



**Town of Egremont, Massachusetts**

**Request for Proposals  
for Design, Engineering, and Consulting Services  
for a Last-Mile Fiber-to-the-Premise (FTTP) Broadband Network  
in the Town of Egremont**

**May 16, 2016**

For information, please contact:

|                     |                                      |
|---------------------|--------------------------------------|
| Procurement Officer | Mary Brazie                          |
| Mailing Address     | PO Box 368, South Egremont, MA 01258 |
| Physical Address    | 171 Egremont Plain Road (Rt 71)      |
| Phone               | 413-528-0182                         |
| Fax                 | 413-528-5465                         |
| Email               | tegrement@egremont-ma.gov            |

• Contents •

|          |  |           |
|----------|--|-----------|
| <b>1</b> | <b>Summary .....</b>   | <b>1</b>  |
| <b>2</b> | <b>Description and Scope of Work .....</b>                                     | <b>2</b>  |
|          | 2.1 Network Design Objectives .....  | 2         |
|          | 2.2 Schedule .....   | 2         |
|          | 2.3 Scope of Work.....   | 2         |
|          | 2.4 Project Contact.....   | 3         |
|          | 2.5 Other Terms and Conditions.....  | 3         |
| <b>3</b> | <b>Town Description and Subscriber Information.....</b>                        | <b>4</b>  |
| <b>4</b> | <b>Proposal Process and Submission Requirements .....</b>                      | <b>4</b>  |
|          | 4.1 Summary of Key Dates .....   | 4         |
|          | 4.2 Submission Procedure.....  | 4         |
|          | 4.3 RFP Inquiries.....   | 5         |
|          | 4.4 Interviews and Presentations .....   | 5         |
|          | 4.5 Proposal Contents .....  | 5         |
|          | 4.6 Proprietary and Confidential Information.....                              | 6         |
|          | 4.7 Other Requirements .....   | 6         |
| <b>5</b> | <b>Evaluation Process and Criteria.....</b>                                    | <b>7</b>  |
|          | 5.1 Qualifications and Experience.....   | 7         |
|          | 5.2 Response to Requirements .....   | 7         |
|          | 5.3 Staffing Plan .....  | 8         |
|          | 5.4 Communication Skills .....   | 8         |
|          | 5.5 Quality of Interview (If Interviewed) .....                                | 9         |
|          | 5.6 Results of Reference Checks (If Checked).....                              | 9         |
|          | <b>Appendix A. MBI Broadband Network Profile for the Town of Egremont.....</b> | <b>10</b> |
|          | <b>Appendix B. Certification and Signature Page .....</b>                      | <b>15</b> |



## **Town of Egremont, Massachusetts**

# **Request for Proposals for Design, Engineering, and Consulting Services for a Last-Mile Fiber-to-the-Premise (FTTP) Broadband Network in the Town of Egremont**

**May 16, 2016**

## **1 Summary**

The Town of Egremont, Massachusetts, ("the Town") is seeking proposals from qualified network design and consulting contractors ("Design Contractor") for professional design, engineering, and consulting services for a Broadband Fiber Optic Network capable of providing internet and optional telephone services to all homes and business in the Town. Although residents and businesses may not choose to subscribe, we believe that interest is high; there are approximately 950 residential and business premises in the Town. The Town has approximately 47 miles of roads, including state highways (portions of state routes 23 and 41), Town roads, and private roads.

The Design Contractor will be required to perform all work (the "Work") described herein, which includes specifying network architecture and technology, identifying permitting requirements, designing optimal fiber routes, surveying utility poles, overseeing the pole and conduit licensing process, overseeing utility pole "make ready" work (performed by National Grid or Verizon, depending on pole ownership), preparing the construction bid package, specifying testing procedures, performing construction quality assurance/quality control, developing detailed project budgets, and any other functions that may be needed to ensure successful construction and operation of a fiber optic broadband network in the Town.

Sealed proposals must be received at Egremont Town Hall no later than Wednesday, June 15, 2016. See section 4.1 below for a summary of key dates. The contract will be awarded to the proposer offering the most advantageous proposal, taking into consideration responsiveness to requirements, other comparative evaluation criteria set forth in this RFP, and price. Proposals that are incomplete, not properly endorsed or signed, or otherwise contrary to instructions may be rejected by the Town as non-responsive. Price proposal must be in a separate sealed envelope to be opened only after the review of the non-price proposals is complete.

The contract will be awarded by the Egremont Select Board on recommendation of the Egremont Ad Hoc Technology Committee. The Town reserves the right to reject any and all proposals in whole or in part, and to waive irregularities and informalities, at its sole discretion and to the extent permitted by law, if and when it is deemed to be in the best interest of the Town.

All plans, designs, specifications, maps, analyses, and all other documents and data, including GIS data, created through this project shall become the property of the Town at no additional cost.

Services for network construction, operation, and maintenance shall be procured through a separate RFP process or processes. The Design Contractor on this design, engineering, and consulting services project shall not be eligible to bid on these follow-on services; instead, the Town expects that the Design Contractor will provide independent advisory and project management services during the construction phase.

## **2 Description and Scope of Work**

### **2.1 Network Design Objectives**

The network design and plan must accommodate the Town's Broadband Network requirements, which include but are not limited to the following:

- The network must have the ability to provide access to all premises in the Town, although not all residents or businesses may choose to connect.
- The network should be expandable in a manner as efficient and effective as possible to increase capacity and to accommodate advances in technology as may reasonably be expected to become available over the life of the network (at least 20 years). This means, at a minimum, a sufficient number of spare fiber strands in the backbone and distribution routes, as well as enough expansion slots in electronics cabinets to accommodate expansion cards for all future subscribers.
- The network and its construction must adhere to all current and generally accepted technical standards, building codes, construction practices, and other regulations, specifications, and standards as may apply in the broadband networking industry. Also, all federal, state, and local laws, regulations, and codes applicable to the network, its construction, and its operation and services must be observed.
- The network will connect to the "MassBroadband 123" middle mile points of presence located in the Town and be fully compatible therewith.
- The network must provide high-speed data connection to the internet as well as voice services (at subscriber option); voice services must include all features that are commonly available with current-state internet-based telephone services.
- The network is not expected to provide traditional Cable TV service although the system must be fully and robustly capable of accommodating current-state Internet Protocol Television (IPTV) and other internet-based video services, including interactive video services.
- Where there are technical or architectural design alternatives, and where there are multiple types, brands, or models of equipment, the design consultant will be expected to identify all options and present to the Town a reliable and understandable explanation of each, along with an explanation of tradeoffs in terms of functions, features, costs, and other pros and cons.

### **2.2 Schedule**

The Design Contractor shall begin work within thirty (30) days of execution of the signed contract with the Town. As part of their proposals, all submitters shall include a comprehensive schedule of project events and deliverables along with delivery dates for each, such proposed schedules to be among material criteria used to evaluate the proposals. Design Contractor shall be expected to adhere to its proposed schedule.

### **2.3 Scope of Work**

The Town will expect the Design Contractor to perform the services listed below. Proposals should clearly address all of the following:

- Design a "last mile" fiber-to-the-premise network, including optimal fiber routes, that meets the design objectives specified in section 2.1 above.
- Survey utility poles along public and private ways and evaluate where fiber optic cables should be placed along the poles versus where they should be buried.
- Identify special situations, private roads, unusual cable runs, remote parcels, or other obstacles, if any, that will affect installation costs.

- Identify third-party approvals or permits that will be needed, if any, including but not limited to conservation, environmental, and historical preservation permits, waivers, and easements.
- Identify "hut" and distribution hub locations, equipment enclosures, etc.
- Oversee the utility pole and conduit licensing process, including verifying pole information and applying for pole attachments. The Town will pay application fees, make-ready costs, and rents directly to pole owners; these costs should not be included in proposals.
- Oversee utility pole "make-ready" work (to be performed by National Grid or Verizon, depending on pole ownership).
- Specify testing and quality assurance procedures necessary to ensure that the completed Network will perform as designed and that all work is good and workmanlike.
- Prepare the construction bid package that the Town will issue as an Invitation for Bids to identify a construction contractor. The IFB must include all detailed specifications, construction scope of work, required bidder qualifications, and all other content required for a complete and proper bid package.
- Advise the Town during the construction contractor selection process to help evaluate proposals.
- Provide construction management, testing, consulting, and advisory services as needed during the network construction phase on a per-hour or per-diem basis.
- Identify and describe any other functions and services that may be required or recommended to ensure successful, timely, and responsive construction of the Town's Broadband Network.
- Create a budget for the build-out that includes all aspects of permitting, utility pole agreements, construction costs (including cable installation, "hut" construction, and all other construction elements), construction oversight, network equipment (including premise terminal equipment), connection fees, etc.
- Develop options for operational management and maintenance of the system.
- Develop detailed estimates of future operating and maintenance expenses as well as revenue models using various assumptions of service pricing and subscriber "take rates."

## **2.4 Project Contact**

Design Contractor shall provide a primary contact for the duration of the Work. The contact information should include name, telephone number, and email address of the Design Contractor's primary contact. The Town will identify and provide contact information for the Town's primary contact at the time of design/consulting contract execution. During performance of the Work, all questions and responses regarding the Work shall be in writing, which requirement may be satisfied via email communication.

## **2.5 Other Terms and Conditions**

Any additions or deletions to the Work shall be only by written change order executed by the Town and Design Contractor.

The Town reserves the right to amend the Design Contractor's form conditions and/or terms used in its agreement(s).

Design Contractor will submit monthly invoices to the Town with payment terms net 30 days.

Design Contractor shall carry liability insurance in the amount of One Million Dollars (\$1,000,000) per occurrence, errors and omissions insurance in the amount of One Million Dollars (\$1,000,000), and workmen's compensation insurance as required by law; Design Contractor shall furnish to the Town Certificates of Insurance demonstrating such coverage.

The contract between the Town and the Design Contractor shall include a termination provision allowing the Town to terminate the contract at any time for any reason at its sole discretion without penalty. In such event, the Town will be liable for payment only for services rendered prior to termination.

### **3 Town Description and Subscriber Information**

As part of its regional planning work, the Massachusetts Broadband Institute (MBI, a state agency) performed extensive, detailed engineering surveys of the 44 "unserved" towns in western MA, including Egremont. They have summarized these surveys in town profiles, each of which includes a map of the town with relevant data points such as unserved locations, connected "Community Anchor Institution" locations, MassBroadband 123 fiber optic cable infrastructure and interconnection points. The profiles also provide a breakdown of the capital expenditures and operating expenditures for each town based on certain assumptions. The Egremont profile is attached as Appendix A. The profile and underlying survey data (available from MBI) may be used by Design Contractor, subject to verification.

### **4 Proposal Process and Submission Requirements**

#### **4.1 Summary of Key Dates**

The Town establishes the following dates for this proposal process but reserves the right to adjust any of these dates if in its sole discretion adjustment is warranted:

|  |   |
|--|---|
| Date of RFP Issue                      | Monday, May 16, 2016                      |
| Deadline for Submission of Questions   | Friday, June 3, 2016                      |
| Deadline for Receipt of Proposals      | Wednesday, June 15, 2016 2:00 pm          |
| Interviews with Finalist Proposers     | Late June – Early July                    |
| Town Decision and Vote of Select Board | No later than July 25, 2016               |
| Execution of Contract                  | Not later than Friday, August 5, 2016     |
| Work to Begin                          | Not later than Tuesday, September 6, 2016 |

#### **4.2 Submission Procedure**

Sealed proposals must be clearly marked *Egremont Broadband Network Design and Consulting Services Proposal*, price proposal must be in a separate sealed envelope marked "Price Proposal *Egremont Broadband Network Design and Consulting Services*", and must be received by Mary Brazie, Egremont Town Procurement Officer, by US Mail at PO Box 368, South Egremont, MA 01258, or by physical delivery at Town Hall, 171 Egremont Plain Road (Rt 71), Egremont MA 01230 no later than Wednesday, June 15, 2016, at 2:00pm. Seven (7) Hardcopy proposals must also be accompanied by a complete digital copy.

Proposals that are late, incomplete, not properly endorsed or signed, or otherwise contrary to instructions may be rejected by the Town as non-responsive.

All proposals, plans, designs, specifications, maps, analyses, and all other documents and data, including GIS data, created through this project shall become the property of the Town at no additional cost.

### 4.3 RFP Inquiries

Proposers with questions regarding this RFP may submit their questions via email no later than Friday, June 3, 2016. Inquires received after this time may not be considered. All inquiries and requests for information/clarification regarding this RFP must be submitted by written email to Mary Brazie (email: tegremont@egremont-ma.gov).

The manner in which the Town responds to inquires shall be at the Town's discretion. Responses will be distributed to all entities known to have requested a copy of this RFP and will be posted on the Town website.

### 4.4 Interviews and Presentations

Finalist proposers that meet evaluation criteria (section 5) will be invited to meet with the Egremont Ad Hoc Technology Committee to discuss their proposals and answer questions. The Committee requests that proposers who are so invited bring a company executive, the person who will be the company's project manager and lead consultant, and other members of the team as the company deems appropriate.

Note that meetings of the Committee are open to the public and are recorded, in compliance with the Massachusetts Open Meeting Law. The law permits confidential proprietary information (but *only* such information) to be discussed in closed Executive Session.

### 4.5 Proposal Contents

Proposers are encouraged to prepare responses using clear and concise language that responds to the RFP in a straightforward manner. Please explain all acronyms and technical terms. Proposers are requested to organize their RFP submission consistent with the following, with any additional attachments the they may deem appropriate:

| Section                  | Contents   |
|--------------------------|--|
| Transmittal Letter       | <p>The Transmittal letter may be in the form of a business letter and should be no more than 2 pages. It should include:</p> <ul style="list-style-type: none"><li>• Brief statement of Proposer's understanding of the project</li><li>• Highlights of the Proposer's qualifications and ability to perform the Work</li><li>• Name, title, and contact information of the person(s) who are authorized to respond definitively to questions</li></ul>  |
| 1<br>Company Overview    | <ul style="list-style-type: none"><li>• Company name, email address, physical address, and phone and fax numbers</li><li>• Year the company was established and former names if applicable</li><li>• Parent company if applicable</li><li>• Company/consultant background demonstrating longevity and stability</li><li>• Organizational structure</li><li>• Names and locations of company owners, unless publicly traded</li><li>• Proof of existence, officer authority, qualifications to do business, and/or licensing and good standing in Massachusetts</li></ul> |
| 2<br>Financial Stability | <ul style="list-style-type: none"><li>• Provide financial statements, including assets and liabilities, stated in US dollars, for three most recent years. See note on proprietary and confidential information below.</li></ul>   |

| Section   | Contents  |
|---|---|
| 3<br>Workforce  | <ul style="list-style-type: none"> <li>List all key personnel to be assigned to the project, including managers, supervisors, foremen, technicians, etc., and their respective responsibilities, experience, training, certifications, and length of service. Also list subcontractors, if any (firms and/or individuals), their roles, and their backgrounds.</li> </ul>   |
| 4<br>Project/<br>Client<br>Experience                                 | <ul style="list-style-type: none"> <li>Briefly describe all relevant fiber optic network projects that you have been involved in, including client, location, size, project duration, and whether the project was completed within budget and schedule.</li> <li>Clearly note specific experience with municipalities and government entities.</li> <li>Provide client contact information for at least three recent projects of similar nature.</li> </ul>   |
| 5<br>Description<br>of Proposed<br>Work, Work<br>Plan and<br>Schedule | <ul style="list-style-type: none"> <li>Based on the Scope of Work described in this RFP, provide a description of the approach the Design Contractor will use to meet project goals and requirements. Include a summary table that shows each task along with the assigned team member if known, estimated hours/days, and scheduled completion date. Also include a graphical timeline showing key milestones for the project and when they will be achieved.</li> <li>Clearly indicate any restrictions, qualifications, additions, or deviations from the services requested in this RFP, with explanation.</li> </ul> |
| 6<br>Price<br>Proposal  | <ul style="list-style-type: none"> <li>Quote hourly or daily rates for all personnel to be assigned to project.</li> <li>Estimate hours or days for each task, with estimated cost for each.</li> <li>List non-labor costs, if any.</li> <li>Estimate total project cost and provide a "not-to-exceed" total budget cap for all design, engineering, and consulting services to be rendered as part of proposal.</li> </ul>   |
| 7<br>Completed<br>Signature<br>Form                                   | <ul style="list-style-type: none"> <li>Attached hereto as Appendix B is the Town's required Certification and Signature Form.</li> </ul>  |

#### 4.6 Proprietary and Confidential Information

Unless clearly marked and submitted according to the instructions below, submitted materials are a matter of public record and will be open to public inspection.

If proposer wishes to maintain confidentiality of certain information, such as company financials for example, such information should be submitted in a separate sealed envelope clearly marked "Confidential Information Submitted by [Company Name and Contact Person] in Support of Broadband Network Design and Consulting Services Proposal." The Town will review such information only in Executive Session (not open to the public) and will make a good-faith effort to protect such information from public disclosure. However, the Town disclaims liability for disclosure or damages arising therefrom, and Proposer agrees to hold the Town harmless in the event of disclosure resulting from any Town action or inaction.

#### 4.7 Other Requirements

Design Contractor shall comply with all laws, rules, regulations, codes, and permits applicable to the Work.

The Town of Egremont is exempt from Federal and Massachusetts State Sales and Excise Taxes, and no such taxes should be included in the proposal.

## 5 Evaluation Process and Criteria

The contract will be awarded to the Proposer offering the most advantageous proposal, taking into consideration responsiveness to Town requirements, other comparative evaluation criteria, and price. The contract will be awarded by the Egremont Select Board on recommendation of the Egremont Ad Hoc Technology Committee. The Town reserves the right to reject any and all proposals in whole or in part, and to waive irregularities and informalities, at its sole discretion and to the extent permitted by law, if and when it is deemed to be in the best interest of the Town.

Proposals will be rated using the following categories: Highly Advantageous, Advantageous, Not Advantageous, and Unacceptable:

### 5.1 Proposer Qualifications and Experience

|                     |   |
|---------------------|---|
| Highly Advantageous | <ul style="list-style-type: none"> <li>• Demonstrates significant expertise and experience in completing similar broadband network design, engineering, and consulting projects</li> <li>• Demonstrates a track record of success in completing projects of similar size and scope within scheduled timeframe and budget</li> <li>• Demonstrates expert knowledge of all FTTP technologies, standards, and protocols related to passive and active broadband networking and is able to articulate benefits, costs, and tradeoffs among all options</li> <li>• Is familiar with emerging next-generation systems and technologies and is able to assess their potential future impact</li> <li>• Demonstrates experience working with key stakeholders (government officials, network industry representatives, utility company representatives, property owners, etc.)</li> </ul> |
| Advantageous        | <ul style="list-style-type: none"> <li>• Demonstrates some expertise and experience in completing network design, engineering, and consulting projects</li> <li>• Demonstrates a track record of success in completing projects within scheduled timeframe and budget</li> <li>• Demonstrates adequate technical knowledge related to broadband networks</li> <li>• Demonstrates general experience working with stakeholders</li> </ul>  |
| Not Advantageous    | <ul style="list-style-type: none"> <li>• Demonstrates only limited expertise or experience in network planning and design</li> </ul>  |
| Unacceptable        | <ul style="list-style-type: none"> <li>• Does not demonstrate minimum levels of expertise or experience</li> </ul>  |

### 5.2 Proposer Response to Requirements

|                     |   |
|---------------------|---|
| Highly Advantageous | <ul style="list-style-type: none"> <li>• Clearly and comprehensively articulates an understanding of the project</li> <li>• Addresses an approach to each defined task in a credible and sensible way</li> <li>• Demonstrates mastery of the process necessary to manage projects and complete tasks</li> <li>• Has a clear and credible approach to dealing with unknowns and project contingencies if and when they emerge</li> <li>• Provides a comprehensive, well-conceived project plan with logical steps and realistic timeframes</li> <li>• If warranted, identifies sensible changes to the Scope of Work, addressing missing or poorly conceived activities</li> </ul> |
|---------------------|---|

|                  |   |
|------------------|---|
| Advantageous     | <ul style="list-style-type: none"> <li>• Articulates a general understanding of the project</li> <li>• Is credible in addressing specific requirements</li> <li>• Demonstrates understanding of the process necessary to manage projects and complete tasks</li> <li>• Acknowledges the possibility of unknowns and project contingencies and is prepared to address them in a general way</li> <li>• Provides a project plan with logical steps and realistic timeframes</li> <li>• If warranted, identifies sensible changes to the Scope of Work, addressing missing or poorly conceived activities</li> </ul> |
| Not Advantageous | <ul style="list-style-type: none"> <li>• Does not demonstrate a clear understanding of the project</li> <li>• Addresses most but not all specific requirements</li> <li>• Describes a general project management approach</li> </ul>  |
| Unacceptable     | <ul style="list-style-type: none"> <li>• Does not demonstrate a project approach that is likely to be successful</li> </ul>   |

### 5.3 Proposer Staffing Plan

|                     |  |
|---------------------|--|
| Highly Advantageous | <ul style="list-style-type: none"> <li>• Is clearly and comprehensively articulate in the response</li> <li>• Provides a firm time commitment of all key personnel, including the Project Manager</li> <li>• Is clear in identifying project team members, their roles, and time commitments</li> <li>• Is clear in identifying sources of staffing per task (company employees versus subcontractors)</li> <li>• Demonstrates appropriate skills and qualifications of all staff and subcontractors to be assigned</li> <li>• Demonstrates convincingly that the proposed staffing level is sufficient to meet project requirements within the scheduled timeframe</li> </ul> |
| Advantageous        | <ul style="list-style-type: none"> <li>• Is articulate in the response</li> <li>• Provides a time commitment for most key personnel</li> <li>• Demonstrates that the proposed staffing is sufficiently skilled</li> <li>• Demonstrates that the proposed staffing level is adequate to get the job done</li> </ul>   |
| Not Advantageous    | <ul style="list-style-type: none"> <li>• Staffing plan is articulated in the proposal, but time commitment and critical staffing information is not included</li> </ul>  |
| Unacceptable        | <ul style="list-style-type: none"> <li>• Does not demonstrate that the staffing plan is adequate to be successful</li> </ul>   |

### 5.4 Proposer Communication Skills

|                     |  |
|---------------------|--|
| Highly Advantageous | <ul style="list-style-type: none"> <li>• Proposal clearly and comprehensively explains plans, approaches, technical information, and all other data in a manner that is understandable to both technical and non-technical audiences.</li> </ul> |
| Advantageous        | <ul style="list-style-type: none"> <li>• Proposal explains contents in a manner understandable to both technical and non-technical audiences.</li> </ul>   |
| Not Advantageous    | <ul style="list-style-type: none"> <li>• Proposal explains some of the information in a way that can be understood only by an audience with a technical background.</li> </ul>   |
| Unacceptable        | <ul style="list-style-type: none"> <li>• Does not demonstrate communication skills necessary to be successful</li> </ul>   |

**5.5 Quality of Interview (If Interviewed)**

|                     |  |
|---------------------|--|
| Highly Advantageous | <ul style="list-style-type: none"><li>• Key personnel on the project team, including the Project Manager, attended the meeting and each demonstrated his/her skill and expertise, and comprehensively communicated a thorough knowledge of the services required to address the Scope of Work.</li></ul> |
| Advantageous        | <ul style="list-style-type: none"><li>• Some key personnel attended the meeting and demonstrated relevant expertise and knowledge regarding required services.</li></ul>   |
| Not Advantageous    | <ul style="list-style-type: none"><li>• Project team member(s) attended the meeting and demonstrated some level of knowledge regarding required services.</li></ul>  |
| Unacceptable        | <ul style="list-style-type: none"><li>• A company representative attended the meeting but did not demonstrate sufficient knowledge to inspire confidence that the project would be successful.</li></ul>   |

**5.6 Results of Reference Checks (If Checked)**

|                     |  |
|---------------------|--|
| Highly Advantageous | <ul style="list-style-type: none"><li>• References show that the firm, the identified Project Manager, and key personnel have positively and successfully completed similar, relevant projects on time and within budget.</li></ul>      |
| Advantageous        | <ul style="list-style-type: none"><li>• References show that the firm along with some identified project team members have experience with similar projects and generally meet deadlines on time and within budget.</li></ul>            |
| Not Advantageous    | <ul style="list-style-type: none"><li>• References demonstrate that the firm or team members have limited relevant experience and/or do not have a track record of successfully completing projects on time and within budget.</li></ul> |
| Unacceptable        | <ul style="list-style-type: none"><li>• References do not indicate satisfactory experience with firm and/or team members.</li></ul>  |

## **Appendix A**

### **MBI Broadband Network Profile for the Town of Egremont**

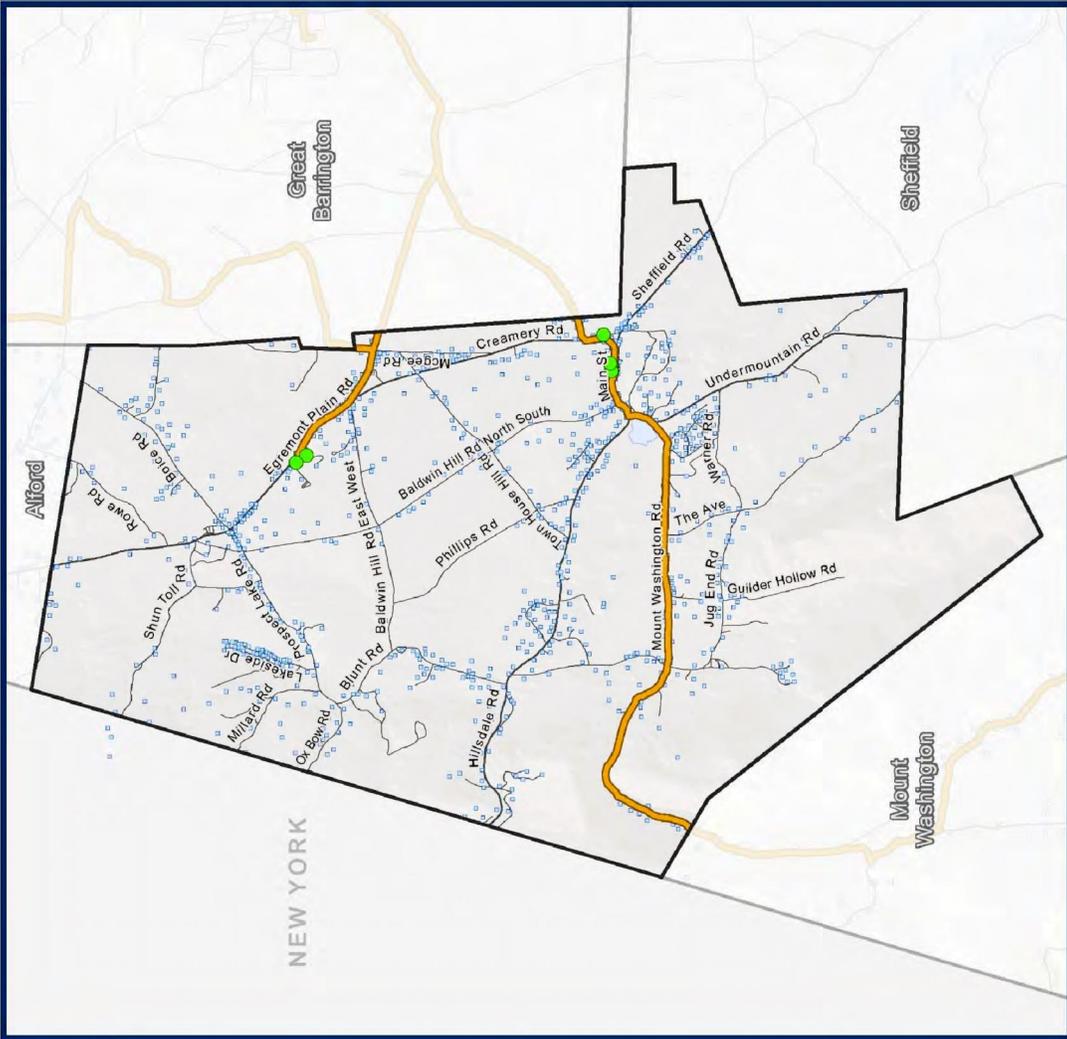
The following preamble has been provided by MBI, and not the Town of Egremont. Data in the profile is subject to review and verification. All financial information is based on MBI assumptions and models, and may or may not apply to the Town's actual broadband networking strategy and approach.

Extracted and adapted from *MBI Last Mile Town Profiles, April 2016*, page 3, at <http://broadband.masstech.org/sites/mbi/files/documents/building-the-network/mbi-unserved-town-profiles-2016-04-23.pdf>:

The following profile includes a map of the town with relevant data points such as unserved locations, connected "Community Anchor Institution" locations, MassBroadband 123 fiber optic cable infrastructure and interconnection points. The profile also provides a breakdown of the capital expenditures and operating expenditures for each town.

The total construction costs are based on desktop modeling completed by an industry expert retained by MBI. These figures show the breakdown of the total construction cost, the town's projected contribution to those costs and MBI's proposed allocation to help subsidize the project. Additionally, the profile includes the expected increased property tax burden on each homeowner (if the town chooses to borrow the funds), as well as the projected monthly subscription costs based on various take rates.

Because there are so many variables and costs underpinning the complex financing of providing a fiber-to-the-home broadband network, MBI and its consultants have made certain assumptions as part of this analysis. The modeling assumes an entirely outsourced model, whereby the towns would contract with existing industry partners for network operations, ISP services, etc. Additionally, based on industry practice, MBI has modeled each town under the assumption of a \$50,000 annual profit to provide cash reserves to cover unexpected costs and needs (for example for repairs due to ice storms or blizzards). These annual profit calculations also assume that the costs will not cover debt service for the town's share of the build and will not cover administrative costs inuring to the town. However, MLP costs, depreciation reserves, and customer premise equipment costs are included.



CONNECTING THE COMMONWEALTH  
WWW.MASSROADBAND.ORG  
MBI  
MASSACHUSETTS  
BROADBAND INSTITUTE  
in partnership with  
COMMONWEALTH  
DEPARTMENT OF  
TECHNOLOGY

**Last Mile Planning**  
Broadband Infrastructure and Service in:  
**EGREMONT, MA**

**Serviceable Premises**

- Connected CAI Locations (5)
- Unserviced Locations (920)

**Existing Broadband Infrastructure**

- MassBroadband 123 Interconnection Points
- MassBroadband 123 Fiber-Optic Cable

**Base Map**

- Building Locations
- Roads
- Town Boundaries
- Water Bodies

Map Date: 05 February 2016

0 0.5 1 2 Miles

MBI Last Mile Town Profiles. Feb. 2016

# Egremont: Initial Model of Infrastructure & CAPEX

Fiber-to-the-Home (FTTH) network enabling service to all homes in town. Costs include all capital required for the network, network equipment, and customer equipment needed to provide broadband service.

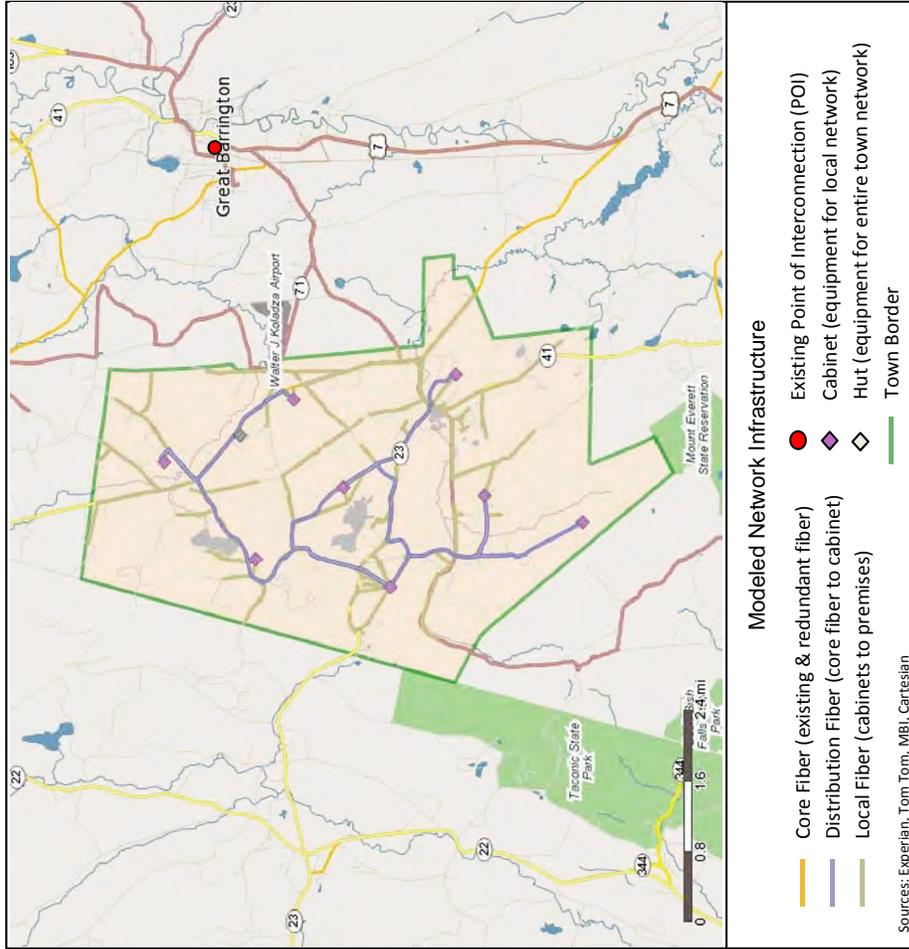
## Infrastructure Components

|                     |       |
|---------------------|-------|
| Households Modeled* | 947   |
| Fiber Miles Modeled | 57    |
| Poles Modeled       | 1,368 |

\* Approximate household locations from Experian

## Capital Expenditures (CAPEX)

|   |             |
|---|-------------|
| Estimated Total Network Cost              | \$2,940,000 |
| Construction Costs Funded by MBI          | \$660,000   |
| Professional Services Costs Funded by MBI | \$410,000   |
| Projected Town Contribution               | \$1,870,000 |



# Egremont: Town Financing Information

## Financing Required

|                                       |             |
|---------------------------------------|-------------|
| Projected Town Contribution           | \$1,870,000 |
| Year 6 Debt Service @4% over 15 Years | \$146,500   |
| 2016 Total Assessed Value             | \$384M      |
| Year 6 Rate Impact per mil            | \$0.38      |

## Town Status

| Vote                              | Action         |
|-----------------------------------|----------------|
| Bond Authorization @ Town Meeting | Passed         |
| Debt Exclusion @ Town Election    | No Vote Taken* |

\* Town believes they have sufficient borrowing capacity.

## Example Tax Bill Impact

| Assessed Property Value | Annual Property Tax Increase |
|-------------------------|------------------------------|
| \$150,000               | \$57.20                      |
| \$250,000               | \$95.40                      |
| \$500,000               | \$190.70                     |

## Notes

- ~ 2016 Town Assessed Values from DLS Data Bank
- ~ Analysis scenario reflects:
  - ~ Interest only payments in Years 1 & 2
  - ~ Interest and partial principal payments in Years 3, 4 & 5
- ~ Issuance of bonds in Year 6
  - ~ Amount borrowed is lower than net cost to town due to principal paydown in Years 3, 4 & 5
- ~ Debt service payments remain level in Years 6-20
- ~ Tax impacts can be influenced by changes in overall project costs, interest rates, home values and the town's total assessed value
- ~ Example tax bill impact shows annual property tax impacts for the project

# Egremont: Operating Expenditures (OPEX)

## Profit & Loss (P&L) @ 60% Take Rate

|                                   |           |
|-----------------------------------|-----------|
| Households Modeled*               | 947       |
| Subscribers Modeled               | 434       |
| Entry Level Broadband Price       | \$54      |
| Average Revenue Per Unit (ARPU)** | \$77      |
| Annual Revenue                    | \$402,000 |
| Annual Operating Cost             | \$352,000 |
| Annual Profit                     | \$50,000  |

\* Approximate household locations from Experian

## Monthly Price Required for Basic Internet to Generate Profit of \$50,000 / year

|               |      |
|---------------|------|
| 40% Take Rate | \$80 |
| 60% Take Rate | \$54 |
| 75% Take Rate | \$44 |

## Assumptions

- ~ Fully outsourced model
- ~ Costs include:
  - o Depreciation reserves
  - o Customer Premise Equipment (CPE)
  - o Municipal Light Plant (MLP) ongoing operating expenses
- ~ Costs exclude:
  - o Debt service
  - o Town administration
- ~ Subscription assumptions (included in ARPU\*\*):
  - o Video breaks even at \$54/month and 10% of subscribers
  - o Phone Cost of Goods Sold (COGS) of \$10/month, revenue of \$25/month and 40% of subscribers
  - o 20% of subscribers selecting a higher speed and higher priced internet package
  - o 35% of households modeled are seasonal premises occupied for an average of 4 complete months/ year

**Appendix B  
Certification and Signature Page**

Must be completed and submitted with proposal.

The Undersigned Design Contractor proposes to furnish all labor and materials, and to deliver all services, work products, and documents identified in the attached *Egremont Broadband Network Design and Consulting Services Proposal* in accordance with the requirements laid out in the Town's Request for Proposals, subject to specific exceptions clearly described in our proposal, if any. The Undersigned agrees that Design Contractor is ready, willing, and able to furnish the staffing resources described in our proposal, and agrees that if selected as Design Contractor, the company will within five business days after presentation thereof by the awarding authority, execute a contract in accordance with the terms of this proposal. The Undersigned certifies that Design Contractor is in good standing and meets all requirements to do business in the Commonwealth of Massachusetts.

\_\_\_\_\_  
Signature of authorized individual submitting proposal

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name of business

**Certificate of Non-Collusion**

The undersigned certifies under penalties of perjury that this proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

\_\_\_\_\_  
Signature of authorized individual submitting proposal

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name of business

**Tax Compliance Certification**

Pursuant to M.G.L. c. 62C, §49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I am in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

\_\_\_\_\_  
Signature of authorized individual submitting proposal

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name of business