

**FRANCHISE AGREEMENT**

**BETWEEN**

**THE CITY OF GREENSBORO, NORTH CAROLINA**

**AND**

**South Carolina Telecommunications Group Holdings, LLC**

**d/b/a Spirit Communications**

**1500 Hampton Street**

**Columbia, SC 29201**

**ATTN: Business and Legal Affairs**

**Michael D. Baldwin, Vice-President**

**Amanda Folk, Senior Contract Specialist**

**803-726-3627**

**amanda.folk@spiritcom.com**

**FOR**

**TELECOMMUNICATION SERVICE**

**October 3, 2017**

**First Council Reading: September 19, 2017**

**Second Council Reading: October 3, 2017**

**RETURN TO:**

**John Gribble, Franchise Manager**

**City of Greensboro, Information Technology Department**

**PO Box 3136**

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## FRANCHISE AGREEMENT

**THIS AGREEMENT** is made and entered into as of this \_\_\_\_\_ day of \_\_\_\_\_, 2017, by and between the City of Greensboro, North Carolina, hereinafter referred to as "City" and South Carolina Telecommunications Group Holdings, LLC d/b/a/ Spirit Communications, a South Carolina limited liability company, with its principal place of business at 1500 Hampton Street, Columbia, SC 29201, hereinafter referred to as "Franchisee".

**WHEREAS** the City is authorized to grant one or more nonexclusive, revocable, franchises to construct, operate, and maintain a telecommunications system within the City to provide telecommunications services;

**WHEREAS** Franchisee will construct and operate a telecommunications system as set forth herein;

**WHEREAS** the City, after due evaluation, has determined that it is in the best interest of the City and its residents to grant a franchise to Franchisee for a ten (10) year term.

**NOW, THEREFORE, IN CONSIDERATION** of the mutual promises and covenants contained herein, the parties do mutually agree as follows:

### **I. Grant of franchise.**

- (a) Franchisee is hereby granted for itself and its successors and assignees, subject to the terms and conditions of this Franchise, the right, privilege, and authority to construct, operate, maintain, and reconstruct a telecommunications system within the streets, alleys, and public rights-of-way of the City for the purpose of providing telecommunications service. Franchisee shall provide a modern telecommunications system in accordance with this Franchise.
- (b) This Franchise is subject to the Chapter 28.1 of the Greensboro Code of Ordinances, (hereafter referred to as the "Telecommunications Ordinance"), as amended and in effect from time to time. Nothing in this Franchise shall be deemed to waive the requirements of the various codes and ordinances of the City regarding permits, fees to be paid, or manner of construction.
- (c) For the purpose of operating and maintaining a telecommunications system in the City, Franchisee may erect, in, over, under, or upon, across, and along the public streets, alleys, and rights-of-way within the City such wires, cables,

fiber optics, conductors, ducts, conduits, vaults, manholes, poles, amplifiers, antennas, appliances, pedestals, attachments, and other property and equipment as are necessary and appurtenant to the operation of the telecommunications system in the City and in accordance with this Franchise and the Telecommunications Ordinance.

- (d) Franchisee is authorized to provide only telecommunications services under the terms of this Franchise Agreement within the City. This includes telecommunications services within the local service area, which originate, terminate or pass through in the City of Greensboro or any combination of the same.

## **II. Effective date of Franchise, effect upon existing Franchise.**

The effective date of this Franchise shall be the date of second passage of this Franchise by the Greensboro City Council.

## **III. Term.**

- (a) *Term.* The term of the franchise shall be for a period of ten (10) years from the effective date, unless sooner terminated as provided in the Telecommunications Ordinance, at which time it shall expire and be of no further force and effect. The term of said franchise shall be extended for five (5) years from the end of the ten (10) year term in the event Franchisee has substantially complied with the material terms and conditions of this franchise and the ordinance over the term prior to action by Council in this matter. At the end of any such extension of the term, the franchise shall be extended for an additional five (5) years only in the event Franchisee has substantially complied with the material terms and conditions of this franchise and the ordinance over the term prior to action by Council in this matter.
- (b) *Option notice.* Within ninety (90) days after the first day of the seventh year of the franchise term, Franchisee shall provide notice by certified letter to the City that it seeks the five (5) year extension. If such extension is granted, within ninety (90) days after the first day of the fourth year of such extension, Franchisee shall provide notice by certified letter to the City that it seeks the five (5) year extension. Such notices shall include Franchisee's statement that it has substantially complied with the material terms and conditions of the franchise and ordinance and any information Franchisee may provide in support of its request.
- (c) *Compliance notice.* Within ninety (90) days of receipt from Franchisee, the City shall review the notice and supporting information provided by Franchisee and shall notify Franchisee in writing of its intention to either grant the extension or

to contend Franchisee has substantially failed to comply with the material terms and conditions of this franchise or ordinance. If the City fails to notify Franchisee within the 90-day period, the five (5) year extension shall be deemed to be granted and no further action by the City or Franchisee shall be required.

(d) *Public hearing.* If the City contends that Franchisee has failed to comply with said franchise or ordinance, it shall present written documentation to Franchisee. If Franchisee does not come into compliance with said franchise or ordinance within sixty (60) days or commence to cure said non-compliance as soon as reasonably practicable (if such non-compliance cannot be cured within sixty (60) days), the City shall present written documentation and evidence to the City Council, (including, but not limited to, the information supplied by Franchisee), no later than one hundred and twenty (120) days after notification to Franchisee that the City contends that Franchisee has not substantially complied with the material terms and conditions of this franchise as specified in (c) above. Upon receipt of the documentation and evidence, the City Council shall schedule a public hearing. At such public hearing, Franchisee shall have the right to present its documentation and evidence in support of its position.

(e) *Decision.* If after reviewing all documentation and evidence, the City Council decides Franchisee has substantially complied with the material terms and conditions of this franchise and ordinance, the five (5) year extension shall be awarded by the first day of the eighth year of this franchise. If the City Council decides Franchisee has not substantially complied with the material terms and conditions of this franchise and the ordinance, it shall adopt a resolution stating the same. If such a resolution is adopted, Franchisee has the right to contest in a court of appropriate jurisdiction, the City Council's action.

#### **IV. Franchise nonexclusive.**

*Franchise nonexclusive.* Consistent with the requirements of the Telecommunications Ordinance, this Franchise shall not be construed as any limitation upon the right of the City to grant to other persons, rights, privileges, or authorities similar to the rights, privileges, and authorities herein set forth, in the same or other streets, alleys, or other public rights-of-way. The City specifically reserves the right to grant at any time during the term of this Franchise or renewal thereof, if any, such additional franchises for a telecommunications system as it deems appropriate.

## **V. Incorporation of the Telecommunications Ordinance by reference and resolution of conflicts.**

All terms, conditions and provisions of Chapter 28.1 of the Greensboro Code of Ordinances shall be deemed to be embodied in this Franchise, and the express terms of said Chapter 28.1 shall prevail over conflicting or inconsistent provisions of this Franchise, unless this Franchise specifically and expressly modifies the terms of the Chapter 28.1. This Franchise Agreement shall prevail over any conflicting or inconsistent provisions of the Appendices attached hereto.

## **VI. Definitions.**

All definitions set forth by City Telecommunications Ordinance pertain to this Franchise and shall be relevant to the purposes and meaning of this Franchise.

## **VII. Service area.**

- (a) *Service area.* The service area of the Franchisee shall be as specified in **Appendix A**, attached hereto and incorporated by reference. The service area may be extended upon the approval of the City. Such approval to extend the service area shall not be unreasonably withheld.

## **VIII. System and capacity.**

- (a) *System.* Franchisee's system will generally consist of fiber optic cabling and associated equipment, attached to existing utility poles or run through underground conduit. Franchisee's system may also include equipment (including antenna, radio equipment, battery backup and other necessary appurtenances), with the approval of the City through its permitting process, on new poles or structures placed by Franchisee. The system shall be constructed in accordance with industry-standard specifications, including the National Electric Safety Code. The system shall be constructed in accordance with the specifications in **Appendix B**, attached hereto and incorporated by reference.

- (b) *Construction oversight.* Franchisee shall provide necessary supervision to construct the system in a workmanlike manner as specified in **Appendix C**, attached hereto and incorporated by reference. Franchisee shall provide contact numbers for supervisors of construction to the City.
- (c) *Compliance with applicable law.* In constructing, operating and maintaining the system, Franchisee shall at all times comply with ordinance and all applicable laws and regulations.
- (d) *Drops.* Franchisee shall construct all customer drops to meet the standards of the National Electric Code.
- (e) *Equipment quality.* Equipment used for the telecommunications system shall be of good and durable quality and be serviced and repaired on a regular basis and shall at all times be of equal or better quality than the equipment and/or specifications listed in **Appendix D**, attached hereto and incorporated by reference.
- (f) *Technical standards.* The telecommunications system permitted to be operated hereunder shall be installed and operated in conformance with the ordinance, this franchise, and Federal and State rules and regulations.
- (g) *Employee identification.* Franchisee shall provide a standard identification document to all employees, including employees of subcontractors, who will be in contact with the public. Such documents shall include a telephone number that can be used to verify identification. In addition, Franchisee shall use its best efforts to clearly identify all field personnel, vehicles, and other major equipment that are operating under the authority of Franchisee.
- (h) *Underground Drops.* The cost for replacing aerial drops with underground placement will be determined by the location of the utility drops. If the customer is served underground for power, there will be no charge for the replacement. If the customer has imminent plans to change the placement of the power drop, the cable drop will be replaced at no charge upon completion. There will *be* a time and material charge assessed only if underground replacement is requested though power is served aurally.

## **IX. Construction..**

- (a) *Construction manual.* Franchisee shall construct the telecommunications system in accordance with industry-standard practices.
- (b) *Underground construction.* Franchisee shall participate in and use The North Carolina 811 One-Call Center. In City designated urban areas where open trench construction methods are utilized, warning tapes shall be installed in

newly constructed areas directly above pipe and conduit at a depth of 6 inches below finished grade unless otherwise indicated. Where directional boring installations are utilized, a tracer wire or other acceptable industry means must be applied to permit location of the newly installed facility. Types and locations of all underground markers must be in accordance with current City policies and construction standards. All new manholes and handholes, and existing handholes and manholes that involve new work must have all lines in the holes labeled with the company's identification as well as all manhole and handhole tops. Temporary underground drops shall be buried within one month of installation.

(c) *Erection, Maintenance and Repairs.* All lines overhead and underground, and poles used by the said company shall be erected in accordance with current City policies and construction standards. All highways, roads, streets, sidewalks, avenues, lanes, alleys, bridges, and other public places that may be disturbed or damaged in the construction or maintenance of said lines, poles, and appurtenances shall be repaired or replaced, within 48 hours, unless a written variance is granted. All repairs shall be by the said company at their own expense, in accordance with applicable City construction standards and policies. All poles, overhead and underground installations and appurtenances shall be substantial and located as not to interfere with the public use and maintenance of the said highways, roads, streets, sidewalks, avenues, lanes, alleys, bridges, and other public places, or to endanger the property or citizens of the City. All overhead lines must be tagged at each pole tie with a City approved tag for purposes of line identification as observed from the ground below. The tag must be manufactured to withstand the elements of weathering and ultraviolet ray deterioration.

(d) *Relocation of Lines and Appurtenances.* At the direction of the City, the company will at its own expense, move and relocate any of its lines, or other property or structures as necessary for the construction, widening, relocating, extending, or otherwise improving of streets, public ways, and utilities of the City as located within or outside the City limits, upon which the said property is located. The time line for relocates must be in accordance with reasonable City directives.

(e) *City Conduit Placement.* Franchisee expressly agrees that it will allow the City to have its own conduit and/or fiber placed in the Franchisee's trench, bore, or overhead. Prior to construction permitting, Franchisee shall coordinate its construction plans with Utility Coordination. Franchisee shall provide the labor and material to perform the work for the City at Franchisee's cost, and not for a profit.

In lieu of Franchise Fees paid to the City by Franchisee (see Article XII below), Franchisee will provide conduit and/or fiber as mutually agreed by the parties, the specific terms and conditions described in and attached to this



Agreement as Attachment E. The parties agree that any conduit or fiber provided by the Franchisee to the City shall be for the City's or other local affiliated government entities' exclusive use only, expressly excluding other third party competitive telecommunications service providers. For avoidance of doubt, the conduit or fiber provided by the Franchisee shall not be made available for resale, lease, or use by the City to any third party engaged in the sale or lease of competitive telecommunications services, as determined by Franchisee in its discretion.

#### **X. Franchise renewal.**

This Franchise may be renewed by the City in accordance with Federal law and the Telecommunications Ordinance.

#### **XI. Police powers.**

In accepting this Franchise, Franchisee acknowledges that its rights hereunder are subject to the police powers of the City to adopt and enforce general ordinances necessary to the safety and welfare of the public and it agrees to comply with all applicable general laws and ordinances enacted by the City pursuant to such power, as provided by ordinance.

#### **XII. Franchise fee and performance bond.**

(a) *Franchise fee payments.* The city reserves the right to charge an annual franchise fee for the use of the rights-of-way for a telecommunications system. The current rate of the annual franchise fee is zero dollars and zero cents (\$0.00) per linear foot of public right-of-way per year for the system during the period of its operation under the Franchise, such fee being subject to amendment by an ordinance of general applicability. In the event an ordinance shall increase the fee from zero dollars and zero cents (\$0.00), the increased fee shall be calculated on an annual pro-rated basis and shall be paid to the City within thirty (30) days of the effective date of the ordinance. Each payment shall be accompanied by a brief report showing the basis for recomputation and such other relevant facts as may be required by the City and such report shall be certified as true by a financial officer of the Franchisee.

(b) *Bonds.* Franchisee shall furnish a performance bond to City of \$50,000 starting on the effective date of this Franchise and for the life of the Franchise, to guarantee the faithful performance of all the Franchisee's obligations under the Franchise and the Telecommunications Ordinance.

### **XIII. Regulation.**

- (a) *Authority.* The City shall exercise appropriate regulatory authority under the provisions of the Telecommunications Ordinance and this Franchise. Regulation may be exercised through any duly designated City office or duly established Board or Commission or other body of the City.
- (b) *Waiver.* Franchisee, by accepting the rights hereby granted, agrees that it will perform and keep all acts and obligations imposed, represented or promised by the provisions of this Franchise and the Telecommunications Ordinance.

### **XIV. Remedies.**

- (a) *Schedule of liquidated damages.* Because Franchisee's failure to comply with material provisions of this Franchise and Telecommunications Ordinance will result in injury to the City, and because it will be difficult to estimate the extent of such injury, the City and Franchisee hereby agree that the liquidated damages and penalties stated below represent both parties' best estimate of the damages resulting from the specified injury.
- (b) *Violations.* For the violation of any of the following, the City shall notify Franchisee in writing of the violation. The City shall provide Franchisee with a detailed written notice of any franchise violation upon which it proposes to take action, and a ninety (90) day period within which Franchisee may demonstrate that a violation does not exist or to cure an alleged violation or, if the violation cannot be corrected in 90 days, to submit a plan satisfactory to the City to correct the violation. If an alleged violation is proven to exist, and no cure or action on a plan acceptable to the City has been received by the City within ninety (90) days, such liquidated damages shall be chargeable to the performance bond as set forth in the Telecommunications Ordinance if not tendered by Franchisee within thirty (30) days. Franchisee may petition the City Council for relief with just cause. The imposition of liquidated damages shall not preclude the City from exercising the other enforcement provisions of Telecommunications Ordinance, including revocation, or other statutory or judicially imposed penalties. For violation of material provisions of this Franchise or the Telecommunications Ordinance, liquidated damages may be imposed of up to \$500/day for each day the violation continues.
- (c) *Force majeure.* In the event that Franchisee shall be delayed or hindered in or prevented from the performance of any act required hereunder by reason of unusually severe weather, Acts of God, strikes, lock-outs, labor troubles, inability to procure materials, failure of power, riots, insurrection, war or other reason of a like nature not the fault of Franchisee or delayed in performing work or doing acts required under the terms of this agreement, then performance of such act shall be excused for the period of the delay and the

period for the performance of any act shall be extended for a period equivalent to the period of such delay.

#### **XV. Cooperation.**

The parties recognize that it is within their mutual best interests for the telecommunications system to be operated as efficiently as possible in accordance with the requirements set forth in this Franchise. To achieve this, parties agree to cooperate with each other in accordance with the terms and provisions of this Franchise. Should either party believe that the other is not acting timely or reasonably within the confines of applicable regulations and procedures in responding to a request for action, that party shall notify the appropriate person or agents.

#### **XVI. Waiver.**

The failure of the City at any time to require performance by Franchisee of any provision hereof shall in no way affect the right of the City hereafter to enforce the same. Nor shall the waiver by the City of any breach of any provision hereof be taken to be a waiver of any succeeding breach of such provision, or as a waiver of the provision itself.

#### **XVII. Cumulative provision.**

The rights and remedies reserved to the City by this Franchise are cumulative and shall be in addition to and not in derogation of any other rights or remedies which the City may have with respect to the subject matter of this Franchise, and a waiver thereof at any time shall have no effect on the enforcement of such rights or remedies at a future time.

#### **XVIII. Captions.**

Captions to sections throughout this Franchise are solely to facilitate the reading and reference to the sections and provisions of the Franchise. Such captions shall not affect the meaning or interpretation of the Franchise.

**XIX. No joint venture.**

Nothing herein shall be deemed to create a joint venture or principal-agent relationship between the parties, and neither party is authorized to, nor shall either party act toward third persons or the public, in any manner which would indicate any such relationship with the other.

**XXI. Entire agreement.**

This Agreement and all attachments hereto, and Telecommunications Ordinance and all attachments thereto, as incorporated herein, represent the entire understanding and agreement between the parties hereto with respect to the subject matter hereof, supersede all prior oral negotiations between the parties, and can be amended, supplemented, modified, or changed only by a written document executed by the parties.

**XXII. Severability.**

If any section, subsection, sentence, clause, phrase, or portion of this Agreement is, for any reason, held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions of this Agreement, except as provided for in the Telecommunications Ordinance.

E-Verify - The Vendor certifies that it currently complies with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes, and that at all times during the term of this Agreement, it will continue to comply with these requirements. The Vendor also certifies that it will require that all of its subcontractors that perform any work pursuant to this Agreement to comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes. Violation of this section shall be deemed a material breach of this Agreement.

Iran Divestment Act Certification - As of the date of this Agreement, the Vendor certifies that it is not listed on the Final Divestment List created by the State Treasurer pursuant to N.C.G.S. 147-86.58 and that the Vendor will not utilize any subcontractor found on the State Treasurer's Final Divestment List. All individuals signing this Agreement on behalf of the Vendor certify that they are authorized by the Vendor to make this certification.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the day and year first above written.

ATTEST:

CITY OF GREENSBORO  
NORTH CAROLINA

\_\_\_\_\_  
City Clerk

\_\_\_\_\_  
Mayor

\_\_\_\_\_  
Information & Technology

\_\_\_\_\_  
Assistant City Manager

(This instrument has been preaudited in the manner  
Required by the Local Government Budget  
and Fiscal Control Act.)

Approved as to form and legality.

\_\_\_\_\_  
Finance Officer

\_\_\_\_\_  
Associate City Attorney

**South Carolina Telecommunications Group Holdings, LLC  
d/b/a Spirit Communications**

Witness

Amanda A. Bolck

Michael D. Baldwin

Michael D. Baldwin  
Vice President  
Business & Legal Affairs



## APPENDIX A

### SERVICE AREA

The Service Area is defined as the area within the borders of the City of Greensboro, North Carolina. Specific construction locations proposed at the time of execution of this Agreement are listed below.

Utilis Project Number	Task Name	Feet	Miles
	<b>Spirit Communications</b>		
	<b>U37007 - GBO-WS Expansion Project</b>		
	<b>Phase 1 - Greensboro MTSO - 26 Sites</b>		
	Backhaul		
U37007-P1-B1	GBO Metro North	57458	10.88
U37007-P1-B2	GBO Metro Southwest	34153	6.47
U37007-P1-B3	GBO Metro Southeast	26693	5.06
U37007-P1-B4	GBO Metro East	16273	3.08
U37007-P1-B5	GBO Metro West	41069	7.78
	Fronthaul		
	CRAN 158002 - Greensboro MTSO - 26		
U37007-P1-F1	NA Guilford College (Alltel)	8224	1.56
U37007-P1-F2	NA Four Seasons Sellars Ave (Alltel Rev)	1936	0.37
U37007-P1-F3	NA Coliseum GNBO	1817	0.34
U37007-P1-F4	NA Eugene (Alltel)	1607	0.30
U37007-P1-F5	NA Creek Ridge (Alltel)	1701	0.32
U37007-P1-F6	NA Apache St (Alltel)	17752	3.36
U37007-P1-F7	NA Downtown Greensboro	0	0.00
U37007-P1-F8	NA Dartmouth	301	0.06
U37007-P1-F9	NA GBO Coliseum (Alltel)	1226	0.23
U37007-P1-F10	NA Hampton Rd	0	0.00
U37007-P1-F11	NA Benjamin Parkway	0	0.00
U37007-P1-F12	NA Buffalo Lake Church St	9264	1.75
U37007-P1-F13	NA Apartment Complex	0	0.00
U37007-P1-F14	NA Siler Street	1059	0.20
U37007-P1-F15	NA Wildwood Carolinas	2711	0.51
U37007-P1-F16	NA Rotherwood (Alltel Rev)	3709	0.70
U37007-P1-F17	NA UNCG Church	1470	0.28
U37007-P1-F18	NA Gatewood	5312	1.01

U37007-P1-F19	NA Caldwell Park DBSI Property	10200	1.93
U37007-P1-F20	NA Greensboro West	831	0.16
U37007-P1-F21	NA Sandy Ridge (Alltel)	321	0.06
U37007-P1-F22	NA Guilford Airport Reloc. (Alltel Rev)	0	0.00
U37007-P1-F23	NA Thatcher	7454	1.41
U37007-P1-F24	NA Eugene Street - CRAN Hub - 508 Arlington St (Pending Approval)	0	0.00
U37007-P1-F25	NA Mary St	0	0.00
U37007-P1-F26	NA Greensboro South - CRAN Hub	0	0.00
U37007-P1-F27	GBO Tate Street Connector	1061	0.20
U37007-P1-F28	GBO Whittington Street Connector	1219	0.23
U37007-P2-B1	GBO-WS Metro Connector	12816	2.43
<b>Total Route Distance</b>		<b>267637</b>	<b>50.69</b>
		<b>Feet</b>	<b>Miles</b>

**APPENDIX B**

**SPIRIT COMMUNICATIONS**  
**SYSTEM CONSTRUCTION SPECIFICATIONS**

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## 1 GENERAL

### 1.1 DESCRIPTION

These specifications establish the performance criteria and requirements for the installation of an underground / aerial system and pathways for the fiber optic cable network owned by South Carolina Telecommunications Group Holdings, LLC d/b/a Spirit Communications and its corporate affiliates (Owner.) Work may include connections to facilities or existing networks, backbone segments, and lateral installations, throughout this Appendix B.

### 1.2 INTENT

These specifications and the drawings provided in the contract documents are intended to be complementary and anything listed in these specifications but not shown on the drawings shall be of like effect as if shown and mentioned in both. In the event of conflict between any drawings and these specifications, the specification shall control and prevail. Dimensions shown on drawings shall take precedence over scaled dimensions.

### 1.3 CODES, REGULATIONS, AND STANDARDS

- 1.3.1 The Contractor shall notify Owner of any apparent conflict between this Attachment and any other documents contained within this agreement (the "Contract Documents.")
- 1.3.2 The Contractor shall follow the latest edition of all codes, regulations, standards, and similar documents mentioned herein and all applicable local, state, or federal regulations without deviation except where modified herein. In case of conflict between Specifications and said codes, regulations, etc. the most stringent requirements shall prevail.
- 1.3.3 The aforementioned laws, ordinances, rules and regulations are hereby incorporated and become part of the Contract Documents as though they were written herein.

### 1.4 PERFORMANCE OF WORK

- 1.4.1 All Work shall be done in a workmanlike manner in accordance with Owner Plans, Specifications and Construction Drawings, subject to acceptance by Owner.
- 1.4.2 Contractor shall provide at all times, security for all material and equipment from vandalism and theft.
- 1.4.3 Contractor shall not deviate from, Specifications or Construction Drawings except upon written permission of Owner. Change Orders will be initiated for all changes involving schedule or cost.
- 1.4.4 All unit prices include the cost of seed, mulch, hay, hydromulch, sod, water, gravel, soil, sand, backfill / asphalt, riprap, and all other materials required by Owner or any governmental authority for site restoration. All disturbed areas shall be restored to equal or better than original condition.
- 1.4.5 The Contractor shall be responsible for all repairs to and restoration of private and/or public property damaged during construction.
- 1.4.6 The Contractor will place Owner buried cable marker warning tape above all buried and underground plant installed by trenching or plowing methods, eighteen to twenty four inches (18-24") above the conduit unless other requirements are dictated by Owner or Right-of-Way (ROW) owner.
- 1.4.7 The Contractor shall provide and place barricades, with flashing lights, around open pits and trenches. Contractor shall use barricade fence, not Owner marker tape, to fence off the excavation area.

- 1.4.8 The Contractor shall be responsible for researching local environmental conditions. No modification to unit prices will be permitted because of geology or geography or conditions discoverable prior to commencement of work.
- 1.4.9 The Contractor shall be responsible for backfilling with clean fill material, tamping, and compacting all work excavations to Owner or the ROW owner specification.
- 1.4.10 All measurements will be taken with an Owner-approved measuring device.
- 1.4.11 All equipment and labor needed to perform each work activity will be provided by the Contractor. It is the Contractor's responsibility to provide the type of equipment that is best suited for a given construction activity.
- 1.4.12 The Contractor shall place, and be compensated for, all buried plant with the specified minimum cover. Additional cover will be permitted, but will be at the Contractor's expense, unless directed by Owner and supported by a change order.
- 1.4.13 All right of way clearing is included in buried, underground, and aerial plant placement.
- 1.4.14 The Contractor will be responsible for satisfying all Owner, railroad, and local permitting agency requirements and laws with regard to construction, fences, culverts, flagmen, clean-up and other safety measures. Any and all required traffic control will also be the Contractor's responsibility. Removal of water from any flooded bores, handholes, pot holes, or pull boxes during construction shall be the responsibility of the Contractor.
- 1.4.15 If private land is used by the Contractor for construction facilities or other purposes, the Contractor shall make all necessary arrangements with the owner and shall pay all rentals or other costs connected therewith.
- 1.5 LOCAL CONDITIONS
  - 1.5.1 The Contractor shall make his own investigation of the condition of available public or private roads and of clearances, restrictions, bridge and road limits, bond requirements, and other limitations that affect or may affect transportation and ingress and egress at the job sites. The unavailability of transportation facilities or limitations thereof shall not become a basis for change orders, claims for damages or extension of time for completion of Work. It shall be the Contractor's responsibility to construct and maintain, at his own expense and at his own risk, any haul roads, access roads, bridges, or drainage structures required for construction operations.
  - 1.5.2 Roads are available for the Contractor's use subject to existing restrictions. The Contractor shall meet all conditions properly imposed on the use of roads by those having jurisdiction, including, without limitation seasonal or other limitations or restrictions, the payment of excess size and weight fees, and the posting of bonds conditioned on repair of road damage caused by the Contractor.
  - 1.5.3 The hauling of sand, gravel, earth materials, or other intra-job hauling, over public highways, roads or bridges shall be in compliance with the applicable local regulations and shall be such as to minimize interference with or congestion of local traffic. Where haul routes cross public highways or roads, the Contractor shall provide barricades, flagmen, and other necessary precautions for the safety of the public as provided.
  - 1.5.4 The Contractor shall be deemed to have visited the site of work and carried out any investigation necessary to ensure complete familiarity with all conditions that may affect the work.
- 1.6 SUBMITTALS
  - 1.6.1 The Contractor shall submit a construction schedule detailing all construction milestones and a schedule of

work. Owner must provide approval of Contractor schedule prior to the start of any Work.

- 1.6.2 The Contractor shall prepare and submit all reports, test results, or documents required by this specification to Owner within three (3) days after testing, unless specified otherwise in this specification or by Owner. At a minimum the following shall be submitted:

1.6.2.1 All field notes, computations and other records for the installation of the conduit, fiber and related infrastructure.

1.6.2.2 All certified results.

1.6.2.3 All safety reports.

1.6.2.4 As-built drawings.

## 1.7 PERMITS

- 1.7.1 Owner shall secure all permits required to install the fiber system. Owner will provide one (1) copy of all permits to the Contractor for its records. All permits are required to be available at the subject work place at all times.
- 1.7.2 Contractor shall submit to Owner prior to the start of construction, documentation, and evidence of notification of all utility owners with utilities or facilities crossing or adjacent to the network route. The records shall include date, time of day, name of individual contacted, name of company contacted, telephone number, and confirmation number.
- 1.7.3 Contractor shall obtain and pay for all work permits required by governmental AHJ and other permits required for Contractor's construction operations including but not limited to contractor's licenses, construction bonds, transportation, equipment, labor, and other general permits.

## 1.8 QUALITY

- 1.8.1 All care, custody, and control of the Work are the responsibility of the Contractor until the Acceptance Date.
- 1.8.2 The Contractor shall use an adequate number of skilled workmen who are trained and experienced in the specific crafts and who are completely familiar with specified requirements and the methods needed for proper performance according to the Contract Documents.
- 1.8.3 The Contractor shall impose quality requirements of the Contract Documents to all subcontractors.
- 1.8.4 Inspection and Acceptance Requirements
- 1.8.5 All work shall be subject to the inspection and approval by Owner or AHJ. The Contractor shall schedule and provide adequate notifications to comply with any and all requirements for inspection.
- 1.8.6 Owner shall inspect workmanship and progress of work being performed. Contractor shall repair, correct, or replace any work found to be deficient. No additional compensation will be allowed for the correction of deficient work.
- 1.8.7 Upon completion of Work, Contractor shall notify Owner of such completion. Owner, ROW owner, and Contractor shall jointly perform an inspection of the Work. Owner will, during this inspection; prepare a punch list of observed Work that requires corrective measures. The Contractor shall then correct all deficiencies within fifteen (15) days. Final Acceptance will be granted after all punch list items are corrected to the satisfaction of Owner and ROW owner, and in accordance with the procedures provided in the Contract Documents.

- 1.8.8 Owner may have a representative in the work area any time Work is being performed.

## 2.0 MATERIALS

### 2.1 CONTRACTOR SUPPLIED MATERIAL

Unless otherwise noted, Contractor will supply all materials required to complete the Work.

2.1.1 Owner shall approve all Contractor supplied material. All material shall meet or exceed the specifications of the most stringent governing authority.

2.1.2 All Contractor supplied material will be new and of a type and size approved by Owner. The Contractor shall be responsible for maintaining adequate supplies of all materials.

### 2.2 MATERIAL STORAGE

All material to be used in construction of the project (i.e. Owner and Contractor supplied) shall be stored by the Contractor so as to be protected from deteriorating effects of the elements.

### 2.3 MATERIAL TRANSPORTATION

Transportation of equipment, material and labor to the work site from the Contractor's storage site is the responsibility of the Contractor. All unit prices include the cost of transportation.

## 3.0 EXECUTION

### 3.1 GENERAL

The Contractor shall be responsible for supplying all labor, supervision, subcontractors, equipment, transportation, licenses, taxes, safety supplies, consumable supplies, and all materials not furnished by Owner as well as all other incidental items and costs required to complete the project in accordance with the Contract Documents. The Contractor shall follow all the latest applicable standards and procedures published by the South Carolina Department of Transportation (SCDOT) when working on SCDOT Rights of Ways.

### 3.2 TRAFFIC DELINEATION

3.2.1 Contractor shall conform to the most stringent traffic control requirements as applicable and required by the local governing authority. Contractor shall not undertake any Work that obstructs traffic without an approved traffic control plan. Owner and/or ROW owner must submit written approval to Contractor prior to Contractor commencing Work.

3.2.2 All Work shall be planned to keep traffic obstructions, public inconvenience, and lost working time to a minimum. The Contractor shall consider existing traffic conditions, traffic lane requirements, visibility restrictions, access problems to private property, business access and activities, and any pedestrian or bicycle traffic.

3.2.3 Contractor shall coordinate with appropriate jurisdictional authority and law enforcement personnel when traffic control is required.

3.2.4 If a Contractor is required to submit a traffic plan to the governing authority, the plan shall indicate type and location of traffic control devices including signs, flashing lights, delineators, and cones in relation to the work area. This plan shall also be submitted to Owner.

3.2.5 All temporary traffic lanes shall be a minimum of ten feet (10') in width unless otherwise authorized. Temporary traffic lanes shall have a minimum of five feet (5') of clearance from open excavations and a minimum of two feet (2') from vertical obstructions such as curbs and concrete barriers unless approved by local AHJ.

3.2.6 Warning signs used for construction or temporary situations shall be black wording on orange background unless otherwise directed by the governing authority. Advance warning signs shall be located on the right hand side of traffic lanes or as approved in the traffic control plan. Signs not required or no longer in use shall be covered or removed.

- 3.2.7 All signs and delineators shall be adequately reflectorized or illuminated to convey their message during darkness.
  - 3.2.8 Flaggers shall be required where workers or equipment intermittently block a traffic lane, where plans or permits allow the use of one lane for two directions of traffic, or where the safety of the public and/or workers determines a specific need.
  - 3.2.9 Advance warning signs shall be required when steel plates are used in travel ways for open excavation coverings.
- 3.3 RIGHT-OF-WAY EASEMENTS AND PERMITS
- 3.3.1 The Owner shall obtain all the necessary governmental and ROW owner's approvals to complete the project in accordance with the Contract Documents.
  - 3.3.2 Contractor shall store all equipment, tools, material, etc. so as not to inhibit traffic flow or parking during working or non-working hours. ROW owner assumes no liability for Contractor's equipment or materials. The Contractor shall comply with the security requirements of the ROW owners or other AHJ.
- 3.4 UTILITY CROSSINGS AND INTERFACES
- 3.4.1 Prior to excavation, Contractor shall obtain a dig ticket by calling the appropriate Call Before You Dig (CBUD) or One Call number seventy-two (72) hours in advance of the start of construction or as required by local jurisdiction. Contractor shall obtain and maintain the CBUD/One Call program during the construction. Utility owners not participating in the CBUD programs shall be notified seventy-two (72) hours in advance of the start of construction or as required by location jurisdiction. The records shall include date, time of day, name of individual contacted, name of company contacted, telephone number and confirmation number. These records shall be submitted to Owner if requested.
  - 3.4.2 The Contractor shall meet with an authorized representative responsible for the relevant utilities to resolve any depth or construction line conflicts prior to start of construction. Owner must be notified of this meeting and may be present.
  - 3.4.3 Utilities shown on the construction drawings are located per the best available information. All drawings are generally diagrammatic and not all utilities are included on them. The Contractor is responsible for locating all utilities whether on the plans or not. Contractor assumes liability for any damage to other facilities.
  - 3.4.4 Where existing utilities are present, the Contractor will be responsible for exposing the existing utilities by pot holing (hand digging) prior to working in the area. Contractor will take every precaution to avoid damage to any underground facility. In the event that the Contractor damages an existing utility, the utility owner and Owner must be notified immediately. If damage poses a public life safety risk, the local AHJ must be notified immediately by calling 911.
  - 3.4.5 Contractor shall repair all utility pot holing dig-ins to original or better than original condition. Contractor shall provide written documentation from governing jurisdiction that all pot holing dig-ins have been corrected. Owner will not make final payment until Owner receives all written documentation from Contractor.
- 3.5 SURVEYING AND STAKING
- Surveys will only be conducted if required by the governing authority. The Contractor will be responsible for the layout of the fiber optic route per the Contract Drawings. Contractor shall perform necessary field surveys for the installation of bored pipe, for the proper grading and alignment of the trench and bending of conduit, and for other such conduit installations except for such field survey work as specified by Owner.
- 3.6 CLEARING AND GRADING
- Contractor shall remove and dispose of trees and or brush within the path of the route as required by the Contract Drawings. All Clearing shall conform to the laws, rules and regulations of all AHJ of the ROW.
- 3.7 TRENCHING AND PLOWING
- 3.7.1 The Contractor has the option to install the Conduit using trenching, plowing, or boring methods following the Conduit alignment shown on the Contract Drawings. The Contractor can excavate

- by trenching machine, backhoe, hand, etc.
- 3.7.2 All changes in trench grade shall be gradual. The vertical change in grade shall not exceed one foot (1') in three foot (3') in length (1:3) unless approved by Owner.
- 3.7.3 All open trenches shall be backfilled at the end of each working day, unless approved by Owner. Any open trench not back filled shall be covered per Section 3.9 - EXCAVATIONS or per the requirements of the local jurisdiction.
- 3.7.4 Trenching also includes the work required for shoring, bracing, dewatering, cable vault entrances, tie ins, and all other operations required to complete the installation.
- 3.7.5 Driveways, lanes, or roadways, which are open cut, shall be opened just prior to the conduit placing. In no case shall the driveway, lane, or roadway be left impassable at the end of the day.
- 3.7.6 When trenching in rock, the trench shall be as straight as practical following the staked line. The bottom of the trench shall be smooth and free from any sharp edges. The trench shall be kept clear of debris and loose rock. All changes in trench grade shall be gradual. Where solid rock is encountered, the minimum trench width shall be twice the width of the outside diameter of the conduit or 6 inches, whichever is greater.
- 3.7.7 Warning tape will be placed 12" above the conduit whenever trenching is performed.
- 3.8 **BORING**
  - 3.8.1 The conduit shall be directionally bored across all paved roads, driveways, parking lots, and other paved surfaces unless an alternate installation process is approved by the Owner. The Contractor shall perform all boring in accordance to the SCDOT.
  - 3.8.2 The Contractor shall not discharge or drain excess material into storm or sanitary systems. No discharge or site runoff will be allowed unless the Contractor obtains written permission from the appropriate governing authority.
  - 3.8.3 Contractor shall submit all boring logs and profiles to Owner within 72 hours after completion of the work. Owner must receive all data before making payment to Contractor for completed Work.
  - 3.8.4 The Contractor will be responsible for all unsuccessful bore attempts. All unsuccessful bore attempts will be filled with concrete if required by the ROW owner.
- 3.9 **EXCAVATIONS**
  - 3.9.1 All costs associated with loading, hauling, and disposing of excess and/or unsuitable material shall be at the Contractor's expense.
  - 3.9.2 All open excavations not properly restored by the end of the working day shall be covered with steel plating, designed to support all traffic loading. Where a drive or roadway must be left open for traffic, the movement of traffic must be accommodated. The steel plates shall be placed in a manner approved by jurisdictional AHJ.
  - 3.9.3 If necessary the trench shall be adequately shored to support the bridging and traffic.
  - 3.9.4 Steel plating used to cover open excavations shall be a minimum thickness of one inch (1") for spans (width of trench) up to three feet (3') and one and one-quarter inch (1-1/4") for spans up to four feet (4'). A registered civil engineer shall design spans greater than four feet (4'). Steel cover plating shall extend a minimum of twelve inches (12") beyond the edges of the trench and be supported by soils of sufficient stability. Steel plates shall be securely spiked in the corners, shimmed to prevent rocking, and cold patched a minimum of four inches (4") around the edges. Multiple plates shall be tack welded at the edges.
  - 3.9.5 The Contractor shall provide and install traffic warning signs, barricades, or other physical barriers around the open excavation to prevent construction personnel and equipment, the general public and animals from falling into the excavation. Additional safety precautions may be required as advised by Owner or agencies having jurisdiction.
  - 3.9.6 **TOXIC OR CONTAMINATED SOILS**

When toxic or hazardous materials are encountered in the performance of Work, all Work in that area shall be halted, the area secured, and Owner shall be notified immediately. Contractor shall not proceed with Work until written notification is received from Owner.

Contractor shall be responsible for any and all costs for the removal and corrective measures associated with contamination caused by the Contractor's fault or through their negligence. Work shall not proceed until written authorization is received from Owner. Cleanup of the

contaminated area shall be to the satisfaction of Owner and the local governing authority. Any loss of time due to Contractor negligence shall be the responsibility of the Contractor and no additional compensation shall be considered.

3.9.7 ARTIFACTS AND HISTORICAL DISCOVERIES

When artifacts or items of historical significance are encountered in the performance of work, all work in the affected area shall be halted, the area secured and Owner notified. Contractor shall not proceed with Work until written notification is received from Owner.

3.9.8 HIGH WATER TABLES

In areas where the ground water table is above the planned installed fiber optic network system the Contractor will submit a water control plan to Owner for review and approval. Contractor shall receive no additional compensation for dewatering operations.

3.10 UNLOADING, HAULING AND STRINGING

The Contractor shall perform all work necessary for hauling and stringing material, including loading, hauling, and unloading pipe along the right-of-way. The Contractor shall lay out material to be installed to maximize production and minimize the interference with surrounding public activity. The Contractor shall lay out only enough material to be installed in a twelve (12) hour period. The Contractor shall use good construction practices in the installation operations to minimize the impact on travel routes and public activity.

3.11 CONDUIT

3.11.1 INSTALLATION

3.11.1.1 The conduit shall be placed with a minimum cover of forty two inches (42") generally, forty eight inches (48") for ditches, and sixty inches (60") for waterways; unless a different minimum cover is required per the Contract Drawings, i.e., under railroads and State Highways.

3.11.1.2 Cover over conduit is defined as the distance from the crown of the conduit to finished grade elevation.

3.11.1.3 Contractor may place conduit at shallower depths only if specified on the Contract Drawings or through approval by Owner.

3.11.1.4 Contractor shall place conduit at deeper depths when indicated on the Contract Drawings or as directed by Owner or the local jurisdiction.

3.11.1.5 Contractor shall install Owner provided duct plugs immediately upon completion of conduit placement. Duct plugs shall be removed and replaced as required to ensure the integrity of the conduit.

3.11.2 BEND RADIUS

The maximum bend radius on all conduits shall be no greater than twenty (20) times the outside diameter of the conduit.

3.11.3 PROOFING CONDUIT

3.12.3.1 Upon the completion of the conduit installation, Contractor shall be required to proof each conduit to verify continuity and integrity of the conduit system. All conduits must be proofed after backfilling, but prior to paving.

3.12.3.2 Proofing shall be accomplished by pulling a solid aluminum or steel mandrel or by blowing a duct projectile. The outside diameter of the mandrel or duct projectile shall be a minimum of eighty percent (80%) of the inside diameter of the conduit and four inches (4") long. Owner shall approve the mandrel or duct projectile prior to proofing.

3.12.3.3 Conduit that is proofed without the advanced knowledge of Owner shall be considered incomplete. Failure to obtain written approval and/or observation will result in the Contractor being required to reproof the conduit. An Owner representative shall be present during all proofing activities.

#### 3.11.4 ATTACHMENT TO BRIDGES

- 3.11.4.1 Contractor shall install bridge attachments as indicated on Contract Drawings or as directed by Owner. Contractor shall supply all attachment hardware for Work. Owner or governing authority shall approve all attachment hardware.
- 3.11.4.2 Drilling steel bridge structures is not allowed. The attachment to concrete bridge structures will be accomplished through the use of epoxy anchor bolts in drilled holes or as specified by the governing authority. The use of driven or explosive set anchors will not be permitted.
- 3.11.4.3 If rebar is encountered during drilling concrete structures, the rebar will not be cut. The Contractor will abandon and refill the hole, and redrill in another location. Concrete repair shall conform to industry standards.
- 3.11.4.4 Unless otherwise indicated on construction drawings, exposed conduit shall be supported at intervals of ten feet (10') or less. Approved expansion joints will be installed at all bridge structure joints and in no case will exceed one hundred linear foot (100LF) intervals or manufacturers recommendation. All supports, support spacing, expansion joints, and expansion joint spacing shall meet or exceed the specifications of the governing authority.
- 3.11.4.5 Unless otherwise indicated on construction drawings, Attachment to steel bridges will be accomplished by the use of approved galvanized beam clamps and hangers or as specified by the governing authority. All attachments shall not degrade the integrity of the structure in any way. All bridge support hardware shall be hot dipped galvanized or ASTM 304 stainless steel. Contractor shall not attach the conduit to the bridge fascia and the conduit shall not be the lowest point on the underside of the bridge.

#### 3.12 BACKFILLING

- 3.12.1 The Contractor shall exercise extreme caution when back filling all excavations so that fiber optic cable conduits are not disturbed or damaged. All excavations shall be backfilled with clean fill material and compacted to a density equal to or greater than the density of adjacent undisturbed soil or as required by Owner or the ROW owner. Dirt clods or rocks having any length greater than four inches (4") shall not be used as backfill material. Skids, wood, trees, brush, rope, wire, cable, innerduct, organic material or any other debris shall not be used as backfill material.
- 3.12.2 The backfilling of handholes, manholes, and assist point excavations shall begin as soon as possible. Large excavated material greater than four inches in any length that will cause voids in the backfill will not be allowed.
- 3.12.3 Work areas subject to vehicle traffic and designated by Owner shall be compacted to 95 percent of maximum density in a maximum of six inch (6") lifts or to the minimum compacted density required by the governing authority having jurisdiction over the right of way and adjacent areas. The backfill will be compacted to the most stringent requirements.
- 3.12.4 If required to satisfy backfill compaction requirements, select backfill maybe required. Select backfill is defined as clean sand, engineered fill, a low strength concrete slurry (compressive strength greater than 750 psi) or other Owner approved materials. All the cost associated with furnishing and installing select backfill material shall be at the Contractor's expense.
- 3.12.5 If Owner does not concur with the Contractor's backfilling methods, a geotechnical consultant will be asked to verify that all compacted backfill meets or exceeds the density of the original soil. Should the Contractor's backfill be found to be deficient, the Contractor will pay for the geotechnical services and perform the work correctly. If the backfill is found to be satisfactory Owner will pay for geotechnical services.
- 3.12.6 The Contractor shall bed all conduit(s) with bedding material at least four inches (4") in any direction off the face of the conduit surface. The bedding material shall be well graded and have a maximum particle in size of three-quarters of an inch (3/4").

#### 3.13 HANDHOLES AND MANHOLES

Unless otherwise specified within this Attachment:

- 3.13.1 Handholes and manholes shall be installed by Contractor at Owner designated locations.
- 3.13.2 The design loading for the manholes shall be capable of supporting H-20 loading, per the American Association of State Highway and Transportation Officials ("AASHTO").



- 3.13.3 Excavation of holes for handholes and manholes shall be kept to a minimum, but shall be large enough to insure adequate access and work space. The excavation shall be graded level at the proper Contractor calculated elevation to the handhole or manhole relationship to the conduit grade, ground cover or surface elevation requirements as designated on the drawings.
  - 3.13.4 Handholes and manholes shall be bedded with a well-graded aggregate with a minimum size of one-half inch (1/2") to a maximum particle size of one and one-quarter inch (1-1/4"). The minimum thickness of bedding shall be six inches (6") for manholes, four inches (4") for handholes. The aggregate shall be free of all organic material. Other bedding aggregates may be allowed with Owner approval.
  - 3.13.5 The Contractor, at his own expense, shall make any modifications needed to the handhole or manhole to allow it to accommodate the entrance pipe or conduit segments. The modifications required shall be field determined and must be approved by Owner. Modifications are to be minimized to maintain the structural integrity of the handhole or manhole.
  - 3.13.6 Installations of handholes or manholes shall include all grouting, installation of extension ladders, required extension rings, and all related work for the complete installation of the manhole or handhole. Work shall include all items required for an installation either stated or implied by the Contract Documents.
- 3.14 FIBER OPTIC CABLE INSTALLATION
- 3.14.1 FIBER OPTIC CABLE INSTALLATION IN MANHOLE/HANDHOLES
    - 3.14.1.1 In handholes, unless otherwise specified in the Service Order, typically one hundred feet (100ft) of slack will be stored. All cable will neatly coiled in the bottom of the structure.
    - 3.14.1.2 In manholes, the cable shall be neatly coiled and hung on a manhole L bracket. Tie wraps shall not be used on the slack coil. The coil will be anchored on one side of the manhole.
    - 3.14.1.3 In handholes and manholes, cable tags will be attached to accurately identify the cable. Cable tags shall be weatherproof and securely attached. All conduits entering the structure shall be sealed, including the conduits with cable.
    - 3.14.1.4 All fiber optic cable coils shall be installed to allow for free movement should a dig in occur. Tie wraps or tape shall not be used.
    - 3.14.1.5 In splice boxes (reel ends), unless otherwise specified in the Service Order, one hundred feet (100ft) of cable will be coiled to accommodate splicing operations.
  - 3.14.2 FIBER OPTIC CABLE ACCEPTANCE AND TESTING
    - 3.14.2.1 The Contractor shall test all fiber optic cable prior to installation. Contractor's acceptance of fiber optic cable indicates to Owner that fiber optic cable provided by the manufacturer meets specifications and is free from defects. The Contractor is responsible for the protection and integrity of the cable until the Acceptance Date. The cost for the fiber optic cable testing shall be included in the unit cost to install the fiber optic cable.
    - 3.14.2.2 The Contractor shall perform splicing and testing per Section 4, Fiber Splicing and Testing.
  - 3.14.3 FIBER OPTIC CABLE INSTALLATION IN CONDUIT
    - 3.14.3.1 The Contractor has the option of installing the fiber optic cable (FOC) using either the pneumatic or pulling method.
    - 3.14.3.2 Pneumatic Method - Contractor shall, prior to any FOC installation provide Owner with manufacturer specifications, operation and safety instructions for the specific blowing equipment that will be used.
    - 3.14.3.3 Pneumatic Method - Contractor shall, prior to any FOC installation meet on-site with Owner or Owner's representative to review method of operation, cable crash test set-up and safety procedures.
    - 3.14.3.4 Pneumatic Method - Contractor shall only use blowing equipment equipped with anti-slip, traction control safe guard to prevent FOC damage.
    - 3.14.3.5 Pulling Method - The Contractor shall use a three-eighths inch (3/8") diameter "Slickline" fiber optic cable pull rope to pull the fiber optic cable into the conduit. Assist winches shall be installed at handhole and assist points as necessary. The assist pulling winches shall be hydraulic power operated with the fiber optic rope and/or the fiber optic cable being wrapped around the winch pulling wheel a minimum of four (4) complete revolutions. The

- assist pulling winches shall be set for a maximum pull force of six hundred pounds (600lbs) and shall be coordinated to pull simultaneously in continuous pulling operation.
- 3.14.3.6 Pulling Method - The fiber optic cable pull rope shall be adequately attached to the fiber optic cable using an Owner approved pulling end, Kellems Grip connector and a six hundred pound (600lb) breakaway swivel. The pulling force from the "Slickline" rope to fiber optic cable shall be transferred directly to the central strength member of the fiber optic cable. This assembly shall be wrapped with Scotch No. 33 black electrician's tape or equivalent to reduce the pulling friction of the pulling rope and fiber optic cable connection. Lubricant shall be used as needed to minimize pulling friction and avoid cable damage.
  - 3.14.3.7 Pulling Method - The fiber optic cable shall be protected at the pipe/conduit entry point at the handhole or manhole location and assist points. The reel of fiber optic cable shall be aligned and pulled parallel and directly into the conduit at one handhole or manhole location. The fiber optic cable pull rope shall then be pulled from the other handhole or manhole location site by a powered pulling winch and by hydraulic powered assist pulling wheels with a thirty inch (30") minimum diameter at assist pulling locations. The pulling force at handhole or manhole and assist pulling locations shall not exceed six hundred pounds (600 lbs.). The intent of the restricted pulling force (600 lbs.) and the numerous assist-pulling points is to provide a fiber optic cable in a protected environment (pipe/conduit) with the least amount of post installation tension as practical. The hydraulic powered assist pulling wheels shall be set to not exceed six hundred pounds (600 lbs.) of pulling force. The tension force of the pulls at the handhole or manhole locations shall be recorded by a continuous recording dynamometer/tensionmeter. The tensionmeter graphs shall be clearly identified as to the section pulled and signed by the Contractor and approved by Owner. Any damage to the cable during the pulling operation shall be the responsibility of the Contractor if incurred due the Contractor's negligence.
  - 3.14.3.8 Pulling Method - If the pulling force required to pull the fiber reaches the maximum allowable pulling force, the pulling winch must be stopped. The distance to the fiber pull rope attachment to fiber optic cable(s) from the pulling point location shall be determined and located by Contractor at the Contractor's expense. An assist point shall be installed at the pull rope/fiber optic cable attachment point. The assist point shall be excavated and a conduit section removed and reinstalled. The pipe/conduit ends shall be hand filed to remove the inside sharp edges. Pipe ends are to be continuously protected from the entry of foreign matter. The pulling process can restart with the fiber optic cable being pulled with assist pulling from the assist point. Owner will not reimburse the Contractor for assist point operations. The Contractor will be responsible for all cost incurred for assist point pulling operations.
  - 3.14.3.9 Pneumatic and/or Pulling Method - Contractor shall be responsible for any and all costs for removal and replacement associated with a damaged FOC caused by the Contractor's improper use of equipment, mishandling or through their negligence.

### 3.15 PAVEMENT REPAIR, REMOVAL, AND RESTORATION

- 3.15.1 Where concrete and/or asphalt work is to be removed, saw concrete and/or asphalt along straight lines to a depth of not less than two inches (2"). Make each cut perpendicular to the face and in alignment with the cut in the opposite face. The remainder of the concrete and/or asphalt shall be broken out, provided the broken area is concealed in the finished work, and the original integrity of the remaining surrounding structure is maintained. At locations where the broken face cannot be concealed, it shall be ground smooth or the saw cut shall be made entirely through the concrete or asphalt.
- 3.15.2 Replacement of street and alley surfaces shall be done in such a manner that shall not degrade existing improvements, and shall cause a minimum inconvenience to the users of the facility. Repairs are to be made as rapidly as practical and consistent with high quality workmanship and materials.  
Pavement replacement shall match existing paving in type of pavement, appearance, wearing surface, surface elevation and durability to the maximum extent possible. Pavement replacement material shall be equal to or better than surrounding structures. The finished surface shall be of

- the same material, quality, and elevation to provide a smooth transition area.
- 3.15.3 When replacement material is concrete, the concrete shall have a minimum twenty eight day (28 day) compressive strength of three thousand pounds per square inch (3,000psi) and have a slump between two and five inches. The air content shall be four percent (4%) by volume.
- 3.15.4 Pavement repair shall be subject to approval by Owner and shall conform to the requirements of the governing authority having jurisdiction. Pavement repair not installed in accordance with the requirements of these Specifications or the requirements of the state or local jurisdiction shall be removed and replaced at the Contractor's expense.
- 3.15.5 When curb, curb with gutter, sidewalks and driveways are to be removed or crossed, the pavement will be removed and replaced to the nearest tooled or cold joint.
- 3.15.6 During construction in sidewalk areas, the Contractor shall make necessary provisions for the safe passage of pedestrians per reasonable means and per local authority requirements.
- 3.16 **CABLE MARKERS**
- 3.16.1 Unless otherwise noted on the construction drawings within Attachment D, Contractor shall place markers, consisting of posts with signs or on grade markers at the following locations:
- A. Maximum distance between markers of five hundred feet (500').
  - B. Whenever the last marker cannot be seen (line of sight).
  - C. Whenever a change in running line occurs.
  - D. At every splice location.
  - E. One side of each bore and bridge attachment.
  - F. At every manhole/handhole.
- 3.16.2 Exceptions to this may occur in urban areas, where upon Owner approval, marker posts may not be required. If jurisdiction does not allow above grade marker posts they will not be required, and an on grade marker will be used.
- 3.16.3 Contractor shall bury the marker post end a minimum of twenty-four inches (24") deep below grade.
- 3.16.4 The Contractor shall install the cable marker posts at a one-foot (1') offset from the running line where possible. Any offset from the running line shall be permanently noted on the space provided on the cable marker sign. Markers are typically set facing perpendicular to the cable running line.
- 3.17 **EROSION CONTROL**
- 3.17.1 Contractor will make every effort not to cause or aggravate an erosion situation when performing construction, repairs and maintenance.
- 3.17.2 Contractor will work with ROW owner to prevent or correct excessive erosion on all land disturbed by construction by implementing reasonable methods of erosion control. Contractor shall comply with all soil conservation practices. If the ROW owner and Contractor cannot agree upon a reasonable method to control erosion on the property, the Contractor will follow the recommendations of the appropriate county Soil and Water Conservation District.
- 3.18 **WASTE DISPOSAL AND CLEANUP**
- 3.18.1 Contractor shall maintain a clean and hazard free work area including daily removal of all spoils, unused or unacceptable excavation materials, and refuse. Contractor shall sweep and clean all affected work areas, sidewalks, and streets in accordance with Federal, State, County, City, and local laws, regulations and standards.
- 3.18.2 Waste materials removed from the construction areas shall be dumped at an approved dumpsite. It shall be the responsibility of the Contractor to make any necessary arrangements with private parties and with county officials pertinent to locations and regulations of such dumping.
- 3.18.3 Contractor shall remove all installation debris including construction spoils and remaining installation materials from any public and private properties. Debris would also include litter generated by the construction crews. The Contractor is responsible for the proper disposal of all soil, concrete, asphalt, or other debris. Pavement shall be removed per Contract Drawings.
- 3.18.4 The Contractor must secure and use an environmentally approved disposal site for disposal of debris and refuse.

- 3.19 WORK AREA RESTORATION
  - 3.19.1 Contractor shall restore all work areas to a condition equal to the original or better than the original condition within forty-eight (48) hours after disturbance. Owner must approve additional restoration intervals.
  - 3.19.2 The Contractor shall restore, reseed and replant all areas disturbed by construction activities per the requirements of the governing authority. No additional compensation will be allowed for this work. All costs for this work shall be included in other related unit prices.
- 3.20 SPECIAL INSTALLATIONS
  - 3.20.1 RAILROAD CROSSINGS
    - 3.20.1.1 Contractor shall cross all railroads according to the policies and procedures set forth by the railroad owner and/or governing authority.
  - 3.20.2 WATER WAY AND WETLAND CROSSINGS
    - 3.20.2.1 Where the conduit crosses gullies, ditches, streams, rivers, washes, and other waterways, the conduit will be place at a minimum depth of ten feet (10') below the bottom of the waterway unless the controlling authority requires additional depth. Where the conduit crosses navigable waterways, the conduit shall be placed at a minimum of twenty- five feet (25') below the bottom of the waterway. The most stringent requirement will govern.
    - 3.20.2.2 Contractor shall comply with all Federal, State, County, and Local laws, rules, regulations and Owner obtained permits when crossing lakes, canals, streams, or river crossings.
- 3.21 AERIAL CABLE INSTALLATIONS IF APPLICABLE
  - 3.21.1 GENERAL
    - 3.21.1.1 Contractor shall install aerial cables in compliance with the requirements detailed in Section 23 of the National Electric Safety Code ("NESC") and the policies and procedures set forth by the pole owners. This shall include, but not be limited to, the requirements specified by the pole owners for minimum clearance from streets, driveways, the ground, electric cables, communications cables, messenger cables, street lights, and other fixtures attached to the poles.
    - 3.21.1.2 All aerial fiber cables will include a support strand or will be properly lashed to a strength member. The installation will be according to all manufacturers' recommended specifications and procedures for the installation of the type of aerial cable quoted by the vendor.
    - 3.21.1.3 Contractor shall use pole attachment hardware and roller guides with safety clips to install aerial run cable.
    - 3.21.1.4 Contractor shall maintain tension during the pulling process for the aerial cable by using a mechanical clutch (dynamometer) device. Contractor shall not allow the cable to contact the ground or other obstructions between poles during installation. Contractor shall not use a motorized vehicle to generate cable pulling forces.
    - 3.21.1.5 Contractor shall use a cable suspension clamp when attaching cable tangent to a pole. Contractor shall select and place cable blocks and corner blocks so as not to exceed the cable's minimum bending radius and shall not pull the cable across J-hooks.
    - 3.21.1.6 Messenger strand (if applicable) and cables shall be placed on the road side of the pole except for cases where other communication cables are placed on the opposite side of the pole from the street and where otherwise specified by the pole owner.
    - 3.21.1.7 At poles where underground to aerial transitions are made, U-guards shall be attached to the poles to protect the cable over the entire vertical distance covered by the cable.
    - 3.21.1.8 Contractor shall store 120 feet of slack fiber optic cable overhead on all cable runs that are continuous without splices and are greater than 2,500 feet and as shown on the plans. Contractor shall obtain approval for spare cable storage locations. Contractor shall store spare fiber optic cable on fiber optic cable storage racks (snow shoes). Spare cable shall be stored in the middle of spans between termination points and not over the roadway or driveways.

- 3.21.1.9 Contractor shall install one fiber optic cable identification marker within 36 inches of pole attachment points and at locations where more than one cable originates or terminates.
- 3.21.1.10 If aerial splices are specified in the scope of work, watertight aerial splice enclosures shall be placed within 3 feet of a pole. Drip loops shall be formed at the cable entrance to the enclosure. Lashing clamps shall be placed within 12 inches of the enclosure.
- 3.21.2 MESSENGER STRAND SUPPORTED INSTALLATION
  - 3.21.2.1 Messenger strand will be used to support cables when self-supporting cables are not used.
  - 3.21.2.2 Contractor shall provide and install the appropriate S guy bolts, B beam clamps, wall straps, brackets, etc., as necessary to adequately support the strand.
  - 3.21.2.3 Messenger tension due to combined ice and wind loading on the messenger with supported cables shall not exceed 60 percent of the messenger's rated breaking strength. Messenger tension due to extreme wind loading on the messenger with supported cables shall not exceed 80 percent of the messenger rated breaking strength. Messenger support and attachment hardware shall have rated strength not less than the messenger rated breaking strength. All messenger support and attachment hardware and appurtenances shall be sized to exceed the rated breaking strength of the messenger cable. Messenger cables shall be galvanized zinc coated steel or aluminum clad steel.
  - 3.21.2.4 All cables shall be properly lashed to cable supports and shall have spacers to separate cables and suspension strand at lashing points. Contractor shall double lash fiber-optic cable to messenger cable with a minimum of one 360 degree spiral per foot and not less than the number of turns per unit length that is recommended by the cable manufacturer for the distance between cable support points and the combined ice and wind loading and extreme wind loading shown or normally encountered loading for the installed location. Lashing clamps shall be placed at all poles and splices.
  - 3.21.2.5 Electrical continuity of messenger cable shall be maintained at all poles. The messenger cables shall be grounded at dead ends, at the entrance to each facility, and at intervals not exceeding 1000 feet. Where grounding connections are made in the vicinity of existing grounding conductors and electrodes, the grounding connection may be made by a bolted or welded connection to the existing grounding conductor.
  - 3.21.2.6 Ground conductors shall be soft drawn copper, having a current capacity of at least 20 percent of that of the messenger to which it is connected. Ground conductors shall not be smaller than No. 6 AWG. The ground conductor shall be connected to a copper or copper clad steel ground rod not less than 3/4 inch in diameter, and length shall be as needed to achieve the specified ground resistance. After installation is completed, the top of the ground rod shall be approximately 1 foot below finished grade. The ground conductor shall be protected by half-round wood, plastic, or fiber molding from the ground to a point at least 8 feet above the ground.
  - 3.21.2.7 Armored cable shall be grounded along the route at any point where the cable jacket is opened and the armor is exposed (e.g., at splice enclosures and fiber termination panels).
- 3.21.3 ALL DIELECTRIC SELF SUPPORTING ("ADSS") CABLE INSTALLATIONS
  - 3.21.3.1 When ADSS cables are specified by Owner, Contractor shall use proper stringing tension for strand to minimize high-tension bowing and creeping and low tension sagging.
- 3.21.4 UTILITY POLES
  - 3.21.4.1 Pre-existing pole lines must be capable of supporting the proposed cables. To determine the adequacy of an existing pole line, the Contractor shall inspect all poles for loading capabilities. Verification should include an inspection of the following: physical integrity of poles (e.g., poles bent or split), presence of guys or anchors, existence of a ground system, clearance from other utilities, specifications of pole (height, class, age, and composition), and ownership and joint use issues.
  - 3.21.4.2 If new poles are required, Contractor shall install poles of the proper class to support the necessary pole loading as set forth in NESC-242-2 as Grade B, C, or N. All poles shall be of the same class, regardless of length and timber species, and must be able to withstand the same horizontal load applied 60 cm (2 ft.) from the top of the pole. New poles shall be

designed to meet all loading requirements including transverse storm loading, vertical loading and bending moments due to eccentric loads.

- 3.21.4.3 Contractor shall provide anchors and guys as field conditions require. Dead end and corners in pole line shall be properly guyed to support the cable or wire facility. All exposed guy wires shall be properly grounded and insulated.

#### 4 FIBER SPLICING AND TESTING

##### 4.1 FIBER AND CONNECTOR STANDARDS

###### 4.1.1 CONNECTOR STANDARDS

Contractor shall use connectors with a UPC polish. The loss value of any pigtail connector and any associated fiber jumper or pigtail with matching mode field diameters will not exceed 0.5dB at 1550 nm. The loss value of a connector and its associated jumper with mismatched mode field diameters should not exceed 0.8 dB.

###### 4.1.2 FIELD SPLICE STANDARDS

All splices shall be single fiber strand fusion splices. Contractor shall not ribbonize loose tube fibers for ease of splicing. The objective for each splice is an averaged loss value of 0.1 dB or less when measured bi-directionally with an OTDR at 1550 nm. In the event of damage and subsequent restoration of the Fibers, commercially reasonable efforts will be made to restore the Fibers to this standard. If after 3 restoration splicing attempts, Contractor is not able to produce a loss value of 0.1 dB or less bi-directionally at 1550 nm, then 0.5 dB or less bi-directionally at 1550 nm will be acceptable. Fibers not meeting the 0.1 dB or less specification will be identified as Out Of Specification (OOS). Documentation of the three attempts (reburns) to bring the OOS fiber within specification will be provided.

###### 4.1.3 SPAN LOSS

It is Contractor's responsibility to insure proper continuity of all fibers at the fiber level, not just the pigtail level. Any "frogs" or fibers that cross in the route will be remedied by Contractor. The attenuation as measured by a light source and power meter shall not exceed the following:

Maximum Attenuation per Fiber Span =  $(A * L) + (0.1 * N) + (0.5 * C)$

$A \leq 0.3$  dB per kilometer (at 1550 nm)

L = Optical length of cable measured in kilometers (from OTDR trace)

N = Number of splices in the span

C = Number of mated connector pairs in the span. The connector loss will not exceed 0.5dB per mated pair.

###### 4.1.4 REFLECTANCE

The maximum reflectance per event, as measured by an OTDR, shall not exceed -40dB.

##### 4.2 NAMING OF TRACES

OTDR traces taken for bi-directional testing must be recorded and provided to Owner.

OTDR traces launch location shall be at a Spirit POP (TBD).

OTDR traces shall be taken at 1550 nm.

OTDR trace 8-character file name plus 3-character file extension name should follow this example:

Letters 1, 2, 3, 4, 5 = Bay /RR

Letters 6 = Panel / FDP

Letters 7, 8 = Jack / Port

Extension 9, 10, 11 = Fiber

Examples: 109131A1.001

RR 109.13 / FDP 1 / Port A1 / Fiber 001

➤➤NOTE: ALL HEADER INFORMATION ON OTDR TRACE MUST BE COMPLETED.

#### 4.3 TEST PACKAGES

Contractor shall provide a package containing the following test data for each fiber. All data provided should be provided to Owner in digital format.

- 4.3.1 Bi-directional OTDR span traces taken at 1550 nm.
- 4.3.2 An Excel spreadsheet containing the bi-directional power meter and light source data taken at 1550 nm. Should also include the average for each fiber.
- 4.3.3 A document identifying splice points with OOS test results. Should also include documentation supporting the three reburn attempts.

## APPENDIX C

### CONSTRUCTION OVERSIGHT

Spirit Communications has retained Utilis Engineering, PA of Charlotte to handle engineering, permitting, construction supervision & production tracking, and post-construction matters for the project. The primary Utilis contact for the project is:

Matt Ward | Utilis Engineering, PA  
EVP, Operations  
2033 Cross Beam Drive Charlotte, NC 28217  
Office: 704-751-1792  
[mward@utilisdesign.com](mailto:mward@utilisdesign.com) | [www.utilisdesign.com](http://www.utilisdesign.com)

The primary in-house contact for Spirit Communications on this project is:

Joey Adams  
Division Manager – OSP Engineering  
Spirit Communications  
1500 Hampton Street  
Columbia, SC 29201  
Office: 803-726-8319  
[Joey.adams@spiritcom.com](mailto:Joey.adams@spiritcom.com)



## APPENDIX D

### MATERIAL SPECIFICATIONS

#### 1. Fiber Cable

Single Mode, 1310 nm/1550 nm, Zero Water Peak ITU-T G.652.D, Single Jacket (MDPE) / Single Corrugated Steel Armor (SJSA), Dry Block, Loose Tube, Twelve (12) Fiber Buffer Group (2.5mm), utilizing Reverse Oscillating Lay (ROL) of the buffer tubes. FOC must meet or exceed RUS (formally REA), Telcordia, TIA, ICEA, ITU, IEC, ASTM and IEEE standards for OSP Fiber Optic Cable in underground applications. FOC markings shall include manufacture's name, month and year manufactured, sequential length markings in feet at two (2) foot intervals, telephone handset symbol per NESC Section 350G and all markings are indented permanent white characters.

Buffer Tube Color Code must be in accordance with Munsell standards as specified in TIA-359 and TIA-598.

#### 2. Conduit, Inner Duct, Couplers, Plugs, Enclosures, Trays, Handholes, Strand and/or all Miscellaneous Materials

##### Conduit -

- Unless otherwise specified, Solid Wall High Density PE (HDPE) Conduit based on Controlled O.D.

All conduit shall be circular and of uniform cross section to the dimensions in accordance with ASTM D3035 and F2160. Conduit shall be a continuous length of smooth wall with a low friction internal surface containing no melds or joints, coiled on a reel. Conduit markings shall include ASTM, SDR designation, diameter and size.

- 1.25" HDPE SDR 11, OD-1.660 / ID-1.338 / Wall-.151, Blue-Orange-Green
- 4.0" HDPE SDR 11, OD-4.5 / ID-3.633 / Wall-.409, Orange (RR Crossings)

##### Coupler -

- 1.25" Duraline push on part (1-908355)
- 4.0" used for RR crossing only, coupling not permitted

##### Duct Plugs -

- Expandable Compression Style (Carlon, Simplex)

##### Splice Enclosures / Trays -

- TE Connectivity – 450 B 1-48 count, TE Trays
- TE Connectivity – 450 D 49-288 count, TE Trays

##### Handholes - Unless otherwise specified:

- Handholes, box and cover are required to conform to all test provisions of ANSI/SCTE 77 "Specifications for Underground Enclosure Integrity" for Tier 15 application. In no assembly can the cover design load exceed the design load of the box. All components in an assembly (box & cover) are manufactured using matched surface tooling. Cover embossing shall include "Tier 15" and should include the name "Spirit Communications", time permitting.

- Quazite - PG3048BA36 Open Bottom Box (30x48x36), Tier 15 - 22,500/33,750

- Quazite - PG3048HA00 Heavy Duty Cover (30x48x36)
- Gravel - .75" Grade, minimum of 6" base
- 5/8" x 8' Ground Rod, in each HH (shall meet or exceed ANSI/UL 467-1984)
- 5/8" Bronze Ground Rod Clamp Hex-Head, at test station locations only (shall meet or exceed UL and RUS standards for underground applications)

Messenger Strand – Unless otherwise specified:

- Diameter: 1/4" EHS Grade

Miscellaneous Materials -

- PM303 Route Marker Post
- PM303TS Route Marker Post (Test Station)
- Tri-View Test Stations – TBD
- 6 AWG Solid Insulated Copper Wire – Test Stations / Routes
- 6 AWG Solid Copper Wire – Test Stations / Ground
- Asphalt, Concrete, Pavers, Gravel, Crush-N-Run, Backfill, etc. (type, grade, strength and placement shall meet or exceed AHJ requirements)
- ROW Remediation Materials - Seed, Straw, Plants, Landscape, Sprinkler Systems, etc. (shall meet or exceed AHJ requirements)
- All other miscellaneous materials, not listed above required to complete the Service Order "Scope of Work" and restore the ROW back to its original condition

## APPENDIX E DARK FIBER LICENSE

This Dark Fiber License Agreement (License Agreement) is entered into by and between The City of Greensboro, North Carolina ("City") and South Carolina Telecommunications Group Holdings, LLC d/b/a Spirit Communications ("Franchisee").

WHEREAS, Franchisee has or intends to install, construct, operate and maintain an optical fiber communication transmission system on utility poles or within conduit systems (collectively, "Franchisee's Fiber System") consisting of one or more strands of optical fiber with the limits of the City; and

WHEREAS, the City has determined that it is in the best interest of the City and its residents to grant a franchise to FRANCHISEE; and

WHEREAS, City desires to license certain specific strands of such optical fiber along specific routes; and

WHEREAS, Franchisee agrees to grant such license subject to the terms and conditions set forth in this License Agreement and in the Franchise Agreement as defined herein.

NOW, THEREFORE, the parties agree as follows:

### 1. DEFINITIONS

As used in this License Agreement:

1.1 "Authorized Use" means that any conduit or fiber provided by the Franchisee to the City shall be for the City's or other local affiliated government entities' exclusive use only, expressly excluding other third party competitive telecommunications service providers. For avoidance of doubt, the conduit or fiber provided by the Franchisee shall not be made available for resale, lease, or use by the City to any third party engaged in the sale or lease of competitive telecommunications services, as determined by Franchisee in its discretion.

1.2 "City's Fiber Optic Facilities" or "City Fiber" means specific Strands, as designated by Franchisee, of Dark Fiber of the Fiber Optic Facilities identified as being licensed to the City by this License Agreement.

1.3 "Demarcation Point" means a boundary point at the splice points or patch points at each end of the fiber. The fiber from Franchisee is where a cable from Franchisee's Fiber system is joined to the City Fiber. The side of the Demarcation Point on which the Fiber System is located is Franchisee's side of the Demarcation Point. The other side is City side of the Demarcation Point.

1.4 "Dark Fiber" means one or more fiber optic strands subject to this License Agreement through which an associated light, signal or light communication transmission must be provided to furnish service.

1.5 "Fiber Optic Facilities" means a certain fiber optic cable composed of one or more strands of single mode optical fibers, which cable is owned by Franchisee and installed along a defined route.

1.6 "Franchise Agreement" means that certain Franchise Agreement to be entered into contemporaneously with this License Agreement between City and Franchisee, and to which this Dark Fiber License as Appendix E.

1.7 "Hazardous Substances" include any substance the presence of which requires investigation or remediation under any federal, state or local statute, regulation, ordinance, order, action, policy or common law or any substance which is or becomes defined as "Hazardous Waste," "Hazardous Substance," pollutants, toxic substances, compounds, elements, or chemicals pursuant to the Comprehensive Environmental Response Act (42 U.S.C. § 651 et seq.), as amended, or any other federal, state or local environmental cleanup laws. Hazardous Substances also include asbestos, lead paint, Polychlorinated Biphenyls ("PCBs") and radon gas.

1.8 "Hazardous Discharge" means any releasing, spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, disposing, or dumping of Hazardous Substances from, in, or onto Franchisee's Fiber System.

1.9 "Route" means a delineated segment of the Franchisee's Fiber System containing City's Fiber Optic Facilities and defined by addendum to include physical end points, distance, and fiber count.

1.10 "Service Affecting Outage" means any interruption or reduction in transmission capacity or quality of the Fiber Optic Facilities or underlying rights that adversely affects City's ability to operate and use the City's Fiber Optic Facilities so long as such interruption or reduction in capacity is not caused by City's equipment or is not due to City's acts or omissions not permitted by this License Agreement.

1.11 "Strands" means individual fiber optic strands within the Fiber Optic Facilities.

1.12 "Taxes" means all sales, use, gross receipts, excise, access, bypass and other local, state and federal taxes, charges, and fees imposed on the provision, lease, or license, of City's Fiber Optic Facilities and required by law to be collected from City, and excluding any taxes assessed upon the net income or imposed upon the capital or assets of Franchisee.

2. GRANT OF LICENSE. Franchisee grants to City and City accepts from Franchisee an exclusive and indefeasible license solely for Authorized Use of City's Fiber Optic Facilities in Franchisee's Fiber System (the "License"), as provided in this License Agreement. City shall have no further right, title or other interest in Franchisee's Fiber System or in City's Fiber Optic Facilities. Franchisee shall have the right to grant and renew rights to any entity to use Franchisee's Fiber System or any other property of Franchisee; provided, however, that during the term of this License Agreement, Franchisee shall have no right to grant and renew any rights to any entity with respect to City's Fiber Optic Facilities.

### 3. WORK

3.1 Franchisee covenants that the segments of the Fiber Optic Facilities along the Route that it constructs pursuant hereto shall be constructed substantially and in all material respects in accordance with standard outside plant specifications. Work shall include the labor and materials.

3.2 Franchisee shall test all City's Fiber Optic Facilities in accordance with Attachment B to the Franchise Agreement to verify that City's Fiber Optic Facilities are installed and operational in accordance with the fiber optic specifications included on Attachment D to the Franchise Agreement. When Franchisee has determined that the results of the testing show that City's Fiber Optic Facilities so tested are installed and operating to the specifications, Franchisee shall promptly notify and provide City with the fiber test results.

3.3 When Franchisee gives notice to City that the City Fiber Optic Facilities are complete, City shall provide Franchisee with notice accepting (or rejecting by specifying the defect or failure in the testing that is the basis for such rejection) City's Fiber Optic Facilities. If City fails to notify Franchisee of its acceptance or rejection of the final test results with respect to City's Fiber Optic Facilities within fifteen (15) days after City's receipt of notice of such test results, City shall be deemed to have accepted City's Fiber Optic Facilities. If, during the course of such construction, installation and testing, any material deviation from

standard specifications is discovered, the construction or installation of the affected portion of the segment shall be repaired to such specification by Franchisee. The date of such notice of acceptance (or deemed acceptance) of all City's Fiber Optic Facilities for the Route shall be the "Acceptance Date" for the Route.

4. LICENSE FEES

4.1 Franchisee shall provide the City's Fiber Optic Facilities to City in lieu of Franchisee paying any Franchise Fees to City under the Franchise Agreement.

4.2 The City, as a political subdivision of the State of North Carolina, is exempt from Taxes as described herein. Should this status change in future, City shall pay to Franchisee all Taxes and all fees owed by Franchisee, if any, to a federal, state or local government entity as a result of entering into this License Agreement and Licensee's license rights contained herein. Such Taxes and fees shall be separately stated on an invoice, if applicable.

4.3 Except as otherwise specifically provided, City shall pay all applicable fees and charges provided for in this License Agreement on or before the due date specified in the invoice.

5. Intentionally omitted.

6. Intentionally omitted.

7. Intentionally omitted.

8. TERM

8.1 This License Agreement shall have the same term as set out in Section III(a) of the Franchise Agreement.

9. MAINTENANCE AND OPERATION

9.1 Franchisee shall be solely responsible to maintain City's Fiber Optic Facilities. City shall cooperate with and assist Franchisee, as reasonably may be required, in performing said maintenance. In the event of a Service Affecting Outage, Franchisee shall begin restoration activities within four (4) hours after Franchisee becomes aware of such Service Affecting Outage and work to restore the Fiber Optic Facilities as soon as possible.

9.2 Notwithstanding anything to the contrary contained herein, City shall solely be responsible, at its own expense, for the construction, installation, operation, maintenance, repair and any other activity engaged by or on behalf of City relating to all light communications transmission equipment and other terminal equipment and facilities required in connection with the use, electronics or signals of City's Fiber Optic Facilities beyond the defined point of demarcation.

9.3 Franchisee shall be responsible for all necessary splicing on the Franchisee's Fiber Optic Facilities. Where Franchisee's Fiber Optic Facilities connect to City's Fiber Optic Facilities, the parties will determine, detail and describe each party's splicing responsibilities. City may request and Franchisee shall grant access to City's Fiber Optic Facilities at additional access/splice points along the Route, provided that (i) such access/splice points are technically feasible in Franchisee's reasonable opinion, (ii) City agrees to pay a reasonable splice fee at the time, (iii) all work is performed by Franchisee as provided in this Section 9.3, and (iv) the agreements governing Franchisee's use and occupancy of the right of way at the access/splice points do not otherwise prohibit such access by parties other than Franchisee.

9.4 Should City perform, authorize, or contract any splices or other work not in accordance with the provisions of this License Agreement (specifically stating Franchisee must do the work), Franchisee may at its option correct said condition. Franchisee shall notify City in writing prior to performing such work whenever practicable. However, when such conditions pose an immediate threat to the physical integrity of Franchisee's facilities, Franchisee may perform such work and take such action that it deems necessary without first giving notice to City. As soon as practicable thereafter, Franchisee shall advise City of the work performed and the action taken and shall endeavor to arrange for re-accommodation of City's Fiber Optic Facilities so affected. City shall promptly reimburse Franchisee for all reasonable costs incurred by Franchisee for all such work, action and re-accommodation performed by Franchisee.

9.5 City shall, at its sole cost and expense, promptly respond to and remediate any Hazardous Discharge to and from Franchisee's Fiber System resulting from City's operations.

9.6 Intentionally omitted.

9.7 City, at its sole cost and expense, shall (i) use City's Fiber Optic Facilities and (ii) conduct all work in or around Franchisee's Fiber System in a safe condition and in a manner reasonably acceptable to Franchisee, so as not to physically, electronically or inductively conflict or interfere or otherwise adversely affect Franchisee's Fiber System or the facilities placed therein by Franchisee, or other authorized users of the Fiber Optic Facilities.

9.8 City must obtain prior written authorization, which such authorization shall not be unreasonably withheld, conditioned or delayed, from Franchisee approving any further work and the party performing such work before City shall perform any work in or around Franchisee's Fiber System.

9.9 In the event City receives information that either the Franchisee or City's Fiber Optic Facilities are damaged, it shall notify Franchisee of said damage by phone at Franchisee's Customer Network Operations Center at 1-888-864-7226. In the event Franchisee receives information that City's Fiber Optic Facilities are damaged, Franchisee will notify City of said damage by phone to Rodney Roberts at 336-412-6158 (office) or 336-327-8900 (cell) or by e-mail [Rodney.roberts@greensboro-nc.gov](mailto:Rodney.roberts@greensboro-nc.gov). In each case, the caller shall provide the following information:

1. Name of entity making report.
2. Location reporting problem.
3. Name of contact person reporting problem.
4. Description of the problem in as much detail as possible.
5. Time and date the problem occurred or began.
6. State whether or not the problem presents a jeopardy situation to Franchisee's or City's Fiber Optic Facilities.

9.10 Franchisee shall designate the particular Strands of Dark Fiber that will constitute City's Fiber Optic Facilities and the location and manner in which they will enter and exit Franchisee's Fiber System. This information shall be contained on Attachment 1 to this License Agreement. A final Attachment 1 will be signed by the parties upon completion of construction.

9.11 If Franchisee moves, replaces or changes the location, alignment or grade of Franchisee's Fiber System ("Relocation"), Franchisee shall concurrently relocate City's Fiber Optic Facilities. If the Relocation is because of an event of Force Majeure or of any governmental or third party authority (including the City's authority), including and taking by right of eminent domain, City shall reimburse

Franchisee for City's proportionate share of the costs of the Relocation of Franchisee's Fiber System. The Franchisee shall provide an estimated cost to City at the earlier possible time. To the extent Franchisee receives reimbursement from a third party which is allocable to a Relocation of Franchisee's Fiber System, it will credit or reimburse City for its proportionate share of the reimbursement. If Franchisee relocates Franchisee's Fiber System solely for its own benefit, City shall not be required to reimburse Franchisee for the costs of the Relocation of Franchisee's Fiber System. City's proportionate share shall be the combined calculation of: (a) a fraction, the numerator of which shall be the number of Strands in City's Fiber Optic Facilities and the denominator of which shall be the total number of Strands in the Franchisee conduit containing the City's Fiber Optic Facilities.

10. OWNERSHIP AND FIBER ACCESS

10.1 City's Fiber Optic Facilities shall at all times remain the sole and exclusive property of Franchisee and legal title shall be held by Franchisee. Neither the provision or the use of City's Fiber Optic Facilities by Franchisee to City hereunder, shall create or vest in City any easement, interest, or any other ownership or property right of any nature in City's Fiber Optic Facilities or Strands, except that Franchisee agrees to City's right to use City's Fiber Optic Facilities for Authorized Use during the term of this License Agreement. City shall not grant any security interest in the City's Fiber Optic Facilities or any part or component thereof.

10.2 Fiber Access.

10.2.1 Access Points. Franchisee will provide a dark fiber hand-off along the fiber route at existing handholes to City in order to extend connection to its customers. City may request additional hand-offs along the route in order to extend connections to its customers. Each request is subject to permit approval by governing authority and depth of infrastructure. City shall pay standard industry rates for splicing and installation of hand holes to connect City owner fiber to City's Fiber Optic facilities.

10.2.2 Access Restrictions. City shall only access the City Fibers from City's side of the Demarcation Points. City may not perform any work, or have work performed on or otherwise physically access or touch, or allow any third party to access or physically touch, the Franchisee Fibers. City may not perform, or allow or contract with any third-party to perform, any repairs or maintenance to any Franchisee Fibers.

11. Intentionally omitted.

12. Intentionally omitted.

13. COMPLIANCE WITH LAWS

Notwithstanding anything to the contrary in this License Agreement, each Party shall ensure that any and all activities it performs pursuant to this License Agreement shall comply with all applicable laws. Without limiting the generality of the foregoing, each Party shall comply with all applicable provisions of i) workmen's compensation laws, ii) unemployment compensation laws, iii) the Federal Social Security Law, iv) the Fair Labor Standards Act, and v) all laws, regulations, rules, guidelines, policies, orders, permits, and approvals of any governmental authority relating to environmental matters and/or occupational safety.

14. DISCLAIMER OF WARRANTIES

EXCEPT AS SPECIFICALLY SET FORTH IN THIS AGREEMENT, FRANCHISEE MAKES NO WARRANTIES REGARDING THE SERVICES OR DELIVERABLES PROVIDED UNDER THIS AGREEMENT AND MAKES NO WARRANTIES EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

15. FRANCHISEE'S SALES OR DISPOSITIONS

Nothing in this License Agreement shall prevent or be construed to prevent Franchisee from selling or otherwise disposing of any portion of Franchisee's Fiber System or other property of Franchisee used for City's Fiber Optic Facilities, provided, however, that in the event of a sale or other disposition, Franchisee shall condition such sale or other disposition subject to the rights of City under this License Agreement. Franchisee shall promptly notify City of the proposed disposition of Franchisee's Fiber System or other property used by City.

16. DEFAULT PROVISIONS AND REMEDIES

16.1 Each of the following shall be deemed an Event of Default by City under this License Agreement:

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

16.1.2 The filing of a tax or mechanic's lien caused by City against Franchisee's Fiber System or other property of Franchisee which is not bonded or discharged within thirty (30) days of the date City receives notice that such lien is filed;

16.1.3 An event of City's bankruptcy;

16.1.4 If City knowingly uses City's Fiber Optic Facilities in violation of any law or in aid of any unlawful act or undertaking;

16.1.5 If City occupies any portion of Franchisee's Fiber System without having first been issued a license therefore; or

16.1.6 If any authorization which lawfully may be required of the City by any governmental or private authority for the operation (including splicing or other activities by City), of City's Fiber Optic Facilities within Franchisee's Fiber System is denied or revoked.

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

16.2.1 Perform, on behalf and at the expense of City, any obligation of City under this License Agreement which City has failed to perform and of which Franchisee shall have given City notice, the cost of which performance by Franchisee shall be payable by City to Franchisee upon demand;

16.2.2 Elect to terminate License Agreement immediately by giving notice of such election to Licensee;



16.2.3 Immediately disconnect and remove City's Fiber Optic Facilities from Franchisee's Fiber System.

16.2.4 Exercise any other legal or equitable right to remedy which it may have.

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

16.3 All rights and remedies of Franchisee set forth in this License 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.

16.4 The following events or occurrences shall constitute a default by Franchisee under this License Agreement:

16.4.1 Any material noncompliance by Franchisee with the terms of this agreement;

16.4.2 Any material breach by Franchisee of a representation or warranty under this License Agreement;

16.4.3 An event of Franchisee's bankruptcy;

City shall give prompt written notice to Franchisee of the occurrence of any default under this License Agreement. If such default continues for seven (7) days after receipt of such notice (provided that if such default cannot be cured within such seven day period, this period will be extended if Franchisee continues to cure such default within such seven (7) day period and proceeds diligently thereafter to effect such cure), City may at its option:

16.4.4 Perform, on behalf and at the expense of Franchisee, any obligation of Franchisee under this License Agreement which Franchisee has failed to perform and of which City shall have given Franchisee notice, the cost of which performance by City shall be payable by Franchisee to City upon demand;

16.4.5 Elect to terminate License Agreement by giving notice of such election to Franchisee;

16.4.6 Exercise any other legal or equitable right to remedy which it may have.

16.5 Any costs and expenses incurred by City (including, without limitation, reasonable attorneys' fees) in enforcing any of its rights or remedies under this License Agreement shall be repaid to City by Franchisee upon demand.

16.6 All rights and remedies of City set forth in this License 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.

## 17. FORCE MAJEURE

Except for payment of the license fee and other amounts, neither party shall have any liability for its delays or its failure to performance due to: fire, explosion, pest damage, power failures, strikes or labor disputes, acts of God, the elements, war, civil disturbances, acts of civil or military authorities or the public enemy, inability to secure raw materials, transportation facilities, fuel or energy shortages, or other causes

beyond its control, whether or not similar to the foregoing. Notwithstanding the foregoing provisions, in the event that the non-performance of the party claiming relief under this Section continues for a period in excess of ninety (90) days, the other party shall have the right to terminate the License Agreement hereunder upon written notice.

18. SUCCESSION, ASSIGNABILITY

18.1 This agreement shall be binding upon and inure to the benefit of the parties hereto and their respective permitted successors or assigns.

18.2 Neither this License Agreement, nor any term or provision hereof, nor any inclusion by reference shall be construed as being for the benefit of any person or entity not a signatory hereto.

19. NOTICES

Any demand, notice or other communication to be given to a party in connection with this License Agreement shall be given in writing and shall be given by personal delivery by registered or certified mail, return receipt requested, commercial overnight delivery service addressed to the recipient as set forth as follows or to such other address or individual as may be designated by notice given by the party to the other:

Franchisee: South Carolina Telecommunications Group Holdings, LLC  
d/b/a Spirit Communications  
1500 Hampton Street, Columbia, SC 29201  
Attention: Michael D. Baldwin, VP – Business & Legal Affairs

With a copy to: South Carolina Telecommunications Group Holdings, LLC  
d/b/a Spirit Communications  
1500 Hampton Street, Columbia, SC 29201  
Attention: Amanda A. Folk, Senior Contract Specialist

City: John Gribble, Franchise Manager  
City of Greensboro, Information Technology Department  
PO Box 3136  
Greensboro, NC 27402-3136

Any demand, notice or other communication given by personal delivery shall be conclusively deemed to have been given on the day of actual delivery thereof and, if given by registered or certified mail return receipt requested on the date of receipt thereof.

20. NON-WAIVER

No course of dealing, course of performance or failure of either party strictly to enforce any term, right or condition of this License Agreement shall be construed as a waiver of any term, right or condition.

21. CHOICE OF LAW/VENUE/JURISDICTION

The construction, interpretation and performance of this License Agreement shall be governed by the law of the State of North Carolina without regard to its conflicts of laws and provisions. The state courts located in Guilford County, Georgia and the federal courts located in Guilford County, North Carolina shall have the exclusive jurisdiction over all matters arising out of or otherwise related to this License Agreement.

22. RELATIONSHIP OF PARTIES

Nothing in the License Agreement, or in the course of dealing between the Parties pursuant to the License Agreement, shall be deemed to create between the Parties (including their respective Affiliates, directors, officers, employees and agents) a partnership, joint venture, association, employment relationship or any other relationship, other than that of independent contractors with respect to each other. Neither Party shall have the authority to commit or legally bind the other Party in any manner whatsoever, including, but not limited to, the acceptance or making of any agreement, representation or warranty.

23. PUBLICITY

No public statements or announcements relating to the License Agreement shall be issued by either party without the prior written consent of the other party, except as governed by North Carolina Public Records Law.

24. HEADINGS

All headings contained in this License Agreement are inserted for convenience only and are not intended to affect the meaning or interpretation of this License Agreement or any clause.

25. CONFIDENTIALITY AND PROPRIETARY INFORMATION

25.1 In connection with this License Agreement, either party may furnish to the other certain information that is marked or otherwise specifically identified as proprietary or confidential ("Confidential Information"). This Confidential Information may include, among other things private easements licenses, utility agreements, permits, other right-of-way granting documents, specifications, designs, plans, drawings, data prototypes, and other technical and/or business information. For purposes of this Section 28, the party that discloses confidential Information is referred to as the "Disclosing Party", and the party that receives Information is referred to as the "Receiving Party".

25.2 When Confidential Information is furnished in tangible form, the Disclosing Party shall mark it as proprietary or confidential. When confidential Information is provided orally, the disclosing Party shall, at the time of disclosure or promptly thereafter, identify the Confidential Information as being proprietary or confidential.

25.3 With respect to Confidential Information disclosed under this License Agreement, the Receiving Party and its employees shall:

- (a) Hold the Confidential Information in confidence, exercising a degree of care not less than the care used by the Receiving Party to protect its own proprietary or confidential information that it does not wish to disclose.
- (b) restrict disclosure of the Confidential Information solely to those of its employees who have a need to know in connection with the performance of this License Agreement, and not disclose the Confidential Information to any other person or entity without the prior written consent of the disclosing Party, provided that Receiving Party may disclose information concerning this License Agreement to (i) its customers, potential buyers or buyers in connection with sales, purchases, licenses, or other use of its services or assets, (ii) its investors, potential investors, lenders, potential lenders, and consultants and advisors, provided such parties have executed nondisclosure agreements;
- (c) Advise those employees of their obligations with respect to the Confidential Information; and

- (d) use the Confidential Information only in connection with the performance of this License Agreement, except as the Disclosing Party may otherwise agree in writing.

25.4 Confidential Information shall be deemed the property of the Disclosing party. Upon written request of the Disclosing Party, the Receiving Party shall return all Confidential Information received in tangible form, except that each party's legal counsel may retain one copy in its files solely to provide a record of such Confidential Information for archival purposes. If the Receiving Party loses or makes an unauthorized disclosure of Confidential Information it shall notify the Disclosing Party and use reasonable efforts to retrieve the Confidential Information.

25.5 The Receiving Party shall have no obligation to preserve the proprietary nature of Confidential Information which:

- (a) Was previously known to the Receiving Party free of any obligation to keep it confidential; or.
- (b) Is or becomes publicly available by means other than unauthorized disclosure; or
- (c) is developed by or on behalf of the Receiving Party independently of any Confidential Information furnished under this License Agreement; or
- (D) is received from a third party whose disclosure does not violate any confidentiality obligation.

25.6 If the Receiving Party is required to disclose the Disclosing Party's Confidential Information by an order or a lawful process of a court or governmental body, the Receiving Party shall promptly notify the disclosing Party, and shall cooperate with the Disclosing Party in seeking reasonable protective arrangements before the Confidential Information is produced.

25.7 Each party agrees that the Disclosing Party would be irreparably injured by a breach of this Section 25 by the Receiving Party or its representatives and that the Disclosing Party may be entitled to equitable relief, including injunctive relief and specified performance, in the event of any breach of the provisions of this Section 25. Such remedies shall not be deemed to be the exclusive remedies for a breach of this Section 25, but shall be in addition to all other remedies available at law or in equity.

## 26. REPRESENTATIONS AND WARRANTIES

Each party represents and warrants that: (i) it has full right and authority to enter into, execute, deliver and perform its obligations under this License Agreement; (ii) this License Agreement constitutes a legal, valid and binding obligation enforceable against such party in accordance with its terms, subject to bankruptcy, insolvency, creditors' rights and general equitable principles; and (iii) its execution of and performance under this License Agreement shall not violate any applicable existing regulations, rules, statutes or court orders of any local, state or federal government agency, court, or body.

## 27. ENTIRE AGREEMENT

The terms and conditions contained in this License Agreement supersede all prior oral or written understandings between the parties and constitute the entire agreement between them concerning the subject matter of this License Agreement. There are no understandings or representations, express or implied, not expressly set forth in this License Agreement. This License Agreement shall not be modified or amended except by a writing signed by the party to be charged.

IN WITNESS WHEREOF, the parties have caused this License Agreement to be signed by their duly authorized representatives.

CITY

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

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

FRANCHISEE

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

Name: Michael D. Baldwin

Title: VP Business & Legal Affairs

Date: 8-23-17



Attachment 1 to License Agreement  
By and between the  
City of Greensboro, North Carolina and  
Spirit Communications

Franchise will provide the following to City

- a. 31 linear miles of dark fiber as show below
- b. 12 dark fibers in a separate buffer tube

City is responsible for all costs associated with placing hand-holes along the Route to access its fibers.

