurring cross connect fees (if any) to get to University controlled equipment location at the exact site within the building indicated in the

description. If the site has a common Meet-Me room, the Bidder must detail costs to get to that location only.

Scenario 2: The Bidder's cable is not already located at the University designated facility:

The Bidder must indicate at least two, preferably three, approaches they believe the University could use to connect the specified locations with the Bidder's cable. The approaches should include:

- a) The Bidder would detail the cost for the vendor to use a 3rd party to extend to the NetworkMaine site.
- b) The Vendor would detail the cost to bring University provided fiber from a Meet-Me point into the Bidder's facility. The Bidder should designate where interconnections can occur near the Bidder's facility and potentially at splice points nearer to the University facilities.

Scenario 3: The Bidder's cable is not in the city the University wishes to serve:

- a) **If the city in question is a site where the University indicates that it intends to place equipment and attach other NetworkMaine members, the Bidder must provide pricing to extend dark fiber into the location in the city as specified by the University in this RFP. RFP responses should indicate how redundancy would be maintained on the proposed interconnection route so that the University could continue to locate its equipment at NetworkMaine facilities.**
- b) **If a redundant feed is not practical, the Bidder should adjust collocation, cross-connect and other details of their RFP response to accommodate NetworkMaine equipment at their nearest facility. A route map, or, less desirably, the fiber mileage of the unprotected segment, should also be included for evaluation by the NetworkMaine team.**

Generally, there are two types of facilities anticipated on each route. These site types are Primary Sites and Regeneration or Running Line Sites. **RFP responses must provide the following information for each site:**

Primary Sites:

- **Detail the address of the Bidder's facility**
- **Detail site access policies and normal Bidder staffing at the facility.**
- **Detail rack rental fees with 60 amps of power on A&B feeds.**
- **Where the University indicates it expects to bring its fiber to the facility to meet the Bidder, the Bidder should detail the side of the building and street on which any Meet-Me Holes or building entry conduits may be available. The Bidder must provide a site-plan diagram for the site and zero manhole locations.**
- **If known, the Bidder is encouraged to detail any local loop providers, dark fiber providers, CLECs or other service providers that may have services available to reach remote sites for cross-connection at this facility. If the Bidder has its own metro network connecting to this site, it should also**

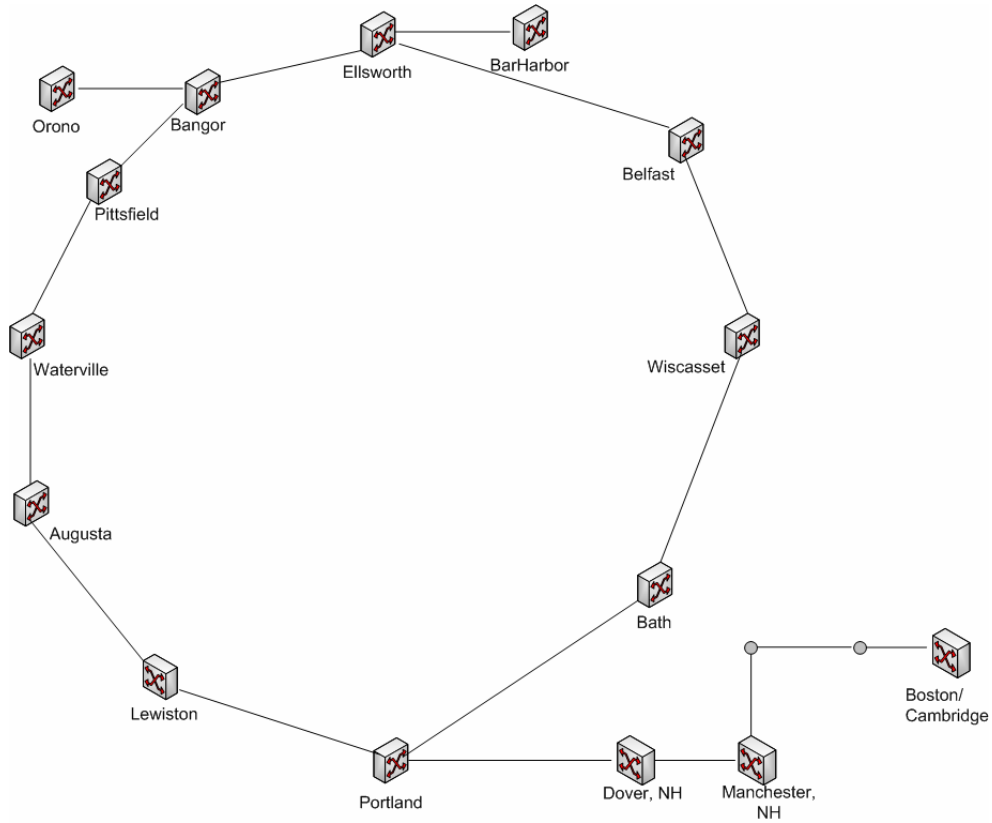
- **detail its capabilities.**
- **Indicate whether plain-old-telephone services are available in the facility and if there are any fees or issues regarding extending that service to the University racks.**
- **Detail cross connect fees, if any, between the collocation rack where the University will be located and the long-line fiber.**

Regeneration (Running Line):

- **Detail the address of facility. If no street address is available, provide geographic coordinates of the facility.**
- **Detail site access policies and normal Bidder site staffing.**
- **Detail rack rental fees with 30 amps of power on each of A&B feeds.**
- **Detail additional non-recurring and recurring costs to add amperage to the A&B feeds.**
- **Detail the side of the building and street on which any Meet-Me Holes or building entry conduits may be available. The Bidder should provide a site-plan diagram for the site and zero manhole locations.**
- **If known, the Bidder is encouraged to detail any local loop providers, dark fiber providers, CLECs or other service providers that may have services available to reach remote sites for cross-connection at this facility. If the Bidder has its own metro network connecting to this site, it should also detail its capabilities.**
- **Indicate if plain-old-telephone services are available in the facility.**
- **Detail cross connect fees, if any, between the collocation rack and the long-line fiber.**

3.5.7 General Fiber Details:

Bidders should provide a map of their entire route for the given fiber route proposed. The University strongly prefers this to be provided in an electronic format that allows the University to zoom-in. Data on street names, manhole locations, and splice points will be extremely helpful to the University in evaluating proposals. If Bidders do not wish to disclose this information for the entire route, they are encouraged to provide a high level of detail for the areas surrounding major University sites of interest described in each section below.



3.5.8 “West Side” Fiber Site Locations and Specifications:
(Ellsworth, Bangor, Pittsfield, Waterville, Augusta, Lewiston, and Portland)

General “West Side” Overview

The west side of the NetworkMaine ring will connect Ellsworth through Bangor and Waterville to Augusta. The West Side of the ring will then continue to the south through Lewiston to Portland.

Primary Site 1: Ellsworth, Maine

The University will establish its northern endpoint for both sides of the NetworkMaine Ring in Ellsworth Maine. The Contractor’s facility will need to support NetworkMaine optical add/drop equipment in a single collocation rack. **Contractors must provide 2 jumpers to and from the long-line fiber into the collocation rack towards Bangor.**

Contractors must provide meet-me and zero-manhole information at this site as the University wishes to interconnect with the Hancock County Higher Education Center located at the Mill Mall in Ellsworth, The Jackson Lab, and potentially other participants at this site.

Primary Site 2: Bangor, Maine – Texas Avenue

The University will establish its Bangor node at the Maine Public Broadcasting Network (MPBN) Technical Center on Texas Avenue. All collocation and equipment in Bangor will be located in MPBN’s Technical Center. The University does not anticipate any Contractors will have cross-connect costs at this facility if they land at this location.

The University has a limited fiber run between downtown Bangor and Texas Avenue. Bidders who do not have a direct presence in the MPBN Technical Center may use the secondary option of landing at either the Verizon CO on Park Street or at the University facility at 16 Central Street. Mid-span meet-me options also exist in Verizon man hole #2 at the intersection of State and Exchange streets and utility pole #10 on Pine Street. Through its own fiber, the University could then provide the metropolitan interconnection to Texas Avenue. **Bidders must fully detail all costs to get from the downtown Bangor locations to the Bidder’s cable head at these alternate landings. Bidders must also provide collocation costs for the Verizon Central Office on Park Street in the event that the University must place equipment at this location.**

The University’s clear preference is for the vendor to land both sides of its ring at Texas Avenue with the same fiber type used throughout its long-haul network.

Bidders must describe how they provide physical route diversity into Bangor and the individual facilities where they intend to cross-connect to the University. Diagrams or maps would be appropriate if available.

Regeneration Site 1: Pittsfield, Maine (or alternate location pending Contractor’s route)

The University anticipates most Bidders will have a regeneration point on their western route from Bangor to Portland at approximately Pittsfield, ME. The Contractor’s facility will need to support a NetworkMaine optical amplifier in a single collocation rack. **Bidders must provide 4 jumpers to and from the long-line fiber into the collocation rack: two towards Bangor and two towards the Waterville.**

Bidders must provide meet-me and zero-manhole information at this site in the

event the University wishes to eventually interconnect with a public school system or other participant at this site.

Regeneration Site 3: Waterville, Maine

The University anticipates most Bidders will have a regeneration point on their western route from Bangor to Portland at approximately Waterville, ME. The Contractor's facility will need to support a NetworkMaine optical amplifier in a single collocation rack. **Contractors must provide 4 jumpers to and from the long-line fiber into the collocation rack, two towards Bangor and two towards Augusta.**

Bidders shall provide meet-me and zero-manhole information at this site in the event the University wishes to eventually interconnect with a public school system or other participant at this site.

Primary Site 4: Augusta, Maine – Mid Span Meet

The preferred site to locate Augusta's NetworkMaine interconnection is the Katz Library at the University of Maine at Augusta Campus (UMA). The University has limited fiber from UMA to pole #41 on Mount Vernon Avenue where a meet-me tie-in could be accomplished to Contractor provided fiber. If this tie-in can be completed, the University would place its equipment at UMA and not at the Contractor's facility. **Bidder's RFP response must state whether this expectation can be met.**

All one time and recurring costs for this mid-span interconnection must be provided in the response.

Other locations in Augusta would require the tie in of University fiber to the Contractor's collocation facility. In these instances, Bidders must include in their responses costs for a collocation rack, 60 Amps dual feed power and cross connects to the long-line fiber, and two pairs of fiber for the lateral run to UMA.

Primary Site 5: Lewiston, Maine - Mid Span Meet

The preferred site to locate Lewiston's NetworkMaine interconnection is the Lewiston/Auburn College (LAC) located on Westminster Street. The University controls a 12 strand single mode fiber cable in the power space on the utility poles along Westminster Street between the Lewiston/Auburn College and the MPBN office building (pole #s 1 - 2 - 3 - 3 1/2 - 4 - 5 - 6 - 7 - 8 - 9 - 9.01). The University has assured that it has slack cable along this run. **The Bidder is responsible for designating the correct pole for interconnection.**

All one time and recurring costs for this mid-span interconnection must be provided in the response.

Other locations in Lewiston would require the tie in of the University fiber to the Contractor's collocation facility. In these instances, Bidders should include in their responses costs for a collocation rack, 60 Amps dual feed power and cross connects to the long-line fiber, and two pairs of fiber for the lateral run to Lewiston/Auburn College.

Primary Site 6: Portland, ME

The preferred site to locate Portland's NetworkMaine interconnection is the University of Southern Maine's (USM) Science building located at 96 Falmouth Street. The University has conduit space available from pole #7 on Falmouth Street into its machine room located on the second floor of the Science Building.

Other locations in Portland would require a lateral run provided from USM to the Contractor's collocation facility. In these instances, Bidders should include in their responses costs for a collocation rack, 60 Amps dual feed power and cross connects to the long-line fiber, and two pairs of fiber for the lateral run to USM.

3.5.9 "East Side" Fiber Site Locations and Specifications:
(Ellsworth, Belfast, Wiscasset, Bath, Portland)

General "East Side" Overview

The University anticipates a build-out of the "East Side" along a more coastal route to close the ring. The intent with this East Side is to bring the same capacity found in the West side to the research and education institutions in these communities and to provide a platform for future growth in the region. The intent is to assure that each individual site is diversely connected to the NetworkMaine ring.

Primary Site 1: Portland, Maine

The preferred site to locate Portland's NetworkMaine interconnection is the University of Southern Maine's (USM) Science building located at 96 Falmouth Street. The University has conduit space available from pole #7 on Falmouth Street into its machine room located on the second floor of the Science Building.

Other locations in Portland would require a lateral run provided from USM to the Contractor's collocation facility. In these instances, Bidders should include in their responses costs for a collocation rack, 60 Amps dual feed power and cross connects to the long-line fiber, and two pairs of fiber for the lateral run to USM.

Primary Site 2: Bath, Maine (or alternate location pending Bidder's route)

The University anticipates most Bidders will have a regeneration point on their eastern route from Portland to Ellsworth at approximately Bath, ME. The Contractor's facility will need to support NetworkMaine optical add/drop equipment in a single collocation rack. **Bidders must provide 4 jumpers to and from the long-line fiber into the collocation rack, two towards Portland and two towards Ellsworth.**

Contractors must provide meet-me and zero-manhole information at this site as the University has interest in lateral runs to the University College at Bath/Brunswick (9 Park Street, Bath), Bowdoin College in Brunswick and eventually to public school systems or other participant at this site. **Bidders are encouraged to provide separate pricing for these runs in their responses.**

Primary Site 3: Wiscasset, Maine (or alternate location pending Bidder's route)

The University anticipates most Bidders will have a regeneration point on their eastern route from Portland to Ellsworth at approximately Wiscasset, ME. The Contractor's facility will need to support NetworkMaine optical add/drop equipment in a single collocation rack. **Bidders must provide 4 jumpers to and from the long-line fiber into the collocation rack, two towards Portland and two towards Ellsworth.**

Contractors must provide meet-me and zero-manhole information at this site as the University has interests in a lateral run to the Darling Marine Center located at 193 Clark's Cove Road, Walpole, ME and eventually to public school systems or other participant at this site. Bidders are encouraged to provide separate pricing for the lateral run to the Darling Marine Center in their responses.

Primary Site 4: Belfast, Maine

The preferred site to locate Belfast's NetworkMaine interconnection is the Hutchinson Center located at 80 Belmont Avenue (Route 3).

Other locations in Belfast would require a lateral run provided from the Hutchinson Center to the Contractor's collocation facility. **In these instances, Bidders should include in their responses costs for a collocation rack, 60 Amps dual feed power and cross connects to the long-line fiber, and two pairs of fiber for the lateral run to the Hutchinson Center.**

Primary Site 5: Ellsworth, Maine

The University will establish its northern endpoint for both sides of the NetworkMaine Ring in Ellsworth. The Contractor's facility will need to support NetworkMaine optical add/drop equipment in a single collocation rack. **Bidders must provide 2 jumpers to and from the long-line fiber into the collocation rack towards Belfast.**

Bidders must provide meet-me and zero-manhole information at this site as the University wishes to interconnect with the Hancock County Higher Education Center located at the Mill Mall in Ellsworth, The Jackson Laboratory, and potentially other participants at this site.

3.5.10 "Southern Spur" Fiber Site Locations and Specifications:
(Portland, Dover, Manchester, Cambridge)

General "Southern Spur" Overview

NetworkMaine's southern spur will connect Portland, ME through Dover and Manchester, NH to Boston or Cambridge MA. Through its affiliation with the Northern Crossroads GigaPoP, the University has access to rack space at the following two facilities.

Northern Crossroads Gigapop
4th floor (in meet me room)
1 Summer Street
Boston, MA 02110

Or

Northern Crossroads Gigapop
Suite S007(The President and Fellows of Harvard College)/NoX
Level 3 Space
300 Bent Street
Cambridge, MA 02141

Bidders are encouraged to provide pricing to both locations so that the University can determine which site is the best alternative to meet its overall needs.

Primary Site 1: Portland, Maine

The preferred site to locate Portland's NetworkMaine interconnection is the University of Southern Maine's (USM) Science building located at 96 Falmouth Street. The University has conduit space available from pole #7 on Falmouth Street into its machine room located on the second floor of the Science Building.

Other locations in Portland would require a lateral run provided from USM to the Contractor's collocation facility. In these instances, vendors should include in their responses costs for a collocation rack, 60 Amps dual feed power and cross connects to the long-line fiber, and two pairs of fiber for the lateral run to USM.

Regeneration Site 2: Dover, New Hampshire

The preferred site to locate Dover's NetworkMaine interconnection is 75 Cocheco Street. The Contractor's facility will need to support a NetworkMaine optical amplifier in a single collocation rack. **Bidders must provide 4 jumpers to and from the long-line fiber into the collocation rack, two towards Portland and two towards Boston/Cambridge.**

Bidders shall provide meet-me and zero-manhole information at this site in the event the University wishes to eventually interconnect with participants at this site.

Regeneration Site 3: Manchester, New Hampshire (or alternate location pending Bidder's route)

The University anticipates most Bidders will have a regeneration point on their route from Portland to Boston/Cambridge at approximately Manchester, NH. The preferred site to locate Manchester's NetworkMaine interconnection is 34 Lawrence Road. The Contractor's facility will need to support a NetworkMaine optical amplifier in a single collocation rack. **Bidders must provide 4 jumpers to and from the long-line fiber into the collocation rack, two towards Portland and two towards Boston/Cambridge.**

Bidders shall provide meet-me and zero-manhole information at this site in the event the University wishes to eventually interconnect with participants at this site.

Primary Site 4: Boston/Cambridge, Massachusetts

The preferred sites to locate the southern end of NetworkMaine southern spur are either 1 Summer St. in Boston or 300 Bent Street in Cambridge. **Contractors must provide 2 jumpers to and from the long-line fiber into the Northern Crossroads collocation space.**

4.0 PROPOSAL CONTENT:

Bidders shall ensure that all information required herein be submitted with the proposal. All information provided should be verifiable by documentation requested by the University. Failure to provide all information, inaccuracy or misstatement may be sufficient cause for rejection of the proposal or rescission of an award. Bidders are encouraged to provide any additional information describing operational abilities. Responses to each requirement below should be in order and clearly marked with the section number to which they respond. A checklist of some important documentation for this RFP is included as the final page of this document. This list should be used as a guideline for developing a response. However, all sections in the RFP should be responded to in detail as part of the Bidder's RFP response. **Bidders must respond to items in bold type throughout this RFP.**

4.1 Business Profile: **At this time, we are not requesting the information listed in section 4.1 however, we may ask you to provide some or all the information in 4.1.1 and 4.1.2 prior to award.**

4.1.1 Financial – If requested, Bidders need only supply one copy of the following.

Public Companies

- annual reports for the last three years
- history and description of the company
- recent reports from securities analysts
- published reports about the company

Private Companies

- audited financial statements or tax forms from three years
- history and description of the company
- published reports about the company, if any

4.1.2 Credit rating/report, letter from bank, suppliers.

4.2 References: A list of three references shall be submitted with your proposal. These references should be agencies your firm has done business with in the past year **on projects with a similar scope to this one.**

4.3 Sample Invoices: Bidder must include a sample invoice that details all line items, one-time costs, and recurring costs that the University will see on an actual future invoice.

4.4 Tax Liabilities and Fees: **Bidders MUST include all property tax liabilities or other taxes and fees that would be assignable to the University with the IRU in the fee schedule.** The University would strongly prefer to pay these through the Contractor, and not directly to any collecting government agency. Management of the tax liability and the taxes themselves are to be included in cost proposals and sample invoices from the Bidders.

4.5 Collocation Costs: Collocation costs should include power fees, installation and ongoing fees for adding supplementary amperage to existing power feeds, cross connect costs, rack installation and ongoing rental fees and, where specified, meet-me area or customer-provided fiber entrance charges.

4.6 Security/Risk Management: Bidders must provide a description of all Security/Risk Management measures in place to protect both the Contractor's dark fiber network and the University's equipment located in the Contractor's facilities.

4.7 Liability Insurance: Bidders must provide a description of all liability and property insurances that Bidders will have in place relative to the contract as outlined in this RFP.

- 4.8 Pricing: Bidders must fill out the following pricing matrix. The intent will be to document all one-time and recurring operating costs associated with the work described above. All work related to NetworkMaine, which would be charged to the University or its contractors by the Bidder should be included in the spreadsheet below. The Bidder will be encouraged to add rows and detail if necessary for any item.

4.8.1 Pricing for “West Side” Locations:

Fiber Non-Recurring Costs for IRU for 1 Pair of Fibers

	One-Time Costs	Monthly Costs	Annual Costs
West Side			
Ellsworth to Bangor			
Bangor to Pittsfield			
Pittsfield to Waterville			
Waterville to Augusta			
Augusta to Lewiston			
Lewiston to Portland			

Installation, Cross Connection and Other One-Time Activation Fees

Ellsworth			
	Construction		
	Cross-connects		
Bangor			
	Construction		
	Cross-connects		
	Colo-Rack-Park St (optional)		
Pittsfield			
	Cross-connects		
	Colo-Rack		
Waterville			
	Cross-connects		
	Colo-Rack		
Augusta			
	Construction and		

	Interconnection			
	Cross-connects (optional)			
	Colo-Rack (optional)			
Lewiston				
	Construction and Interconnection			
Portland				
	Construction and Interconnection			

Fiber Loss Budgets on Long-Line Spans

		Fiber Type per segment	Loss in dB @ 1550 nm	Distance in miles
Ellsworth	Bangor			
Bangor	Pittsfield			
Pittsfield	Waterville			
Waterville	Augusta			
Augusta	Lewiston			
Lewiston	Portland			

4.8.2 Pricing for “East Side” Locations:

Fiber Non-Recurring Costs for IRU for 1 Pair of Fibers

	One- Time Costs	Monthly Costs	Annual Costs
Portland to Bath			
Bath to Wiscasset			
Wiscasset to Belfast			
Belfast to Ellsworth			

Installation, Cross Connection and Other One-Time Activation Fees

Portland			
Construction and Interconnections			
Bath			
Cross-connects			
Colo-Rack			
Wiscasset			
Cross-connects			
Colo-Rack			
Belfast			
Construction and Interconnection			
Ellsworth			
Cross-connects			
Colo-rack			

Fiber Loss Budgets on Long-Line Spans

Optical Loss Budgets		Fiber Type per segment	Loss in dB @1550 nm	Distance in miles
Portland	Bath			
Bath	Wiscasset			

Wiscasset	Belfast			
Belfast	Ellsworth			

4.8.3 Pricing for “Southern Spur” Locations:

Fiber Non-Recurring Costs for IRU for 1 Pair of Fibers

	One-Time Costs	Monthly Costs	Annual Costs
Portland to Dover, NH			
Dover, NH to Manchester, NH			
Manchester, NH to 300 Bent St. Cambridge, MA			
or			
Manchester, NH to 1 Summer St. Boston, MA			

Installation, Cross Connection and Other One-Time Activation Fees

Portland, ME			
Construction and Interconnections			
Dover, NH			
Cross-Connect costs			
Collocation rack costs			
Manchester, NH			
Cross-Connect costs			
Collocation rack costs			
300 Bent St. Cambridge, MA			
Cross-Connect costs			
Collocation rack costs			
1 Summer St. Boston, MA			
Cross-Connect costs			
Collocation rack costs			

Fiber Loss Budgets on Long-Line Spans

Optical Loss Budgets		Fiber Type per segment	Loss in dB @ 1550 nm	Distance in miles
Portland	Dover			
Dover	Manchester			
Manchester	300 Bent St. Cambridge			
Manchester	1 Summer St. Boston			

Remote Hands and Eyes on Equipment Availability

(Please edit to indicate actual services available)

Location	Requested Coverage Availability	Requested Response Time	Normal Hourly Rate	Off-Hours Hourly Rate
Dover, NH	7x24	2 hours		
Manchester, NH	7x24	2 hours		
300 Bent St. Cambridge, MA	7x24	4 hours		
1 Summer St. Boston, MA	7x24	4 hours		

5.0 SIGNATURE:

COMPANY NAME _____

By: _____
(Signature)

(Print Name)

(Title)

(Date)

Contractual and Pricing:

- **Provided pricing for 20 Year IRU on each fiber segment by filing out fiber segment pricing sheets**
- **Provided pricing for 5 Year Maintenance contract on IRU with 3 renewal options of 5 years each**
- **Provided all non-recurring and recurring cross connection costs on cross connection cost sheets**
- **Provided detail of interconnection, meet-me and local services from each site**
- **Provided sample contracts for the bifurcated IRU contract and maintenance contract**
- **Provided a sample invoice including taxes and other miscellaneous fees**
- **Responded to remote hands and facility access charges**
- **Responded to price protection for future purchases**
- **Provided description of all Security/Risk Management measures**
- **Provided description of all liability and property insurances**

Operational Details:

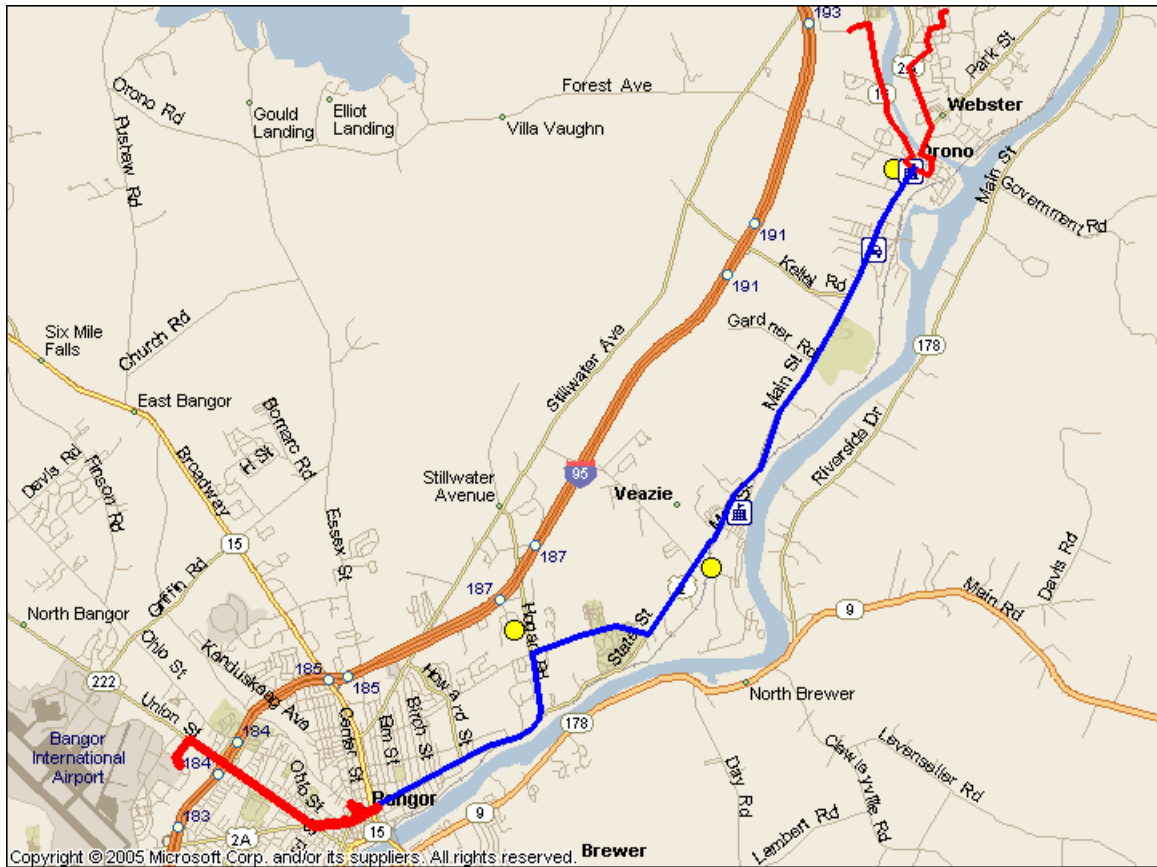
- **Have included collocation facility access policy**
- **Described standard maintenance practices**
- **Described emergency maintenance practices**
- **Described testing and turn-over practices for new fiber assignments**
- **Described remote-hands capability**

Technical Details:

- **Provided Overall Fiber Segment Distances and Losses**
- **Provided a map of the fiber ring with the addresses or locations of each running line or access point on the network**
- **Provided detail maps of the areas surrounding sites of interest to the University, or preferably provided a full detail map of the entire ring**
- **Provided Splice Point or zero-manhole information as requested**
- **Detailed all Fiber Types on each segment**
- **Described Power and Redundancy standards for all facilities and any exceptions**

Appendix 1 UMS fiber Routes

Bangor to Orono



Ellsworth to Bar Harbor

