

**Vermont Community Broadband Board (VCBB)**  
**Construction Standards Policy**  
Board Approved 03.25.2024

- 1. Purpose:** The VCBB’s mission is to “support policies and programs designed to accelerate community efforts that advance the State’s goal of achieving universal access to reliable, high-quality, affordable, fixed broadband.”<sup>1</sup> With respect to construction of broadband infrastructure, VCBB is specifically authorized to establish policies and standard grant terms which “adopt an industry-accepted engineering standard that promotes network reliability, resiliency, and interoperability.”<sup>2</sup> This policy is intended to provide guidance to support Grantees in their construction and design of broadband infrastructure, while preserving their flexibility to tailor solutions to meet network goals and business objectives consistent with industry standards and Act 71. This policy only applies to the Broadband Equity Access and Deployment Program (BEAD) to the extent its provisions are consistent with BEAD.<sup>3</sup>

It is also the intent of this policy to ensure at a minimum that:

- a. Alternative operators can reasonably assume operation of the network to facilitate continuity of service<sup>4</sup>;
- b. The networks are designed with performance measures that ensure delivery of service meeting the minimum speeds of 100Mbps/100Mbps, accommodating changes in demand (scalability)<sup>5</sup>; and
- c. The design and installation promote network reliability, resiliency, and interoperability.<sup>6</sup>

- 2. Construction Standards Policy:** VCBB awards grants for the construction of broadband networks that achieve universal service to Vermonters.

- a. **Grant Conditions to Address Engineering Standards:** Pursuant to Act 71, the VCBB encourages designs and will prioritize applications that consist of the following:
  - i. Utilize available partnerships to deliver cost-effective and affordable broadband deployments<sup>7</sup> ;

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<sup>1</sup> 1 V.S.A. § 8081.

<sup>2</sup> 1 V.S.A. § 8086(c)(2).

<sup>3</sup> Any provisions of this Policy which present an actual or perceived conflict with BEAD are inapplicable to BEAD Subrecipients and/or their contractors.

<sup>4</sup> 30 V.S.A. § 8086(c)(4).

<sup>5</sup> 30 V.S.A. § 8086(f)(2)(100 Mbps standard) and 30 V.S.A. § 8086(c)(2)(resiliency).

<sup>6</sup> 30 V.S.A. § 8086(c)(2).

<sup>7</sup> See 30 V.S.A. § 8084(a)(6)(D)(facilitate partnerships); 30 V.S.A. § 8086(b)(1)(leveraging private resources); and 30 V.S.A. § 8087 (b)(2) (assisting CUDs in developing private partnerships).

- ii. Demonstrate sustainable usability and scalability for the life of the installed asset<sup>8</sup>; and
- iii. Promote use of public broadband assets that can be shared by multiple service providers and that can support a variety of purposes.<sup>9</sup>
- iv. The definition of fixed broadband under the Act includes retail service by wire or radio that delivers service at speeds of at least 100/100 Mbps. It is the policy of the VCBB to prioritize the funding of fiber networks that use existing infrastructure, including utility poles and power in the public right of way and along easements, as a means of ensuring it is delivering broadband projects consistent with the objectives of Act 71.<sup>10</sup>

**b. Design Standards:** This policy supplements the construction standards specified in VCBB's Construction Grant RFP and Outside Plant Design Standards (OSP Requirements<sup>11</sup>).

- i. Commercial Off-the-Shelf Standards: To facilitate interoperability and interconnection, Grantee shall design and construct networks using commercial off-the-shelf equipment, protocols and systems. The policy is intended to enable Grantees the flexibility to choose from a variety of manufacturers and design their networks to meet their specific needs and objectives, while also facilitating continuity of service in the event an alternate operator assumes operation of the network. Grantees shall identify proprietary components and demonstrate that such components will not adversely impact interoperability, resiliency, or scalability.
- ii. Resiliency: Network design will address resiliency ensuring continued operation for the expected life of the installed asset, in adverse as well as growth scenarios.
  - 1. Backup power– Active nodes. Optical Line Terminals (OLTs) should be designed to avoid power interruptions, and have at least a 4-hour battery backup at the OLT and the capability for emergency generator backup. Backup power should be tested as part of a preventive maintenance program.
  - 2. Security – As set forth in the Construction RFP, designs, monitoring and reporting must demonstrate 1) compatibility with current industry practices and applicable standards and statutes; and 2) how the Grantee will adapt to emerging security practices and standards.

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<sup>8</sup> See 30 V.S.A. § 8086(c)(2) (design should promote network resiliency and interoperability).

<sup>9</sup> 30 V.S.A. § 8086(b)(7).

<sup>10</sup> Whereas Act 71 only concerns grid concerns on grid locations, other relevant broadband grant programs, such as the BEAD program, also provide funding for off-grid addresses.

<sup>11</sup> The OSP Requirements are located at <https://publicservice.vermont.gov/vt-community-broadband-board-vcbb/outside-plant-design-osp-requirements>.

3. Cybersecurity- The Grantee must maintain an operational cybersecurity plan reflecting conformity to the latest applicable National Institute of Standards and Technology (NIST) framework, or a comparable standard framework and must be reevaluated annually.

iii. Usability and Scalability:

1. All assets shall be designed and architected as appropriate for the immediate anticipated customer needs, and expandable to accommodate future growth to the greatest reasonable extent of the expected life of the asset for that region or network segment.
  - a. Grantee shall provide written substantiation of all proposed deviations from the OSP Requirements and, if necessary, obtain an exception or waiver pursuant to the Exceptions and Waiver provision below.

iv. Performance monitoring and reporting:

1. Upon completion of construction, Grantee must demonstrate that the network is operating as designed and the speed delivered to the customer meets the requirement of 100Mbps/100Mbps and further aligns with the specific requirements of customer subscriptions. Grantee must be able to demonstrate annually that the network is operating as designed to enable service at 100mbps/100mbps to all customers and further aligns with the specific requirements of this policy.

- c. **Construction Standards:** Grantee shall maintain a safety program in accordance with OSHA requirements<sup>12</sup>. Grantee shall maintain construction oversight for field construction activities.

- i. Project management metrics: VCBB staff shall meet monthly with Grantees to address construction progress and any potential issues relating to the construction or the project in general. During those meetings, Grantees shall provide Staff with any information, preliminary or otherwise, that may tend to indicate successes or challenges in the project plan. The meeting will address the following issues, among others:

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<sup>12</sup> See <https://www.osha.gov/stateplans/vt>.

1. The initial grant request and financial construction forecast and the project baseline schedule;
  2. Forecasted and actual:
    - a. Miles under construction/miles lit10;
    - b. Cost per mile completed;
    - c. Number of addresses passed;
    - d. Average cost per passing;
    - e. Total number Unserved/Underserved addresses completed; and
    - f. Average cost per customer drop.
- ii. Implementation: The VCBB or its designee shall review the construction design to ensure compliance with this policy prior to grant approval and the commencement of construction.
1. Exceptions and Waivers: Grantees may request exceptions to this policy at any time. For such exceptions, Grantee shall provide a restatement of policy, or a design rationale, or a remediation plan, along with a statement of how the requested exception remains consistent with the State's goals in bringing service to unserved and underserved locations in a manner that assures long-term functionality.
  2. Final Inspection – A final inspection will be conducted by the VCBB within 30 days of completion of agreed upon project areas prior to the release of final payment and close-out.
  3. Duration: The provisions of the VCBB Construction Standards Policy, as qualified herein, shall apply to all projects that are the subject of a grant awarded by the VCBB for the entire respective federal interest period.<sup>13</sup>

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<sup>13</sup> The federal interest period extends to December 31, 2034 under ARPA (see p.3, <https://home.treasury.gov/system/files/136/SLFRF-and-CPF-Supplementary-Broadband-Guidance.pdf>) and ten (10) years from the closeout of BEAD grants (see p.9, [https://broadbandusa.ntia.doc.gov/sites/default/files/2023-12/BEAD\\_Policy\\_Notice\\_of\\_Uniform\\_Guidance\\_Part\\_200\\_Exceptions\\_Related\\_Issues.pdf](https://broadbandusa.ntia.doc.gov/sites/default/files/2023-12/BEAD_Policy_Notice_of_Uniform_Guidance_Part_200_Exceptions_Related_Issues.pdf)).