



OPENCAPe

Creating Regional Broadband Opportunities for Cape Cod and Southeast MA

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The OpenCape Newsletter

The renovation of the OpenCape Regional Collocation Center has begun! Over 150 miles of fiber optic cable is in the warehouse and ready for installation. Network equipment has been ordered and begun to arrive. The National Grid make ready work is nearly complete. Special permit approvals are arriving. It is an exciting time as OpenCape transitions to the construction phase of the project.

The OpenCape project is two thirds preparation and one third construction. The bulk of the effort and the most difficult components of the project are not the network construction. Rather, it is in obtaining environmental approvals, negotiating utility agreements, applying for licenses, obtaining special permits, selecting contractors and sub-contractors, negotiating contracts, and so forth. This preparatory work is nearing completion and the first quarter of 2012 will see the beginning of network construction in large scale toward on time completion of the project in January, 2013.

We appreciate your continued support and involvement and hope to keep you informed through our Newsletters and other announcements as we move forward

Dan Gallagher, CEO

Environmental Assessment

OpenCape received approval of its Environmental Assessment (EA) Amendment from the National Telecommunications and Information Administration (NTIA). An amendment was required to provide an accurate final detail of the build. Route changes are inevitable in any project as large in scope as the OpenCape project. Unanticipated conditions and events, and detailed engineering reveal over time a large number of issues that must be addressed. These changes are minor in their impact and scope. They do not substantially change the path originally submitted with the original EA by OpenCape. Receipt of the NTIA approval was a significant milestone as construction could not begin until this approval was received.

Fiber Optic Network Construction

OpenCape has made significant progress in obtaining underlying rights in support of the project. Underlying rights must be obtained from utilities, local, state, and federal entities before construction can begin.

Applications have been submitted to the Army Corps of Engineers to cross the Cape Cod Canal at the south end via the Vertical Lift Railroad Bridge and via existing conduit on the Sagamore Bridge through an existing Verizon easement. Authorizations for use are anticipated in the first quarter of 2012. OpenCape has cancelled its originally planned directional bore underneath the Cape Cod Canal.

Special Permits are being filed and approved consistent with the project timeline. OpenCape anticipates obtaining all special permits required for its project from state and other entities for construction along or across state highways and railroad crossings by the first quarter of 2012.

The network design is complete. All specifications for active equipment have been determined and a vendor was selected.



Draka Communications was selected to provide OpenCape's 350 miles of all-dielectric self-supporting (ADSS) fiber for the project. Now part of the Prysmian Group, the Company is a leading international supplier of fiber optic cable and has 17 plants in North America. Draka began deliveries of fiber in September, 2011. Approximately 150 miles of fiber have been received to date. Draka is committed to having all fiber delivered by June, 2012. Ciena was selected to provide optronics, switching, and routing equipment. Orders have been placed and equipment deliveries have begun. Graybar

has been selected to provide pole line hardware, which will be delivered as kits of equipment tied to particular reels and segments. The microwave radio vendor will be selected in December of 2011 with deliveries of radios expected in the first quarter of 2012.

Pole survey and make ready work was negatively impacted by a strike that was conducted by Verizon employees in August, Hurricane Irene, and the October nor'easter. These events understandably stop all work by the utilities on OpenCape's requirements. Despite these disruptions, in the National Grid portion of the project (approximately 20% of the project territory), all pole license applications have been submitted, make ready assessments completed, and make ready work is near complete. NSTAR and Verizon are developing innovative solutions to permit an accelerated process of make ready assessment and make ready work in the NSTAR portion of the project (approximately 80% of the project territory). Obtaining licenses to the poles is the most important and challenging task in preparing for construction.

OpenCape's contractor, CapeNet LLC, has selected two sub-contractors to build the fiber backbone network over a nine month period – ElecComm Corporation and Hawkeye Construction. Both of these firms have extensive experience and capacity, and are capable of deploying as many crews as are necessary to complete the fiber build within nine months, or a shorter timeframe of six months if necessary. The plan calls for the build to be complete early in the fourth quarter of 2012. The construction plan has ten phases and fiber has been ordered by phase. There are multiple reels within each phase, which will allow flexibility in building where and when a full reel segment is prepared. CapeNet LLC will select a sub-contractor to build the laterals from the backbone of the network to microwave tower sites and anchor institutions in the first quarter of 2012.



Underground components of the project include leasing existing Verizon conduit and installing new conduit in the existing right of way. All Verizon conduit applications have been submitted and make ready is underway to provide OpenCape with an innerduct for placement of its fiber. New construction and placement of conduit has begun as depicted at right.

Microwave Public Safety Backup System and 700Mhz Mobile Public Safety System

OpenCape anticipates negotiating a lease for placement of its microwave and 700Mhz radio equipment on seven water district towers, a town communications tower, a county communications tower, and a building at the Woods Hole Oceanographic Institution. Acquiring these leases or licenses is time consuming, but OpenCape is systematically addressing all of these requirements and expects to begin receiving authorizations for towers in the first quarter of 2012 and to have all leases or licenses in hand by the second quarter of 2012.

Provincetown Town Meeting voted at its fall town meeting to amend its telecommunications tower and facilities bylaw, thus clearing the way for its participation in the public safety network. Orleans Town Meeting voted at its fall town meeting to authorize the Board of Selectment to negotiate the lease of space on its water tower as well. These actions are indicative of the support this tremendous public safety asset has in the community.

OpenCape and the 700Mhz Sub-Committee of the Barnstable County Regional Emergency Planning Committee (BCREPC) www.bcrepc.org continue planning for the mobile public safety digital wireless broadband system. The public safety officials who make up the 700Mhz Sub-Committee are pursuing a 700Mhz waiver under procedures of the Federal Communications Commission (FCC), developing an organizational model, identifying funding sources for mobile equipment, and meeting with vendors and officials to determine the best Evolved Packet Core strategy. OpenCape included the integration of the 700Mhz system in its network design. An RFP will be issued in 2012 for the procurement and installation of base station ENodeB radios under the OpenCape grant.

The microwave public safety backup communications system construction is planned to begin in the second quarter of 2012 and conclude in the third quarter of 2012. The 700Mhz mobile public safety radio construction is planned for the third quarter of 2012.

Regional Collocation Center

The development of the OpenCape Regional Collocation Center has two components. The first is the general renovation of the building to 2011 building codes and ADA compliance. The second is to construct a Collocation Data Center in the ground floor of the building.

OpenCape’s construction management contractor, Stateside Construction, has obtained a demolition permit for the future Regional Collocation Center and received approval from the Old Kings Highway Historic District for internal demolition and renovation of the former Barnstable County Public Safety Building. A building permit application was filed and will likely be approved before the new year.



Demolition of the former Barnstable County Public Safety Building began November 28, 2011. Construction of the building into the Regional Collocation Center will immediately follow completion of the demolition. General renovation is expected to be completed in the second quarter of 2012.

OpenCape issued an RFQ on December 2, 2011 for Collocation Data Center Design and Specifications. The Collocation Data Center will occupy the ground floor of the Regional Collocation Center. Following selection of a design engineer in January, 2012 a build and operation RFP will be released in the first quarter of 2012.

OpenCape is working closely with Barnstable County to ensure its interests are addressed in the building renovation. OpenCape is also working closely with Cape Light Compact to ensure that the greatest possible energy efficiency is achieved within the building.

Community Outreach

Increasingly, OpenCape is engaged in activities to engage the community and foster the applications that will use its infrastructure when construction is complete. On Cape, the Smarter Cape concept and partnership is the vehicle for the development of vision, direction, and planning. Off Cape, OpenCape is increasingly meeting with community leaders of the South Coast and South Shore to raise awareness of the OpenCape project and engage those communities as they consider the potential for this new infrastructure to serve their community needs.

Smarter Cape

Following the Smarter Cape Summit in May, 2011 the Cape Cod Chamber of Commerce, Cape Cod Commission, Cape Cod Technology Council, Cape Cod Economic Development Council, and OpenCape Corporation began meeting weekly to move the Smarter Cape concept forward. A visioning session, facilitated by the Intelligent Community Forum (ICF) www.intelligentcommunity.org was held on October 4, 2011 to develop the Vision of a Smarter Cape. A follow-on meeting is scheduled for December 14, 2011 at the Wellfleet Harbor Actors Theater www.what.org to gain further input and approval of the Vision from the community. Elements of the Vision will be discussed and pathways forward established. Concept papers will be developed for each element of the Vision and presented at the Smarter Cape Summit 2012. The SmarterCape Summit 2012 event is planned for May 14 & 15, 2012 at the Sea Crest Resort www.seacrestbeachhotel.com in Falmouth. For more information about the broader Smarter Cape concept and planning please visit www.smartercapepartnership.com/.

Regional Umbrella Services System

The SMARTERCAPE Partnership, enabled by the OpenCape telecommunications infrastructure, is supporting the development of a Regional Umbrella Services System (RUSS) to support counties, municipalities, school districts, libraries, public safety, and other public sector entities in the development and delivery of regional information technology solutions and services.

RUSS will take advantage of the OpenCape Municipal Regional Area Network (Municipal RAN) and Regional Collocation Center (RCC) to enable local and regional public sector entities to aggregate communications service purchasing and develop regional applications. Aggregated services may include Internet and Internet2 access. Initial shared regional applications may include the Regional Permitting, Licensing and Inspections Solution (E-Permitting), Regional Geographic Information System (Regional GIS), the Cape Cod Strategic Information Data Warehouse, and Shared Assessor Databases.

OpenCape is creating a Municipal RAN for the county, municipalities, schools and libraries of Cape Cod and the Islands as part of the OpenCape project. The Municipal RAN uses fiber optics on Cape Cod to create a 1Gbps shared circuit within each town that is part of a higher capacity regional network that terminates at the RCC. The Municipal RAN shall also provide an aggregated 1Gbps Internet connection for the shared use of all public entities in these communities.

OpenCape is working with Barnstable County and municipal officials to further refine roles and responsibilities related to the Municipal RAN and RUSS.

Communities are seeing the opportunity presented by the OpenCape infrastructure in different ways. The Town of Falmouth Town approved at its fall town meeting the expenditure of \$122,000 to make eleven additional lateral connections to town and school district buildings beyond the number planned for connection by OpenCape as part of its grant.

Community and Anchor Institution Engagement

OpenCape continues a broad scope of engagement with community stake holders. In addition to meetings on Cape Cod with Barnstable County Commissioners, County procurement officials, planning boards, and other municipal and county officials, OpenCape met with officials of Nantucket Island to discuss the Island's participation in the Regional Umbrella Services System (RUSS) to deliver government services more effectively and efficiently. OpenCape also began a concerted effort to reach out to communities and entities off Cape Cod in the broader southeast Massachusetts region. Meetings were held with the Southeastern Regional Planning and Economic Development District (SRPEDD) www.srpedd.org, the Mayor of New Bedford, South Coast Town Administrators Association, and others.

Looking Forward

OpenCape is fast transitioning from preparatory actions to actual physical construction of the fiber optic and microwave network and the regional collocation center! We look forward to fiber being installed and hammers pounding.

At the same time, we are mindful of the need to ensure that this new resource will be used to its fullest effect. The SmarterCape concept and partnership are an increasing focus of our attention as we begin to plan for the day in the not too distant future when the OpenCape system is complete.