

## **Appendix F Indefeasible Right to Use and Operating Agreement Draft**

This Indefeasible Right to Use and Operating Agreement (this “**Agreement**”) is made and entered into this \_\_\_ day of \_\_\_\_\_, 2010 (the “**Effective Date**”) by and between OpenCape Corporation, a Massachusetts nonprofit corporation (“**OpenCape**”), and \_\_\_\_\_, a \_\_\_\_\_ (the “**Operator**”).

### **RECITALS:**

WHEREAS, OpenCape owns, has rights in, has constructed or is planning to construct a fiber optic communications system, Microwave Component (as hereinafter defined), and Associated Property (as hereinafter defined) (collectively, the “**System**”) along the route and in the locations that are generally described and depicted in Exhibit A that is attached hereto and incorporated herein by this reference (the “**System Route**”), and seeks to license the operation and maintenance of the System;

WHEREAS, OpenCape and \_\_\_\_\_ have entered into that certain Construction Contract dated \_\_\_\_\_ (the “**Construction Contract**”), a copy of which is attached hereto as Exhibit H and incorporated herein by this reference for \_\_\_\_\_ to construct the System on behalf of OpenCape;

WHEREAS, the Operator wishes to be granted the right to use, and OpenCape is willing to grant an indefeasible right to use, certain dark fibers and associated property in the System provided the Operator operates and maintains the entire System, all on the terms and conditions set forth below; and

NOW, THEREFORE, for and in consideration of the foregoing, and in consideration of the mutual covenants and agreements herein contained, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follow:

### **ARTICLE I: GRANT OF IRU**

1.1. Grant. Effective as of the Initial Operating Capability (as hereinafter defined) and upon the Operator’s payment of the first year of IRU Fees (as hereinafter defined), OpenCape grants to the Operator, and the Operator accepts from OpenCape, an indefeasible right to use (the “**IRU**”):

(a) Sixty percent (60%) of the total fiber optic strands constructed under the Construction Contract that are available on any given segment of the Fiber Backbone, as such term is more particularly described in Section I of Exhibit A attached hereto (the “**User Fibers**”), provided that:

(1) Thirty-five percent (35%) of the User Fibers may be used by the Operator to deliver lit fiber optic services, and the remaining sixty-five

percent (65%) of the User Fibers may be leased as dark fiber to third parties, excluding (a) those fiber optic strands necessary to secure Underlying Rights (as hereinafter defined) from the owners of such Underlying Rights, and (b) those fiber optic strands required for the Microwave Component (as hereinafter defined); provided, however, that in no event shall a lessee of the Operator, including subsidiaries or affiliated companies of such a lessee, lease more than twenty percent (20%) of the Operator's dark fiber on any segment of the System Route;

(b) The integrated microwave public safety network, as described in Section II of Exhibit A attached hereto, and as more particularly described in the Construction Contract (the "**Microwave Component**"), for the purpose of creating essential communications loops, provided that public safety communications shall be given preferential service, particularly during times of crisis; and

(c) The nonexclusive right to use any Open Cape and/or System-related tangible and intangible property to the extent, and only to the extent, reasonably necessary for the use of the User Fibers or to operate and maintain the System (collectively, the "**Associated Property**").

1.2. Retained Fibers. OpenCape is retaining forty percent (40%) of the total fiber optic strands constructed under the Construction Contract that are available on any given segment of the Fiber Backbone, as such term is more particularly described in Section I of Exhibit A attached hereto, and one hundred percent (100%) of the Anchor Institution Fiber Laterals, as such term is described in Section III of Exhibit A attached hereto (collectively, the "**Retained Fibers**"). From its Retained Fibers, OpenCape shall grant, lease or license: (a) to the Commonwealth of Massachusetts, those fiber optic strands necessary to receive state funds, and (b) those fiber optic strands necessary to develop a municipal, school and library regional area network (RAN), supplement town municipal area networks (MAN) where feasible and appropriate as determined by OpenCape, and the necessary connections to Anchor Institutions as described in Exhibit A. OpenCape shall not be permitted to lease, license or grant IRUs in the Retained Fibers to third party competitors of the Operator for the first five (5) years after the Acceptance Date unless there is an Event of Default (as hereinafter defined) and the applicable cure period, if any, has expired. OpenCape shall have the option but not the obligation, as confidence and performance permit, to grant or license all or a portion of the Retained Fibers to the Operator upon the terms and conditions to be mutually agreed upon by the Parties. Notwithstanding the foregoing, OpenCape shall at all times be permitted to trade or swap a portion of the Retained Fibers with third party owners of fibers outside of the System if such trade or swap will extend the redundancy and capabilities of the System.

1.3. Terms and Conditions. The IRU is granted on the terms and subject to the covenants and conditions set forth in this Agreement. The IRU shall be exclusive as to the User Fibers, and nonexclusive as to Associated Property. The IRU does not include the right of the Operator to own, control, modify or revise the User Fibers or Associated Property, or the right to encumber the User Fibers or the System in any manner except as expressly set forth herein.

1.4. Networks. Each party shall have full and complete control and responsibility for determining any network and service configuration or designs, routing configurations, regrouping, rearrangement or consolidation of channels or circuits and all related functions with regard to the use of that party's fiber.

1.5. Equipment. The Operator acknowledges and agrees that OpenCape is the owner of all equipment, furniture and fixtures purchased by OpenCape or purchased or installed as part of the construction of the System under the Construction Contract; provided, however, that equipment purchased or installed by the Operator with the Operator's funds to build laterals to end user customers from the User Fibers shall be owned by the Operator other than the splice enclosures. During the Term (as hereinafter defined), the Operator shall be obligated, at the Operator's cost, to run all lit service offered by the Operator through the System, and to repair, replace and maintain any equipment, whether owned by OpenCape or the Operator, that is damaged or fails to function properly. Any equipment, furniture or fixtures purchased and/or installed by the Operator to replace or repair the original equipment purchased by OpenCape or purchased or installed under the Construction Contract shall be the property of and owned by OpenCape. For avoidance of doubt, any equipment placed on a customer's property (other than at Anchor Institutions, as such term is described in Exhibit A), shall be the property of that customer or the Operator, as appropriate.

1.6. System Route. The parties acknowledge and agree that Exhibit A generally describes the System Route, but the specific route has not been finally designed or engineered and is subject to final determination by OpenCape, based on specific engineering, right-of-way, permitting, authorization and other requirements.

## ARTICLE II: CONSIDERATION FOR GRANT

2.1. IRU Fee. In consideration of the grant of the IRU hereunder by OpenCape to the Operator, the Operator agrees to pay to OpenCape an IRU fee (the "**IRU Fee**") as follows:

(a) \$200,000 shall be due and payable within thirty (30) days of the earlier of the completion of the first operational segment of the network on which a customer is provided service (the "**Initial Operating Capability**"), or the first anniversary of the Effective Date;

(b) \$300,000 shall be due and payable upon the earlier of the Acceptance Date (as such term is defined in the Construction Contract) or the date which is one year after the Initial Operating Capability, which date shall be deemed the Anniversary Date for purposes of this Article; and

(c) For all subsequent years after the Anniversary Date, the annual IRU Fee shall be \$500,000 payable in monthly installments on the first of each month.

2.2. Increase in IRU Fee. Annually on the Anniversary Date, the IRU Fee shall be adjusted upward by the increase in the U.S. Producer Price Index (Bureau of Labor Standards "All Finished Goods" Series ID WPUSOP3000). Such adjustment to the IRU Fee shall be effective beginning in 12 months after the Acceptance Date and shall thereafter be applied to

increase the IRU Fee in each subsequent year of the Agreement. Notwithstanding anything to the contrary in this Agreement, there shall be no reductions in the IRU Fee from either the initial year or any subsequent year to the next year of the Agreement if the CPI decreases.

2.3. Revenue Sharing Fee. In addition to the IRU Fee, the Operator shall pay to OpenCape \_\_\_\_\_ percent (\_\_\_%) of the revenue or income, net of state sales taxes, gross receipts taxes, state and local taxes, MTA tax surcharges, excise taxes and federal USF assessments generated by, derived from the sale, lease or licensing of services utilizing the System (“**Net Revenues**”), including, but not limited to the User Fibers, whether lit service or dark fiber leasing, the Microwave Component or the Associated Property (the “**Revenue Sharing Fee**”).

(a) The Revenue Sharing Fee shall be paid quarterly, based upon actual Net Revenues collected by the Operator. Payments shall be made 30 days from the end of each calendar quarter. The Revenue Sharing Fee on dark fiber leases, licenses or grants that are paid as a lump sum by the Operator’s customers shall be paid in full for the entire lease term immediately after the quarter in which the Operator receives full payment from the customer. The initial Revenue Sharing Fee payment shall include all Net Revenue received by the Operator between the date of selection of the Operator under the request for proposal and the date of such payment.

(b) OpenCape and its agents and consultants shall have the right to conduct an annual audit of the Net Revenues and Revenue Sharing Fee upon no less than 10 days written notice to the Operator. Such audit will be conducted at the offices of the Operator or at such other mutually-agreed upon location during regular business hours, and the Operator agrees to provide OpenCape with reasonable access to all the Operator’s documents and records necessary to perform such an audit of Net Revenues and the Revenue Sharing Fee.

(c) Net Revenues shall not include revenue or income received from customers of the Operator existing as of the Effective Date for a period of three (3) years after the Effective Date (“**Existing Customers**”) so long as, during said three-year period, the Existing Customers continue to use the same kind, type, and level of services they received prior to the Effective Date. Any Existing Customer who upgrades or changes existing services or adds new services that use the System in any way shall be included in Net Revenues and subject to the Revenue Sharing Fee.

(d) The Operator’s charges, generally termed non-recurring charges, for the construction of new laterals to existing and new customers outside those constructed as part of the Construction Contract shall not be included in Net Revenues and shall not be subject to the Revenue Sharing Fee.

In the event OpenCape conducts an audit and such audit reveals that the Operator failed to pay the proper Revenue Sharing Fees to OpenCape, in addition to any other rights and remedies available to OpenCape, the Operator shall pay, on demand from OpenCape, a penalty of two hundred percent (200%) of the underpayment of the Revenue Sharing Fee. In the event of repetitive and large-scale attempts to reduce or avoid paying the Revenue Sharing Fees due

under this Agreement, OpenCape, in addition to any other rights and remedies, shall be permitted to immediately terminate this Agreement.

2.4. Payment. The Operator shall pay all fees and charges due under this Agreement by wire transfer of immediately available funds to the account or accounts designated by OpenCape.

2.5. Interest. If the Operator fails to make any payment under this Agreement, other than the Revenue Sharing Fee, when due, such amount shall accrue interest from the date such payment is due until paid, including accrued interest compounded monthly, at the lesser of the prime rate published by The Wall Street Journal plus ten percent (10%) or the highest percentage allowed by law. If a dispute arises concerning an amount due by the Operator, and it is later determined that the amount is due and owing to OpenCape, such amount shall bear interest from the date when due until paid, at the foregoing rate.

2.6. Guaranty. The Operator's payment obligations and obligations to operate and maintain the System, shall be guaranteed by [REDACTED] (the "Guarantor"), pursuant to a mutually-acceptable Guaranty, to be executed and delivered by the Guarantor as a condition to the effectiveness hereof and the performance by OpenCape of its obligations hereunder.

2.7. Community Contribution Requirements. The Operator shall develop a plan, subject to OpenCape review, to support OpenCape and the community through technical assistance, sponsorships, and grants in an effort to aid the community in the development of applications that will improve government services and increase economic development. OpenCape and the Operator shall conduct an annual meeting to review performance in this regard and to formulate a community contribution plan for the following year.

### **ARTICLE III: TERM**

3.1. Term. The grant of the IRU shall become effective on the Initial Operating Capability date and shall extend for a period of twenty-five (25) years thereafter. The period of the IRU is herein defined as the "Term." Thereafter, provided the Operator is not in default and the Operator has provided OpenCape of its intention to renew this Agreement no less than one year prior to the end of the original term, the Operator shall have the option to renew this Agreement for a renewal term ("Renewal Term") of five (5) years. At the expiration of the Term, Renewal Term, or any earlier termination of this Agreement, the IRU shall immediately terminate, and all rights of the Operator to use, operate and maintain the System, or any part thereof, shall cease, and the parties shall comply with the termination provisions contained in Article XV.

### **ARTICLE IV: MAINTENANCE AND REPAIR OF THE SYSTEM**

4.1. Maintenance Agreement. The Operator shall maintain the System (including, but not limited to the User Fibers, the Retained Fibers, the Microwave Component, and the Associated Property) in good working order, and shall replace, repair or upgrade any component of the System. The Operator's maintenance obligations shall include both routine

maintenance and emergency maintenance. All maintenance shall be performed in accordance with Exhibit F and Exhibit G, which is attached hereto and incorporated herein by this reference. In fulfilling its obligations under this Article, the Operator shall be required to use commercially reasonable efforts to comply with any procedures, protocols or other obligations required by the owners of the Underlying Rights (as hereinafter defined). In the event that any owner of an Underlying Right imposes new procedures, protocols or obligations not in effect as of the Effective Date which materially increase the Operator's costs, upon (i) receipt by OpenCape of documentation from the Operator detailing the relevant procedures, protocols or obligations and the Operator's increased costs, and (ii) mutual agreement of the parties, OpenCape shall reimburse the Operator for such increased costs. Appropriately trained and licensed individuals shall perform any and all activities performed by the Operator under this Agreement.

4.2. Except as otherwise provided in this Agreement, the parties agree that the Operator is not entitled to compensation and/or reimbursement for maintenance, repairs, replacements or necessary upgrades, and that the IRU Fee and Revenue Sharing Fee have been calculated based on the parties understanding that the Operator would be responsible for the repair, replacement, upgrade, and maintenance of the entire System. Absent the prior written approval of OpenCape, the Operator shall be prohibited from delegating, assigning or subcontracting out any of its maintenance responsibilities to a third party.

4.3. The Operator shall require, as a condition of any lease or license of dark fiber to a third party, that such lessee or licensee pay a monthly or annual fee to the Operator (or upon the expiration or earlier termination of this Agreement to OpenCape) for the maintenance and repair of the System. Such monthly or annual fee shall be in an amount that is sufficient, when taking into account the monthly and/or annual fees paid by all lessees or licensees, to pay at least 65% of the Operator's annual costs to maintain the System.

4.4. Escrow of Information and Materials. On a continuous basis, each party shall escrow essential information necessary to operate and maintain the entire System with a mutually acceptable third party escrow agent. The Operator shall pay the costs associated with maintaining the escrow account. The Operator shall provide certain information to the escrow agent, including, but not limited to, configuration, operation and maintenance information for the System, route maps and network equipment inventories, passwords and access codes, and OpenCape shall provide certain information to the escrow agent, including, but not limited to, all documents evidencing municipal approvals, rights of way, easements, and other Underlying Rights-related documents (collectively, the "**Escrowed Information**"). At any time, each party shall be entitled to request a report from the escrow agent confirming the other party's compliance with its obligation to continuously update the Escrowed Information. Upon an Event of Default (as hereinafter defined), including the filing of bankruptcy by or on behalf of either party, or upon the expiration or earlier termination of this Agreement, the non-breaching party shall be entitled to access the Escrowed Information.

## ARTICLE V: NETWORK MONITORING

5.1. As part of the Operator's obligation to maintain and operate the System, the Operator shall continuously monitor the System to help ensure proper operation, detect and

resolve outages, dispatch repair teams as necessary, and help ensure the System meets the Service Level Agreement and Quality of Service requirements set forth in Exhibit G. In addition, the Operator shall regularly perform monitoring, error detection, capacity planning and reporting, and network security monitoring. The Operator shall prepare quarterly reports for OpenCape summarizing performance, health, changes and outages for the core network and services to Anchor Institutions. Basic network monitoring performance and health statistics, trouble tickets and similar documentation shall be uploaded on a regular basis to a controlled access website for OpenCape's review. In addition, OpenCape shall be entitled to access, upon reasonable notice and during business hours, any and all network monitoring information and reports generated by the Operator which relate to the System.

## ARTICLE VI: ACCESS

6.1. Access for Maintenance. The Operator is hereby granted a non-exclusive right of access to the System as is necessary for the Operator to fully its obligations to operate, maintain and monitor the System.

6.2. Connecting Points. The Operator shall be permitted to connect to the System at fiber distribution panels at the Facility Locations as identified in Exhibit E (the "**Connecting Points**").

6.3. Access to the User Fibers.

(a) Neither OpenCape nor the Operator shall have any limitations on the types of electronics or technologies employed to utilize its fibers, subject to accepted industry standards, the terms of this Agreement and the Exhibits attached hereto, and so long as such electronics or technologies do not interfere with the use of or present a risk of damage to any portion of the other party's system.

(b) OpenCape may connect its Retained Fibers to and through OpenCape's separate terminal, end link, POP or regeneration facilities at its sole discretion, and OpenCape shall be responsible for all costs and expenses associated therewith.

(c) Notwithstanding the foregoing, OpenCape (i) shall have no right of access to, or connection to, the User Fibers without the Operator's prior written permission.

6.4. Additional Connecting Points.

(a) The Operator may add additional Connecting Points to permit the Operator to connect new or existing customers of the Operator to the User Fibers at its reasonable discretion; provided that the Operator shall be responsible for all costs and expenses associated with establishing and maintaining these Connecting Points.

The Operator shall perform all connections in accordance with accepted industry standards and the terms of this Agreement and the Exhibits hereto. It is the responsibility of the Operator to obtain all governmental and other approvals and consents necessary for such connections. The Operator shall pay any and all of OpenCape's costs and expenses

for oversight and/or review of each new connection, including the costs of OpenCape or its designee to review the design and engineering of each new connection, within thirty (30) days following the date of the Operator's receipt of OpenCape's invoice therefor.

6.5. Principles of Non-Discrimination. Throughout the Term, the Operator agrees to abide by the National Telecommunications and Information Administration Notice of Funding Availability for the System and OpenCape's grant application, including the principles of non-discrimination and interconnection, as the same may be amended from time to time, which include:

- (a) the principles contained in the Federal Communications Commission's Internet Policy Statement (FCC 05-151) adopted August 5, 2005, or any subsequent ruling or statement;
- (b) not favoring any lawful Internet applications and content over others;
- (c) displaying any network management policies in a prominent locations on the service provider's webpage and providing notice to customers of changes to these policies;
- (d) describing any business practices or technical mechanisms employed, other than standard best efforts Internet delivery, to: allocate capacity; differentiate among applications, providers, or sources; limit usage; and manage illegal or harmful content;
- (e) connecting to the public Internet directly or indirectly, such that the project is not an entirely private closed network;
- (f) offering interconnection, where technically feasible without exceeding current or reasonably anticipated capacity limitations, at reasonable rates and terms to be negotiated with requesting parties, including both the ability to connect to the public Internet and physical interconnection for the exchange of traffic; and
- (g) all these requirements shall be subject to the needs of law enforcement and reasonable network management.

## **ARTICLE VII: RIGHTS OF WAY, RELOCATIONS AND GOVERNMENT AUTHORIZATIONS**

7.1. Underlying Rights. OpenCape has obtained certain rights of way for construction, operation and maintenance of the System (the "**Underlying Rights**"). OpenCape agrees to maintain during the Term, at its sole cost and expense, all rights of way and governmental authorizations required by applicable law or otherwise necessary for the construction, installation and maintenance of the User Fibers or that make use of rights granted to the Operator under this Agreement, and such rights of way and governmental authorizations are and shall remain sufficient to allow such party to perform its obligations and to exercises its rights set forth in this Agreement.

7.2. Pole Attachment Fees. As part of the Underlying Rights, OpenCape shall be responsible for any and all pole attachment fees charged by and paid to governmental and/or non-governmental entities, including NSTAR Electric Company, National Grid and Verizon, that are necessary or deemed desirable by OpenCape for the construction of the System or the maintenance of the System during the Term (the “**Pole Attachment Fees**”).

7.3. The foregoing notwithstanding, the IRU is subject to the terms, conditions, limitations, restrictions and reservations of the Underlying Rights, and subject to the terms, conditions, limitations, restrictions and reservations under which the rights of way are owned or held by the grantors of the Underlying Rights, including, but not limited to, covenants, conditions, restrictions, easements, reversionary interests, bonds, mortgages and indentures, and other matters, whether or not of record, and to the rights of tenants and licensees in possession. The IRU granted hereunder is further subject and subordinate to the prior right of the grantors of the Underlying Rights to use the right of way for other business activities, including railroad operations, telecommunications uses, pipeline operations and any other purposes, and to the prior right of OpenCape to use its rights granted under the Underlying Rights. The rights granted herein are expressly made subject to each and every limitation, restriction or reservation affecting the Underlying Rights. Nothing herein shall be construed as to be a representation, warranty or covenant of OpenCape’s right, title or interest with respect to the right of ways or the Underlying Rights, all of which are disclaimed.

7.4. Compliance. The Operator agrees to use the User Fibers only in a manner consistent with the Underlying Rights, agrees that its rights shall in all respects be subject to the terms and conditions of the Underlying Rights, and agrees not to cause or allow to be caused any default under the Underlying Rights.

7.5. Inspection. On the Operator’s request, and in addition to OpenCape’s escrow obligations, OpenCape shall make available for inspection by the Operator, at OpenCape’s offices, copies of all information, documents, agreements, reports, permits, drawings and specifications that relate to the System Route or the User Fibers, including, without limitation, documents evidencing that OpenCape has obtained the Underlying Rights.

7.6. Expiration. On the expiration or other termination of an Underlying Right that is necessary in order to grant, continue or maintain an IRU granted hereunder in accordance with the terms and conditions hereof, OpenCape, at its sole cost and expense, shall use all reasonable efforts to renew the Underlying Rights or to obtain an alternate or substitute right of way.

7.7. Relocation. If during the Term, OpenCape is required to relocate or alter any part of the System Route for reasons beyond its control, such as bridge or road relocation or construction, including any of the facilities used or required in providing the IRU, OpenCape shall direct the Operator to relocate necessary parts of the System Route at the Operator’s cost. Any such relocation shall be constructed and the User Fibers shall be tested in accordance with the specifications set forth in Exhibit B and Exhibit C, and incorporate fiber meeting the specifications set forth in Exhibit D.

7.8. Length of Term of Underlying Rights. OpenCape has obtained or will use reasonable efforts to obtain Underlying Rights that are perpetual or have a stated term of not less than twenty-five (25) years.

### **ARTICLE VIII: USE OF USER FIBERS**

8.1. Requirements. The requirements, restrictions, and/or limitations on the Operator's right to use the User Fibers and Associated Property, and safety, operational and other rules and regulations imposed in connection with the Underlying Rights are referred to collectively as the "**Underlying Rights Requirements.**"

8.2. Operator's Obligations. The Operator represents, warrants and covenants that it will use the User Fibers and the IRU in the Associated Property in compliance with and subject to the Underlying Rights Requirements that have been disclosed to the Operator in writing, and all applicable government codes, ordinances, laws, rules and regulations, including any term, condition or other provision in the grant applications and awards received by OpenCape.

8.3. Use. Subject to the limitations set forth in this Agreement, the Operator may use the User Fibers, Microwave Component and the Associated Property for any lawful telecommunications purpose. The Operator agrees and acknowledges that it has no right to use any of the fibers that are part of the System, other than the User Fibers. The Operator shall keep any and all of the System, including the User Fibers, free from any liens, rights or claims of any third party attributable to the Operator. In addition, in connection with the Operator's business:

(a) the Operator shall not be permitted to use more than thirty-five percent (35%) of the User Fibers for its own lit services.

(b) the Operator represents and warrants that the use of the User Fibers by its customers or end users shall comply with all applicable laws, ordinances, rules, regulations and restrictions.

(c) the Operator shall be responsible for the configuration and operation of the Operator's network using the User Fibers, including interconnection facilities, network equipment, testing equipment and procedures, maintenance, and other facilities or actions necessary to use the User Fibers. The Operator shall comply at all times with the mutually agreed upon operating procedures and interconnection requirements set forth in the attached Exhibits as well as any rules, regulations, operating procedures and interconnection requirements adopted by the parties in the future, which may supersede or clarify the terms of Exhibit C, Exhibit D, Exhibit E and Exhibit F.

(d) the Operator shall have no local loop charges in its pricing structure for services sold using the System.

(e) the Operator shall have a pricing scheme that offers a fifteen percent (15%) discount to non-profit corporations and twenty-five percent (25%) discount to government entities below the for-profit commercial rate for all services offered on the System. The Operator shall be solely responsible for determining the for-profit

commercial rate for all services offered on the System. The rates reflected in the OpenCape Broadband Technology Opportunity Program grant application price sheet shall be the maximum allowable on the Execution Date, but the Operator's rates for all services may rise and fall due to market forces over time. The percentage discounts for non-profit and government entities shall apply to the Operator's then current for-profit commercial rate.

8.4. Loss. The Operator and OpenCape shall promptly notify each other of any matters pertaining to, or the occurrence (or impending occurrence) of, any event which would be reasonably likely to give rise to any damage or impending damage to or loss of the System that are known to such party.

8.5. No Interference. Each party shall use commercially reasonable efforts to ensure that it does not, and does not permit or enable its customers or authorized users to use its facilities in a way that interferes in any way with or adversely affects the use of the fibers or cable of any other person using the System. The parties acknowledge that the System includes or will include other participants, including OpenCape and other owners and users of telecommunication systems.

8.6. Cooperation. The Operator and OpenCape agree to cooperate with and support the other in complying with any requirements applicable to their respective rights and obligations hereunder, or any rights or obligations imposed by any governmental agency, regulatory agency or authority.

8.7. The Operator acknowledges and agrees that OpenCape has or will execute a security interest or other statement of NTIA's interest in the real and personal property, including broadband facilities and equipment, acquired or improved with federal funds received by OpenCape, which OpenCape has or will perfect and place on record in accordance with applicable law, rules, guidance and regulations. This security interest will provide that, for the estimated useful life of the real and personal property, facilities, or equipment that are part of the System, OpenCape will not sell, transfer, convey, or mortgage any interest in the real and personal property including broadband equipment acquired or improved in whole or in part with federal funds made available under the award, nor shall the recipient use the real and personal property including broadband facilities and equipment and for purposes other than the purposes for which the award was made, without the prior written approval of the NTIA grants officer. The grants officer may withhold such approval until such time as the recipient first pays to NTIA the Federal share of the real and personal property, including broadband facilities and equipment, as provided in 15 CFR 14.32. This security interest shall be executed in advance of any sale or lease and not later than closeout of the grant.

## **ARTICLE IX: LIMITATION ON LIABILITY**

9.1. Consequential Damages. Notwithstanding any provision of this Agreement to the contrary, except to the extent caused by its willful misconduct, neither party shall be liable to the other party for any special, incidental, indirect, punitive or consequential costs, liabilities or

damages, whether foreseeable or not, arising out of, or in connection with, such party's performance of its obligations under this Agreement.

9.2. Waiver. To the extent that OpenCape is required under the terms or provisions of any easement, right of way, lease, indefeasible right of use agreement or other agreement relating to the provisioning of any service hereunder, to indemnify the grantor or provider thereof from and against any and all claims, demands, suits, judgments, liabilities, losses or expenses arising out of or related to the Operator's negligence or intentional misconduct in connection with such agreements, the Operator hereby release and waives any claims against such party.

9.3. Indemnity. The Operator shall indemnify, defend and hold harmless OpenCape from and against any third party claims, actions, damages, liabilities, costs, judgments or expenses (including attorney fees) arising out of or relating to the Operator's negligence or intentional misconduct in connection with performing its obligations under this Agreement, and/or actions by the Operator that are illegal or that infringe any third parties intellectual property rights. OpenCape shall indemnify, defend and hold harmless the Operator from and against any third party claims, actions, damages, liabilities, costs, judgments or expenses (including attorney fees) arising out of or relating to OpenCape's negligence or intentional misconduct in connection with performing its obligations under this Agreement, and/or actions by OpenCape that are illegal or that infringe any third parties intellectual property rights.

9.4. Claims of Customers. In addition to the foregoing indemnities, with respect to third parties that use services provided over the User Fibers, the Operator shall make reasonable efforts to obtain a waiver of any claims by such third parties for damages arising or resulting from any defect in or failure of the User Fibers or the System.

9.5. Environmental Issues. The Operator shall be deemed the generator of all waste associated with work that it performs that is related to the System, and shall both remove that waste from the area and dispose of or otherwise manage it at its own expense, in compliance with all applicable laws. "**Waste**" shall include without limitation, any manmade materials (including asbestos) and any soil or other environmental media that may be removed or excavated by the Operator, and all hazardous and non-hazardous substances and materials associated with work that is performed by the Operator that are intended to be discarded, scrapped, or recycled. It shall be presumed that all the substances and material brought to the area of that work by the Operator that are not incorporated into the work (including without limitation damaged components or tools, leftovers, containers, garbage, scrap, residues, or byproducts), except for substances and materials that the Operator intends to use in their original form in connection with similar work, are waste to which the above obligations apply.

## **ARTICLE X: INSURANCE**

10.1. At all times during the Term, the Operator shall secure and maintain insurance coverage, at the Operator's expense, in form and amounts set forth in the following paragraphs from companies lawfully approved to do business in the Commonwealth of Massachusetts, and provide OpenCape with an insurance certificate confirming compliance with this requirement

for each policy providing such required coverage. The insurance certificate shall indicate that OpenCape shall be notified not less than thirty (30) days prior to any cancellation or material change in coverage. All coverage secured by the Operator shall be on a "Per Occurrence" basis. All insurance policies shall be obtained and maintained with companies rated "A" or better by AM Best. The Operator's insurance shall cover its permitted subcontractors, or the Operator shall require each such subcontractor to maintain insurance of the type and amounts required of the Operator.

10.2. OpenCape, its subsidiaries, affiliates, directors, officers and owners shall be listed as additional insureds for general liability, protection and indemnity, excess liability, and automobile liability coverages required under this Agreement. This coverage shall be primary and non-contributory. The Operator and all of its subcontractors hereby waive all rights of subrogation against OpenCape, its subsidiaries, affiliates, directors, officers and owners. In addition, the Operator hereby waives any and all rights to recover against OpenCape, or its subsidiaries, affiliates, directors, officers and owners, for any loss or damage to the Operator arising from any cause covered by any insurance required to be carried pursuant to this section or any other insurance actually carried by the Operator. The Operator, from time to time, will cause its insurers to issue appropriate waiver of subrogation rights endorsements to all property, general liability and workers' compensation insurance policies carried in connection with this Agreement.

10.3. Insurance coverage provided for under this Agreement shall be written for not less than the limits of liability described in the following paragraphs or such limits as may be required by law, whichever are greater.

(a) Workers' Compensation and Employer's Liability Insurance covering all employees of the Operator and any subcontractors wherever they may be in the United States, so long as they are engaged in the work covered by this Agreement. Workers' Compensation insurance in amounts required by applicable law and Employer's Liability insurance with a limit of at least two million dollars (\$2,000,000.00) per occurrence is required. For any activity that takes place over water, such Workers' Compensation policy shall include a Federal Act Longshore Harbor Workers Coverage Act "endorsement," which shall be specifically listed on the required insurance certificate.

(b) Commercial General Liability Insurance (Bodily Injury and Property Damage) which shall provide not less than three million dollars (\$3,000,000.00) combined single limit liability insurance, per job aggregate, on a per occurrence basis, with the railroad exclusion and marine liability exclusion deleted, protecting the Operator and any subcontractors from liability arising out of the Work for: (1) bodily injury, sickness, or disease, including death at any time resulting therefrom, sustained by any person; and (2) damage to or destruction of property, including loss of use thereof.

(c) Protection and Indemnity Policy in an amount not less than two million dollars (\$2,000,000).

(d) An Excess/Umbrella policy in an amount not less than two million dollars (\$2,000,000).

(e) The Operator shall maintain at all times during the term of this Agreement “All Risk” property insurance in an amount equal to the replacement cost of any and all equipment owned, leased, or borrowed while in the Operator’s or subcontractor’s care, custody, or control, including while in transport at the direction of the Operator or subcontractor. Such “All Risk” insurance shall also cover all materials and equipment stored on a project site for incorporation into the Work as well as all partially constructed structures.

(f) The Operator shall procure and maintain automobile liability insurance covering death or injury to any person or persons, or damage to property arising from the operation of vehicles or equipment, with limitations of not less than two million dollars (\$2,000,000).

(g) Prior to commencing any design or engineering work, the Operator, or the subcontractor performing such design or engineering work, shall procure and maintain professional liability insurance, with limitations of not less than one million dollars (\$1,000,000) combined single limit for each occurrence and two million dollars (\$2,000,000) in the aggregate.

(h) Any other insurance coverages required pursuant to the terms of the Underlying Rights or the rules and regulations of the owner of such Underlying Right.

10.4. Failure. If the Operator fails to obtain the required insurance or fails to obtain the required certificates from any contractor and a claim is made or suffered, the Operator shall indemnify and hold harmless the other party from any and all claims for which the required insurance would have provided coverage. Further, in the event of any such failure which continues after seven (7) days’ written notice thereof by OpenCape, OpenCape may, but shall not be obligated to, obtain such insurance and will have the right to be reimbursed for the cost of such insurance by the Operator.

10.5. Denial of Coverage. If coverage is denied or the insurance carrier disputes reimbursement of a properly presented claim, the Operator shall make good-faith efforts to pursue such claim with its carrier.

## **ARTICLE XI: TAXES, FEES AND OTHER GOVERNMENTAL IMPOSITIONS**

11.1. Impositions. In addition to the IRU Fee and other amounts set forth in this Agreement, the Operator agrees to pay applicable taxes, fees, levies, imposts, duties, or withholdings arising out of the transactions contemplated by this Agreement that are imposed by any federal, state or local government or other public taxing authority (collectively, the “**Impositions**”). Impositions shall not include taxes, fees or similar levies based on net income, property taxes and similar ad valorem taxes. The parties agree to cooperate with each other to minimize the aggregate Impositions payable with respect to the System.



Or at such other address as may be designated in writing to the other party.

12.2. Notice and Invoice Delivery. Unless otherwise provided herein, notices and invoices shall be in writing, hand delivered, sent by registered or certified U.S. Mail, postage prepaid, or by commercial overnight delivery service, or transmitted by electronic mail. Any such notice shall be deemed served or delivered to the addressee or its office when received at the address for notice specified above when hand delivered, upon confirmation of sending when sent by electronic mail, on the day after being sent when sent by overnight delivery service, or three (3) United States Postal Service business days after deposit in the mail when sent by U.S. mail.

### **ARTICLE XIII: CONFIDENTIALITY/PUBLIC RELATIONS**

13.1. Duties. As used herein, “**Confidential Information**” shall mean this Agreement and all materials, maps, network, engineering or technical information, customer information, product, service or pricing information, and any other documents that are marked confidential and disclosed by one party to the other in fulfilling the provisions and intent of this Agreement, as well as confidential or proprietary information that is orally disclosed, provided that, for information that is orally disclosed, the disclosing party indicates to recipient at the time of disclosure the confidential or proprietary nature of the information and confirms in writing to the recipient within 30 days after such disclosure that such information is confidential.

(a) Each party agrees to hold the Confidential Information of the other party in confidence. Neither party shall divulge or otherwise disclose the provisions of this Agreement to any third party without the prior written consent of the other party, except that either party may make disclosure to those required for the implementation of this Agreement, and to customers and prospective customers (in the event of a sale or transfer of Retained Fibers after an Event of Default by the Operator), purchasers and prospective purchasers, auditors, attorneys, financial advisors, lenders and prospective lenders, investors and prospective investors, provided that in each case the recipient agrees in writing to be bound by the confidentiality provisions set forth in this section. In addition, either party may make disclosure as required by (i) a governmental agency officer, employee or auditor in connection with compliance with any grant and/or funding requirements, (ii) a court order, or (iii) by law or in any legal or arbitration proceeding relating to this Agreement.

(b) If either party is required by law, by any federal or state funding source, or by interrogatories, requests for information or documents, subpoena, civil investigative demand or other legal process to disclose the provisions of this Agreement or the design information referred to in this section, it will provide the other party with prompt prior written notice of such request or requirement so that such party may seek an appropriate protective order and/or waive compliance with this section. The party whose consent to disclose information is requested shall respond to such request, in writing, within five (5) working days of the request by either authorizing the disclosure or advising of its election to seek a protective order, or if such party fails to respond within the prescribed period the disclosure shall be deemed approved.

(c) Nothing herein shall be construed as granting any right or license under any copyrights, inventions, or patents, enhancements thereto, or other intellectual property now or hereafter owned or controlled by OpenCape or the Operator, respectively.

(d) Upon termination of this Agreement for any reason or upon request of either party, the other party shall return all Confidential Information (except such Confidential Information that is necessary to operate and maintain the System), together with any copies of same, to the party requesting the return of its Confidential Information. The requirements of confidentiality set forth herein shall survive return of such Confidential Information and the expiration of the Term.

(e) Neither party shall use any trademark or trade name of the other party or refer to the subject matter of this Agreement or the other party in any promotional activity or otherwise, nor disclose to others any specific information about the content of this Agreement, without the prior written consent of the other party. The parties agree that either party can generally reference the System, and the Operator may discuss the System in its sales and marketing efforts to customers and prospects in connection with this Agreement.

#### 13.2. Press Releases/Public Relations.

(a) Neither party shall publish or use any advertising, sales promotions, or other publicity materials that use the other party's logo, trademarks, or service marks without the prior written approval of the other party.

(b) Each party shall have the right to review and approve any publicity material, press releases, or other public statements by the other that refer to such party or that describe any aspect of this Agreement or which relate to the System. Each party agrees not to issue any such publicity materials, press releases, or public statements without the prior written approval of the other party, except as is required to comply with federal or state securities laws.

(c) Nothing in this Agreement establishes a lease, license or right for either party to use any of the other party's brands, marks, or logos without prior written approval of the other party.

13.3. Survival. The provisions of this Article shall survive expiration or other termination of this Agreement.

### **ARTICLE XIV: DEFAULT PROVISIONS AND REMEDIES**

14.1. Events of Default by the Operator. Each of the following shall be deemed an Event of Default by the Operator under this Agreement:

(a) Failure of the Operator to pay the IRU Fee, the Revenue Sharing Fee, or any other undisputed fees or sums required to be paid under the terms of this Agreement

and such default continues for a period of thirty (30) days after notice of any unpaid due amounts is provided to the Operator;

(b) Failure of the Operator to satisfy its obligations regarding Escrowed Information, and such default continues for a period of thirty (30) days after written notice thereof from OpenCape is provided;

(c) Failure by the Operator to perform or observe any other material term, covenant, agreement or condition of this Agreement on the part of the Operator to be performed and such default continues for a period of thirty (30) days after written notice thereof from OpenCape (provided that if such default cannot be cured within such thirty (30) day period, this period will be extended if the Operator commences to cure such default within such thirty (30) day period and proceeds diligently thereafter to effect such cure);

(d) The filing of a tax or mechanic's lien against the System or other property of OpenCape which is not bonded or discharged within thirty (30) days of the date the Operator receives notice that such lien is filed;

(e) An event of the Operator's or the Guarantor's bankruptcy;

(f) If the Operator knowingly uses the User Fibers in violation of any law or in aid of any unlawful act or undertaking;

(g) If the Operator knowingly occupies any material portion of the System without having first been issued an IRU or license therefore; or

(h) If any authorization which lawfully may be required of the Operator by any governmental or private authority for the operation (including splicing or other activities by the Operator), of the User Fibers within the System is denied or revoked.

14.2. OpenCape Remedies. Upon the occurrence of an Event of Default, OpenCape, without further notice to the Operator in any instance (except where expressly provided for below or by applicable law) may do any one or more of the following:

(a) If the Event of Default occurs due to an Event of Default listed in Section 14.1(a), (b), or (e), terminate the Agreement immediately;

(b) Elect to terminate the IRU on thirty (30) days notice if such Event of Default is not cured within such thirty (30) day period;

(c) Perform, on behalf and at the expense of the Operator, any obligation of the Operator under this Agreement which the Operator has failed to perform and of which OpenCape shall have given the Operator notice, the cost of which performance by OpenCape shall be payable by the Operator to OpenCape upon demand; and/or

(d) Exercise any other legal or equitable right or remedy that it may have.

Any costs and expenses incurred by OpenCape (including, without limitation, reasonable attorneys' fees) in enforcing any of its rights or remedies under this Agreement shall be repaid to OpenCape by the Operator on demand.

14.3. If the IRU is terminated by OpenCape pursuant to this Article, the Operator nonetheless shall remain liable for any IRU Fee and other payments and damages which may be due or sustained prior to such termination, all reasonable dues, fees and expenses including, but not limited to, reasonable attorneys' fees, costs and expenses incurred by OpenCape in pursuit of its remedies hereunder (all such IRU Fees, damages, costs, fees and expenses being referred to herein as "**Termination Damages**"), which Termination Damages, at a minimum, shall be an amount equal to the present worth (as of the date of such termination) of (a) the annual IRU Fees which, but for termination of the IRU would have become due during the remainder of the term of the IRU, and (b) the Revenue Sharing Fees which, but for termination of the IRU would have become due during the remainder of the term of the IRU, which shall be calculated to be an amount equal to the average of the Revenue Sharing Fees in the three prior years (or if three years of the Term has not yet occurred, the average of the anticipated Revenue Sharing Fees) multiplied by the number of years remaining in the Term. "Present worth" shall be computed by discounting such amount to present worth at a discount rate equal to one percentage point above the discount rate then in effect at the New York Federal Reserve Bank. Termination Damages shall be due and payable immediately upon demand by OpenCape following any termination of the IRU pursuant to this Article.

14.4. All rights and remedies of OpenCape set forth in this Agreement shall be cumulative, and none shall exclude any other right or remedy, now or hereafter allowed by or available under any statute, ordinance, rule of court, or the common law, either at law or in equity, or both.

14.5. Events of Default by OpenCape. The following events or occurrences shall constitute a default by OpenCape under this Agreement:

- (a) Any material noncompliance by OpenCape with the terms of this Agreement;
- (b) Any material breach by OpenCape of a representation or warranty under this Agreement.

The Operator shall give prompt written notice to OpenCape of the occurrence of any default under this Agreement. If such default continues for thirty (30) days after receipt of such notice (provided that if such default cannot be cured within such thirty (30) day period, this period will be extended if OpenCape continues to cure such default within such thirty (30) day period and proceeds diligently thereafter to effect such cure), the Operator may at its option, terminate the IRU Agreement without further obligation and pursue any legal remedies it may have at law or equity.

14.6. Operator's Remedies. Upon the occurrence of an Event of Default by OpenCape, the Operator, without further notice to OpenCape may do any one or more of the following:

- (a) Elect to terminate the IRU on thirty (30) days notice if such Event of Default is not cured within such thirty (30) day period;
- (b) Perform, on behalf and at the expense of OpenCape, any obligation of OpenCape under this Agreement which OpenCape has failed to perform and of which the Operator shall have given OpenCape notice, the cost of which performance by the Operator shall be payable by OpenCape to the Operator upon demand; and/or
- (c) Exercise any other legal or equitable right or remedy that it may have.

Any costs and expenses incurred by the Operator (including, without limitation, reasonable attorneys' fees) in enforcing any of its rights or remedies under this Agreement shall be repaid to the Operator by OpenCape on demand.

## ARTICLE XV: TERMINATION

15.1. Termination. This Agreement shall automatically terminate on the expiration of the Term, or earlier as provided in this Agreement. Upon the expiration of the Term or other termination of this Agreement, the IRU shall immediately terminate and all rights of the Operator to use the System, the User Fibers, the Microwave Component, the Regional Collocation Center and the Associated Property shall cease, all rights to use of the System shall revert to OpenCape, and OpenCape shall owe the Operator no further duties or consideration. The Operator shall promptly remove all electronics, equipment and other property owned by the Operator from the System Route that is not the property of OpenCape pursuant to the terms of this Agreement or which OpenCape elects not to purchase pursuant to Section 15.5, at the Operator's sole cost and under OpenCape's supervision. Termination of this Agreement shall not affect the rights or obligations of either Party that may have arisen before the date of termination or expiration. Upon expiration or termination of this Agreement, the Operator shall (i) transfer to OpenCape all documents, materials or other information necessary to operate, maintain and use the System, (ii) transfer interests in easements, permits and other rights the Operator has acquired (to the extent such rights are transferable), if any, with respect to the use and placement of the System, (iii) notify each lessee or licensee of dark fiber from the User Fibers of its obligation to pay future fees for the maintenance and repair of the System to OpenCape, and (iv) either transfer ownership of the Operator's racks and cabinets containing System equipment owned by OpenCape to OpenCape, or relocate, at the Operator's cost, System equipment owned by OpenCape from the Operator-owned racks and cabinets to OpenCape-owned racks and cabinets. Moreover, OpenCape shall be immediately entitled to access the Escrowed Information upon the expiration or earlier termination of this Agreement.

15.2. Termination of Route Segment. Any section of the System from one fiber distribution panel to the next fiber distribution panel (a **"Route Segment"**) may be terminated:

- (a) By OpenCape, without liability and at any time, upon reasonable notice, to the extent OpenCape is no longer authorized under the Underlying Rights to install, construct, maintain, operate, or convey the right to use the User Fibers within the Route Segment.

(b) By OpenCape, without liability and at any time, if it cannot obtain any regulatory approvals needed to perform OpenCape's obligations under this Agreement with respect to such Route Segment.

(c) By OpenCape or the Operator, effective as of the date of the taking, if the System or the User Fibers are taken by a third party exercising the power of eminent domain.

15.3. Alternate Route Segments. If a Route Segment is terminated pursuant to Section 15.2, OpenCape, shall use reasonable best efforts to find alternate capacity or facilities owned or controlled by OpenCape to meet the Operator's needs, but shall not be obligated to contract for or to construct new facilities to replace the Route Segments terminated under Section 15.2 in the event alternative routes, capacities or facilities are not reasonable available. The Operator shall be responsible for the reasonable costs incurred by OpenCape to find and construct new facilities to replace the terminated Route Segments; provided, however, that OpenCape shall be responsible for all or a portion of such costs if the Revenue Sharing Fee exceeds the thresholds set forth in Section 7.9.

15.4. Effect of Termination. Except as otherwise provided in this Agreement, the Operator shall not be entitled to, nor shall OpenCape be liable for, any refunds of amounts paid to OpenCape by reason of early termination of this Agreement or termination of a Route Segment unless termination is due to an Event of Default by OpenCape.

15.5. Right to Acquire Equipment at Termination. Upon the expiration or earlier termination of this Agreement, the parties acknowledge and agree that OpenCape may, at OpenCape's option, purchase some or all of the electronics, equipment and other property owned by the Operator and used in connection with the System, at the fair market value of each such item on the date of termination or expiration of this Agreement.

15.6. Notwithstanding the foregoing, no termination or expiration of this Agreement shall affect any right or obligation that would be due or performed after the relinquishment, expiration, or termination of this Agreement which shall survive the relinquishment, expiration or termination of this Agreement or any part thereof.

## **ARTICLE XVI: FORCE MAJEURE**

Neither party shall be liable to the other party and each party's performance under this Agreement shall be excused, if and to the extent that any failure or delay in such party's performance of one or more of its obligations hereunder caused by any of the following conditions, and such party's performance of such obligations or obligations shall be excused and extended for and during the period of any such delay: act of God; fire, flood, fiber, cable or other material failures, shortages or unavailability or other delay in delivery not resulting from the responsible party's failure to timely place orders therefor; lack of or delay in transportation; government codes, ordinances, laws, rules, regulations or restrictions; war or civil disorder; strikes or other labor disputes; failure of a third party to grant or recognize an Underlying Right; or any other cause beyond the reasonable control of such party. The party claiming relief under this Article shall notify the other in writing of the existence of the event relied on and the

cessation or termination of said event, and the party claiming relief shall exercise reasonable commercial efforts to minimize the time of any such delay.

## **ARTICLE XVII: DISPUTE RESOLUTION**

17.1. Waiver. EACH PARTY TO THIS AGREEMENT HEREBY WAIVES ITS RESPECTIVE RIGHT TO A JURY TRIAL OF ANY CLAIMS OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF THIS AGREEMENT. ALL DISPUTES ARISING FROM OR RELATING TO THIS AGREEMENT SHALL BE RESOLVED PURSUANT TO THIS ARTICLE.

17.2. Binding Arbitration. Any dispute arising between OpenCape and the Operator in connection with this Agreement that is not settled to their mutual satisfaction within the applicable notice or cure periods provided in this Agreement, shall, upon the demand for arbitration by either party, be settled by arbitration in Boston, Massachusetts, in accordance with the Commercial Arbitration Rules of the American Arbitration Association in effect on the date that a party gives notice of its demand for arbitration under this Article. If the parties cannot agree on a single arbitrator within fifteen (15) calendar days after the notice demanding arbitration is received by the receiving party, OpenCape and the Operator shall each select an arbitrator within such fifteen (15) day period and the two (2) arbitrators shall select a third arbitrator within ten (10) calendar days.

If the parties fail to appoint arbitrators or the arbitrators cannot agree on a third arbitrator, then either party may request that the American Arbitration Association select and appoint a neutral arbitrator who shall act as the sole arbitrator. The parties shall be entitled to submit expert testimony and/or written documentation on such arbitration proceeding. The decision of the arbitrator or arbitrators shall be final and binding on OpenCape and the Operator and shall include written findings of law and fact, and judgment may be obtained thereon by either OpenCape or the Operator in a court of competent jurisdiction. OpenCape and the Operator shall each bear the cost of preparing and presenting its own case. The cost of the arbitration, including the fees and expenses of the arbitrator or arbitrators, shall be shared equally by OpenCape and the Operator unless the award otherwise provides. In no event shall the arbitrator or arbitrators have the power to award any damages described in and precluded by Article IX (Limitation of Liability) which Article shall be binding on the arbitrator(s).

17.3. Exceptions to Arbitration Obligation. The obligation to arbitrate shall not be binding on either party with respect to requests for preliminary injunctions, temporary restraining orders, specific performance, or other procedures in a court of competent jurisdiction to obtain interim relief when deemed necessary by such court to preserve the status quo or prevent irreparable injury pending resolution by arbitration of the actual dispute.

17.4. Arbitrator Confidentiality Obligation. Any arbitrator appointed to act under this Article must agree to be bound to the provisions of Article XIII (Confidentiality) with respect to the terms of this Agreement and any information obtained during the course of the arbitration proceedings.

17.5. Payment Disputes. The Operator and OpenCape shall attempt in good faith to resolve any bona fide dispute arising out of or relating to any monetary obligation under this Agreement as expeditiously as possible by negotiations between a Vice President of the Operator or his or her designated representative with sufficient authority to negotiate a resolution of the dispute and an executive of OpenCape with similar authority. Either the Operator or OpenCape may give the other party written notice of any such payment dispute which notice shall include documentation substantiating the dispute. In the event the amount in dispute is in excess of \$25,000.00 and is not resolved on or before its actual or purported due date hereunder, then the amount in dispute shall be deposited with an escrow agent mutually acceptable to the parties who shall hold said sum along with all interest earned thereon, in escrow, pending resolution of the dispute hereunder and shall distribute said sums in accordance with the resolution of the parties under this section or the decision of the arbitrator under this Article. All undisputed payments shall be paid in accordance with the due date set forth herein regardless of any dispute hereunder.

(a) Within twenty (20) days after delivery of notice of a payment dispute as described above, the designated executives shall meet at a mutually acceptable time and place, and thereafter as often as they reasonably deem necessary to exchange information and to attempt to resolve the dispute. If the matter has not been resolved within thirty (30) days after the first meeting, either the Operator or OpenCape may demand arbitration in accordance with the provisions of this Article.

(b) To the extent any payment dispute described hereunder is resolved in favor of a party, whether pursuant to the provisions of this section or pursuant to arbitration, the escrow agent shall pay the appropriate amount of the total amount previously placed in escrow under this section to the prevailing party with the other party paying interest at the rate set forth in Section 2.5 on such amount less, however, the proportionate amount of any interest earned (net of any account charges) thereon while in escrow and distributed to the prevailing party. Any amounts remaining in escrow with any interest earned thereon (net of any account charges) shall be distributed to the party that deposited such amount.

(c) All negotiations conducted pursuant to this section shall be confidential.

Unless a different interest rate is set forth herein, the prevailing party in any payment dispute shall be entitled to interest at the rate set forth in Section 2.5 on the disputed amounts measured from the date the disputed amount was due or the disputed amount was invoiced to the date payment of the disputed amount was made, and to have its costs associated with establishing any escrow described above reimbursed by the other party.

## **ARTICLE XVIII: ASSIGNMENTS/NON-COMPETITION**

18.1. Assignments. Except as specifically provided in this Article, the Operator may not transfer or assign all or any part of its interest in this Agreement or in the User Fibers nor may the Operator sell, assign, lease, grant an IRU with respect to, exchange, encumber, or otherwise in any manner transfer or make available in any manner to any third party, the User Fibers or the Associated Property, in whole or in part, or delegate any duties, burdens, or

obligations arising hereunder, without the consent of OpenCape, which consent may be given or withheld in OpenCape's sole discretion. A transfer or assignment of substantially all of the assets of the Operator, or a transfer or assignment of fifty (50%) percent or more of the assets or interests in the Operator (whether by transfer of stock, merger, consolidation, partnership interest, or otherwise), either in one transaction or a series of transactions, shall be deemed to be a transfer hereunder requiring the consent of OpenCape. Notwithstanding the foregoing, the Operator may transfer or assign this Agreement to its parent company or an affiliate that is wholly owned by the Operator's parent company without OpenCape consent upon no less than 30 days notice to OpenCape.

This Agreement and each of the parties' respective rights and obligations under this Agreement shall be binding upon and shall inure to the benefit of the parties hereto and each of their respective permitted successors and assigns. Except as otherwise provided in this Agreement, OpenCape and the Operator do not intend that this Agreement shall benefit or be enforceable by any person other than OpenCape and the Operator and their respective successors and assigns.

Nothing contained in this Article shall be deemed or construed to prohibit OpenCape from selling, transferring, leasing, licensing, granting indefeasible rights of use or entering into similar Agreements or arrangements with other persons respecting any fibers and conduit constituting a part of the System in accordance with the terms of this Agreement.

Nothing in this Agreement shall be construed to restrict the Operator's conveyance, or other disposition (whether by grant of a lease or otherwise) by the Operator of dark fiber or of telecommunications circuits or capacity in dark or lit fiber, or prevent the Operator from selling, leasing or otherwise transferring its interests in the User Fibers to third parties, provided any such conveyance complies with the following limitations:

(a) The Operator may not lease, license or otherwise permit the use of more than twenty percent (20%) of the User Fibers to any single company (including affiliates of such a company) on any single segment of the System; and

(b) The Operator shall not be permitted to use more than thirty-five percent (35%) of the User Fibers for its own lit services. The remaining percentage of User Fibers must be available to other companies or entities pursuant to the non-discrimination and interconnect principles contained in Section 6.5 herein.

18.2. Non-Competition. As a material inducement for OpenCape to enter into this Agreement, during the Term, the Operator agrees not to compete with OpenCape by constructing, maintaining or operating a fiber optic communication system, microwave radio system or regional collocation center within the geographic area covered by the System.

## **ARTICLE XIX: REPRESENTATIONS AND WARRANTIES**

19.1. By Each Party. By execution of this Agreement each party represents and warrants to the other that:

- (a) It has the full right and authority to enter into, execute, deliver and perform its obligations under this Agreement;
- (b) This Agreement constitutes a legal, valid and binding obligation enforceable against such party in accordance with its terms, subject to a bankruptcy or solvency, creditor's rights and general equitable principles;
- (c) Except as otherwise disclosed to in writing prior to the execution hereof, there are no actions, suits or proceedings pending or overtly threatened against such party before any court or administrative agency that would materially impair such party's performance of its obligations under this Agreement;
- (d) Its execution of and performance under this Agreement will not violate any applicable statutes, regulations, rules or court orders of any local, state or federal governmental authority; and
- (e) The execution, delivery and performance of this Agreement by such party has been duly authorized by all requisite corporate action, and the signatories for such a party thereto are authorized to sign.

19.2. Disclaimer. EXCEPT AS SPECIFICALLY SET FORTH IN THIS ARTICLE, OPENCAPPE MAKES NO WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO THE USER FIBERS, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND ALL SUCH WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED. EXCEPT AS SPECIFICALLY SET FORTH IN THIS ARTICLE, THE OPERATOR MAKES NO WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO ITS OBLIGATIONS UNDER THIS AGREEMENT, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND ALL SUCH WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED.

## ARTICLE XX: GENERAL PROVISIONS

20.1. Binding Effect. This Agreement and each of the parties' respective rights and obligations under this Agreement, shall be binding on and shall inure to the benefit of the parties hereto and each of their respective permitted successors and assigns.

20.2. Contingent on Receipt of Funds. This Agreement is contingent on OpenCape's obtaining final funding commitments from federal and state sources as well as OpenCape's receipt of all funds committed. In the event all committed funds are not received, at the election of OpenCape, this Agreement shall terminate without recourse to either party.

20.3. Waiver. No delay or omission by either party to exercise any right or power occurring upon non-compliance or failure of performance by the other party, nor shall any custom or practice which may arise between the parties in the administration of any part of this Agreement, be construed to waive or lessen the right of a party to insist upon the performance

by the other party in strict accordance with the provisions hereof, nor shall it impair that right or power or be construed to be a waiver. A waiver by either party of any of the covenants, conditions or Agreements to be performed by the other party shall not be construed to be a general waiver or relinquishment on its part of any such provision, but the same shall nevertheless be and remain in full force and effect. The failure of either party to insist upon or enforce strict performance by the other party of any provision of this Agreement, or to exercise any right under this Agreement, shall not be construed as a waiver or relinquishment of such party's right to enforce any such provision or right in any other instance.

20.4. Governing Law. This Agreement shall be governed by and construed in accordance with the domestic laws of the Commonwealth of Massachusetts without reference to its choice of law principles. If the Parties mutually agree not to pursue arbitration for the settlement of any dispute arising under this Agreement, or if arbitration is for any reason unavailable or inapplicable, venue for all causes of action will be in Boston, Massachusetts, or, for federal actions, in the federal district court for the District of Massachusetts.

20.5. Rules of Construction. The captions or headings in this Agreement are strictly for convenience and shall not be considered in interpreting this Agreement or as amplifying or limiting any of its content. Words in this Agreement that import the singular connotation shall be interpreted as plural, and words that import the plural connotation shall be interpreted as singular, as the identity of the parties or objects referred to may require.

(a) Unless expressly defined herein, words having well known technical or trade meanings shall be so construed. All listings of items shall not be taken to be exclusive, but shall include other items, whether similar or dissimilar to those listed, as the context reasonably requires.

(b) Except as set forth to the contrary herein, any right or remedy of the Operator or OpenCape shall be cumulative and without prejudice to any other right or remedy, whether contained herein or not.

(c) Nothing in this Agreement is intended to provide any legal rights to anyone not an executing party of this Agreement.

(d) The parties and their respective counsel have reviewed this Agreement in its entirety and acknowledge that each has had a full opportunity to negotiate the terms of this Agreement. Therefore, the parties waive any and all applicable common law and statutory rules of construction that any provision of this Agreement should be construed against the drafter of the Agreement. The Agreement and all provisions thereof shall in all cases be construed as a whole, according to the fair meaning of the language used.

(e) All actions, activities, consents, approvals and other undertakings of the parties in this Agreement shall be performed in a reasonable and timely manner, it being expressly acknowledged and understood that time is of the essence in the performance of obligations required to be performed by a date expressly specified herein. Except as specifically set forth herein, for the purpose of this Agreement the standards and practices

of performance within the telecommunications industry in the relevant market shall be the measure of a party's performance.

20.6. Entire Agreement. This Agreement, together with the Construction Contract entered into simultaneously herewith, constitutes the entire and final agreement and understanding between the parties with respect to the subject matter hereof and supersedes all prior written and oral agreements, representations and understandings between the Parties relating to the subject matter hereof, which are of no further force or effect. The Exhibits referred to herein are an integral part hereof and are hereby incorporated into this Agreement. To the extent that any of the provisions of any Exhibit hereto are inconsistent with the express terms of this Agreement, the terms of this Agreement shall control. This Agreement may only be modified or amended by an instrument in writing executed by an authorized representative of each party and delivered to the party relying on the writing. Neither electronic mail nor instant messaging shall be considered a "writing" sufficient to change, modify, extend or otherwise affect the terms of this Agreement. The parties agree to review the terms of this Agreement every five years from the Effective Date to make any mutually-agreed to changes to address the current economic and business climate at that time.

20.7. No Personal Liability. Each action or claim against any party arising under or relating to this Agreement shall be made only against such party as a corporation, and any liability relating thereto shall be enforceable only against the corporate assets of such party. Except in connection with OpenCape's enforcement of the Guaranty, no party shall seek to pierce the corporate veil or otherwise seek to impose any liability relating to, or arising from, this Agreement against any shareholder, employee, officer or director of the other party. Each of such persons is an intended beneficiary of the mutual promises set forth in this Article and shall be entitled to enforce the obligations of this section.

20.8. Relationship of the Parties. The relationship between the Operator and OpenCape is that of independent contractors and independent parties, and is not that of partners, agents, or joint venturers of one another, and nothing contained in this Agreement shall be deemed to constitute a partnership or agency agreement between them for any purpose, including, but not limited to federal income tax purposes. The Operator and OpenCape, in performing any of their obligations hereunder, shall discharge their contractual obligations at their own risk subject, however, to the terms and conditions hereof.

20.9. Severability. If any term, covenant or condition contained herein is, to any extent, held invalid or unenforceable in any respect by any court having jurisdiction, the remainder of this Agreement shall not be affected thereby, but shall remain in full force and effect, and each term, covenant or condition of this Agreement shall be valid and enforceable to the fullest extent permitted by law. It is the intention of the parties to this Agreement, and the parties hereto agree, that in lieu of each clause or provision of this Agreement that is illegal, invalid or unenforceable, the court shall supply, as a part of this Agreement, an enforceable clause or provision as similar in terms to such illegal, invalid or unenforceable clause or provision as may be possible.

20.10. No Third Party Beneficiary. Except as expressly stated in this Agreement, the provisions of this Agreement are for the sole benefit of the parties to this Agreement, and no third party may seek to enforce or benefit from these provisions.

20.11. Nonprofit Status. The parties agree to use commercially reasonable efforts to make any and all modifications to this Agreement or the Construction Contract that are necessary and appropriate to enable OpenCape to maintain its nonprofit status.

20.12. Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original, and all of which taken together shall constitute one and the same instrument. Electronic mail transmission of any signed original document and/or retransmission of any signed electronic mail transmission shall be deemed the same as delivery of an original. The parties agree to exchange original signature pages as soon as practicable following exchange of electronic mail signature pages (if that occurs), but the original signatures are not required in order to enforce this Agreement.

In confirmation of their consent and agreement to the terms and conditions contained in this Agreement and intending to be legally bound hereby, the parties have executed this Agreement under seal as of the date first above written.

OPENCAPE Corporation, a Massachusetts  
nonprofit corporation

By: \_\_\_\_\_

Name:

Title:

\_\_\_\_\_, a

By: \_\_\_\_\_

Name:

Title:

EXHIBITS TO BE ADDED

EXHIBIT A: SYSTEM ROUTE

EXHIBIT B: CONSTRUCTION SPECIFICATIONS

EXHIBIT C: FIBER SPLICING SPECIFICATIONS

EXHIBIT D: FIBER SPECIFICATIONS

EXHIBIT E: FACILITY LOCATIONS

EXHIBIT F: MAINTENANCE SPECIFICATIONS

EXHIBIT G: SERVICE LEVEL AGREEMENT AND QUALITY OF SERVICE

EXHIBIT H: COPY OF THE CONSTRUCTION CONTRACT

**APPENDIX F - EXHIBIT A**  
**System Route**

See RFP Appendix A

## **ATTACHMENT F - EXHIBIT B CONSTRUCTION SPECIFICATIONS**

### **GENERAL CONSTRUCTION REQUIREMENTS**

#### **COOPERATION OF THE CONTRACTOR**

Agents of various public service agencies, municipal and State Departments, and private site contractors may be entering on the work site to remove existing utilities, to construct or place new facilities or to make alterations to existing facilities.

The Contractor shall perform the work in cooperation with the various agencies in a manner which causes the least interference with the operations of the aforementioned agencies and shall have no claim for delay which may be due, or result, from said work of these agents.

#### **NOTICE TO OWNERS OF UTILITIES**

Written notice shall be given by the Contractor to all public service corporations or municipal and State officials owning or having charge of publicly or privately owned utilities at least one week in advance of the commencement of operations that will affect the utilities. The Contractor shall, at the same time, file a copy of such notice with OpenCape.

The Contractor shall make his own investigation to ensure that no damage to existing structures, drainage lines, traffic signal conduits, lighting conduit, and other utilities will occur as a result of construction operations.

The Contractor shall notify "Mass. DIG SAFE" and procure a DIG SAFE number of each location prior to disturbing ground in any way.

**"DIG-SAFE" Call Center: Telephone 1-888-344-7233**

#### **PROTECTION OF UTILITIES AND PROPERTY**

The Contractor, in constructing or installing facilities alongside or near sewers, drains, water or gas pipes, electric or telephone conduits, poles, sidewalks, walls, vaults or other structures shall sustain them securely in place. The Contractor shall coordinate with the officers and agents of the various utility companies and municipal departments to ensure that the services of these structures are maintained. The Contractor shall also be responsible for the repair or replacement, at no additional cost to the Owner, of any damage to such structures caused by construction operations. The Contractor is responsible to leave them in the same condition as they existed prior to commencement of the work. Pipes or other structures damaged by the operation of the Contractor may be repaired by the utility owner which suffers the loss. The cost of such repairs shall be borne by the Contractor, without compensation therefore.

If during construction there is an existing utility and/ or structure found to be in conflict with the proposed work under this Contract, the Contractor shall protect and maintain the services to the utilities and structures. If live service connections are to be interrupted by excavations of any kind, the Contractor shall not break the service until new services are provided. Abandoned services shall be closed off and secured in a professional and workman like manner.

Full compensation for furnishing all labor, materials, tools, equipment and incidentals for doing all the work involved in protecting or repairing property as specified in this Section, shall be considered included

in the prices paid for the various Contract items of work and no additional compensation will be allowed therefore.

## TRAFFIC MANAGEMENT

**All work done under this Contract shall be in conformance the latest edition of the “Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD)” with revisions.**

## WORK SCHEDULE

No work that will disrupt travel on state roadways (lane closures, lane shifts, trenching, etc.) shall be done from 6:00AM to 9:00AM and from 3:00PM to 6:00PM without prior approval of the Massachusetts Department of Transportation and OpenCape.

No work that will impact state roadways east of the Cape Cod Canal shall be conducted between Memorial Day Weekend and Labor Day Weekend, unless approved by the Massachusetts Department of Transportation and OpenCape.

## PROVISIONS FOR TRAVEL AND PROSECUTION OF THE WORK

Before starting any work under this Contract, the Contractor shall prepare, and submit to OpenCape for approval, a plan based on the Contract traffic management plans that indicates the traffic routing proposed by the Contractor during the various stages and time periods of the work and the temporary barricades, signs, drums and other traffic control devices to be employed during each stage and time period of the work to maintain traffic and access to abutting properties.

Particular care shall be taken to establish and maintain methods and procedures that will not create unnecessary or unusual hazards to public safety. Traffic control devices required only during working hour operations shall be removed at the end of each working day.

Signs having messages that are irrelevant to normal traffic conditions shall be removed or properly covered at the end of each work period. Signs shall be kept clean at all times and legends shall be distinctive and unmarred.

## TEMPORARY ACCESS TO AREA MERCHANTS AND BUSINESSES

Portions of the work are in retail and commercial business sections and access to all properties must be maintained at all times.

The Contractor shall provide safe and ready means of ingress and egress to all stores and shops, public and private and professional offices and any other businesses or residences in the project area, both day and night, for the duration of the project.

(a)

## ADDITIONAL CONTRACTOR COORDINATION

The Contractor shall coordinate all field installations impacting travel along the roadways with the local Towns, Cities, and State Departments of Transportation.

The Contractor shall coordinate all cable and equipment installations within buildings with the public or private entities in responsible charge of such facilities. Access to the buildings may be limited. Contractor shall notify those in responsible charge of each facility a minimum of 2 weeks prior to commencement of work.

### **FIBER OPTIC CABLE CONSTRUCTION METHODS AND SUPPLIES**

The Contractor shall meet the following construction and installation procedures when installing the fiber optic cable:

- The fiber optic cable shall be shipped in reels that meet the following requirements:
  - The reels shall be designed to prevent damage to the cable during shipment and installation.
  - Each reel shall contain an identification tag with the following minimum information:
    - Date of Manufacture
    - Manufacturer's Cable Code
    - Fiber Count
    - Length of Cable
    - Beginning and End length markings
  - Both ends of the cable shall be accessible to provide access for testing.
  - The cable ends shall be securely fastened and shall not protrude beyond any portion of the reel in an unprotected manner to prevent the cable from becoming loose in transport.
  - Cables ends shall be sealed to prevent the escape of the water blocking material and entry of moisture during shipping, handling, storage, and installation.
- Testing and Certification
  - The Contractor shall provide four (4) copies of the cable manufacturer's recommendations and requirements, listed below, for each fiber optic cable type and size:
    - A list of the cable manufacturer's approved pulling lubricants for use on the cable. No other lubricants will be permitted.
    - The maximum pulling tensions of the cable, which shall specify both pulling from the cable's strength member(s) and for pulling from the outer jacket.
    - The minimum bending radius of the cable, which shall specify a radius for both the installation and for long-term installation.
  - Prior to shipping, the manufacturer of the cable shall conduct fiber loss tests on all strands of the entire length of cable to be delivered for this project. These tests shall be conducted at both 1310 nm and 1550 nm light wavelengths. Four (4) manufacturer certified copies of the fiber loss tests shall be delivered with the cable.
  - Upon delivery of the cable to the project site, the Contractor shall conduct fiber loss tests on all strands of the entire length of cable. These tests shall be conducted at both 1310 nm and 1550 nm light wavelengths. The Contractor shall provide four (4) certified copies of the loss test results for comparison with the tests made on the cable prior to delivery.
  - Once tests are complete, OpenCape fiber spools shall be so marked, secured and sequestered from other product at the Contractor's location or marshaling yards.
  - After installation of the cable is complete, the Contractor shall conduct fiber loss tests on all strands of the entire length of cable demonstrating that all requirements of this specification are met. These tests shall be conducted at both 1310 nm and 1550 nm light wavelengths. All testing shall be performed with an Optical Time Domain Reflectometer (OTDR), as follows:
    - Testing shall be conducted on all components of the fiber optic cable plant, including fiber cables, splices, and patch panels.

- The OTDR used shall include storage of all fiber optic cable signatures. Signatures of all cables tested shall be stored on compact disc (CD) and supplied by the Contractor. The Contractor shall supply OTDR emulation software manufactured by the OTDR manufacturer which is capable of reading the stored signatures from the CD and performing all measurement and analysis on the stored signatures as if the OTDR were connected live to the fiber optic cable. The analysis shall include, but not be limited to, readout of fiber loss per unit length, splice loss measurement (amount of loss and distance from OTDR), connector loss measurement (amount of loss and distance from OTDR), total fiber optic cable length, generation of event tables, as well as identification and measurement of any other reflective events or faults.
- The OTDR shall be located at one end of the fiber optic cable plant during the testing.
- The pulse width setting of the OTDR shall be set to the lowest possible setting while allowing the full length of fiber optic cable to be measured for faults or reflective events.
- The Contractor shall document the OTDR readings by supplying hard copies of the OTDR signatures for all fiber optic cables. The Contractor shall also supply hard copy of the reflective event table for all optical fibers which shall be directly printed out from the OTDR.
- The Contractor shall supply fiber optic cable plant loss calculations for all installed components of the cable plant demonstrating that the total plant losses for each fiber are less than the minimum optical fiber optic modem power budget by a safety margin of at least 4dB.
- Installation - The Contractor shall adhere to the following installation procedures during the placement of the fiber optic cable:
  - For all aerial fiber optic cable installations, the Contractor shall furnish and install messenger wire meeting the following requirements:
    - 0.25 inch diameter steel wire
    - Extra High strength (EHS) grade
    - 6,600 pounds-force rated breaking strength (6.6 M rating)
  - For all aerial fiber optic cable installations, the Contractor shall furnish and install 0.038 inch diameter stainless steel lashing wire.
  - For all aerial fiber optic cable installations, the Contractor shall meet all National Electrical Code (NEC) and National Electrical Safety Code (NESC) standards, including but not limited to all grounding and bonding requirements of NEC Article 770 and NESC Section 9.
  - For all aerial fiber optic cable installations, the Contractor shall meet all requirements set forth in the TIA-758-A Standard, "Customer-owned Outside Plant Telecommunications Infrastructure Standard". In the event that this standard conflicts with the requirements of the pole owner, then the more stringent requirements shall apply.
  - All fiber optic cables to be installed in a conduit or duct facility shall be pulled as a unit. The Contractor shall ensure the cable is not damaged during storage, delivery and installation.
  - The cable shall not be pulled along the ground or over or around obstructions. The cable shall not be stepped on by workmen, nor run over by vehicles or equipment.
  - All cables to be pulled in conduit shall be pulled with a cable grip designed to provide a firm hold on the exterior covering of the cable, with heat shrinkable end caps placed on the cable ends.
  - The maximum pulling tensions and minimum bending radius shall not be violated at any time during installation, and shall be monitored at all times during installation. Prior to any installation of cable, the Contractor shall clean existing conduit and aerial messengers (if applicable), per industry standards.

- The Contractor shall establish adequate voice communications between the cable feeding location and the cable pulling equipment prior to commencing any pulling operation. The cable reels shall be placed on the same side of the pull box with the conduit where the cable is being installed. The reel shall be made level and brought into proper alignment with the conduit section, such that the cable will pass from the top of the reel. The cable shall be fed by manually rotating the reel.
- The fiber optic cable shall not be pulled through an intermediate junction box, pull box, or any other opening in the conduit, unless approved by the Engineer. The necessary length of cable to be installed shall be pulled from pull box, or cabinet to the immediate next downstream pull box, or cabinet. The remaining length of cable to be installed in the next conduit or along aerial messenger shall be carefully stacked or stored in a manner that allows that length of cable to be safely pulled into the next conduit.
- An approved cable feeder guide shall be used between the cable reel or the storage stack and the face of the conduit to protect the cable, and to guide the cable installation. The dimensions and set-up of the feeder guide shall be such that the cable does not bend at any location to a radius less than the cable's minimum allowable bending radius. The cable shall not be pulled over edges or corners, over or around obstructions, or through unnecessary curves or bends. The cable shall be looped in and out to cabinets and pull boxes to provide adequate slack and the least amount of stress on the fibers. The Contractor shall ensure that the cable is not damaged during storage or installation.
- Fiber optic cable ends shall be kept sealed at all times during installation, using an approved cable end cap. Tape shall not be permitted to seal the cable end. The cable end shall remain sealed until the Contractor terminates the fiber cables. Cables that are not immediately terminated shall have a minimum of six feet of slack.
- The allowable pulling tension shall be the lesser of either of the two values below:
  - The cable manufacturer's recommended pulling tension from the outer jacket for the cable.
  - Eighty percent of the cable manufacturer's maximum pulling tension from the outer jacket.
- The Contractor shall monitor the tension on the fiber optic cable with the use of an approved tension gauge. The gauge shall be placed sufficient distance from the take up reel, such that the tension can be read throughout the entire pulling operation.
- When using lubricants, the Contractor shall adhere to the cable manufacturer's requirements for the proper amount, application tools and method, and removal of the lubricant from the exposed cable.
- All cable shall run continuously from termination point to termination point as indicated on the plans or by the Engineer. The Contractor shall carefully determine the length of cable to reach from termination point to termination point. Splicing of fiber optic cables at any location other than those shown on the plans shall not be permitted.
- The Contractor shall document the locations of all splices and connections for each strand of fiber optic cable. This documentation shall show the distance in feet of fiber optic cable from the end of the cable for every splice and connection, and shall also show the cable length marking as marked on the cable for every splice and connection. Four copies of the documentation shall be furnished prior to testing.
- The splice point data shall also be provided in an Excel spreadsheet containing fields necessary to join the data into OpenCape's GEO Database and data management systems.

## **FIBER SPLICING**

### **CONSTRUCTION METHODS AND SUPPLIES**

The Contractor shall perform splices in each splice enclosure as shown in the plans, meeting the following requirements:

- The Contractor shall supply all materials, equipment, and miscellaneous consumable supplies needed to perform fiber optic splicing in accordance with these specifications and meeting accepted industry practices and standards.
- All splicing shall be performed by the fusion splicing method; mechanical splicing shall not be allowed.
- The maximum splice loss shall be 0.1 dB.
- The Contractor shall install a minimum of seventy five (75) feet of slack fiber optic cable on each side of the splice enclosure. The slack cable shall be stored inside the underground storage box or on the aerial messenger wire using accepted industry practices that do not violate the cable manufacturers minimum allowed bend radius including, but not limited to, using "snowshoe" type aerial storage devices. Simply attaching slack coils of fiber optic cable to the aerial messenger wire without the use of storage devices shall not be allowed.
- Each spliced fiber shall be packaged in a protective, waterproof sleeve.

### **AERIAL CABLE INSTALLATIONS**

Clearances for aerial cable over roadways and parking lots must meet National Electric Safety Code (NESC) standards.

Contractor shall use proper stringing tension for cables to minimize high tension bowing and creeping and low tension sagging.

Detailed drawings of the pole attachment details shall be submitted to the local utility pole owners and OpenCape for approval.

Messenger strand shall be used to support the cable and both shall be installed on the road side of the pole whenever possible. However, the pole owner's preferences regarding 'pole boxing' shall be respected.

Aerial cable shall be attached to the poles and buildings using proper supporting attachments. Aerial cable shall enter the buildings through a raceway (conduit) with an approved service head that must be properly grounded and attached to the building.

### **MICROWAVE RADIO SYSTEM INSTALLATION**

Abide by tower owner requirements for installation, maintenance, and upkeep of equipment.

Provide a plan for consideration and resolution of space and frequency conflicts with existing occupants, if any, on the structure.

Ensure appropriately certified personnel and proper safety techniques are used in all evolutions involving tower climbing. Describe your program to insure worker safety and training while working on these structures including proof of insurance of at least \$1,000,000 to protect the structure owners from liability or damage.

Accommodate aesthetic concerns regarding size, placement, and color of external equipment such as antennas and cables on towers and buildings to reduce the visual impact. Cables to the antennas will normally be installed along the exterior of a water tower shall be painted the same color as the tower to camouflage them. Restrict the antenna size on towers to no more than four feet in diameter.

All equipment must be powered via emergency, automatic no-break switch-over power sources including UPS and Generator. Where available, Respondent may connect to existing UPS and generator sources. All modifications, wiring, permits, etc. required to connect to existing power sources are the responsibility of the Respondent.

All electronics must be at ground level, 19" rack mounted, and fully enclosed within the owners building or an appropriate shelter.

All attachments to towers or building structures must be galvanized steel in accordance with ASTM A123 (hot dipped). Attachment hardware must be galvanized steel in accordance with ASTM A153. All structural attachments must be erected in accordance with TIA/EIA 222 (except where noted).

Cable management and attachment to ensure against failure due to exposure to the elements.

All tower antenna attachments must be rated for a minimum of 120MPH at the base for a 1 mile columnar wind load. All antennas and structural attachments must also be rated for a minimum of 1/4" radial ice loading.

All equipment must be accessible via remote access for purpose of troubleshooting and maintenance from any point in the microwave system.

Provide a rapid recovery spare components package with particular emphasis on external equipment that may be damaged during extreme weather events.

## **APPENDIX F - EXHIBIT C**

### **Fiber Splicing Specifications**

#### **DESCRIPTION**

This item shall consist of furnishing and installing fiber optic splice enclosures, splices, and appurtenances of the type specified at the locations shown on the plans or as indicated by the Engineer, in accordance with these specifications. This item shall include all materials, supplies, equipment, and miscellaneous items needed to perform a full and complete installation.

#### **MATERIALS**

All splices shall be housed in fiber optic splice enclosures meeting the following requirements:

The fiber optic splice enclosure shall be a stand-alone unit manufactured for installation in an underground storage box or an aerial installation and shall meet the following requirements:

- The splice enclosure shall be capable of holding the number of splices shown in the Plans.
- Mounting brackets as recommended by the manufacturer shall be provided to mount the splice enclosure inside the underground storage box or attach it to the aerial messenger wire.
- The splice enclosures shall be waterproof and airtight.
- The splice enclosure shall be manufactured of non-corroding materials and resistant to caustic solutions.
- All splice enclosures shall employ re-usable sealing materials allowing multiple re-entrance without replacing any component.
- If special tools or kits are required to enter and close splice cases, then these tools or kits shall be provided by the Contractor.
- The splice enclosures shall be large enough to retain the number and size of splice trays capable of holding the number of splices shown in the Plans.
- Each splice case shall contain a splice tray organizer capable of holding the required number of splice trays.
- The splice trays shall be provided and shall meet the following requirements:
  - The splice trays shall incorporate a system to retain and provide strain relief to the fiber optic buffers tubes.
  - The splice trays shall incorporate grooves where the fiber optic splice can be held in place.
  - Each splice tray shall incorporate a clear snap on lid.
- The splice enclosure shall incorporate cable guides that maintain fiber strands and fiber buffer tubes bending radius greater than the minimum allowed by the fiber optic cable manufacturer.
- The Splice Enclosure shall incorporate a restraining mechanism to hold each fiber optic cable central member and outside jacket.

## **APPENDIX F - EXHIBIT D Fiber Specifications**

**24 STRAND SINGLE MODE DWDM FIBER OPTIC CABLE**  
**48 STRAND SINGLE MODE DWDM FIBER OPTIC CABLE**  
**72 STRAND SINGLE MODE DWDM FIBER OPTIC CABLE**  
**144 STRAND SINGLE MODE DWDM FIBER OPTIC CABLE**  
**288 STRAND SINGLE MODE DWDM FIBER OPTIC CABLE**

### **DESCRIPTION**

This item shall consist of furnishing and installing Single Mode Non-zero Dispersion Shifted Fiber Optic cable and appurtenances. The fiber optic cable shall consist of the number of strands as shown on the Plans. The cable shall be an accepted product of the United States Department of Agriculture Rural Utilities Service (RUS) 7 CFR 1755.900 and shall meet the requirements of the ANSI/ICEA Standard for Fiber Optic Outside Plant Communications Cable, ANSI/ICEA S-87-640-2006. The cable shall meet current ITU recommendation G.655, "Characteristics of a Non-Zero Dispersion Shifted Single Mode Optical Fiber and Cable", (Tables A, B, C & D).

### **MATERIALS**

All of the fiber optic cable for this project shall be from the same manufacturer and shall be non-zero dispersion shifted single-mode. The cable shall be optimized for dense wavelength division multiplexed (DWDM) operation in the 1550 nm wavelength region. The cable shall also be fully useable in accordance with these specifications at a light wavelength of 1310 nm.

The Fiber Optic Cable shall meet the following requirements:

- The fiber optic cable shall operate over a temperature range of -40 to 70 degrees C at a relative humidity of 10% to 90% condensing.
- All fiber optic strand materials shall be non-conductive to electricity.
- The fiber optic cable shall meet or exceed the following performance characteristics when tested in accordance with the following fiber optic test procedures (FOTP) from EIA/TIA-455-B Series standards:
  - When tested in accordance with FOTP-3, "Procedure to Measure Temperature Cycling Effects on Optical Fibers, Optical Cable, and Other Passive Fiber Optic Components," the change in attenuation at extreme operational temperatures (-40<sup>0</sup>C and +70<sup>0</sup>C) shall not exceed 0.15dB/km at 1550 nm.
  - When tested in accordance with FOTP-25, "Repeated Impact Testing of Fiber Optic Cables and Cable Assemblies," the cable shall withstand 25 impact cycles. The change in attenuation shall not exceed 0.15 dB at 1550 nm.
  - When tested in accordance with FOTP-33, "Fiber Optic Cable Tensile Loading and Bending Test," using a maximum mandrel and sheave diameter of 560 mm, the cable shall withstand a tensile load of 2700 N (608 lbs). The change in attenuation shall not exceed 0.15 dB during loading and 0.1 dB after loading at 1550 nm.
  - When tested in accordance with FOTP-37, "Low or High Temperature Bend Test for Fiber Optic Cable", the cable shall withstand four full turns around a mandrel of < 20 times the cable diameter after conditioning for four hours at test temperatures of -30<sup>0</sup>C and +60<sup>0</sup>C. Neither the inner or outer surfaces of the jacket shall exhibit visible cracks, splits, tears or other openings. Optical continuity shall be maintained throughout the test. The change in attenuation shall not exceed 0.3 db at 1550 nm.
  - When tested in accordance with FOTP-41, "Compressive Loading Resistance of Fiber Optic Cables," the cable shall withstand a minimum compressive load of 440 N/cm (250 lbf/in) for armored cables and 220 N/cm (125 lbf/in) for non-armored cables applied

- uniformly over the length of the sample. The load shall be applied at the rate of 3 mm to 20 mm per minute and maintained for ten minutes. The change in attenuation shall not exceed 0.4 dB during loading and 0.2 dB after loading at 1550 nm.
- When tested in accordance with FOTP-81, "Compound Flow (Drip) Test for Filled Fiber Optic Cable", the cable shall exhibit no flow (drip or leak) of filling and/or flooding material at 70°C.
  - When tested in accordance with FOTP-82, "Fluid Penetration Test for Fluid Blocked Fiber Optic Cable", a one meter length of unaged cable shall withstand a one meter static head or equivalent continuous pressure of water for one hour without leakage through the open cable end.
  - When tested in accordance with FOTP-85, "Fiber Optic Cable Twist Test," a length of cable no greater than 2 meters shall withstand 10 cycles of mechanical twisting. The change in attenuation shall not exceed 0.15 dB at 1550 nm.
  - When tested in accordance with FOTP-104, "Fiber Optic Cable Cyclic Flexing Test," the cable shall withstand 25 mechanical flexing cycles around a sheave diameter not greater than 20 times the cable diameter. The change in attenuation shall not exceed 0.15 dB at 1550 nm.

Cable Construction: The cable shall be composed of the following elements:

- Anti-buckling central member which shall prevent the cable from buckling and stretching. The central member shall consist of a dielectric glass reinforced plastic rod. The central member expansion and contraction characteristics shall be similar to the optical fibers and the fiber tubes.
- Loose Buffered Tubes in which multiple fibers strands are placed inside. Each Buffer Tube shall meet the following requirements:
  - Allowed buffered tube diameters shall be 3.0 mm, 2.5 mm, or 1.9mm.
  - The number of fibers inside each Buffer Tube shall be 12 strands.
  - Buffer Tube material shall prevent the fiber from adhering to the inside of the tube.
  - Buffer Tubes shall be colored in accordance with TIA/EIA-598-A, "Color Coding of Optical Fiber Cables".
  - Fiber Optic strands shall be placed loosely inside the Buffer Tube to allow for fiber expansion and contraction due to temperature changes.
  - Buffer Tube shall be filled with a water blocking gel meeting the following requirements:
    - Filling compound in the buffer tubes shall be a homogeneous hydrocarbon based gel with anti-oxidant additives.
    - The filling shall prevent water intrusion, be nontoxic, and non-irritant to skin contact.
    - The filling shall be non-nutritive to fungus.
    - The filling shall be electrically non-conductive and readily removable with conventional non-toxic solvents.
- Fiber Optic Strands, which shall consist of a doped-glass cylindrical core, surrounded by a concentric cladding. Alternatives may be acceptable where location and environment dictate. An acrylate coating shall cover the fiber to add protection and color. Each fiber optic strand shall meet the following requirements:
  - All fibers in the cable shall be useable and shall meet the requirements of this specification.
  - Cladding diameter shall be  $125 \mu\text{m} \pm 1.0 \mu\text{m}$ .
  - Core to Cladding offset shall be less than  $0.8 \mu\text{m}$ .
  - Cladding Non-Circularity shall be less than 1.0 %.
  - Total coating diameter shall be  $245 \pm 10 \mu\text{m}$  and shall be mechanically strippable.
  - Coating color shall be in accordance with TIA/EIA-598-A, "Optical Cable Color Coding".
  - No point discontinuity along the fiber shall have attenuation greater than 0.10 dB at either 1310 or 1550 nm.
  - Mode-Field Diameter shall be  $9.62 \pm 0.40 \mu\text{m}$  at 1550 nm.
  - Effective area shall be  $72 \mu\text{m}^2$  minimum.

- Cable loss shall not exceed 0.4dB/Km when measured at a light wavelength of 1310nm.
- Cable loss shall not exceed 0.19dB/Km when measured at a light wavelength of 1550nm.
- Cutoff wavelength shall be 1300 nm or less.
- The cable casing shall be composed of a minimum of two protective layers. Each layer requirements are as follows:
  - The first casing layer shall be composed of high tensile strength dielectric yarns helically stranded evenly around the cable core.
  - The second and outer most layer shall be a polyethylene jacket. The jacket shall meet the following requirements:
    - The jacket shall be black medium or high density polyethylene in accordance with ASTM D1248, Type II or Type III, Class C, Category 3, 4, or 5 and contain a suitable antioxidant.
    - The jacket shall contain carbon black to provide ultraviolet light protection.
    - The jacket shall have a minimum thickness of 1.4 mm.
    - The jacket shall have permanent affixed markings every two feet or every one meter along the cable. These markings shall contain at a minimum the cable length (in feet if markings appear every two feet or in meters if markings appear every one meter) manufacturer's name, date of manufacturer, and fiber count.
  - A ripcord shall be provided between the first and second layer.
  - All casing layers shall be non-nutritive to fungus.

**APPENDIX F - EXHIBIT E**  
**Facility Locations**

<b>Building Type</b>	<b>Street</b>	<b>City</b>	<b>State</b>	<b>Zip</b>
Telecom Central Office Bldg	TBD	Brockton	MA	02302
Telecom Central Office Bldg	33 Court Street	Plymouth	MA	02360
Telecom Central Office Bldg	326 North Main Street	Fall River	MA	02720
Telecom Central Office Bldg	390 Acushnet Avenue	New Bedford	MA	02740
Telecom Central Office Bldg	55 Depot Road	Bourne	MA	02534
Telecom Central Office Bldg	400 Main Street	Falmouth	MA	02540
Telecom Central Office Bldg	49 Ocean Street	Hyannis	MA	02601
Telecom Central Office Bldg	79 Route 6A	Orleans	MA	02653
Telecom Central Office Bldg	12 Winslow Street	Provincetown	MA	02657
Telecom Central Office Bldg	TBD	Providence	RI	02909
Regional Collocation Center	1195 Main Street	Barnstable	MA	02630

## **APPENDIX F - EXHIBIT F Maintenance Specifications**

### **DESCRIPTION**

This item shall consist of furnishing maintenance, repairs, replacements, and upgrades to the System as described herein. This item shall include all materials, supplies, equipment, labor, and miscellaneous items needed to perform all required system maintenance.

### **MATERIALS**

#### Services

The Contractor/Operator shall maintain the System in good working order, and shall replace, repair or upgrade any component of the System. The Operator's maintenance obligations shall include routine maintenance and response maintenance. The Contractor/Operator shall develop and submit to OpenCape Corporation (OpenCape) for approval a draft Maintenance Agreement. The Contractor/Operator shall demonstrate in the proposed Maintenance Agreement that they currently have the necessary staff and equipment in place to properly execute the agreement. The Maintenance Agreement shall address the following requirements, as a minimum:

- The System shall be defined as the outside plant and inside plant fiber optic communications system, the Microwave Component, and Associated Property, as further described in the Indefeasible Right to Use and Operating Agreement (IRU).
- The Contractor/Operator shall provide routine maintenance on the system.
  - Routine Maintenance shall be provided 24 hours per day, 365 days per year, the objective of which shall be to maintain the System performance levels in line with the metrics defined in Exhibit G: Service Level Agreement and Quality of Service.
  - Routine maintenance shall be provided on a daily, weekly, monthly, and annual basis.
  - Routine maintenance schedules and activities shall be reviewed and adjusted quarterly based on System performance relative to the performance metrics defined in Exhibit G: Service Level Agreement and Quality of Service (SLA).
  - In fulfilling its obligations, the Contractor/Operator shall be required to use commercially reasonable efforts to comply with any procedures, protocols or other obligations required by the owners of the Underlying Rights, as further described in the IRU.
- The Contractor/Operator shall provide response maintenance on the system.
  - Response maintenance shall be provided 24 hours per day, 365 days per year.
  - The Contractor/Operator shall provide response and resolution to service incidents affecting individual users within the time frames defined in the SLA.
  - The Contractor/Operator shall provide response and resolution to service incidents affecting multiple users within the time frames defined in the SLA.
  - The Contractor/Operator shall provide response and resolution to service outages within the time frames defined in the SLA.
  - The Contractor/Operator shall provide response and resolution to non-critical inquiries within the time frames defined in the SLA.
  - The Contractor/Operator shall provide response and resolution to critical inquiries within the time frames defined in the SLA.
- The Contractor/Operator shall provide upgrades to the system.
  - On an annual basis the Contractor/Operator shall develop a plan to upgrade the System, the objective of which shall be to maintain the System performance levels in line with the metrics defined in Exhibit G: Service Level Agreement and Quality of Service.

- Upon approval of the upgrade plan, it shall be the Contractor/Operator's responsibility to execute the approved upgrades.
- The Contractor/Operator shall keep maintenance and upgrade records as follows, and shall make them available to OpenCape when so requested:
  - A log of all routine maintenance, response maintenance and repair, and upgrade activities performed by the Contractor/Operator shall be maintained by the Contractor/Operator. The log shall be kept in a database management system utilizing approved database software, and include, as a minimum, the following information:
    - Date and time incident reported or activity initiated
    - Entity reporting the incident or initiating the activity
    - Description of the reported incident or activity
    - Technician responding to reported incident or activity
    - Arrival time at the site of the technician
    - Technician performing defect repair or replacement, or upgrade activity
    - Description of observed defect, if applicable
    - Corrective actions taken, if applicable
    - Model and serial number of any module repaired or replaced
    - Date and time defect rectified, if applicable
    - Test results of repaired or upgraded facility

The Contractor/Operator shall maintain records, which show the itemized material, equipment, and labor cost incurred to provide response maintenance and upgrades. These records shall be provided to OpenCape on a semi-annual basis within fourteen (14) days after the end of each six-month period. The Contractor/Operator shall assure that these cost records are as complete and accurate as practicable. OpenCape may perform an audit to verify the accuracy of the cost records.

- Testing – The proposed Maintenance Agreement shall include test procedures for all equipment installed in the System. The test procedures in the approved Maintenance Agreement shall be used for testing all equipment installed during maintenance activities. Proposed upgrade plans shall include proposed test procedures for any new (previously not used) equipment proposed for inclusion in the system. The test procedures shall include, as a minimum, the following sections:
  - Date, time, location, and anticipated duration of test.
  - Description of system to be tested.
  - Equipment List.
  - Test objectives.
  - Expected results.
  - Test Procedures.
  - Test Result Forms.
  - Testing equipment list.

### Equipment

- The Contractor/Operator shall repair, replace and maintain any equipment, whether owned by OpenCape or the Contractor/Operator, that is damaged or fails to function properly. Any equipment, furniture or fixtures purchased and/or installed by the Contractor/Operator to replace or repair the original equipment purchased by OpenCape or purchased or installed under the Construction Contract shall be the property of and owned by OpenCape.
- The Contractor/Operator shall repair, replace, or maintain any equipment that is deemed to be responsible for causing or in any way triggering an incident.
- The Contractor/Operator shall supply and install all equipment needed to execute each approved upgrade plan.
- The Contractor/Operator shall at all times maintain an inventory of spare equipment in sufficient quantities to provide routine and response maintenance as herein defined. All equipment in this inventory shall be in new or like new condition. The Contractor/Operator shall maintain an inventory list of spare equipment which shall be maintained accurate on a monthly basis, and shall be delivered to OpenCape on a monthly basis.
- The Contractor/Operator shall adjust inventory levels of spare equipment on a quarterly basis, as a minimum, based on actual routine and response maintenance activity levels, such that response times as defined in the SLA shall at all times be maintained.

## **APPENDIX F - EXHIBIT G** **Service Level Agreement and QOS**

### **SERVICE LEVEL AGREEMENT (SLA)**

The services provided shall include a Service Level Agreement (SLA) by and between the Contractor/Operator and OpenCape. In addition, SLAs will be executed by and between the Contractor/Operator and the users of the network. The Contractor/Operator shall work with all of the identified stakeholders (Economic, Public Safety, Anchor Institutions etc...) in developing a Service Level Agreement (SLA) that satisfies the varied needs of these users and provides a quality of service commensurate with the standards of their operation.

All SLAs that may be executed between the Contractor/Operator and the users of the network will be consistent with the SLA between the Contractor/Operator and OpenCape.

### **FORM OF AGREEMENT**

The SLA shall include (but not be limited to) the following:

- **Definitions.** A list of relevant terms and their meaning as they relate to Operating Agreement.
- **The Audience.** An identification of all the users of the proposed network
- **Purpose.** A general description of each users services to their clientele.
- **Expectations.** Accurately describe the expectations of the users as it relates to the service levels and quality that are expected.
- **Specifications.** A detailed specification of the level and quality of service expected for each of the identified users.
- **Problem Definition.** Define a minimum/maximum matrix of the acceptable level of service and quality for each of the elements of service to be provided.
- **Problem Resolution.** Using the minimum/maximum matrix describe the resolution process to address the individual problem events.
- **Problem Resolution Schedule.** Using the resolution process, assign maximum time durations for resolution acceptable to each user for each event.

### **MAINTENANCE**

The Contractor/Operator shall establish a maintenance program consistent with the elements described in EXHIBIT F, MAINTENANCE SPECIFICATION, under the heading SERVICES. The SLA will reflect and support each of those elements by providing the necessary language and details developed and agreed between the users and the Contractor/Operator.

### **APPROVALS**

Prior to execution and implementation, the SLA developed by the Contractor/Operator shall be reviewed and approved by OpenCape or its representative.

### **MINIMUM REQUIREMENTS**

SLA requirements will be developed to meet the requirements of end users. The following minimum SLA requirements shall be provided by the Contractor/Operator.

<b>SLA Element</b>	<b>Minimum Requirement</b>
Service Availability (per month)	99.9%
Network Monitoring & Alerts	24 x 7
Mean Time to Respond	30 minutes
Mean Time to Repair	4 Hours
Network Latency	< 25 milliseconds port to port

### **QUALITY OF SERVICE**

**The Contractor/Operator shall develop a system with high levels of reliability and redundancy. The system shall include the following attributes. The Contractor/Operator shall include a description of these attributes in the SLA.:**

- **Fault Tolerance**
- **Emergency Power Backup**
- **Redundant Paths**
- **Self Healing Capabilities**

**APPENDIX F - EXHIBIT H**  
**Construction Contract**

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