Town of New Shoreham RFP Executive Summary

November 13, 2019

(Revised December 11th, 2019)

In July of 2019 Mission Broadband Inc., an independent consulting firm located in Bangor, ME, was engaged by the Town of New Shoreham to develop a Request for Proposals (RFP) to solicit responses from qualified vendors that would achieve the mission of the Town's Broadband Committee, namely "development of a sustainable and improved broadband network infrastructure to serve all residents, businesses, visitors and all Town facilities. This network infrastructure must be affordable, reliable, minimum 20-year life and offer best service levels available."

Mission Broadband performed data gathering exercises directly with the Town of New Shoreham, the Broadband Committee and the public as part of the RFP development process. Additionally, an engineering survey and mapping exercise was conducted on the Island in order to understand the existing available infrastructure for deployment of a new network. Mission Broadband provided network topology designs in the RFP as reference material for potential network architectures. The RFP was designed in a vendor and technology neutral manner, with a focus on the importance of customer service, scalability and overall impact to Island aesthetics. The RFP was written to request design, implementation and operation of an Island wide broadband network containing the following specific components:

- RFP Section 10: Outside Plant Design and Implementation
- RFP Section 11: Access and Aggregation Electronics Design and Implementation
- RFP Section 12: Mainland Dark Fiber Design and Implementation
- RFP Section 13: Transport Electronics Design and Implementation
- RFP Section 14: Mainland Data Center/Colocation with access to Service Providers
- RFP Section 15: Service Providers to Provide Services on the Island
- RFP Section 16: Network Operator to Operate and Support the Network
- RFP Section 17: Public Wi-Fi Services

Vendors were asked to propose innovative solutions to achieve the Town's desired outcomes and to provide the detail necessary for a fair evaluation of alternative proposals to determine whether and how each proposed solution might satisfy the Town's expected outcomes.

A total of seven responses to the RFP were received with a variety of solutions proposed to accomplish the needs and goals outlined in the RFP. Mission Broadband performed an analysis of each response and used a rating system of 1 (lowest score) to 5 (highest score) on each section proposed by a

vendor. A vendor summary is outlined below. This summary is supported by a set of detailed analysis documents Mission Broadband has provided to the Town.

Additions on 12/04 and 12/09 of 2019:

On November 14th, 2019, Mission Broadband presented findings to the Town of New Shoreham Island Wide Broadband Project core team and the Broadband Committee. The documents presented included a summary report with an overview of each vendor and a vendor scoring spreadsheet outlining how respondents were scored for each of their responses. Based on the presentation and discussions during the meeting, the Broadband Committee recommended the following vendors be included in a short list for further review: Sertex, RadioLED, Iron Trust and CommScope (specifically for the Public Wi-Fi section of CommScope's proposal). Other participating vendors who did not make the short list were notified that their proposals were no longer being considered. These vendors were also notified that per section 4 of the RFP, the Town reserved the right to revisit their proposals in the future if deemed to be in the best interests of the Town. The Broadband Committee also provided additional questions for Mission Broadband to pose to CommScope, Sertex and RadioLED.

Mission Broadband and the Island Wide Broadband Project core team reviewed and discussed the final round of questions and responses and as a result, no changes were made to the scoring spreadsheet. The results of these additional questions and responses further qualified the short list of vendors recommended by the Broadband Committee.

Vendors who did not make the short list were notified and updates about these notifications are included below. Updates to the overview sections of this document for Sertex, RadioLED and CommScope were added as a result of the additional questions and responses. Based on these final results, the core team will work with the Broadband Committee to decide on next steps with vendors. Mission Broadband has finalized this phase of the Island Wide Broadband Project.

CommScope

CommScope is a company that designs and implements wired and wireless communications infrastructure for service providers and enterprises on a global basis. With headquarters in Hickory, NC, CommScope teamed with several partners (TVC/Wesco, Patriot Construction, Calix, Verizon) to provide responses to all of the RFP components with the exception of the Network Operator section. CommScope's solution is based on the buildout of fiber to the premises (FTTP) throughout the Island using Gigabit Passive Optical Network (GPON) technology and hardware to provide service to each structure on the Island. The mainland transport component of the proposal would be fulfilled through existing Verizon facilities and the Town's four undersea fiber strands would be used for a future redundant connection to the mainland. CommScope also proposes 10Gbps of wholesale Internet bandwidth from Verizon with the recommendation that the Town of New Shoreham act as the Service Provider through this wholesale arrangement. Based on the information provided in the RFP, CommScope provided a high-level budget estimate only for the design and buildout of their proposed solution.

Mission Broadband's review of the CommScope proposal found a lack of clarity and detail on each component, with the exception of the Public Wi-Fi component which contained sufficient detail and

comprehensive pricing. With the use of multiple partners, CommScope appears to have the technical depth and experience to build out an Island wide network. The initial lack of details accompanying the proposal raises many concerns about what design is being proposed and more specifically what the up front and recurring costs would be. Upon request, CommScope provided additional information and pricing but the added information did little to clarify their design and associated costs. At this point in time, CommScope is still waiting on Engineering information from Verizon to determine if the transport can be upgraded to 100Gbps. CommScope proposes an aggressive timeline for this project with the expectation of the network to be built and operational by the start of the Island peak season 2020. Based on Mission Broadband's experience and understanding of the complexity and time involved in building FTTP networks there is a low level of confidence CommScope would be able to hit their projected target date.

Additions on 12/04/2019:

- Mission Broadband asked CommScope on 11/18/19 if their response to the Public Wi-Fi section of the RFP could stand alone as an individual offering. CommScope confirmed that the Public Wi-Fi section of their response could stand alone as an offering.
- CommScope was notified on 11/25/2019 that their proposal was not selected for continued review (outside of the Public Wi-Fi section), however, the Town reserved the right to reconsider their proposal in accordance with RFP Section 4 if it deemed this would be in the Town's best interests.

Matrix Design Group

Matrix Design Group is an engineering and environmental consulting firm that partnered with Millennium Communications in response to all components of the RFP. Matrix Design Group's proposal is based on an FTTP buildout throughout the entire Island using Calix GPON electronics at the head end and all subscriber locations. The Matrix Design Group proposal is essentially a Network-as-a-Service design requiring an upfront capital commitment by the Town of New Shoreham and a three-year commitment where Matrix Design Group would own, operate, maintain and support the network with an option for the Town to purchase the network after three years. After three years, the Town has a yearly option to buy the network through the twenty-year life of the network. The proposal also includes an option for VoIP telephone service and a guarantee the standard Internet tier will always meet or exceed the FCC definition of broadband, which is currently 25/3. This proposal includes a three-month pre-subscription period and after the pre-subscription period the installation cost will increase per subscriber.

Mission Broadband's review of the Matrix Design Group proposal found a complete lack of detail particularly around construction of the Island wide fiber network and the specifics of how bandwidth transport to and from the Island will be accomplished. Mission requested details of their architecture, however no design details have been received. Matrix Design Group has experience building out FTTP networks in New England and included a detailed agreement with the Town of Petersham, MA, which provides more insight into how the network buildout might be accomplished. Overall the proposal lacks the clarity and details necessary to have a high level of confidence in the proposed solution and pricing. The subscriber pricing proposed seems high in comparison with current broadband pricing and the bid

on the Public Wi-Fi section contains no detail, simply stating that more detail would be required in order to design a solution. Although Mission Broadband has low confidence in the overall proposal, the Network-as-a-Service model with option to purchase is interesting from a financial standpoint. A tremendous amount of detail is lacking in order to truly understand the cost structure for Matrix Design Group and the overall costs that would be borne by the Town.

Addition on 12/04/2019:

- Matrix Design Group was notified on 11/18/2019 that their proposal was not selected for continued review, however, the Town reserved the right to reconsider their proposal in accordance with RFP Section 4 if it deemed this would be in the Town's best interests.

RadioLED

RadioLED is a wireless communications company based in Austria. Since its founding in 2014, RadioLED states they have implemented community wide wireless broadband networks in several European countries, including Austria, to include communities with as many as 18,000 residents. RadioLED proposes to construct an Island wide broadband network using Wi-Fi multipoints, leveraging available fiber from the CAI network to connect some of these devices with direct fiber. The term multipoint is used to describe the RadioLED access points proposed. In a follow up call with RadioLED, it became clear Island fiber construction is minimal, as the multipoints will perform all client side and backhaul functions efficiently. The RadioLED proposal is a Network-as-a-Service solution based on proprietary technology that uses the unlicensed Wi-Fi frequencies of 2.4 GHz and 5.0 GHz and all channels allowed within existing international protocols and regulations between 450 kHz and 6 GHz. RadioLED's solution proposes installation of an estimated 133 multipoints to provide sufficient coverage and capacity throughout the Island. Since the proposed solution is based on Wi-Fi, there is not a need to attach an antenna to each structure in order to terminate and distribute the signal within the structure. Individual devices will connect to the Wi-Fi network regardless of where they are located at any particular time. Since the proposed solution is based on Wi-Fi, the Public Wi-Fi Services component of this RFP will be solved inherently with the RadioLED solution. The proposed solution requires an upfront capital expense from the Town with annual backbone and maintenance costs varying depending on the length of the contract.

Mission Broadband's review of the RadioLED proposal and subsequent communications with RadioLED representatives revealed that the design of the transport components (Sections 12, 13, 14, required to connect the RadioLED network to the mainland) were not solidified. Further, RadioLED has not yet implemented any similar networks in the United States. While the proposed solution is interesting both technically and financially and appears to meet many of the RFP requirements, Mission Broadband has concerns around the fact that RadioLED has not done business in the US. Also, the solidification of required partnerships to design transport to the Island and provide ongoing support is something that may take more time than can be afforded. Additionally, in order to experience a proof of concept of the proposed technology, members of the Town and Mission Broadband would need to travel to Europe to visit a community where RadioLED has deployed this technology. Finally, the minimum need for 133 powered multipoints on poles and other structures throughout the Island presents an aesthetic and ongoing maintenance consideration.

Additions on 12/04 and 12/09 of 2019:

- RadioLED responded positively to questions about their solution's ability to withstand the demanding Block Island climate and to operate effectively concerning foliage, trees and hills throughout the Island. The RadioLED product is not yet patented in the U.S. Additionally, RadioLED could not guarantee that no obstacles exist to their ability to operate in the U.S. RadioLED is unwilling to break up their solution, for example, by having the transport component fulfilled by a Town selected partner.
- Mission Broadband has the following continued concerns with the RadioLED proposal:
    - lack of mainland transport & dark fiber design and pricing;
    - their ability to sustain the pricing proposed without the transport components being defined within their proposal;
    - RadioLED has not done business in the U.S.;
    - RadioLED's lack of clarity around the necessary partnerships to successfully execute on all sections of the Island Wide Broadband Project RFP.

Greyworks

Greyworks is a firm located in Westwood, NJ whose principal and authorized negotiator is Michael E. Gruen, someone with strong ties to Block Island. Greyworks' proposal admittedly was short on information due to the limited time Greyworks stated they had to design a proposal based on when the RFP was received. It is worth noting, Greyworks asked for an extension of the RFP deadline that was declined by the Town because the request was submitted at such a late point in the process, all parties would not benefit equally. Greyworks' proposal is based on the formation of a new company (NewCo) and responses were initially targeted at sections 14 through 17 of the RFP with a desire to provide all support and service of the entire infrastructure (Island and Mainland) over time. Greyworks proposes that NewCo will essentially function like a municipally owned broadband company with a strong focus on superior service delivery and growth of local talent.

Mission Broadband's review of the Greyworks proposal raises concerns about GreyWorks' ability to perform the tasks required within a reasonable timeframe. In conversation with Michael Gruen, we came to understand Greyworks to be passionate about creating NewCo and investing the necessary time, energy and financial resources in order to get NewCo off the ground and functioning to provide quality broadband services on the Island. There is insufficient detail to properly evaluate this proposal and determine the viability of this option. Due to the lack of detail, Mission Broadband is unable to evaluate Greyworks capabilities to provide and meet all of the services and requirements outlined in sections 14 through 17.

Addition on 12/04/2019:

- Greyworks was notified on 11/18/2019 that their proposal was not selected for continued review, however, the Town reserved the right to reconsider their proposal in accordance with RFP Section 4 if it deemed this would be in the Town's best interests.

GoNetSpeed

GoNetSpeed is an Internet Service Provider based in Rochester, NY that has focused on construction, operation and support of high-speed fiber optic broadband networks throughout the Northeast. GoNetSpeed submitted a proposal in response to sections 10 through 15 of the RFP. GoNetSpeed proposes to construct an FTTP network using GPON technology throughout the Island to provide Internet services ranging from 100Mbps to 1Gbps. The proposal also includes the design, implementation and support of transport components outlined in sections 12, 13 and 14 with an upfront capital commitment by the Town and an ongoing subscriber commitment level for a minimum of two years.

Mission Broadband's review of the GoNetSpeed proposal raises concerns about the lack of detail in each of their sections. Although diagrams were included for the proposed fiber routes on the Island and Mainland, as well as a DWDM based transport solution, there is very little detail provided on any of the responses throughout the entire RFP with the exception of the Service Provider section. Additionally, no detail is provided for the types of equipment that will be used for transport, routing and aggregation of services on the Island. While it is apparent that GoNetSpeed has constructed and supported high speed fiber optic networks throughout the Northeast, the lack of detail is concerning. The costs included in the RFP and the minimum commitment by the Town do not seem sufficient to cover the construction costs of the backbone network on the Island which has Mission Broadband concerned about the financial viability of this proposal.

Addition on 12/04/2019:

- GoNetSpeed was notified on 11/18/2019 that their proposal was not selected for continued review, however, the Town reserved the right to reconsider their proposal in accordance with RFP Section 4 if it deemed this would be in the Town's best interests.

Iron Trust Networks

Iron Trust Networks is a Providence, Rhode Island based company that provides internet and related telecommunication services to businesses in New England. Iron Trust Networks submitted a proposal in response to sections 12, 13 and 14 of the RFP. The proposal provides for redundant fiber paths to be constructed on the Mainland to reach the Iron Trust Data Center located at 304 Carpenter St., Providence, RI. The redundant fiber paths will be lit with an Infinera based DWDM solution. Due to the distance between the Island Telecom Building and the Data Center in Providence, the solution also includes mid-span regen equipment to carry the DWDM signal across the entire span. The solution includes 100Gbps waves between the Island and Data Center, as well as colocation space in the Data Center for the mainland DWDM system and cross connect fees for reaching other Service Providers in the Data Center. The proposal also includes the operational costs to support the entire system (fiber, DWDM gear, regen gear) from end to end. In response to questions from Mission Broadband on their proposal, Iron Trust provided lit wave pricing for connecting the Town to Points of Presence (POPs) in Boston and NY.

Mission Broadband's review of the Iron Trust Network proposal overall revealed a clear and concise proposal that followed the requested format for RFP responses. The solution includes great

scalability as well as the ability to provide Active Ethernet solutions out of the Island side DWDM system for direct transport of customer circuits to the Data Center or to other accessible providers within the Data Center in Providence.

Additionally, Iron Trust Networks' solution would eliminate the need for a router on the mainland by allowing Service Providers to interface directly to the DWDM system within the Providence Data Center and be transported to the Island where services could be dropped off to the Island aggregation router. In evaluating transport costs for lit service versus a Town owned DWDM system, it is possible the Town could save on long term recurring transport costs by choosing this option and collocating in the Iron Trust Data Center to access ISPs directly at this location. Unfortunately, this will require the Town to begin a search for an ISP within the Iron Trust Data Center that would be willing to provide service to the Island community.

Addition on 12/04/2019:

No further action was needed at this time.

Sertex

Sertex is a utility construction company located in Plainfield, CT that provides services in the energy, telecommunications and enterprise sectors in the northeast. Sertex partnered with UC Synergetic, OSHEAN, ADTRAN, Crocker Communications and BEI Networks to propose a turnkey solution in response to all sections of the RFP. Sertex proposes to build an Island wide FTTP network using an ADTRAN Gigabit Passive Optical Network solution with drops to each structure. Sertex partnered with OSHEAN to provide a dark fiber solution to the data center at 235 Promenade St, Providence, RI. A second option in their proposal uses a lit DWDM technology to provide two diverse 10Gb or 100Gb waves, with one circuit going to a POP in Boston and the other to a POP in NY that would connect with Crocker Communications, the partner that will provide Internet services to the Island community. Sertex partnered with BEI Networks to provide the Public Wi-Fi solution in response to section 17 of the RFP. Additionally, Sertex partnered with ADTRAN to provide the Network Operator service outlined in section 16 of the RFP.

Mission Broadband's review of this proposal reveals a comprehensive and detailed turnkey approach to satisfy all of the components of the RFP. The proposal contains detailed pricing and information for each section of the RFP, including proposed costs for connecting to each structure regardless of the length and type of drop (aerial vs buried), comprehensive pricing and details for all aspects of the Island aggregation electronics (ADTRAN) including options for different types of Network Termination Equipment, and clear options for connecting to Service Providers on the Mainland. Additionally, Sertex partnered with Crocker Communications and ADTRAN to provide attractive subscriber pricing for various tiers of bandwidth and detailed how the Service Provider and Network Operator functions will be handled. The Public Wi-Fi solution proposed is also detailed and clear. Although the Sertex pricing overall appears high compared to the other proposals, it is Mission Broadband's opinion this is due in part to the comprehensive nature of the Sertex proposal. The detailed narrative and supporting documentation provided in their response creates confidence in the ability of Sertex and its partners to successfully execute on all requirements of the RFP.

Addition on 12/04/2019:

- Sertex responded positively to several questions including: expected equipment refresh timelines; required subscriber commitment levels; and Sertex's willingness to break up their proposal to include other transport solutions that may be developed or provided by the Town. As such Mission Broadband continues to have confidence that Sertex and their partners can fully execute on all sections of the RFP.