

The following reflects all the responses to the Questions presented to the Respondents with the exception of Spectrum. Their response is due to be received this Friday and will update this file and resend once received.

## **GW1**

1. Page 35. The graphics do not depict all roads in Blue Hill (in particular) for FTTP based on the 911 graphics provided. Is the cost estimate based on all roads? Is the Graphic in the document an oversight for the missing roads? Other roads in other towns may be excluded from the visual road graphics.

**Answer:** The graphic in the response document was illustrative of the portion of the network that is completely designed and ready for construction. The additional roads will be added to the existing design to achieve the 100% coverage of the town. The cost estimate is for all roads (including the ones not depicted in the graphic).

2. Are all Make Ready estimates included in the total construction estimate?

**Answer:** Yes, make ready estimates, materials and labor for an assumed 411.1 miles of fiber construction.

3. Page 23 & 31. Deer Isle is not listed in the costs noted on page 31 though the total road miles provided that includes Deer Isle is (411.1). Is Deer Isle factored into the costs?

**Answer:** The total estimated cost was based on the 411.1 miles, which includes Deer Isle.

4. Page 31. Is the cost to connect to the 3-Ring Binder factored into the costs? Same question applies to the Deer Isle connection.

**Answer:** Deer Isle is factored into the costs, with the assumption that we will be able to gain access to conduit for the bridge between Byard Point and Little Deer Isle. If existing conduit cannot be secured, we will work with the towns to determine viable options. The cost to connect to the 3-Ring Binder should be borne by the service providers. There is approximately 3 miles of construction required to reach Route-1, via Penobscot. If diversity is desired, approximately 9 miles of fiber would need to be constructed from Blue Hill through Surry. An additional \$90k and \$270k, respectively, can be added to the construction cost if the towns would like to have the interconnection points exist on the 3RB.

5. Page 31. Electronics and space needed for the same (Fiber Distribution Hub?). How is that factored in the cost and logistically supported? It is not addressed in the proposal.

**Answer:** An FDH is a steel enclosure (cabinet) mounted on a utility pole. The fiber optic splitters are housed in the FDH and it serves as a main location for connecting the fiber distribution network with the optical splitters. The cost of these FDH cabinets is included in the estimate. It is our preference to house the customer serving electronics in a controlled environment with access to reliable power. Town buildings can meet this requirement and the assumption is that we would be able to utilize existing spaces to meet this need. If not, the electronic equipment is rated for outdoor use and can be mounted in a cabinet on a utility pole (similar to the FDH).

6. Page 23, 29 & 32. The RFP reflects a request for proposal from Design to Sustainment. On page 23 a reference to a "fiber contractor" to perform maintenance is referenced as is a

“construction contractor” on page 29. How is the cost for maintenance (in particular) but also includes operation – one of the RFP requests) factored into the proposal or any costs and/or paid for (GWI is assumed).

The comprehensive listing of the costs for maintenance (operations and maintenance) is not discussed in our response to the RFP because it requires a significant amount of iterative conversation.

Below is a breakdown of one scenario where the Towns own the network and GWI is the operator and ISP in a NNI model as articulated in the RFP:

<b>Costs of Network Operation Description</b>	<b>Type</b>	<b>Pricing</b>
Active Premises Cost	Fixed, Adjustable Annually	[\$X]/passing/month. Paid to operator (GWI) by the Towns. This represents the cost of managing the entire Town Broadband network in terms of specifically GWI network engineering employees. But... this may need further examination and evaluation, especially as a function of the viability of the entire model for all the parties concerned (Are there grants? Are there loans? Are there municipal revenue bonds? Is there debt service? Is the ISP just buying wholesale services from the Town Broadband? Does the Town Broadband need to receive revenue funds directly?)
General Administration Cost	Fixed	\$X/month. Paid to operator (GWI) by Town Broadband. This is the specific cost of GWI executive/management staff for general administration, operational meetings, analysis, planning, and etc.
Install Provisioning Fees	Fixed, Adjustable Annually	\$50/install; paid to GWI (operator) by Town Broadband But... this depends on the final model (is the Town going to an ISP or contracting out ISP duties to GWI? Will GWI be

		offering Standard Offer on behalf of the Town Broadband to subscribers?)
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7. Page 31 table – Is the item “customer acquisition” related to marketing/customer acquisition?

**Answer:** That is correct.

8. Page 31 and as potentially updated with the questions noted above, how are the costs noted allocated between the four (4) towns?

**Answer:** The towns should decide on a cost allocation basis that works for all of you. Projects like this should be considered as a benefit to the whole community, spreading the costs along multiple towns. It can be cost prohibitive for a single town to bear the burden of their “share” of the costs if they have many miles but low premises count. Alternatively, a town with attractive homes per mile may need to pass through other towns to deliver services. By blending all costs together, the aggregate community wins. If the towns need a more detailed estimate (by town), we can provide that information.

**Consolidated**

1. Should CCI and the State of Maine not get chosen for the NTIA award, does the cost reflected in the proposal remain valid?

**Answer:** Yes, our cost estimate in the Blue Hill RFP is independent of the NTIA application. Please note that the response to the July 9, 2021 RFP is for four towns (Brooksville, Penobscot, Blue Hill and Deer Isle) which is different from the proposed build area for the NTIA grant application.

2. Page 7. What is the ownership and build model (backbone, etc.) look like in that case? Does it follow previous discussions? Same applies to the application of funds to pay for the Town costs.

**Answer:** We did not propose a specific funding or ownership model in our proposal. The details of the funding mechanisms – along with the ownership structure – will have to be determined for the project and agreed to in a network construction and operating agreement. This will be dependent on where the funding originates from and the requirements of the funding source. We are open to discuss these options and work with the towns to explore grant funding opportunities for the project.

3. Page 7 & 9. Is the Drop Cost inclusive of all distances from the backbone (i.e. longer than 250’)? Is that based on multiple or single residence private roads where distances may also exceed 250’?
  - a. What is the per foot cost for distances beyond 250’ for aerial and buried drops.

**Answer:** Consolidated Communications offers this sample contract language to respond to this question:

Cable extensions from the public right-of-way to a Subscriber's premises shall be provided to any Subscriber who is located within two hundred fifty (250) feet of aerial feeder cable ("standard installation footage") at no charge to the Subscriber. Cable extensions from the public right-of-way to a Subscriber's premises in excess of the standard installation footage shall be provided free of charge only if a defined telecommunications facility path (utility poles or underground conduit) exists that (i) can be utilized by Consolidated for the cable extension and (ii) meets applicable

standards established by the National Electric Safety Code. Any extension of an existing defined telecommunications facility path or installation of a new telecommunications facility path for a cable extension to a Subscriber's premises located in excess of the standard installation footage from the public right-of-way shall be the Subscriber's responsibility.

4. How is affordability addressed for those qualified for government or other funds?

**Answer:** \*Consolidated Communications, Inc. offers a Lifeline Program for eligible low income residential subscribers at their primary residence. The Lifeline Program is a government benefit program. Eligible subscribers can apply a monthly federal Lifeline Program discount to a voice service OR a qualifying Internet service.

\*Consolidated is also a participant in the FCC's Emergency Broadband Benefit (EBB) program that made \$3.2 billion available to people with low incomes or whose incomes declined substantially during the coronavirus pandemic.

5. Page 7. As potentially updated or clarified via the questions noted above, how are the costs noted allocated between the four (4) towns?

**Answer:** The cost estimate is based on the four named towns all agreeing in concept to fund and build a FTTP network in the towns. We did not provide individual cost estimates per town and did not break down the total cost accordingly.

#### **Axiom**

1. Cost is based on 35,000/mile only. Does that estimate include all related costs a town might incur such as the Fiber Hub building and other related requirements?

**Answer:** So the answer to question #1 is generally yes. But given the time frame and the amount of work on Axiom's plate... and the general uncertainty of Consolidated NTIA grant... we felt the significant due diligence necessary to give the communities a real number would be prohibitive. Its really hard to know if we could meet or exceed the \$35,000 per mile number. My instinct says we should be able to come under that number... but as you are well aware, pole licensing and make ready are wild cards and will remain estimates until the trigger is pulled and the process begins. The question on the Hut is interesting... are we talking one Hut for all four towns. If so, again, I generally say yes... but until we do a lot more due diligence, its hard to really know how all of this plays out. As I think I said in the response, it was sent for illustrative purposes to help you and the Broadband group understand the mechanics of how it all works under an Axiom Model.

2. What ongoing Network Operator costs would be expected for each Town?

**Answer:** Ongoing cost... well it depends. First, insurance, which I would estimate at a minimum of \$13,000- possibly quite a bit more, but likely not over \$20,000 a year total. Second, keeping equipment spare parts and spares should add some costs and that stockpile will need to be replenished. I am thinking that the surplus in revenue back to the utility/towns should cover these first two costs. Then its really up to how robust you want to make oversight... do you need a lawyer, do you need an executive to oversee the system, do you desire to create an Affordability fund for homes that need subsidy or for new hookups in the future. This should be a discussion with the Board and communities to price all this out. It looks like... if you meet the revenue projections of 40%, most of these will get covered by surplus revenue... but maybe each town will also need to contribute something to make up expenses that are beyond what will be available. Depends on the utility, depends on the goals. We could make a list and assign some cost to each to give a feel. Let me know.

## Sertex

1. How was the mileage of 339 derived? E911 and town provided information for the 4 towns was 411.

**Answer:** Although the amount of E911 road miles is 411, our design software will only construct on the pathways needed to serve the addresses that you also provided.

2. Appendix 1 - Are Subscriber Costs per month fully loaded costs or are they a base cost?

**Answer:** If you are referring to the "Service Provider" costs, that is only the cost for the ISP service. The town would need to add transport costs, network operations, and other fixed cost to the subscription fee. These are generally all fixed costs so your take rate will impact the amount each subscriber has added to their subscription.

3. Is a unique web site a requirement or can it be folded into an existing site?

**Answer:** It is not a requirement, but we strongly recommend one. Our experience on Block Island has shown that good communications with the community and proper branding of the services you are offering are critical to the success of the project.

4. Is the pre-fab concrete buildings a requirement? i.e. Is there a lower cost option?

**Answer:** The network you would be constructing is critical infrastructure. As such, the headend building needs to be able to survive severe weather conditions to remain operational. The prefabricated building we specified is designed for this application. If the town has suitable building(s) they could be renovated to properly house the equipment required for service.

5. p. 10 – How are make ready fees and construction management etc. (not included in the engineering scope) costs going to be captured and billed and to whom?

**Answer:** Estimated make ready costs are provided at the bottom of the second page of the Outside Plant Design & Implementation Summary in appendix 1. Sertex construction management is included in our costs. We did not include any additional costs for consulting fees that the town may spend to oversee the project.

## Matrix

1. p. 3 – At the 5-year point will the system have been maintained and upgraded as part of an ongoing system requirement with a performance guarantee that includes all required maintenance having been performed?

**Answer:** This is an excellent question as many times some committees only look at the short-term cost to the town or the subscriber rates which either may need to be subsidized through municipal bonds or tax increases or that are artificially low through "introductory" pricing tiers. In this regard there are four items Matrix would like the committee to focus on regarding our proposal:

- Although the Matrix Plan would require roughly a 49% take-rate signing up for service prior to construction – once that commitment level has been met it is Matrix that bears the risks and responsibility of making sure these subscribers remain satisfied with the quality of our service (and pricing) to continue doing business with Matrix.
- The head end equipment we would be installing on day one would be the Calix E7-2 platform. Although it would be initially equipped for a GPON deployment, the

platform is also capable of the next generation standards of both XGS-PON and NGPON-2. This means we could provide 10 Gbps symmetrical service to subscribers out of the box - all that would be needed is the addition of the associated cards (see attached Calix E7-2 data sheet). Please note that some providers try to utilize older platforms that are GPON only in order to save some money up front. Even if Matrix is not chosen as the provider for your deployment we highly recommend choosing a provider who is also utilizing the Calix E7-2 as their platform of choice.

- The Matrix business model has the costs to upgrade the head end built in as needed with the assumption it would be done at least every seven years. Our deployment in Petersham has been “live” for roughly a year and already Matrix has performed a major upgrade of the head end equipment at our expense. We highly recommend members of the committee speak with Chip Bull, the Chair of the Petersham Broadband MLP, to see how he and the community of Petersham feel about their partnership with Matrix (Chip’s contact information is included later in this letter).
- Written into the agreement Matrix would have with the four towns of Blue Hill, Brooksville, Penobscot and Deer Isle is a guarantee that our lowest service tier as well as our Disadvantaged Student Tier would meet or exceed the FCC’s definition of broadband (currently at 25 Mbps down and 3 Mbps up). The length of the agreement is for up to 20-years. This guarantee also serves as a legal obligation for Matrix to keep the head end upgraded.

2. p. 3 and p, 7 – Is the Pole cost estimate based on Maine’s PUC costs?

**Answer:** Yes. Matrix has literally done the pole attachment process for hundreds of thousands of utility poles throughout the northeast. Recently the Towns of Wilton and Weld in Franklin County approved the Matrix Plan at their annual Town Meetings. Our proposal and our utility pole cost estimates were validated on behalf of Franklin County by Casco Bay Advisors (Brian Lippold) one of the most experienced telcom consulting firms in Maine. If you recall – it was our firm that asked to clarify that all the correct utilities were identified for this very purpose.

3. p. 10 – please list examples of what equipment and wiring the customer would be responsible for. Is the ONT the “point of connection as specified by Matrix?”

**Answer:** The fiber drops to the house would be up to 300 feet from the road (many other firms limit their drop length to 150 feet). This drop would follow the path of the existing utilities (electric and telephone). If both or one of these utilities is connected to the house aurally – Matrix will follow the aerial path. If both are served via underground conduit it is the homeowner’s responsibility to provide Matrix with a usable conduit with pullstring for our fiber connection. The ONT would be the “point of connection.” Some additional details on the house “drop” and installation:

- If the house drop is over 300 feet then there would be a \$1 per additional foot charge to complete the installation.
- We utilize an indoor ONT – the Calix 803G (see attached data sheet) – which would be provided by Matrix as part of the standard installation.
- The ONT would be installed along the same path as the other utilities and once inside the home a power source needs to be provided (either an electrical outlet or extension cord) to power the ONT.
- The homeowner would be responsible for all inside/in-home computer cabling.

- The subscriber would have the option of providing their own router or utilize our Managed WiFi service where Matrix would provide a Calix WiFi6 GigaSpire router (see attached data sheet)
- If the subscriber opted for the VoIP telephone service – Matrix would also install a battery back-up unit. This would be mandatory for all VoIP subscribers (even if the subscriber has a generator). The battery back-up is rated for up to 8 hours of battery life. Matrix makes the battery back-up mandatory for safety concerns.

There is a standard \$400 installation fee (\$500 if the subscriber chooses VoIP due to the battery back-up unit). Normally this would be paid via two installments; the first due roughly when the licenses to attach from the utility companies are received and the second due shortly before the house is connected. This second payment could also be divided up into 12 monthly payments to be added to the subscriber’s month bill. Please note that if the four towns wished to pay the installation fees and include the costs into any General Obligation Bond or pay for them with grant funds either in whole or in part, Matrix would fully support that decision.

4. Can Matrix provide any information on how upstream circuits would be architected and the scalability and redundancy of the upstream architecture that would serve the four towns?

**Answer:** Matrix would utilize, at a minimum, two 10 Gbps circuits for this application to serve the four towns. It is our plan to utilize different providers with divergent service paths to maximize the redundancy and to minimize any potential downtime caused by outages. If more bandwidth is needed – additional 10 Gbps circuits would be added as needed.

On the Calix equipment we would utilize a Cross Card Link Aggregation Group (LAG) from the E7-2 to our Cisco equipment. This cross card LAG would be provisioned as Active/Active which will keep traffic up even during software upgrades and reboots. When both 10 Gbps links are up and active the result would be 20 Gbps of aggregate bandwidth to be shared among the four towns. Additional ports can be added to the LAG later to add even more capacity as needed. E7-2 to E7-2 connections are built using G.8032v2 Ethernet protected rings.

Attached please find overview diagrams of the network architecture for the deployment.

5. Please confirm that the cost for installation for subscribers who do not sign up during the presubscription period is \$1,500 and all subscriptions require a two-year contract? What is the cost for cancellation?

**Answer:** Another excellent question that gives Matrix the opportunity to discuss the nuances of our model and how we try to be a good partner with the towns we build in. First let’s discuss the presubscription period. Normally this would be about 3-months. We feel it is important to have an end date to create an impending event. This end date allows both Matrix and the towns to do proper planning for both logistical and cost purposes. For Matrix reaching the pre-subscription goal allows us to allocate resources towards the full design and material procurement (which are getting longer and longer lead times). For the towns it allows them to move forward with the pole attachment process knowing the construction of the network is secured and thus any funds spent towards make-ready will not be potentially wasted. For the residents it gives solid evidence of progress being made towards the goal of high-speed broadband.

Once the goal of the required number of pre-subscriptions has been met, Matrix would be happy to continue offering the pre-subscription rate of \$400 (or \$500 if VoIP is desired). This could be done right up to the point of construction. Once construction begins that's when the \$1,500 charge would truly be implemented. We cannot advertise this fact as it would hurt the impact of the pre-subscription end date. Something neither Matrix nor the representatives from the four towns would want.

As far as the \$1,500 charge for installations after the pre-subscription period - that amount doesn't come close to covering the costs to mobilize and send out a crew to do a single home installation. Matrix built the Town of Leverett, MA. As a municipally owned network Leverett is by definition a non-profit and has to cover actual costs. Their charge for a new installation, post construction, was \$2,440.

Even here we are willing to work with the towns as a good partner. For many people who move into town either through construction of a new home or moving into a home that didn't originally opt to get service – Matrix is willing to work with these folks by allowing a \$300 deposit and a charge of \$100 per month for the first 12 months of service. Another example of Matrix being a good partner is the Waite Rd. area in Petersham. There were four homes all owned by relatives who did not believe that the town could “pull off” the fiber build. Once they saw their neighbors enjoying the benefits of high-speed broadband they knew they had made a terrible mistake. Because all four homes signed up and Matrix was able to connect them all in a single day – we extended the \$400 installation cost to the entire family. Again - we highly recommend speaking with Chip Bull from Petersham to see how impressed he is regarding Matrix and our service.

The main reason the 2-year commitment is in place is because some homeowners do not actually want to get service but they do want the increase in home value a fiber connection would bring. If that homeowner does not honor the 2-year commitment Matrix will remove the fiber drop and charge the \$1,500 installation fee if service is requested at a later date. However, Matrix realizes that life happens and sometimes the 2-year commitment cannot be fulfilled. The house may be sold, the person may have to move out of town, or unfortunately there may be a divorce or a death. We understand. Our view is simply that whoever moves into that property most likely would also like our Internet service as well. Another example of Matrix trying to be a good partner is the arrangement we offer to local real estate agents. Any home in the four towns on the market can sign up for service at the pre-subscription rate and would be included in the build.

However, service would not begin until the house is sold and occupied. We would not start “the clock” and start charging as soon as the connection is completed. We find this offer helps the homeowner and real estate agents to better market and sell their properties. Finally, the only real penalty we enforce for early cancellation is if the equipment (ONT, router and battery back-up unit) is not returned to us in good working condition. Then there would be a \$500 charge. Thankfully we have yet to have enforce this penalty. As mentioned, we recently built a GPON FTTH network in Petersham, MA which was designed and built by Matrix and is also currently operated and maintained by Matrix under almost the same terms as our offer to the Four Towns. We highly recommend contacting Petersham to see how they regard their partnership with Matrix Design Group and the benefits it is bringing to their community.

## **Spectrum**

1. Is the service proposed compliant with the requirement addressed on page 2 of the RFP for any or all towns?



2. Is there any growth or alternative for Blue Hill and Deer Isle to achieve symmetrical service with FTTP requested in the RFP and to meet the changing FCC and State of Maine definition of Broadband?
3. What is the PON for the Fiber systems for Brooksville & Penobscot. Appears to be noted as EPON and is there any plan for upgrade.
4. Are Bulk rates based on every potential user being paid for by the town?
  - a. Please clarify for Deer Isle and Blue Hill "HFC (Existing)." Does that imply there are no plans for expansion to serve all residents including those unserved in those towns (i.e. as specific in Franchise Agreements)?
5. What are Bulk and non-Bulk rate capacities? How does Table 1 on page 11 apply?
  - a. What are the speed and price packages for the FTTP EPON network that would service Brooksville and Penobscot? Response states speeds up to 1Gbps symmetrical but there is no breakdown of options.
6. Can we see a standard Franchise Agreement to understand your proposal better and what might be excluded (i.e. distances from the roads, density, etc.)?
7. p.4 last paragraph –please give the definition of "standard installation." Would underground be non-standard? Who would pay if so or would you choose to not build?
8. p. 14 – Is the low cost /low speed option available under the bulk rate plan a town might pay?