



Administered by
UNIVERSITY OF MAINE SYSTEM
Office of Strategic Procurement

REQUEST FOR PROPOSALS

DARK FIBER NETWORK (MaineREN)
University of Maine System

RFP # 26 - 10

ISSUE DATE:
April 15, 2010

OPTIONAL PRE-PROPOSAL MEETING:
Friday, April 23, 2010 at 1:00 p.m.

PROPOSALS MUST BE RECEIVED BY:
May 12, 2010

DELIVER PROPOSALS TO:

University of Maine System
Office of Strategic Procurement
Attn: Hal Wells
16 Central Street
Bangor, ME 04401

SECTION ONE

1.0 GENERAL INFORMATION:

- 1.1 Purpose: The University of Maine System acting on behalf of Networkmaine 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 University 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 "Networkmaine". Respondents to the RFP shall be referred to as "Bidder(s)" or "bidder(s)". 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 is a new unit of the University of Maine System (University). Networkmaine's intention is to create a fiber optic based network (in most cases) to provide K-20 schools, libraries, state and local government, and research entities with a cost-effective solution to address advanced network services, high speed interconnectivity between network participants, and connectivity to both the commodity Internet and the national research and education network, Internet2.

Networkmaine is composed of Academic, Research, and Government Member Institutions. The MaineREN infrastructure ties 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 Government Member Institutions to form partnerships and collaborations with the region's Academic, and Research Member Institutions. All of MaineREN's connecting members may choose to use the enabling infrastructure to purchase additional services including point-to-point wavelengths, Internet access, and collocation at facilities where MaineREN has a presence.

With its regional NSF EPSCoR partner institutions in New Hampshire, Rhode Island, Vermont, and Delaware, the Maine EPSCoR office and Networkmaine have been planning for and seeking funds to develop a northern-New England regional fiber optic network. In response to the federal National Science Foundation (NSF) EPSCoR office's RII Track 2 Cyberinfrastructure proposal solicitation, Vermont EPSCoR submitted a proposal on behalf of the regional group in early January 2009 that included requests for funding to support the acquisition of optical fiber in Maine. The grant proposal was funded and provides \$1,500,000 in funding across three years for an optical fiber network.

The same regional group requested supplements to NIH NCRR, INBRE, and COBRE grants for both specific regional scientific research projects and regional cyber infrastructure development. Mount Desert Island Biological Laboratory is the lead institution for the Maine INBRE. MDI-BL's proposal included \$900,000 in funding across two years for the leasing of

optical DWDM equipment. These supplements were recommended for funding in September, 2009.

One-time funds available from these two grants total \$2.4M for the leasing of dark fiber and optical DWDM equipment.

The University intends to extend its dark fiber based network to 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 across much of Maine.

The University intends to secure long-term access to dark fiber throughout the state 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 provider'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 20 year operating window and will seek the solution that provides the lowest cost and the greatest flexibility during this time frame.

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

The University is interested primarily in IRU-type pricing with greater up-front payments during the first three years of the term 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.

This RFP describes the third phase of a multi-phase dark fiber project. The University welcomes Bidder proposals that would offer the University the opportunity to easily extend any contract beyond 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 Maine.**

- 1.5 Underlying MaineREN 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 MaineREN.

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

- 1.5.1 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.
- 1.5.2 MaineREN 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 MaineREN facilities. The University anticipates that many of Networkmaine's initial members may connect directly to the MaineREN backbone via privately owned or leased fiber or other local options. However, as additional sites are brought into MaineREN, the University anticipates that many members may want to peel-off spare bandwidth on their local loops into the MaineREN sites to procure commercial services from the MaineREN 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 MaineREN points of presence.
- 1.5.3 Nationally, research and education organizations are already building networks that have dark fiber based architectures similar to the proposed MaineREN network. Maine cannot 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 Maine 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. Individual proposals for each component are encouraged as well. It is also anticipated that some Bidders may present partial solutions for an individual route. These partial solutions will be considered significantly less attractive than solutions that include all required elements for a specific route.

- 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 state. **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 state.

The University may be interested in a strong partnership with a provider that could provide leasing or reseller services for Ciena DWDM equipment. The University will weigh the benefits of such an arrangement against the flexibility and costs related to leasing or purchasing Ciena equipment from a third party.

To the extent that a Bidder wishes to propose additive lit services, or equipment sale / leasing, etc., the Networkmaine team will actively investigate the benefit of those options. **In particular, the University is interested in leasing Ciena DWDM equipment.** 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. Addenda will also be posted on our web site, www.maine.edu/strategic/upcoming_bids.php. The University will not be bound by oral responses to inquiries or written responses other than addenda.

Inquiries must be made to: Hal Wells
Office of Strategic Procurement
University of Maine System
16 Central Street
Bangor, Maine 04401
(207) 973-3302
hcwells@maine.edu

- 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 of the fiber paths between the handoff points 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 University of Maine System's Director of Strategic Procurement within five (5) business days of the date of the award notice, with a copy of the protest 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 one hundred-twenty (120) days from the due date of the proposal.
- 1.17 Pre-Proposal Conference: A conference will be held on Friday, April 23, 2010 at 1:00 p.m. local time at room 124 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 Jeff Letourneau 207-561-3507 no later than 4:30 p.m. local time on Thursday, April 22, 2010, with the names and titles of the individuals who will attend.

- 1.18 Proposal Submission: A **SIGNED** original and three (3) 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 May 12, 2010, to be date stamped by the Office of Strategic Procurement in order to be considered. Normal business hours are 8:00 a.m. to 5:00 p.m., Monday through Friday. Bidders may wish to call (207) 973-3298 to determine if University operations have been suspended. Proposals received after the due date will be returned unopened. There will be no public opening of proposals (see Confidentiality clause). In the event of suspended University operations, proposals will be due the next business day. 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. 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.** The envelope must be **clearly** identified on the outside as follows:

Name of Bidder
Address of Bidder
Due Date
RFP # 26-10

Where possible, all materials submitted should be fully recyclable. Submissions shall be on standard 8.5 x 11, letter-sized paper and be clipped together without binding.

END SECTION ONE

SECTION TWO

2.0 GENERAL TERMS AND CONDITIONS:

The University anticipates that there will be at least two, if not more, contract frameworks resulting from this RFP process. First, the University and the Contractor will enter into a 20-year IRU for at least one fiber backbone (4 strands) and optionally as many as 8 strands of fibers among designated sites. Second, the University and the Contractor may 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 lease or resell the Ciena DWDM equipment, the University and the Contractor will arrange a blanket agreement under which the University could contract with the provider for such equipment.

- 2.1 Contract Documents: **Draft contact documents must be included with your response to this RFP.**
- 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 and collocation agreement with three (3) five-year renewals possible.
- 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 Non-Waiver of Defaults: Any failure of the University to enforce or require the strict keeping and performance of any of the terms and conditions of this Contract shall not constitute a waiver of such terms, conditions, or rights.
- 2.7 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.
- 2.8 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 Contract Administrator.

- 2.9 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 principles. The Contractor agrees that any litigation, action or proceeding arising out of this Contract, shall be instituted in a state court located in the State of Maine.
- 2.10 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.
- 2.11 Equal Opportunity: In the execution of the Contract, the Contractor and all subcontractors agree, consistent with University policy, not to discriminate on the grounds of race, color, religion, sex, sexual orientation, transgender status or gender expression, national origin or citizenship status, age, disability or veteran's status and to provide reasonable accommodations to qualified individuals with disabilities upon request. The University encourages the employment of individuals with disabilities.
- 2.12 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 University.
- 2.13 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.

END SECTION TWO

SECTION THREE

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 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 prior written consent of the Contract Administrator.
- 3.3 Payments: Payment will be upon submittal of an invoice to Networkmaine, 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. The University is using several, preferred methods of payment: PCard (Visa); Bank of America's ePayables and PayMode electronic payment systems. Please indicate your ability to accept payment via any or all of these methods.
- 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 new fiber build.
- 3.5 Requirements:

3.5.1 General Overview of Fiber Route Requirements:

The University seeks to purchase multiple fiber routes of at least two fiber pairs (four strands) and as many as four fiber pairs (eight strands) as follows:

A route from Ellsworth to Brunswick

A route from Presque Isle through Houlton and Machias to Ellsworth

In addition the University is interested in dark fiber to Farmington and Fort Kent

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. The fiber provided must be able to pass native 10Gbps wavelengths. Contractor will provide either non-zero dispersion shifted fiber, NZDSF - ITU G.655 (preferred), or non-dispersion compensated fibers, NDSF - ITU G.652.D, 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 used in their response.**

Fiber Performance Requirements:

Each span between MaineREN locations must pass optical characterization testing which will be carried out following testing procedures approved by

Networkmaine. Should any of the tests below fail initially or throughout the lifetime of the contract, Networkmaine may require the Contractor to resolve the fiber's performance to Networkmaine's satisfaction as stated below. In such a case Networkmaine would supply data and work with the Contractor to resolve such an issue.

Per node-to-node span tests:

Polarization mode dispersion (PMD)	<10ps
Chromatic dispersion (@1550)	<1040ps/nm
Optical return loss (ORL)	<27dB
OTDR Measurements	
Optical splices	<.3dB
Connector loss	<.5dB
Reflections	<40dB
Cable Attenuation	<.25dB/km @ 1550

The University currently has three 10G capable fiber optic routes; one from Bangor to Orono along Route 2 (approximately 10 miles with 72 strands available), the second from Ellsworth to Bar Harbor along Route 3 (approximately 25 miles with 36 strands available), and the third from Portland to Brunswick along Route 1 (approximately 30 miles with 24 strands available). The University is interested in making fiber optic strands from these build outs available to bidders 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 MaineREN network. In Fort Kent, Presque Isle, Houlton, Orono, Calais, Machias, Ellsworth, Belfast, Brunswick, and Farmington 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.) **Bidders should provide pricing to bring fiber to these locations.**

If other locations are necessary, 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 80 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
 - Convenience power outlets of 120 volt AC within 8 feet of the University rack.
 - Either POTS line or 10Base-TX Ethernet drop w/internet service

- In listing their collocation capabilities, Bidders should indicate if plain-old-telephone (POTS) service or 10Base-TX with Internet service is available in each of the collocation sites in the RFP response. Additionally, Bidders should outline any costs to the University to extend this service 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 MaineREN 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 MaineREN 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 University Leased Dark Fiber and Site Requirements:

In each of the fiber 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 MaineREN 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 MaineREN 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 MaineREN 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 MaineREN 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 MaineREN 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 University.

Generally, there are two types of facilities anticipated on each route. These site types are Primary (Add/Drop) sites and Regeneration (ILA) sites. **RFP responses must provide the following information for each site:**

Primary (Add/Drop) site:

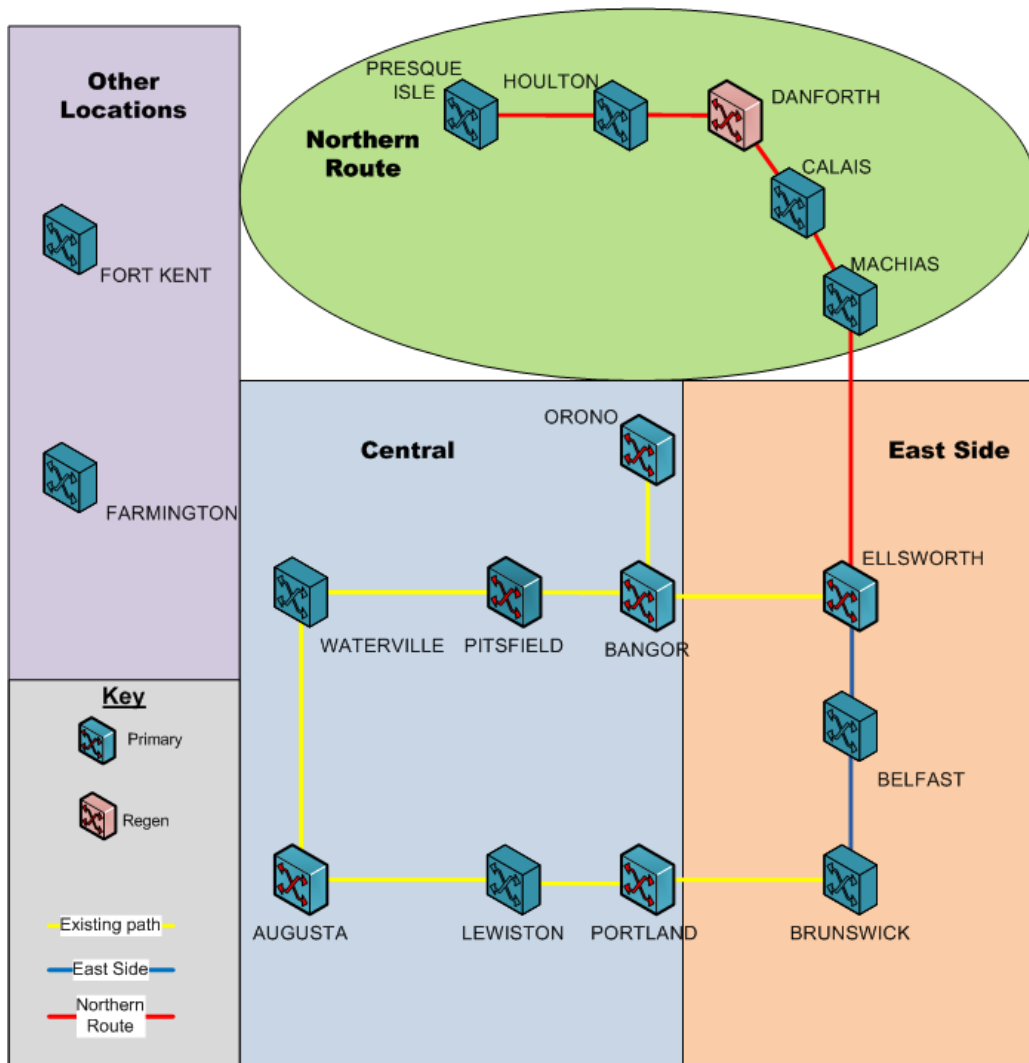
- **Detail the address of the Bidder's facility.**
- **Detail site access policies and normal Bidder staffing at the facility.**
- **Detail rack rental fees with 30 amps of DC power on A&B feeds.**
- **Where the University indicates it expects to bring its fiber to the facility to meet the Bidder, the 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 and/or Internet 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 and fees, if any, between the collocation rack where the University will be located and the long-line fiber.**

Regeneration (ILA):

- **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 DC 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 and/or Internet services are available in the facility.**
- **Detail cross connect and fees, if any, between the collocation rack and the long-line fiber.**

3.5.6 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.



3.5.7 “East Side” Fiber Site Locations and Specifications:
(Ellsworth, Belfast, and Brunswick)

General “East Side” Overview

The East side of the MaineREN ring will connect Ellsworth through Belfast to Brunswick. The East Side of the ring will close the pre-existing central route that runs from Brunswick through Portland and Bangor, back to Ellsworth into a ring.

Primary Site 1: Ellsworth, Maine – City Hall

The University has established its northern endpoint for both sides of the MaineREN Ring in Ellsworth City Hall, Ellsworth, Maine.

There is a meet-me splice point just outside Ellsworth City Hall on Church Street.

Primary Site 2: Belfast, Maine – Hutchinson Center

The preferred site to locate Belfast’s MaineREN 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, 30 Amps dual feed DC power and cross connects to the long-line fiber, and four pairs of fiber for the lateral run to the Hutchinson Center.**

Primary Site 3: Brunswick, Maine – Bowdoin College

The preferred site to locate Brunswick’s MaineREN interconnection is Bowdoin College’s Hubbard Hall.

There is an underground conduit entrance to Hubbard Hall from an utility pole on the Bath Road. Optionally, but less desirably the University has a meet-me splice point on pole #1 on Middle Street.

Other locations in Brunswick would require a lateral run provided from Bowdoin College to the Contractor’s collocation facility. In these instances, Bidders should include in their responses costs for a collocation rack, 30 Amps dual feed DC power and cross connects to the long-line fiber, and four pairs of fiber for the lateral run to Bowdoin College.

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) and the Building 645 at the old Brunswick Naval Air Station. **Bidders are encouraged to provide separate pricing for these runs in their responses.**

3.5.8 “Northern Route” Fiber Site Locations and Specifications:
(Ellsworth, Machias, Calais, Topsfield/Danforth, Houlton, Presque Isle)

General “Northern Route” Overview

The University anticipates a build-out of the “Northern Route” to extend the reach of its existing fiber backbone into Aroostook County. The intent with this Northern Route is to bring the same capacity found in the existing MaineREN backbone 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 MaineREN network.

Primary Site 1: Ellsworth, Maine – City Hall

The University has established its southern endpoint for the Northern Route of the MaineREN network in Ellsworth City Hall, Ellsworth, Maine.

There is a meet-me splice point just outside Ellsworth City Hall on Church Street.

Primary Site 2: Machias, Maine – University of Maine at Machias

The preferred site to locate Machias’ MaineREN interconnection is the UMM’s Torrey Hall located at 116 O’Brien Avenue (Route 1).

Other locations in Machias would require a lateral run provided from UMM to the Contractor’s collocation facility. In these instances, Bidders should include in their responses costs for a collocation rack, 30 Amps dual feed DC power and cross connects to the long-line fiber, and four pairs for the lateral run to UMM. Bidders must provide 2 sets of jumpers both to and from the long-line fiber into the collocation rack, 2 towards Ellsworth and 2 towards Calais.

Primary Site 3: Calais, Maine

The preferred site to locate Calais’ MaineREN interconnection is the Calais High School located on River Road (Route 1).

Other locations in Calais would require a lateral run provided from the Calais High School to the Contractor’s collocation facility. **In these instances, Bidders should include in their responses costs for a collocation rack, 30 Amps dual feed DC power and cross connects to the long-line fiber, and four pairs of fiber for the lateral run to Calais High School. Bidders must provide 2 sets of jumpers both to and from the long-line fiber into the collocation rack, 2 towards Machias and 2 towards Houlton.**

Regeneration Site 4: Topsfield/Danforth, Maine (or alternate location pending Bidder’s route)

The University anticipates most Bidders will have a regeneration point on their route from Calais to Houlton at either Topsfield or Danforth, ME. The Contractor’s facility will need to support a MaineREN optical amplifier in a single collocation rack. **In these instances, Bidders should include in their responses costs for a collocation rack with 30 Amps dual feed DC power. Bidders must provide 2 sets of jumpers both to and from the long-line fiber into the collocation rack, 2 towards Calais and 2 towards Houlton.**

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 5: Houlton, Maine

The preferred site to locate Houlton's MaineREN interconnection is the Houlton Higher Education Center located at 18 Military Street.

Other locations in Houlton would require a lateral run provided from the Houlton Higher Education Center to the Contractor's collocation facility. **In these instances, Bidders should include in their responses costs for a collocation rack, 30 Amps dual feed DC power and cross connects to the long-line fiber, and four pairs of fiber for the lateral run to Houlton Higher Education Center. Bidders must provide 2 sets of jumpers both to and from the long-line fiber into the collocation rack, 2 towards Calais and 2 towards Presque Isle.**

Primary Site 6: Presque Isle, Maine

The preferred site to locate Presque Isle's MaineREN interconnection is the University of Maine – Presque Isle, Folsom Hall, located at 181 Main Street (Route 1). Entrance into UMPI is via underground conduit from Main Street to South Hall. There is University owned conduit between South and Folsom Halls.

Other locations in Presque Isle would require a lateral run provided from the University of Maine – Presque Isle to the Contractor's collocation facility. **In these instances, Bidders should include in their responses, costs for a collocation rack, 30 Amps dual feed DC power and cross connects to the long-line fiber, and four pairs of fiber for the lateral run to University of Maine – Presque Isle. Bidders must provide 4 sets of jumpers both to and from the long-line fiber into the collocation rack, 2 towards Houlton and 2 towards Fort Kent.**

3.5.9 Other Locations and Specifications: (Farmington, Fort Kent)

General "Other Locations" Overview

The University is interested in acquiring dark fiber to both its Fort Kent and Farmington campuses. The University does not have predetermined routes defined to these locations. Redundant, geographically diverse routes are preferred depending on associated costs. A route heading out of Presque Isle to Fort Kent with a diverse path back to Orono is preferred. Likewise, a route out of Orono toward Farmington with a diverse path back to Portland is preferred. **Bidders are encouraged to provide pricing for fiber routes to both locations.**

Primary Site 1: Fort Kent, Maine

The preferred site to locate Fort Kent's MaineREN interconnection is the University of Maine – Fort Kent's (UMFK) Old Model School building located at 23 University Drive.

Other locations in Fort Kent would require a lateral run provided from UMFK to the Contractor's collocation facility. **In these instances, vendors should include in their responses costs for a collocation rack, 30 Amps dual feed DC power and cross**

connects to the long-line fiber, and four pairs of fiber for the lateral run to UMF. Bidders must provide 4 sets of jumpers both to and from the long-line fiber into the collocation rack.

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 2: Farmington, Maine

The preferred site to locate Farmington's MaineREN interconnection is the University of Maine – Farmington's (UMF) Computer Center located on the corner of South and High streets.

Other locations in Farmington would require a lateral run provided from UMF to the Contractor's collocation facility. **In these instances, vendors should include in their responses costs for a collocation rack, 30 Amps dual feed power and cross connects to the long-line fiber, and four pairs of fiber for the lateral run to UMF. Bidders must provide 4 sets of jumpers both to and from the long-line fiber into the collocation rack.**

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.

3.5.10 Ciena DWDM Equipment Lease

Bidders are encouraged to describe their ability and willingness to lease Ciena DWDM equipment to the University. The University is interested in a multi-year lease with an option to buy out the equipment at lease end. The University is also interested in front loading the lease payments in years one and two with smaller payments in subsequent years.

END SECTION THREE

SECTION FOUR

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 Optical Equipment Leasing: Bidders should provide sample leasing terms and contract.

- 4.7 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.
- 4.8 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.
- 4.9 Payment Method: Indicate your ability to accept electronic payments. (Section 3.3)

- 4.10 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.

4.10.1 Pricing for “East Side Route” Locations:

Fiber Non-Recurring Costs for IRU for 2 Pairs of Fibers

	One-Time Costs	Monthly Costs	Annual Costs
Eastern Route			
Ellsworth Belfast			
Belfast to Brunswick			

Installation, Cross Connection and Other One-Time Activation Fees

Ellsworth			
	Construction and Interconnection		
	Cross-connects		
Belfast			
	Construction and Interconnection		
	Cross-connects		
Brunswick			
	Construction and Interconnection		
	Cross-connects		

Fiber Loss Budgets on Long-Line Spans

		Fiber Type per segment	Loss in dB @ 1550 nm	Distance in miles
Ellsworth	Belfast			
Belfast	Brunswick			

4.10.2 Pricing for “Northern Route” Locations:

Fiber Non-Recurring Costs for IRU for 2 Pairs of Fibers

	One- Time Costs	Monthly Costs	Annual Costs
Ellsworth to Machias			
Machias to Topsfield/Dansforth			
Topsfield/Dansforth to Houlton			
Houlton to Presque Isle			

Installation, Cross Connection and Other One-Time Activation Fees

Ellsworth			
Construction and Interconnection			
Cross-connects			
Machias			
Construction and Interconnection			
Cross-connects			
Topsfield/Dansforth			
Construction and Interconnection			
Cross-connects			
Colo-Rack			
Houlton			
Construction and Interconnection			
Cross-connects			
Presque Isle			
Construction and Interconnection			
Cross-connects			

Fiber Loss Budgets on Long-Line Spans

Optical Loss Budgets		Fiber Type per segment	Loss in dB @ 1550 nm	Distance in miles
Ellsworth	Machias			
Machias	Topsfield/Dansforth			
Topsfield/Dansforth	Houlton			
Houlton	Presque Isle			

4.10.3 Pricing for "Other" Locations:

Fiber Non-Recurring Costs for IRU for 2 Pairs of Fibers

	One-Time Costs	Monthly Costs	Annual Costs
Fort Kent			
Farmington			

Installation, Cross Connection and Other One-Time Activation Fees

Fort Kent, ME				
	Construction and Interconnections			
	Cross-Connect costs			
	Collocation rack costs (optional)			
Farmington, ME				
	Construction and Interconnections			
	Cross-Connect costs			
	Collocation rack costs (optional)			

Fiber Loss Budgets on Long-Line Spans*

Optical Loss Budgets		Fiber Type per segment	Loss in dB @ 1550 nm	Distance in miles
Fort Kent				
Farmington				

*As the University has not defined these routes, please build a matrix detailing all regeneration locations along the proposed routes as well as which MaineREN locations the routes will terminate at.

SIGNATURE PAGE

COMPANY NAME: _____

By: _____
(Signature)

(Print Name)

(Title)

(Phone)

(Cell Phone)

(E-mail Address)

(Date)

SECTION FIVE

5.0 BIDDER RESPONSE CHECKLIST:

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 price protection for future purchases
- Responded to Ciena DWDM equipment lease / resale
- 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

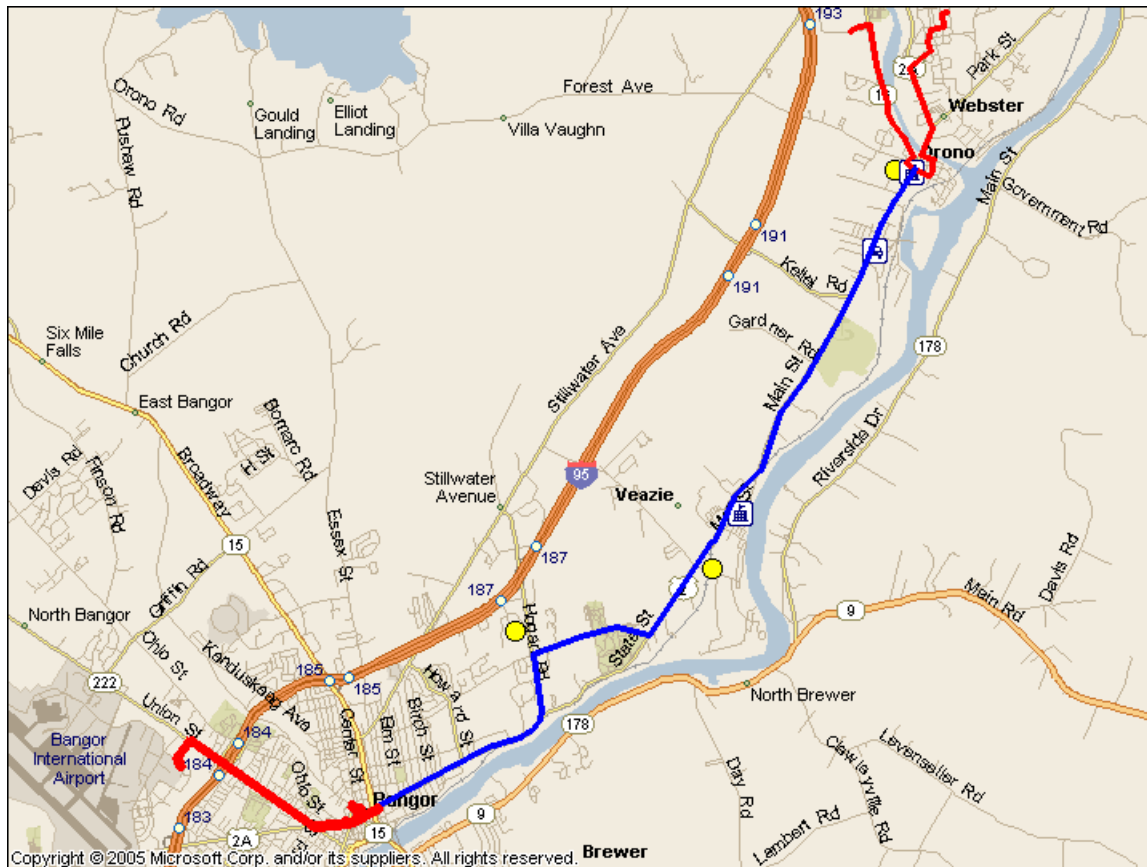
Technical Details:

- Provided overall fiber segment distances and losses
- Provided a map of the fiber routes 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 routes proposed
- 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

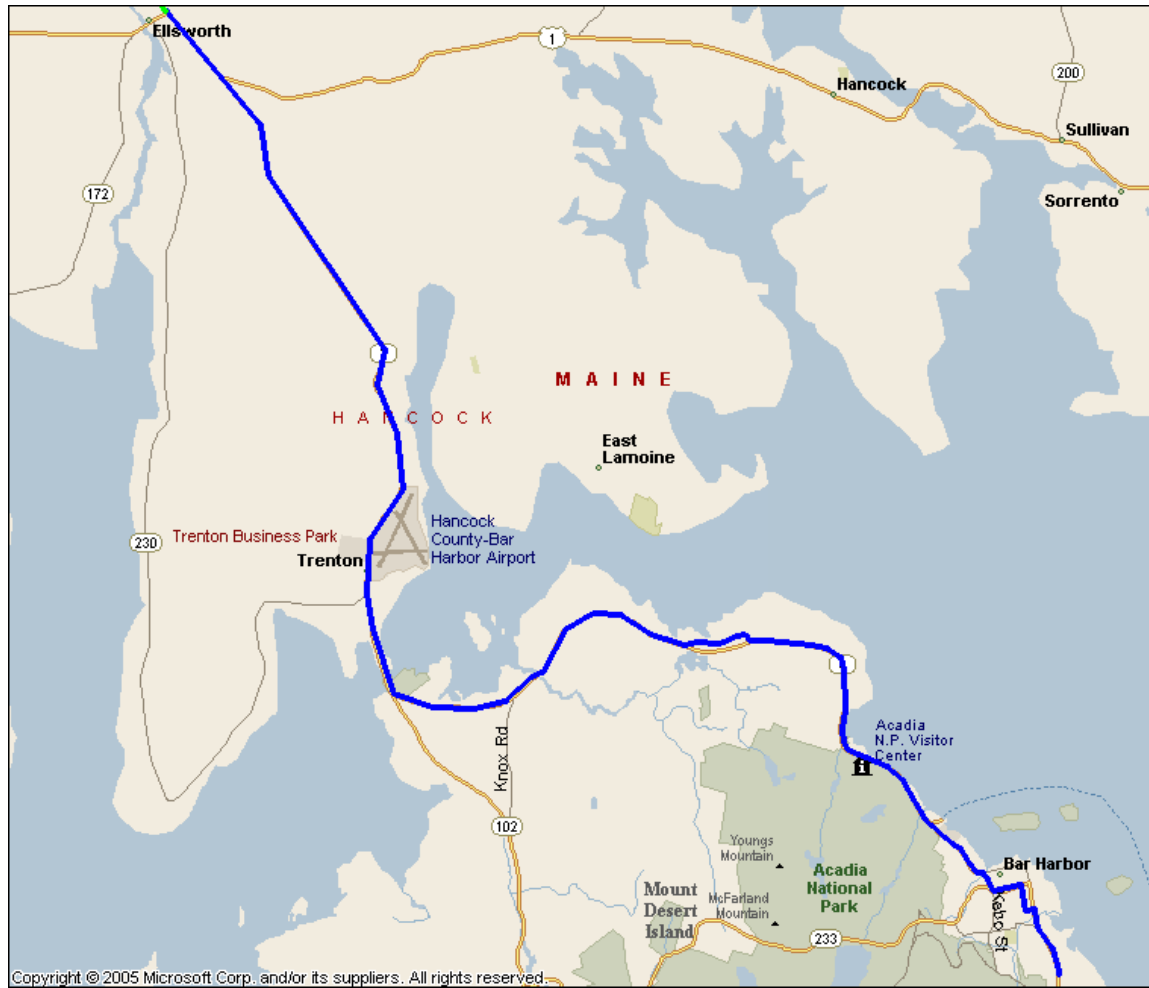
END SECTION FIVE

Appendix 1 University Fiber Routes

Bangor to Orono



Ellsworth to Bar Harbor



Portland to Brunswick

