



Agreement for Construction Services

This Agreement for Construction Services ("Agreement") between **Williamson County, Texas**, a political subdivision of the State of Texas ("Owner" or "County") and **Brymer Communication Services, LLC D/B/A BryComm LLC** ("Contractor") is entered into in accordance with the following terms and conditions:

ARTICLE 1 SCOPE OF WORK: The Owner desires to retain Contractor for the construction of Williamson County Fiber Optic Cabling Expansion Project (Williamson County RFP# 23RFP111) (hereinafter called the "Project"). The Contractor shall have the overall responsibility for and shall provide complete construction services and furnish all materials, equipment, tools and labor as necessary or reasonably inferable to complete the Project, or any phase of the Project, in accordance with the Owner's requirements and the terms of this Agreement (hereinafter collectively referred to as the "Work").

ARTICLE 2 CONTRACT PRICE: Owner agrees to pay to the Contractor, for the satisfactory performance of the Work, the sum of **Eight Million Eighty-One Thousand Eight Hundred Fifty-Seven Dollars (\$8,081,857.00)** in accordance with the terms and conditions of this Agreement.

ARTICLE 3 PLANS AND SPECIFICATIONS: The Work shall be performed pursuant to and in accordance with the plans and specifications attached hereto as **Exhibit "A"**, as well as any revisions made thereto.

ARTICLE 4 CONTRACT TIME:

4.1 Contractor shall commence the Work upon instruction to do so from the Owner and shall achieve Substantial Completion within **Nine Hundred (900) calendar days** from the date the Work is commenced pursuant to the notice to proceed; provided, however, Owner may extend said time period in the event bad weather affects the progress of the Work. Unless otherwise specified in writing, Contractor shall achieve Final Completion within **One Hundred (100) calendar days from Substantial Completion**. Owner shall determine when the Project has been fully and finally completed to its satisfaction. The time set forth for completion of the work is an essential element of the Agreement.

4.1.1 It is known by both parties that extreme weather conditions are unforeseeable and could cause delays to both Substantial Completion and Final Completion. In the event that extreme weather conditions do occur, Contractor shall notify Owner of any extreme

weather delays within ten (10) days and shall retain a running log of all submitted extreme weather delay notices.

- 4.1.2** If the permitting agency states that there will be a change to design ahead of any such segment, Contractor shall quantify a cost impact and submit to Owner within fifteen (15) business days. Owner shall approve and accept such cost impact by written notice within ten (10) business days and subsequently provide approval and additional funds for the change to the segment design. A delay in acceptance by Owner will directly result in a delay to the project schedule. If a delay does occur under these circumstances, Owner shall provide an extension of time to the project schedule by written notice to Contractor within five (5) business days subsequent to the ten (10) business days' notice of acceptance.

4.2 Liquidated Damages.

Contractor acknowledges and recognizes that Owner is entitled to full and beneficial occupancy and use of the completed Work following expiration of the Contract Time and that Owner has entered into, or will enter into, binding agreements upon Contractor's achieving Substantial Completion of the Work within the Contract Time. Contractor further acknowledges and agrees that if Contractor fails to complete substantially or cause the Substantial Completion of any Phase of the Work within the Contract Time, Owner will sustain extensive damages and serious loss as a result of such failure. In the cases of missed scheduled events, which incur exact losses of revenue and exact expenses for fees and other cancellation costs, Contractor shall be responsible for the exact amount of damages sustained by Owner. In other cases, the exact amount of such damages will be extremely difficult to ascertain. Therefore, Owner and Contractor agree as set forth below:

- 4.2.1** Subject to the other terms and conditions herein, if Substantial Completion is not achieved by the date specified above or by such date to which the Contract Time may be extended, the Contract Price shall be reduced by **Five Hundred Dollars (\$500.00) per calendar day** as liquidated damages and not as a penalty, until the date of Substantial Completion. Force majeure shall apply relative to both rain/snow delays (acts of nature) and/or supply delays over which Contractor has no control, and such force majeure delays shall not be subject to such reduction of the Contract Price.
- 4.2.2** Owner may deduct liquidated damages described herein from any unpaid amounts then or thereafter due Contractor under this Agreement. Any liquidated damages not so deducted from any unpaid amounts due Contractor shall be payable by Contractor to Owner at the demand of Owner, together with the interest from the date of the demand at a rate equal to the prime interest rate as published by the Wall Street Journal on the **first (1st) business day** after such amounts are demanded.
- 4.2.3** Notwithstanding anything to the contrary in this Agreement, if Owner is unable to recover any portion of liquidated damages in accordance with the terms and conditions herein because it is found to be unenforceable or invalid as a penalty or otherwise, then, Owner shall be entitled to recover from Contractor all of Owner's actual damages in connection

with the failure by Contractor to achieve Substantial Completion of the Work within the Contract Time, including, without limitation, direct, indirect, or consequential damages.

4.2.4 Notwithstanding any other provision in this Agreement, Contractor shall not be liable for liquidated damages as set forth in Article 4.2, and the Contract Time as set forth in Article 4.1 shall be suitably extended, in the event of delays caused primarily by the Authorities Having Jurisdiction (“AHJ”) in the permit approval process. This exemption applies only if Contractor has promptly responded to all requests and requirements posed by the AHJ.

4.2.4.1 Contractor is required to demonstrate due diligence in its dealings with the AHJ, including timely submission of necessary documents and prompt responses to inquiries or requests for revisions by the AHJ. Contractor shall notify the Owner in writing within ten (10) business days of becoming aware of any potential or actual delay caused by the AHJ, providing details of the delay and anticipated impact on the project schedule.

4.2.4.2 In the event of such a delay, Contractor and the Owner shall engage in good faith negotiations to determine a reasonable extension of the Contract Time, taking into account the duration of the AHJ-caused delay and its impact on the overall project schedule. Such extensions shall be documented in writing and agreed upon by both parties.

4.2.4.3 This exemption shall not apply to delays caused by Contractor’s failure to comply with the requirements of the AHJ, or delays due to Contractor’s negligence or willful misconduct in the permit application process.

ARTICLE 5 PAYMENT:

5.1 Schedule Of Values

Contractor shall submit to the Owner, before the first Application for Payment, a schedule of values allocating the entire Contract Price to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Owner may require. This schedule, unless objected to by the Owner, shall be used as a basis for reviewing the Contractor’s Applications for Payment.

5.2 Applications For Payment

5.2.1 Contractor shall submit to the Owner an itemized Application for Payment prepared in accordance with the schedule of values for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor’s right to payment as the Owner may require, such as copies of requisitions from subcontractors and material suppliers and shall reflect retainage if provided for in the Agreement.

5.2.1.1 Such applications may include requests for payment on account of changes in the

Work that have been properly authorized by written Change Orders.

5.2.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a subcontractor or material supplier unless such Work has been performed by others whom the Contractor intends to pay.

5.2.1.3 If requested by Owner or required elsewhere in the Agreement, each Application for Payment shall be accompanied by the following, all in a form and substance satisfactory to the Owner:

- a. With each Application for Payment: a current Sworn Statement from the Contractor setting forth all subcontractors and all material suppliers with whom the Contractor has subcontracted, the amount of each such subcontract, the amount requested for any subcontractor or material supplier in the Application for Payment, and the amount to be paid to the Contractor from such progress payment;
- b. With each Application for Payment: a duly executed Conditional Waiver and Release on Progress Payment from the Contractor and subcontractors establishing receipt of payment or satisfaction of the payment requested by the Contractor in the current Application for Payment;
- c. Commencing with the second Application for Payment submitted by the Contractor, a duly executed Unconditional Waiver and Release on Progress Payment from Contractor and all subcontractors, material suppliers and, where appropriate, lower tier subcontractors that have billed more than five thousand dollars (\$5,000) on a single application of payment, establishing receipt of payment or satisfaction of payment of all amounts requested on behalf of such entities and disbursed prior to submittal by the Contractor of the current Application for Payment;
- d. With the Final Application for Payment: Contractor shall submit a Conditional Waiver and Release on Final Payment as required by Texas Property Code, §53.284. Upon receipt of final payment, Contractor shall submit an Unconditional Waiver and Release on Final Payment as required by Texas Property Code, §53.284; and
- e. Such other information, documentation, and materials as the Owner, or the title insurer (if any) may require in order to ensure that Owner's property is free of lien claims. Such other documents may include, without limitation, original copies of lien or bond claim releases suitable for filing with the County Clerk in Williamson County, Texas.

5.2.2 Unless otherwise provided in the Agreement, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such

materials and equipment stored off the site.

5.2.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, bond claims, claims, security interests or encumbrances in favor of the Contractor, subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

5.2.3.1 The Contractor further expressly undertakes to defend Owner, at the Contractor's sole expense, against any actions, lawsuits, or proceedings brought against Owner as a result of liens filed against the Work, the site of any of the Work, the Project site and any improvements thereon, or any portion of the property of any of Owner (referred to collectively as "liens" in this paragraph), provided the Owner has paid Contractor pursuant to the requirements of the Agreement. The Contractor hereby agrees to indemnify and hold Owner harmless against any such liens or claims of lien and agrees to pay any judgment or lien resulting from any such actions, lawsuits, or proceedings.

5.2.3.2 The Owner shall release any payments withheld due to a lien or bond claims if the Contractor obtains security acceptable to the Owner, however, the Contractor shall not be relieved of any responsibilities or obligations under this paragraph, including, without limitation, the duty to defend and indemnify Owner.

5.2.3.3 Retainage. The Owner shall withhold from each progress payment, as retainage, five percent (5%) of the total earned amount. Retainage so withheld shall be managed in conformance with Texas Government Code, Chapter 2252, Subchapter B. Any request for reduction or release of retainage shall be accompanied by written consent of the Contractor's Surety. No such request shall be made until the Contractor has earned at least sixty-five percent (65%) of the total Contract Price.

5.2.3.4 For purposes of Texas Government Code, §2251.021 (a)(2), the date the performance of service is completed is the date when the Owner's representative approves the Application for Payment.

5.3 Certificates For Payment

5.3.1 The Owner will, within seven (7) business days after receipt of the Contractor's Application for Payment, issue a Certificate for Payment, with a copy to the Contractor, for such amount as the Owner determines is properly due, or notify the Contractor in writing of the Owner's reasons for withholding certification in whole or in part as provided.

5.3.2 The issuance of a Certificate for Payment will constitute a representation by the Owner, based on the Owner's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Owner's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Agreement. The foregoing representations are subject to an evaluation of the Work for conformance with

the Agreement upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Agreement prior to completion and to specific qualifications expressed by the Owner. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Owner has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Price.

5.4 Decisions To Withhold Certification

5.4.1 The Owner may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Owner's opinion the representations to the Owner required herein cannot be made. If the Owner is unable to certify payment in the amount of the Application, the Owner will notify the Contractor. If the Contractor or Contractor and Owner, as the case may be, cannot agree on a revised amount, the Owner will promptly issue a Certificate for Payment for the amount that can be certified. The Owner may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Owner's opinion to protect the Owner from loss for which the Contractor is responsible because of:

5.4.1.1 defective Work not remedied;

5.4.1.2 third party claims filed or reasonable evidence indicating probable filing of such claims;

5.4.1.3 failure of the Contractor to make payments properly to subcontractors or for labor, materials or equipment;

5.4.1.4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price;

5.4.1.5 damage to the Owner or a separate contractor;

5.4.1.6 failure to maintain the scheduled progress, or reasonable evidence that the Work will not be completed within the Contract Time;

5.4.1.7 failure to comply with the requirements of Texas Government Code, Chapter 2258 (Prevailing Wage Law);

5.4.1.8 failure to include sufficient documentation to support the amount of payment requested for the Project;

5.4.1.9 failure to obtain, maintain, or renew insurance coverage, payment/performance bonds or warranty bond required by the Agreement; or

5.4.1.10 repeated failure to carry out the Work in accordance with the Agreement.

5.4.2 When the above reasons for withholding certification are removed, certification will be made

for amounts previously withheld.

5.5 Progress Payments

- 5.5.1** The Owner shall make payment in the manner and within the time provided in the Agreement and in accordance with Texas Government Code, Chapter 2251.
- 5.5.2** The Contractor shall pay each subcontractor and material and equipment suppliers no later than ten (10) calendar days after receipt of payment from the Owner the amount to which the subcontractor or material and equipment suppliers is entitled. Payments to subcontractors may reflect the percentages actually retained from payments to the Contractor on account of the subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each subcontractor, require each subcontractor to make payments to Sub-subcontractors in a similar manner.
- 5.5.3** The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven (7) calendar days, the Owner shall have the right to contact subcontractors to ascertain whether they have been properly paid. The Owner shall not have an obligation to pay or to see to the payment of money to a subcontractor, except as may otherwise be required by law.
- 5.5.4** A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Agreement.

5.6 Failure Of Payment

- 5.6.1** If the Owner is required to issue Certificates for Payment and, through no fault of the Contractor, the Owner fails to timely issue Certificates for Payment in the time permitted in the Agreement, or if the Owner does not pay the Contractor by the date established in the Agreement, then the Contractor may, upon twenty-one (21) business days written notice to the Owner, stop the Work until payment of the amount owing has been received.
- 5.6.2** If the Owner is entitled to reimbursement or payment from the Contractor under or pursuant to the Agreement, such payment shall be made promptly upon demand by the Owner. Notwithstanding anything contained in the Agreement to the contrary, if the Contractor fails to promptly make any payment due the Owner, or if the Owner incurs any costs and expenses to cure any default of the Contractor or to correct defective work, the Owner shall have an absolute right to offset such amount against the Contract Price and may, in the Owner's sole discretion, elect either to (1) deduct an amount equal to that which the Owner is entitled from any payment then or thereafter due the Contractor from the Owner, or (2) issue a written notice to the Contractor reducing the Contract Price by an amount equal to that which the

Owner is entitled.

5.7 Substantial Completion

- 5.7.1** Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Agreement so that the Owner can occupy or utilize the Work for its intended use; provided, however, that as a condition precedent to Substantial Completion, the Owner has received all certificates of occupancy and any other permits, approvals, licenses, and other documents from any governmental authority having jurisdiction thereof necessary for the beneficial occupancy of the Project.
- 5.7.2** When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Owner a comprehensive list of items to be completed or corrected prior to final payment (punch list). Failure to include an item on the punch list does not alter the responsibility of the Contractor to complete all Work in accordance with the Agreement.
- 5.7.3** Upon receipt of the Contractor's punch list, the Owner will examine the Work to determine whether the Work or designated portion thereof is substantially complete. If the Owner's examination discloses any item, whether or not included on the Contractor's punch list, that is not sufficiently complete in accordance with the Agreement, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Owner. In such case, the Contractor shall then submit a request for another examination by the Owner to determine Substantial Completion.
- 5.7.4** When the Work or designated portion thereof is substantially complete, the Owner will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Unless otherwise provided, Contractor shall complete all items on the punch list within thirty (30) calendar days of Substantial Completion. Warranties required by the Agreement shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.
- 5.7.5** The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate of Substantial Completion. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage.

5.8 Partial Occupancy or Use

- 5.8.1** The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer, the surety, and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may

commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Agreement. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Owner as provided herein. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld.

- 5.8.2** Immediately prior to partial occupancy or use, the Owner and Contractor shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.
- 5.8.3** Partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Agreement.

5.9 Final Completion and Final Payment

- 5.9.1** Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Owner will make such inspection and, when the Owner finds the Work acceptable under the Agreement and the Agreement fully performed, the Owner will issue a final Certificate for Payment for the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. All warranties and guarantees required under or pursuant to the Agreement shall be assembled and delivered by the Contractor to the Owner as part of the final Application for Payment. The final Certificate for Payment will not be issued by the Owner until all warranties and guarantees have been received and accepted by the Owner.
- 5.9.2** Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Owner (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work have been paid or otherwise satisfied, within the period of time required by Texas Government Code, Chapter 2251, (2) a certificate evidencing that insurance required by the Agreement to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least thirty (30) business days prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Agreement, (4) consent of surety to final payment, (5) a warranty bond in a form acceptable to Owner, and (6) other data establishing payment or satisfaction of obligations, such as receipts, unconditional full and final releases and waivers of liens, claims, security interests or encumbrances arising out of the Agreement, to the extent and in such form as may be designated by the Owner.
- 5.9.3** Acceptance of final payment by the Contractor, a subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and

identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 6 CONTRACTOR'S GENERAL RESPONSIBILITIES AND COVENANTS:

6.1 Contractor shall render, diligently and competently in accordance with the highest standards used in the profession, all Contractor services which shall be necessary or advisable for the expeditious, economical and satisfactory completion of the Project. Contractor agrees to use its best efforts, skill, judgment, and abilities to perform its obligations and to further the interests of Owner in accordance with Owner's requirements and procedures.

6.2 Contractor's duties as set forth herein shall at no time be in any way diminished by reason of any approval by the Owner nor shall the Contractor be released from any liability by reason of such approval by the Owner, it being understood that the Owner at all times is ultimately relying upon the Contractor's skill and knowledge in performing the services required hereunder.

6.3 Contractor is responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. The safety program shall comply with all applicable requirements of the current federal Occupational Safety and Health Act and all other applicable federal, state and local laws and regulations.

6.4 Contractor shall be responsible for all construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the Work. The Contractor shall keep the Owner informed of the progress and quality of the Work.

6.5 Insurance. Contractor shall carry insurance in the types and amounts indicated below for the duration of the Agreement, which shall include items owned by Owner in the care, custody and control of Contractor prior to and during construction. Contractor must also complete and file the declaration pages from the insurance policies with Owner whenever a previously identified policy period expires during the term of the Agreement, as proof of continuing coverage. Contractor shall update all expired policies prior to submission of any payment requests hereunder. Failure to update policies shall be reason for payment to be withheld until evidence for renewal is provided to the Owner. If the Contractor fails to obtain, maintain or renew any insurance required by this Agreement, the Owner may, among other remedies available hereunder or at law, obtain insurance coverage directly and recover the cost of that insurance from the Contractor or declare this Agreement void if the Contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the Owner. All policies of insurance provided by the Contractor must comply with the requirements set forth herein, the Agreement and the laws of the State of Texas.

6.5.1 The Contractor shall provide and maintain, until the Work covered in the Agreement is completed and accepted by the Owner, the minimum insurance coverages in the minimum amounts as described below.

| Type of Coverage | Limits of Liability |
|--------------------------|---------------------|
| .1 Worker's Compensation | Statutory |

- .2 Employer's Liability
 Bodily Injury by Accident \$500,000 Ea. Accident
 Bodily Injury by Disease \$500,000 Ea. Employee
 Bodily Injury by Disease \$500,000 Policy Limit
- .3 Commercial general liability including completed operations and contractual liability insurance for bodily injury, death, or property damages in the following amounts:
- | | |
|--|----------------|
| COVERAGE | PER OCCURRENCE |
| Commercial General Liability (including premises, completed operations and contractual) | \$1,000,000 |
| Aggregate policy limits: | \$2,000,000 |
- .4 Comprehensive automobile and auto liability insurance (covering owned, hired, leased and non-owned vehicles):
- | | | |
|------------------------------------|--------------------|----------------|
| COVERAGE | PER PERSON | PER OCCURRENCE |
| Bodily injury (including death) | \$1,000,000 | \$1,000,000 |
| Property damage | \$1,000,000 | \$1,000,000 |
| Aggregate policy limits | No aggregate limit | |
- .5 .
- .7 Umbrella coverage in the amount of not less than \$5,000,000.

6.5.2 Workers' Compensation Insurance Coverage:

1. Definitions:
- (a) Certificate of coverage ("certificate") - A copy of a certificate of insurance, a certificate of authority to self-insure issued by the Texas Workers' Compensation Commission, or a coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the Project.

(b) Duration of the Project - includes the time from the beginning of the work on the Project until the Contractor's/person's work on the Project has been completed and accepted by the Owner.

(c) Coverage – Workers' compensation insurance meeting the statutory requirements of the Texas Labor Code, §401.011(44).

(d) Persons providing services on the Project ("subcontractor") - includes all persons or entities performing all or part of the services the Contractor has undertaken to perform on the Project, regardless of whether that person contracted directly with the Contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the Project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the Project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

2. The Contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, §401.011(44) for all employees of the Contractor providing services on the Project, for the duration of the Project.
3. The Contractor must provide a certificate of coverage prior to execution of the Agreement/Contract, and in no event later than ten (10) days from Notice of Award. Failure to provide the insurance in a timely fashion may result in loss of Contractor's bid bond.
4. If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the Project, the Contractor must, prior to the end of the coverage period, file a new certificate of coverage with the Owner showing that coverage has been extended.
5. The Contractor shall obtain from each person providing services on a project, and provide to the Owner:
 - (a.) a certificate of coverage, prior to that person beginning work on the Project, so the Owner will have on file certificates of coverage showing coverage for all persons providing services on the Project; and
 - (b.) no later than seven days after receipt by the Contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the Project.
6. The Contractor shall retain all required certificates of coverage for the duration of the Project and for one year thereafter.
7. The Contractor shall notify the Owner in writing by certified mail or personal delivery, within 10 days after the Contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the Project.

8. The Contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the Project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.
9. The Contractor shall contractually require each person with who it contracts to provide services on a project, to:
 - (a) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas labor Code, Section 401.011(44) for all of its employees providing services on the Project, for the duration of the Project;
 - (b) provide to the Contractor, prior to that person beginning work on the Project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the Project, for the duration of the Project;
 - (c) provide the Contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the Project;
 - (d) obtain from each other person with whom it contracts, and provide to the Contractor:
 - i. a certificate of coverage, prior to the other person beginning work on the Project; and
 - ii. a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the Project;
 - (e) retain all required certificate of coverage on file for the duration of the Project and for one year thereafter;
 - (f) notify the Owner in writing by certified mail or personal delivery, within 10 days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the Project; and
 - (g) contractually require each person with whom it contracts, to perform as required by paragraphs (a)-(g), with the certificates of coverage to be provided to the person for whom they are providing services.
10. By signing the Agreement/Contract or providing or causing to be provided a certificate of coverage, the Contractor is representing to the Owner that all employees of the Contractor who will provide services on the Project will be covered by workers' compensation coverage for the duration of the Project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the Commission's Division of Self-Insurance Regulation. Providing false

or misleading information may subject the Contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

11. The Contractor's failure to comply with any of these provisions is a breach of contract by the Contractor which entitles the Owner to declare the Agreement/Contract void if the Contractor does not remedy the breach within ten days after receipt of notice of breach from the Owner.

- 6.5.3** If insurance policies are not written for the amounts specified herein, Contractor shall carry Umbrella or Excess Liability Insurance for any differences in amounts specified. If Excess Liability Insurance is provided, it shall follow the form of primary coverage.
- 6.5.4** Insurance coverage required hereunder shall be written on an occurrence basis by companies authorized and admitted to do business in the State of Texas and rated A- or better by A.M. Best Company, or otherwise acceptable to Owner.
- 6.5.5** The Owner ("Williamson County, Texas"), its officials, employees and volunteers shall be named as an additional insured on all required policies except the Workers' Compensation and Employer's Liability. These insurance policies shall contain the appropriate additional insured endorsement signed by a person authorized by that insurer to bind coverage on its behalf.
- 6.5.6** The furnishing of the above listed insurance coverage, as may be modified by the Agreement, must be tendered prior to execution of the Agreement/Contract, and in no event later than ten (10) days from Notice of Award. Failure to provide the insurance in a timely fashion may result in loss of Contractor's bid bond.
- 6.5.7** Owner reserves the right to review the insurance requirements set forth herein during the Agreement and to make reasonable adjustments to the insurance coverage and their limits when deemed necessary and prudent by the Owner based upon changes in statutory law, court decisions, or the claims history of the industry as well as the Contractor.
- 6.5.8** Owner shall be entitled, upon request, and without expense, to receive complete copies of the policies with all endorsements and may make any reasonable requests for deletion, or revision or modification of particular policy terms, conditions, limitations, or exclusions, except where policy provisions are established by law or regulation binding upon the Parties or the underwriter of any of such policies. Damages caused by the Contractor and not covered by insurance shall be paid by the Contractor.
- 6.5.9** Contractor shall be responsible for payment of premiums for all of the insurance coverages required hereunder. Contractor further agrees that for each claim, suit or action made against insurance provided hereunder, with respect to all matters for which the Contractor is responsible hereunder, Contractor shall be solely responsible for all deductibles and self-insured retentions. Any deductibles or self-insured retentions over \$75,000 in the Contractor's insurance must be declared and approved in writing by Owner in advance.

6.5.10 Contractor shall contractually require each person or entity with whom it contracts to provide services in relation to the Work, to comply with every insurance requirement that Contractor must comply with hereunder. More specifically, each person or entity with whom Contractor contracts to provide services on the in relation to the Work must comply with each insurance requirement hereunder just as if such person or entity was the Contractor. Thus, every reference to Contractor under each insurance requirement hereunder shall mean and include each person or entity with whom Contractor contracts to provide services in relation to the Work. If any such person or entity with whom Contractor contracts to provide services in relation to the Work fails to obtain, maintain or renew any insurance required by this Agreement, Owner may, among other remedies available hereunder or at law, obtain insurance coverage directly and recover the cost of that insurance from the Contractor or declare this Agreement void if the Contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the Owner.

ARTICLE 7 INDEMNITY:

7.1 INDEMNIFICATION - EMPLOYEE PERSONAL INJURY CLAIMS. TO THE FULLEST EXTENT PERMITTED BY LAW, Contractor SHALL INDEMNIFY, DEFEND (WITH COUNSEL OF OWNER'S CHOOSING), AND HOLD HARMLESS OWNER, AND OWNER'S EMPLOYEES, AGENTS, REPRESENTATIVES, PARTNERS, OFFICERS, AND DIRECTORS (COLLECTIVELY, THE "INDEMNITEES") AND SHALL ASSUME ENTIRE RESPONSIBILITY AND LIABILITY (OTHER THAN AS A RESULT OF INDEMNITEES' GROSS NEGLIGENCE) FOR ANY CLAIM OR ACTION BASED ON OR ARISING OUT OF THE PERSONAL INJURY, OR DEATH, OF ANY EMPLOYEE OF CONTRACTOR, OR OF ANY SUBCONTRACTOR, OR OF ANY OTHER ENTITY FOR WHOSE ACTS THEY MAY BE LIABLE, WHICH OCCURRED OR WAS ALLEGED TO HAVE OCCURRED ON THE PROJECT SITE OR IN CONNECTION WITH THE PERFORMANCE OF THE WORK. CONTRACTOR HEREBY INDEMNIFIES THE INDEMNITEES EVEN TO THE EXTENT THAT SUCH PERSONAL INJURY WAS CAUSED OR ALLEGED TO HAVE BEEN CAUSED BY THE SOLE, COMPARATIVE OR CONCURRENT NEGLIGENCE OF THE STRICT LIABILITY OF ANY INDEMNIFIED PARTY. THIS INDEMNIFICATION SHALL NOT BE LIMITED TO DAMAGES, COMPENSATION, OR BENEFITS PAYABLE UNDER INSURANCE POLICIES, WORKERS COMPENSATION ACTS, DISABILITY BENEFITS ACTS, OR OTHER EMPLOYEES BENEFIT ACTS.

INDEMNIFICATION - OTHER THAN EMPLOYEE PERSONAL INJURY CLAIMS. TO THE FULLEST EXTENT PERMITTED BY LAW, CONTRACTOR SHALL INDEMNIFY, DEFEND (WITH COUNSEL OF OWNER'S CHOOSING), AND HOLD HARMLESS OWNER, AND OWNER'S EMPLOYEES, AGENTS, REPRESENTATIVES, PARTNERS, OFFICERS, AND DIRECTORS (COLLECTIVELY, THE "INDEMNITEES") FROM AND AGAINST CLAIMS, DAMAGES, LOSSES AND EXPENSES, INCLUDING BUT NOT LIMITED TO ATTORNEYS' FEES, ARISING OUT OF OR ALLEGED TO BE RESULTING FROM THE PERFORMANCE OF THIS AGREEMENT OR THE WORK DESCRIBED HEREIN, BUT ONLY TO THE EXTENT CAUSED IN WHOLE OR IN PART BY THE NEGLIGENCE, ACTS, ERRORS, OR OMISSIONS OF CONTRACTOR OR ITS SUBCONTRACTORS, ANYONE EMPLOYED BY THEM OR ANYONE FOR WHOSE ACTS THEY MAY BE LIABLE.

7.2 Except for the obligation of Owner to pay Contractor the Contract Price pursuant to the terms of this Agreement, and to perform certain other obligations pursuant to the terms and conditions explicitly set forth herein, Owner shall have no liability to Contractor or to anyone claiming through or under Contractor by reason of the execution or performance of this

Agreement. Notwithstanding any obligation or liability of Owner to Contractor, no present or future partner or affiliate of Owner or any agent, officer, director, or employee of Owner, Williamson County, or of the various departments comprising Williamson County, or anyone claiming under Owner has or shall have any personal liability to Contractor or to anyone claiming through or under Contractor by reason of the execution or performance of this Agreement.

ARTICLE 8 WARRANTY:

8.1 Contractor hereby warrants that the materials and equipment provided for the Work will be of good quality and new unless otherwise required or permitted by the Owner; that the construction will be free from faults and defects; and that the construction will conform with the requirements of the plans, specifications, drawings and the terms of this Agreement.

8.2 Contractor shall provide warranty services for the Work for a **full twelve (12) months** following Final Completion and final payment. Just before the warranty period expires, Contractor shall attend an on-site meeting with the Owner to ensure that all warranty issues have been identified and properly remedied.

ARTICLE 9 PREVAILING WAGE RATE:

9.1 Duty to Pay Prevailing Wage Rates. The Contractor shall pay not less than the wage scale of the various classes of labor as shown on the “Prevailing Wage Schedule”, as defined below. The specified wage rates are minimum rates only, and are not representations that qualified labor adequate to perform the Work is available locally at the prevailing wage rates. The Owner is not bound to pay—and will not consider—any claims for additional compensation made by any Contractor because the Contractor pays wages in excess of the applicable minimum rate contained in the Agreement. The “Prevailing Wage Schedule” is not a representation that quantities of qualified labor adequate to perform the Work may be found locally at the specified wage rates.

9.1.2 For classifications not shown, workers shall not be paid less than the wage indicated for Laborers. The Contractor shall notify each worker commencing work on the Project of the worker’s job classification and the established minimum wage rate required to be paid, as well as the actual amount being paid. The notice must be delivered to and signed in acknowledgement of receipt by the employee and must list both the monetary wages and fringe benefits to be paid or furnished for each classification in which the worker is assigned duties. When requested by Owner, competent evidence of compliance with the Texas Prevailing Wage Law shall be furnished by Contractor.

9.1.3 A copy of each worker wage rate notification shall be submitted to the Owner with the Application for Payment for the period during which the worker began on-site activities.

9.2 Prevailing Wage Schedule. Pursuant to Texas Government Code Section 2258.022(2), the general prevailing rate of per diem wages for each craft or type of worker needed to execute the Contract and the prevailing rate for legal holiday and overtime work shall be the most recent prevailing wage rate for Williamson County, Texas for building construction as determined by the

United States Department of Labor in accordance with the Davis-Bacon Act (40 U.S.C. Section 276a et seq.), and its subsequent amendments, which are published and can be obtained online at <https://sam.gov/search/?index=dbra> (the "Prevailing Wage Schedule"). Should the Contractor at any time become aware that a particular skill or trade not reflected on the Prevailing Wage Schedule will be or is being employed in the Work, whether by the Contractor or by a subcontractor, the Contractor shall promptly inform the Owner and shall specify a wage rate for that skill or trade, which shall bind the Contractor.

9.3 Penalty for Violation. The Contractor and any Subcontractor shall pay to the Owner a penalty of sixty dollars (\$60.00) for each worker employed for each calendar day, or portion thereof, that the worker is paid less than the wage rates stipulated in the Prevailing Wage Schedule or any supplement or update thereto pursuant to provisions above. The Contractor and each Subcontractor shall keep, or cause to be kept, an accurate record showing the names and occupations of all workers employed in connection with the Work, and showing the actual per diem wages paid to each worker, which records shall be open at all reasonable hours for the inspection by the Owner.

9.4 Complaints of Violations of Prevailing Wage Rates. Within thirty-one (31) days of receipt of information concerning a violation of Texas Government Code, Chapter 2258, the Owner shall make an initial determination as to whether good cause exists to believe a violation occurred. The Owner's decision on the initial determination shall be reduced to writing and sent to the Contractor or Subcontractor against whom the violation was alleged, and to the affected worker. When a good cause finding is made, the Owner shall retain the full amounts claimed by the claimant or claimants as the difference between wages paid and wages due under the Prevailing Wage Schedule and any supplements thereto, together with the applicable penalties, such amounts being subtracted from successive progress payments pending a final decision on the violation.

9.5 Arbitration Required if Violation not Resolved. After the Owner makes its initial determination, the affected Contractor or Subcontractor and worker have fourteen (14) days in which to resolve the issue of whether a violation occurred, including the amount that should be retained by Owner or paid to the affected worker. If the Contractor or Subcontractor and affected worker reach an agreement concerning the worker's claim, the Contractor shall promptly notify the Owner in a written document signed by the worker. If the Contractor or Subcontractor and affected worker do not agree before the fifteenth (15th) day after the Owner's determination, the Contractor or Subcontractor and affected worker must participate in binding arbitration in accordance with the Texas General Arbitration Act, Chapter 171, Tex. Civ. Prac. & Rem. Code. The parties to the arbitration have ten (10) days after the expiration of the fifteen (15) days referred to above, to agree on an arbitrator; if by the eleventh (11th) day there is no agreement to an arbitrator, a district court shall appoint an arbitrator on the petition of any of the parties to the arbitration.

9.6 Arbitration Award. If an arbitrator determines that a violation has occurred, the arbitrator shall assess and award against the Contractor or Subcontractor the amount of penalty as provided herein and the amount owed the worker. The Owner may use any amounts retained hereunder to pay the worker the amount as designated in the arbitration award. If the Owner has not retained enough from the Contractor or Subcontractor to pay the worker in accordance with the arbitration

award, the worker has a right of action against the Contractor and Subcontractor as appropriate, and the surety of either to receive the amount owed, attorneys' fees and court costs. The Contractor shall promptly furnish a copy of the arbitration award to the Owner.

9.7 Prevailing Wage Retainage. Money retained pursuant to this section shall be used to pay the claimant or claimants the difference between the amount the worker received in wages for labor on the Project at the rate paid by the Contractor or Subcontractor and the amount the worker would have received at the general prevailing wage rate as provided by the agreement of the claimant and the Contractor or Subcontractor affected, or in the arbitrator's award. The full statutory penalty of sixty dollars (\$60.00) per day of violation per worker shall be retained by the Owner to offset its administrative costs, pursuant to Texas Government Code, §2258.023. Any retained funds in excess of these amounts shall be paid to the Contractor on the earlier of the next progress payment or final payment. Provided, however, that the Owner shall have no duty to release any funds to either the claimant or the Contractor until it has received the notices of agreement or the arbitration award as provided in this section.

9.8 No Extension of Time. If the Owner determines that good cause exists to believe a violation has occurred, the Contractor shall not be entitled to an extension of time for any delay arising directly or indirectly from of the procedures set forth in this section.

ARTICLE 10 BONDS:

10.1 Performance Bond. Upon execution of this Agreement, Contractor shall provide a Performance Bond in the amount of 100% of the Contract Price. The surety for a Performance Bond shall meet the requirements of Texas law and the requirements set forth in the Agreement.

10.2 Payment Bond. Upon execution of this Agreement, Contractor shall provide a Payment Bond in the amount of 100% of the Contract Price, as security for the true and faithful payment in full of all subcontractors and persons performing labor, services, materials, machinery, and fixtures in connection with the Work. The surety for a Payment Bond shall meet the requirements of Texas law and the requirements set forth in the Agreement.

10.3 Warranty Bond. Upon Final Completion, Contractor shall provide a Warranty Bond in the amount of 20% of the Contract Price, as security for the true and faithful performance of all warranties set forth in the Agreement.

ARTICLE 11 TERMINATION OR SUSPENSION OF THE AGREEMENT

11.1 Termination by Contractor

If one of the reasons described below exists, the Contractor may, upon thirty (30) business days written notice to the Owner, terminate the Agreement and recover from the Owner payment for

Work executed, including reasonable overhead, profit, and costs incurred by reason of such termination:

- 11.1.1** Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- 11.1.2** An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- 11.1.3** Because the Owner has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in the Agreement, or because the Owner has not made payment on an undisputed Certificate for Payment within the time stated in the Agreement; or
- 11.1.4** If the Work is stopped for a period of ninety (90) consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Agreement.

11.2 Termination by the Owner for Cause

11.2.1 The Owner may terminate the Agreement if the Contractor:

- 11.2.1.1** Fails to commence the Work in accordance with the provisions of the Agreement;
- 11.2.1.2** Fails to prosecute the Work to completion thereof in a diligent, efficient, timely, workmanlike, skillful and careful manner and in strict accordance with the provisions of the Agreement;
- 11.2.1.3** Fails to use an adequate amount or quality of personnel or equipment to complete the Work without undue delay;
- 11.2.1.4** Fails to perform any of its obligations under the Agreement;
- 11.2.1.5** Fails to make prompt payments when due to its Subcontractors and Suppliers, or as required by **Texas Government Code, Chapter 2251**;
- 11.2.1.6** Files any petition or other pleading seeking any relief under any provisions of the Federal Bankruptcy Act, as amended, or any other federal or state statute or law providing for reorganization of debts or other relief from creditors, permits a receiver or other person to be appointed on account of its insolvency or financial condition, or becomes insolvent;
- 11.2.1.7** Creates any situation or state of facts which would authorize or permit an involuntary petition in bankruptcy to be filed against Contractor; or
- 11.2.1.8** Has not met or in Owner's opinion will not meet the dates of Substantial Completion set forth in the Agreement.

11.2.2 When any of the reasons under **Paragraph 11.2.1** exist, the Owner, in its sole and absolute discretion, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, **thirty (30) calendar days** written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety, exclude the Contractor from the Project site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor; accept assignment of subcontracts of Contractors subcontractors; and finish the Work by whatever reasonable method

the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

11.2.3 When the Owner terminates the Agreement for one of the reasons stated in **Paragraph 11.2.1**, the Contractor shall not be entitled to receive further payment until the Work is finished. In the event that it is determined that sufficient cause did not exist for termination under this **Section 11.2**, then the termination shall be considered a termination for convenience, under **Section 11.4**, below.

11.2.4 If the unpaid balance of the Contract Price exceeds costs of finishing the Work, including compensation for expenses made necessary thereby, and other damages and costs incurred by the Owner in finishing the Work and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner.

11.3 Suspension by the Owner for Convenience

11.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

11.3.2 The Contract Price and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in **Paragraph 11.3.1**. Adjustment of the Contract Price shall include profit. No adjustment shall be made to the extent:

11.3.2.1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or

11.3.2.2 that an equitable adjustment is made or denied under another provision of the Agreement.

11.4 Termination by the Owner for Convenience

11.4.1 The Owner may, at any time, terminate the Agreement for the Owner's convenience and without cause.

11.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

11.4.2.1 Cease operations as directed by the Owner in the notice;

11.4.2.2 Take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

11.4.2.3 Except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

11.4.3 Upon Owner's termination for convenience, costs of the Work executed, including reasonable overhead and profit, incurred to and including the date of termination, will be due and payable to Contractor in accordance with the Agreement.

ARTICLE 12 FEDERAL FUNDING REQUIREMENTS

12.1 The following additional requirements may be applicable related to the Coronavirus Aid, Relief and Economic Security Act (CARES) and The American Rescue Plan Act (ARPA) (C.F.D.A. 21027) where funding mandates legal compliance:

12.1.1 Use of Funds

Contractor understands and agrees that the funds disbursed under this award may only be used in compliance with section 603(c) of the Social Security Act (the Act), Treasury's regulations implementing that section, and guidance issued by Treasury regarding the foregoing. Contractor will determine prior to engaging in any project using this assistance that it has the institutional, managerial, and financial capability to ensure proper planning, management, and completion of such project.

12.1.2 Period of Performance

The period of performance for this award begins on the date hereof and ends on no later than December 31, 2026. As set forth in Treasury's implementing regulations, Contractor may use award funds to cover eligible costs incurred during the period that begins on March 3, 2021 and ends on December 31, 2024.

12.1.3 Reporting

Contractor agrees to comply with any reporting obligations established by Treasury as they relate to this award.

12.1.4 Maintenance of and Access to Records

Contractor shall maintain records and financial documents sufficient to evidence compliance with section 603(c) of the Act, Treasury's regulations implementing that section, and guidance issued by Treasury regarding the foregoing.

The Treasury Office of Inspector General and the Government Accountability Office, or their authorized representatives, shall have the right of access to records (electronic and otherwise) of Contractor in order to conduct audits or other investigations.

Records shall be maintained by Contractor for a period of five (5) years after all funds have been expended or returned to Treasury, whichever is later.

12.1.5 Pre-award Costs

Pre-award costs, as defined in 2 C.F.R. § 200.458, may not be paid with funding from this award.

12.1.6 Administrative Costs

Contractor may use funds provided under this award to cover both direct and indirect costs.

12.1.7 Cost Sharing

Cost sharing or matching funds are not required to be provided by Contractor.

12.1.8 Conflicts of Interest

Contractor understands and agrees it must maintain a conflict of interest policy consistent with 2 C.F.R. § 200.318(c) and that such conflict of interest policy is applicable to each activity funded under this award. Contractor and subcontractors must disclose in writing to Treasury or the pass-through entity, as appropriate, any potential conflict of interest affecting the awarded funds in accordance with 2 C.F.R. § 200.112.

12.1.9 Compliance with Applicable Law and Regulations

Contractor agrees to comply with the requirements of section 603 of the Act, regulations adopted by Treasury pursuant to section 603(f) of the Act, and guidance issued by Treasury regarding the foregoing. Contractor also agrees to comply with all other applicable federal statutes, regulations, and executive orders, and Contractor shall provide for such compliance by other parties in any agreements it enters into with other parties relating to this award.

Federal regulations applicable to this award include, without limitation, the following:

Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, 2 C.F.R. Part 200, other than such provisions as Treasury may determine are inapplicable to this Award and subject to such exceptions as may be otherwise provided by Treasury. Subpart F – Audit Requirements of the Uniform Guidance, implementing the Single Audit Act, shall apply to this award.

Universal Identifier and System for Award Management (SAM), 2 C.F.R. Part 25, pursuant to which the award term set forth in Appendix A to 2 C.F.R. Part 25 is hereby incorporated by reference.

Reporting Subaward and Executive Compensation Information, 2 C.F.R. Part 170, pursuant to which the award term set forth in Appendix A to 2 C.F.R. Part 170 is hereby incorporated by reference.

OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement), 2 C.F.R. Part 180, including the requirement to include a term or condition in all lower tier covered transactions (contracts and subcontracts described in 2 C.F.R. Part 180, subpart B) that the award is subject to 2 C.F.R. Part 180 and Treasury's implementing regulation at 31 C.F.R. Part 19.

Contractor Integrity and Performance Matters, pursuant to which the award term set forth in 2 C.F.R. Part 200, Appendix XII to Part 200 is hereby incorporated by reference.

Governmentwide Requirements for Drug-Free Workplace, 31 C.F.R. Part 20.

New Restrictions on Lobbying, 31 C.F.R. Part 21.

Uniform Relocation Assistance and Real Property Acquisitions Act of 1970 (42 U.S.C. §§ 4601-4655) and implementing regulations.

Generally applicable federal environmental laws and regulations.

Statutes and regulations prohibiting discrimination applicable to this award include, without limitation, the following:

Title VI of the Civil Rights Act of 1964 (42 U.S.C. §§ 2000d et seq.) and Treasury's implementing regulations at 31 C.F.R. Part 22, which prohibit discrimination on the basis of race, color, or national origin under programs or activities receiving federal financial assistance;

The Fair Housing Act, Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§ 3601 et seq.), which prohibits discrimination in housing on the basis of race, color, religion, national origin, sex, familial status, or disability;

Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of disability under any program or activity receiving federal financial assistance;

The Age Discrimination Act of 1975, as amended (42 U.S.C. §§ 6101 et seq.), and Treasury's implementing regulations at 31 C.F.R. Part 23, which prohibit discrimination on the basis of age in programs or activities receiving federal financial assistance; and

Title II of the Americans with Disabilities Act of 1990, as amended (42 U.S.C. §§ 12101 et seq.), which prohibits discrimination on the basis of disability under programs, activities, and services provided or made available by state and local governments or instrumentalities or agencies thereto.

12.1.10 Remedial Actions

In the event of Contractor's noncompliance with section 603 of the Act, other applicable laws, Treasury's implementing regulations, guidance, or any reporting or other program requirements, Treasury may impose additional conditions on the receipt of a subsequent tranche of future award funds, if any, or take other available remedies as set forth in 2 C.F.R. § 200.339. In the case of a violation of section

603(c) of the Act regarding the use of funds, previous payments shall be subject to recoupment as provided in section 603(e) of the Act.

12.1.11 Hatch Act

Contractor agrees to comply, as applicable, with requirements of the Hatch Act (5 §§ 1501-1508 and 7324-7328), which limit certain political activities of State or local government employees whose principal employment is in connection with an activity financed in whole or in part by this federal assistance.

12.1.12 False Statements

Contractor understands that making false statements or claims in connection with this award is a violation of federal law and may result in criminal, civil, or administrative sanctions, including fines, imprisonment, civil damages and penalties, debarment from participating in federal awards or contracts, and/or any other remedy available by law.

12.1.13 Publications

Any publications produced with funds from this award must display the following language: "This project [is being] [was] supported, in whole or in part, by federal award number [enter project FAIN] awarded to [name of Contractor] by the U.S. Department of the Treasury."

12.1.14 Debts Owed the Federal Government

Any funds paid to Contractor (1) in excess of the amount to which Contractor is finally determined to be authorized to retain under the terms of this award; (2) that are determined by the Treasury Office of Inspector General to have been misused; or (3) that are determined by Treasury to be subject to a repayment obligation pursuant to section 603(e) of the Act and have not been repaid by Contractor shall constitute a debt to the federal government.

Any debts determined to be owed the federal government must be paid promptly by Contractor. A debt is delinquent if it has not been paid by the date specified in Treasury's initial written demand for payment, unless other satisfactory arrangements have been made or if the Contractor knowingly or improperly retains funds that are a debt as defined in paragraph 14(a). Treasury will take any actions available to it to collect such a debt.

12.1.15 Disclaimer

The United States expressly disclaims any and all responsibility or liability to Contractor or third persons for the actions of Contractor or third persons resulting in death, bodily injury, property damages, or any other losses resulting in any way from the performance of this award or any other losses resulting in any way from the performance of this award or any contract, or subcontract under this award.

The acceptance of this award by Contractor does not in any way establish an agency relationship between the United States and Contractor.

12.1.16 Protections for Whistleblowers

In accordance with 41 U.S.C. § 4712, Contractor may not discharge, demote, or otherwise discriminate against an employee in reprisal for disclosing to any of the list of persons or entities provided below, information that the employee reasonably believes is evidence of gross mismanagement of a federal contract or grant, a gross waste of federal funds, an abuse of authority relating to a federal contract or grant, a substantial and specific danger to public health or safety, or a violation of law, rule, or regulation related to a federal contract (including the competition for or negotiation of a contract) or grant.

The list of persons and entities referenced in the paragraph above includes the following:

- A member of Congress or a representative of a committee of Congress;
- An Inspector General;
- The Government Accountability Office;
- A Treasury employee responsible for contract or grant oversight or management;
- An authorized official of the Department of Justice or other law enforcement agency;
- A court or grand jury; or
- A management official or other employee of Contractor, contractor, or subcontractor who has the responsibility to investigate, discover, or address misconduct.

Contractor shall inform its employees in writing of the rights and remedies provided under this section, in the predominant native language of the workforce.

12.1.17 Increasing Seat Belt Use in the United States

Pursuant to Executive Order 13043, 62 FR 19217 (Apr. 18, 1997), Contractor should encourage its contractors to adopt and enforce on-the-job seat belt policies and programs for their employees when operating company-owned, rented or personally owned vehicles.

12.1.18 Reducing Text Messaging While Driving

Pursuant to Executive Order 13513, 74 FR 51225 (Oct. 6, 2009), Contractor should encourage its employees, subContractors, and contractors to adopt and enforce policies that ban text messaging while driving, and Contractor should establish workplace safety policies to decrease accidents caused by distracted drivers.

12.1.19 Clean Air Act and The Federal Water Pollution Control Act Compliance

Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq. and the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. and Contractor agrees to report each violation to the Customer and understands and agrees that the Customer will, in turn, report each violation as required to assure

notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office. If applicable, Contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA.

12.1.20 Suspension and Debarment

(a) This Contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the Contractor is required to verify that none of the Contractor's principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

(b) The Contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

(c) This certification is a material representation of fact relied upon by Customer. If it is later determined that the Contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to Customer, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

(d) The Contractor, bidder or proposer agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any agreement that may arise from this offer. The Contractor, bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

12.1.21 Recovered Materials

(a) In the performance of this Contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired— (a) Competitively within a timeframe providing for compliance with the contract performance schedule; (b) Meeting contract performance requirements; or (c) At a reasonable price.

(b) Information about this requirement, along with the list of EPA-designated items, is available at EPA's Comprehensive Procurement Guidelines web site: <https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>.

(c) The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act."

12.1.22 Access to Records

The following access to records requirements apply to this Contract:

(a) The Contractor agrees to provide Customer, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this Contract for the purposes of making audits, examinations, excerpts, and transcriptions.

(b) The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

(c) The Contractor agrees to provide the FEMA Administrator or his authorized representatives access to construction or other work sites pertaining to the work being completed under the contract.

(d) In compliance with the Disaster Recovery Act of 2018, the Customer and the Contractor acknowledge and agree that no language in this contract is intended to prohibit audits or internal reviews by the FEMA Administrator or the Comptroller General of the United States.

12.1.23 Use of DHS Seals and Related Items

The Contractor shall not use Department of Homeland Security (“DHS”) seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre-approval.

12.1.24 Compliance with Federal Law and FEMA Rules

This is an acknowledgement that FEMA financial assistance will be used to fund all or a portion of the Contract. The Contractor will comply with all applicable Federal law, regulations, executive orders, FEMA policies, procedures, and directives.

12.1.25 Compliance with Byrd Anti-Lobbying Act, 31 U.S.C. § 1352 (as amended).

Contractors who apply or bid for an award of \$100,000 or more shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the Contractor who in turn will forward the certification(s) to the awarding agency.

12.1.26 No Federal Government Obligations

The Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the non-Federal entity, Contractor, or any other party pertaining to any matter resulting from this Contract.

12.1.27 False Claims Act Compliance and Program Fraud Prevention

The Contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor’s actions pertaining to this Contract.

ARTICLE 13

MISCELLANEOUS PROVISIONS

13.1 Interest and Late Payments. Owner's payment for goods and services shall be governed by Chapter 2251 of the Texas Government Code. Interest charges for any overdue payments shall be paid by Owner in accordance with Texas Government Code Section 2251.025. More specifically, the rate of interest that shall accrue on a late payment is the rate in effect on September 1 of Owner's fiscal year in which the payment becomes due. The said rate in effect on September 1 shall be equal to the sum of one percent (1%); and (2) the prime rate published in the Wall Street Journal on the first day of July of the preceding fiscal year that does not fall on a Saturday or Sunday.

In the event that an error appears in an invoice/application for payment submitted by Contractor, Owner shall notify Contractor of the error not later than the twenty first (21st) day after the date Owner receives the invoice/application for payment. If the error is resolved in favor of Contractor, Contractor shall be entitled to receive interest on the unpaid balance of the invoice/application for payment submitted by Contractor beginning on the date that the payment for the invoice/application for payment became overdue. If the error is resolved in favor of the Owner, Contractor shall submit a corrected invoice/application for payment that must be paid in accordance within the time set forth above. The unpaid balance accrues interest as provided by Chapter 2251 of the Texas Government Code if the corrected invoice/application for payment is not paid by the appropriate date.

13.2 Audits. Contractor agrees that Owner or its duly authorized representatives shall, until the expiration of three (3) years after final payment under this Agreement, have access to and the right to examine and photocopy any and all books, documents, papers and records of Contractor which are directly pertinent to the services to be performed under this Agreement for the purposes of making audits, examinations, excerpts, and transcriptions. Contractor agrees that Owner shall have access during normal working hours to all necessary Contractor facilities and shall be provided adequate and appropriate workspace in order to conduct audits in compliance with the provisions of this section. Owner shall give Contractor reasonable advance notice of intended audits.

13.3 Assignment. This Agreement is a personal service contract for the services of Contractor, and Contractor's interest in this Agreement, duties hereunder and/or fees due hereunder may not be assigned or delegated to a third party.

13.4 Governing Law and Venue. This Agreement and all of the rights and obligations of the parties and all of the terms and conditions shall be construed, interpreted and applied in accordance with and governed by and enforced under the laws of the State of Texas without reference to its conflicts of law provisions. Williamson County where the Project is located shall be the sole place of venue for any legal action arising from or related to this Agreement or the Project in which the Owner is a party.

13.5 Binding Effect. This Agreement shall be binding upon and inure to the benefit of the parties and their respective permitted assigns and successors.

13.6 Notices. All notices, consents, approvals, demands, requests or other communications relied on by the parties shall be in writing. Written notice shall be deemed to have been given when delivered in person to the designated representative of the Contractor or Owner for whom it is intended; or sent by U. S. Mail to the last known business address of the designated representative; or transmitted by fax machine to the last known business fax number of the designated representative. Mail notices are deemed effective upon receipt or on the third business day after the date of mailing, whichever is sooner. Fax notices are deemed effective the next business day after faxing.

13.7 Severability. Should any term or provision of this Agreement be held invalid or unenforceable in any respect, the remaining terms and provisions shall not be affected and this Agreement shall be construed as if the invalid or unenforceable term or provision had never been included.

13.8 Relationship of the Parties. Contractor shall be an independent contractor under this agreement and shall assume all of the rights, obligations, liabilities, applicable to it as such independent contractor hereunder and any provisions in this agreement which may appear to give Owner the right to direct Contractor as to details of doing the Work herein covered or to exercise a measure of control over the Work shall be deemed to mean that Contractor shall follow the desires of Owner in the results of the Work only. Owner shall not retain or have the right to control the Contractor's means, methods or details pertaining to the Contractor's performance of the Work described herein, nor shall Owner have the power to direct the order in which Contractor's Work is performed under this agreement. Owner and Contractor hereby agree and declare that Contractor is an Independent Contractor and as such meets the qualifications of an Independent Contractor under Texas Worker's Compensation Act, Texas Labor Code, Section 406.141, that the Contractor is not an employee of Owner for purposes of this Agreement, and that the Contractor and its employees, agents and sub-subcontractors shall not be entitled to worker's compensation coverage or any other type of insurance coverage held by Owner.

13.9 Force Majeure. If the party obligated to perform is prevented from performance by acts of God, accident, riots, war, terrorist act, epidemic, pandemic (including the Covid-19 pandemic), quarantine, civil commotion, breakdown of communication facilities, breakdown of web host, breakdown of internet service provider, natural catastrophes, governmental acts or omissions, changes in laws or regulations, national strikes, fire, explosion, generalized lack of availability of raw materials or energy, or other unavoidable cause not attributable to the fault or negligence of said party, the other party shall grant such party relief from the performance of this Agreement. The burden of proof for the need of such relief shall rest upon the party obligated to perform. To obtain release based on force majeure, the party obligated to perform shall file a written request with the other party. Force majeure shall not include financial distress nor the inability of either party to make a profit or avoid a financial loss, changes in market prices or conditions, or a party's financial inability to perform its obligations hereunder.

13.10 No Waiver of Sovereign Immunity. Nothing herein shall be construed as a waiver of sovereign immunity by Williamson County.

13.11 Current Revenues. Under Texas law, a contract with a governmental entity that contains a claim against future revenues is void; therefore, each party paying for the performance of

governmental functions or services must make those payments from current revenues available to the paying party.

13.12 Compliance with Laws. Contractor shall comply with all federal, state, and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts or administrative bodies or tribunals in any matter affecting the performance of this Agreement, including, without limitation, Worker's Compensation laws, minimum and maximum salary and wage statutes and regulations, licensing laws and regulations. When required, Contractor shall furnish the County with certification of compliance with said laws, statutes, ordinances, rules, regulations, orders, and decrees above specified.

13.13 Entire Agreement & Incorporated Documents; Conflicting Terms: This Agreement constitutes the entire agreement between the parties and may not be modified or amended other than by a written instrument executed by both parties.

The following documents shall comprise of all the documents that are relevant to the Project (the "Contract Documents"):

1. This Agreement between County and Contractor;
2. Exhibit "A" – Plans and Specifications;
3. Addenda issued prior to the Effective Date of this Agreement;
4. Contractor's Proposal submitted in response to Williamson County RFP #23RFP111 ("Contractor's Proposal");
5. The Request for Proposal documents defined in Williamson County RFP #23RFP111 ("RFP"); and
6. All Change Orders and any other Modifications issued after the Effective Date of this Agreement.

In the event of a dispute or conflict relating to the terms and conditions of the Contract Documents, applicable documents will be referred to for the purpose of clarification, conflict resolution or for additional detail in the following order of precedence:

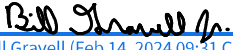
1. This Agreement between County and Contractor;
2. Exhibit "A" – Plans and Specifications;
3. Addenda issued prior to the Effective Date of this Agreement;
4. The Contractor's Proposal*;
5. The RFP; and
6. All Change Orders and any other Modifications issued after the Effective Date of this Agreement.

* Exclusion #8 under Section VI. of the Contractor's Proposal shall be modified as set out in Exhibit "A" of this Agreement. All other language within Contractor's Proposal shall be deemed the final and agreed upon language as to the specifications for the Work to be performed.

BY SIGNING BELOW, the Parties have executed and bound themselves to this Agreement to be effective as of the date of the last party's execution hereof.

OWNER:

WILLIAMSON COUNTY, TEXAS,
a political subdivision of the state of Texas

By: 
Bill Gravell (Feb 14, 2024 09:31 CST)

Printed Name: Bill Gravell

Title: County Judge

Date: Feb 14, 2024

CONTRACTOR:

BRYMER COMMUNICATION SERVICES,
LLC D/B/A BRYCOMM LLC

By: 

Printed Name: Cory Brymer

Title: CEO

Date: 01/26/2024

Exhibit “A”

Plans and Specifications

Williamson County Fiber Expansion Project

Introduction:

The Williamson County Fiber Optic Cabling Expansion Project (hereinafter referred to as the “Project”) consists of the installation of outside fiber, consisting of both aerial and underground pathways, connecting the County's buildings throughout the Williamson County, Texas. The Contractor will be responsible for the full scope project, including survey, permitting, and construction costs, as well as any necessary right-of-way, attaching to existing poles, setting poles, boring and pull boxes.

Project Objectives:

The objective of the Countywide Fiber Project is to establish a robust, high-speed fiber optic network across the entire county, with the aim of supporting and enhancing government operations, County infrastructure, public safety agencies (such as the Sheriff's Office, Constables, EMS, and the radio network), as well as various other County groups operating throughout the County.

Key Goals:

Enhanced Government Operations: The Project aims to provide a dependable and high-capacity fiber network that will facilitate efficient communication and data exchange between different government departments and offices within the county. This will enable streamlined operations, improved collaboration, and enhanced service delivery.

County Infrastructure Support: The Project seeks to bolster the County's infrastructure by establishing a comprehensive network that can support various critical services, digital evidence management, emergency response systems, and other essential infrastructure requirements. This will contribute to increased efficiency, better maintenance, and proactive monitoring of the County's infrastructure.

Public Safety Enhancement: The Project prioritizes the needs of public safety agencies, such as the Sheriff's Office, Constables, EMS, and the radio network. The implementation of a dedicated fiber network will enable faster and more reliable communication, real-time data sharing, and seamless coordination among these agencies during emergencies, law enforcement operations, and public safety incidents.

Future-Proof Infrastructure: The Project aims to establish a fiber network that is not only capable of meeting the current demands but also future-proofed to accommodate the anticipated

growth in data usage and technological advancements. By deploying a scalable and adaptable network infrastructure, the County can minimize the need for costly upgrades and ensure long-term sustainability.

Scope of Work:

The scope of work will include the following:

- Fiber will consist of 144 strands to 19 locations within this scope. (List of locations will be provided upon request)
- Termination types will be LC and will be all fusion spliced.
- Installation of aerial and underground fiber pathways.
- Setting of poles or boring where required.
- Service loops no less than 20ft on splices, pole attachments and pull boxes where there will be junctions, as well as every two miles of length of aerial fiber.
- Pull-boxes no more than 500ft from the next pull-box location, and no more than 20ft from any pole pathway into the ground.
- Installation of fiber consumables, including fusion pigtails, enclosures, and any other necessary hardware.
- All fiber and fiber consumables will consist of Panduit products unless otherwise given written permission from the County Infrastructure engineer to use an alternative.
- All work must comply with County's Structured and OSP Cabling Standards
- Supply all necessary deliverables to the Project at its closure. Such as integrity tests, as-built documents and any other documentation requested.

Minimum Staffing Requirements:

- It is required that the Contractor have an in-house Registered Communications System Designer (RCDD) on staff.
- All installers shall be certified, trained, and experienced on the specific installation, termination and testing of the systems as specified. The Contractor shall provide a list of installers along with their work experience, training history and applicable certifications. Building Industry Consulting Services International (BICSI) Certified Technicians are preferred.
- The Contractor shall have a minimum of (4) four 3-person crews to support the Project as specified in these Specifications. A minimum of (3) three of the 3-person crews shall consist of full-time employees.
- The Contractor shall have the ability to produce network designs, as-built documentation, etc., utilizing AutoCAD, Google Earth or an equivalent approved by County.
- The Contractor shall have sufficient staff to provide administrative functions including but not limited to network design and documentation, warehouse, and inventory services.
- The Contractor shall supply County with annual criminal history background checks on all personnel working on County Network projects prior to an employee beginning any work on the County Network in any capacity.
- The Contractor shall ensure each employee working on a Project always wears a company photo identification badge. Additionally, a County- authorized badge or entity- specific badge may be required. If required, an appointment will be arranged to create badges.

Equipment Requirements:

- The Contractor shall provide all vehicles, tools, equipment, materials, test equipment and qualified personnel to maintain, service, upgrade, and expand the County fiber optic network in accordance with the manufacturer's specifications contained in the system's maintenance and service manuals.
- The Contractor shall own the following minimum types and quantities of equipment based at its local office and available for immediate deployment:
 - Three (3) bucket trucks
 - Two (2) splicing trailer units.
 - Two (2) hydraulic reel trailers.
 - Two (2) cable locators and marking.
 - One (1) tree trimming equipment.
 - One (1) truck with onboard motor generator.
 - Two (2) fusion splicers.
 - Two (2) OTDRs with OLTS Equipment
- The Contractor shall have the following minimum types and quantities of equipment based at its local office (or at a sub-contractor's local office) within the Greater Williamson County area.
 - One (1) directional bore
 - One (1) trencher
- The Contractor shall provide a list of any other applicable equipment not specifically listed here that the Contractor has available for the types of work identified in these Specifications. Contractor shall identify the location and availability of this equipment.

Warranty: Contractor warrants the materials, workmanship, and Work to be in conformance with the Specifications included in this section for a minimum period of one (1) year from the date of acceptance of the Work.

- Detailed warranty information shall be provided to Owner, along with a Warranty Bond as set out in the Agreement.
- The warranty binds the Contractor to correct any Work that does not conform to such Specifications or any defects in workmanship or materials furnished which may be discovered within the warranty period.
- Contractor shall, at its own expense, correct such defect after receiving notice from the County by repairing same to the condition called for in the specifications.
- The warranty shall cover parts, labor, travel, and all other expenses.
- Warranty service shall be on a 24-hour/day, 365-day/year basis with an onsite response time not to exceed four (4) hours. Contractor's service facility shall initiate, within four (4) hours, repair to any critical system product that fails while under warranty.

Service Under Warranty:

- In the event it becomes necessary for the County to contract out for warranty repairs, due to an inability or failure of the Contractor to perform such repairs, the Contractor shall reimburse the County for all invoices for parts, labor, materials, travel, per-diem, consulting fees and all other related expenses such as shipping/handling costs to perform such repairs, within 30 days from presentation of an invoice from the County. This shall only occur after the Contractor has been given reasonable time and fair opportunity to respond and correct the problem.

Emergency Restoration Services: Emergency repair of System or System components shall be available per the following terms:

- Twenty-four (24) hour a day, seven (7) day a week on call coverage.
- Minimum four (4) hour onsite response time to all callouts on Critical infrastructure.
- Immediate repairs to damaged system (permanent or temporary).
 - If temporary repairs are performed on an emergency basis to restore System, permanent repairs shall be performed within three (3) working days (Saturdays, Sundays and national holidays excluded) from the time the emergency repair request is submitted. Permanent repairs which require downtime to System electronic components will be scheduled with the County based on the affected System components.
- Two (2) bucket trucks, one (1) trencher, cable lashing machine, fusion splicing trailer, and OTDR test equipment must be available on stand-by to meet the requirements of the onsite response time.
- Storage of spare cable, poles, anchors, splice cases, manholes, conduit, etc. shall be at Contractor-owned warehouse location for pick-up by restoration crews. Timely restoration services are contingent upon availability and access to warehouse facilities where materials are stored.
- Contractor will be required to maintain the color-coding scheme developed by the County for the fiber optic cable.
- All materials required for restoration activities (fiber optic cable, strand, pole hardware, lashing wire, consumable kits for splicing, etc.) will be provided by the Contractor.

Contract Price: The Contract Price shall be all inclusive of fiber installation per specification for each location. Hourly maintenance and emergency restoration pricing shall also be provided. No additional fees shall be permitted.

Installation Schedule: Installation shall be coordinated with and approved by Williamson County Information Technology department. Any required traffic control during installation shall be the responsibility of Contractor. Contractor shall provide proposed timeline and schedule for installation.

Protection Of Persons And Property: The Contractor shall always exercise reasonable precautions for the safety of employees and others on or near the Work and shall comply with all applicable provisions of Federal, State, and Municipal safety laws, building and construction codes. The Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work.

- All machinery and equipment and other physical hazards shall be guarded in accordance with the "Manual of Accident Prevention in Construction" of the Associated General Contractors of America except where incompatible with Federal, State or Municipal laws or regulations. The Contractor shall provide such machinery guards, safe walkways, ladders, bridges, gangplanks, and other safety devices. The safety precautions actually taken, and their adequacy shall be the sole responsibility of the Contractor, acting at its discretion as an independent Contractor.
- Contractor shall maintain, at all times, free access to fire lanes and emergency and utility control

facilities such as fire hydrants, fire alarm boxes, utility valves, manholes, junction boxes, etc.

- Contractor shall take all reasonable precautions for safety of, and shall provide all reasonable protection to prevent damage, injury, or loss to:
 - Personnel involved in the installation and other persons who may be affected thereby; The Work and all materials and equipment to be incorporated therein, whether in storage or off site, under care, custody, or control of Contractor; and
 - other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, fences, roadways, structures, and utilities not designated for removal, relocation, or replacement during construction and/or maintenance.
 - The Contractor agrees to indemnify, save, and hold harmless the County and the County's Consultant(s) against any claim or claims for damages due to the injury to any adjacent or adjoining property arising or growing out of installation or performance of the System.
 - Contractor shall be solely responsible for location and protection of all public lines and utility customer service lines in the Work area. The Contractor shall make proper notifications and exercise due care to locate and to mark, uncover or otherwise protect all such lines within the limits of installation.

Installation Specifications: Fiber optic specifications shall include but not be limited to:

- Installation shall be in accordance with industry standard practices.
- Terminations are to be made utilizing standard SC-Type connectors. Verify with the County prior to construction.
- The maximum attenuation per connector shall be no greater than 0.4 dB. All splices shall be made utilizing mechanical or fusion, splicing techniques, and shall be mounted on standard splice cards and housed in proper splice closures. The maximum attenuation per splice shall be no greater than 0.2 dB.
- All work shall conform to the latest edition of the National Electric Code, the current Building Code and all local codes and ordinances as applicable. ANSI/TIA/EIA 568A and ANSI/TIA/EIA 569 shall be adhered to during all installation activities.
- Methodologies endorsed by the latest edition of the BISC Telecommunications Distribution Methods Manual shall also be used during installation activities. Should conflicts exist between referenced publications; the County and the County's Consultant(s) will have the responsibility for making interpretation.
- Contractor is required to furnish written documentation of the number of pounds of pulling tension that was applied to each cable reel during installation of replacement spans. Documentation shall include date, location, reel number, type of pull, equipment used, and maximum pounds tension applied to the cable or strand.

Signage And Barricades: All construction work on City, County or State Right-of-Way will require that proper signage and barricades be used to protect the Work sites. All locations will utilize the authorized signage established by either the Texas Department of Transportation, City or County.

Site Maintenance: All finished equipment installations are to be left in a neat and orderly condition. Only tools designed for each special task shall be used during the installation and

alignment of the network components. Minimal disruption of landscaping will be required at all locations during the installation. Contractors are required to pay all costs associated with repairing any damage or returning all land to its original condition before construction began.

Fiber Optic Cabling Specifications: Contractor shall provide and install fiber to the indicated demarcations. Pathways unless noted will need to be verified, Built or repaired, System shall provide the following:

- Meet or exceed the Telecommunications Industry Association (TIA) and Electronic Industries Alliance (EIA) specifications and International Telecommunication Union (ITU) requirements.
- Fiber Optic Cable shall be Panduit® (or equivalent for warranty purposes) 144-Strand, Standard Single-Mode, Metallic Armored cable.
- All termination equipment including but not limited to connectors, splice trays, LIUs, etc. shall be verified with the County prior to procurement and placement.
- HDPE (High Density Polyethylene) 2" Pipe shall be used where boring underground is taken place.
- PVC conduit should be used except as noted. PVC conduit shall be 3" or greater with schedule 40 wall thickness.
- EMT (Electric Metallic Tube) of 3" or Greater will be used when adhering pathways to walls or into buildings.
- The Contractor shall be responsible for the care, preservation, and protection of all materials, supplies, machinery, equipment, tools, apparatus, accessories, all means of construction and maintenance, and all parts of the Work, whether the Contractor has been paid, partially paid, or not paid for such work until the entire work is completed and accepted.
- Installation shall include all labor, materials, components, and accessories.

Aerial Fiber Optic Cable Installation: Specific requirements for aerial fiber optic cable shall include but are not limited to the following. Contractor shall:

- Verify all applicable OSHA, NESC, and state and local regulations must be observed during the installation.
- Assure the proper bonding or grounding of cable.
- Verify all equipment is in good working order.
- Conduct all required tree trimming. In an effort to limit tree trimming, Contractor may place "duct-on messenger (DOM)" if the DOM and cable can be placed without trimming or damaging the trees Proper pulling tension must be observed during installation.
- Give careful coordination of cable lengths to avoid unnecessary splicing. No span length shall exceed the maximum recommended for a particular type of cable.
- Install slack points, consisting of 100 feet of fiber optic cable properly looped and bound in accordance with industry standards, shall be placed approximately every 1500 feet nearest a major intersection.

- Verify all aerial fiber optic cable installations over lash to existing messenger or aerial plant or to installed messenger. Any messenger installed for this network shall be of dielectric construction, and dielectric- lashing cable shall be used throughout. Where possible and available, existing messenger strands may be used on utility poles, with the written consent of the existing strand owner. If new messenger is required, it shall be placed on each pole at a minimum distance of 40 inches below existing power lines, and a minimum distance of 12 inches above or below existing communication lines. A minimum of 18 feet of clearance must be maintained above all roadways. The fiber optic messenger strand shall be installed at its recommended tension and shall not be sagged solely to maintain proper clearances.
- Monitor clearance levels. If movement of power lines or communications lines or attachments becomes necessary to obtain proper installation clearances, the Contractor shall bring this to the attention of the County and the County's Consultant(s). Additionally, if any pole or span encountered during installation will not allow maintenance of proper strand tension clearance, the pole may be changed out with the approval of the County or alternate routing of the fiber optic cable must be obtained. In lieu of changing out poles, cable extension brackets may be used to obtain proper clearances.

UNDERGROUND FIBER OPTIC CABLE INSTALLATION: Specific requirements for underground fiber optic cable shall include but are not limited to the following. Contractor shall:

- Verify that the sequence of installation provides that no cable trench be left open overnight. The Contractor must not trench more in one day than can be placed and backfilled in the same day. Trenching operations must be scheduled in order that no trenching equipment or Contractor vehicles are left on site overnight.
- Verify that all underground cable is installed in conduit, filled with corrugated innerduct or MaxCell. A metallic cable is to be pulled through the conduit, not in the innerduct, and grounded at each end to allow future location of the cable and conduit.
- Assure the minimum depth of the conduit shall be 36 inches from the finished grade. A detectable orange fiber optic cable warning tape shall be placed approximately 18 inches above the conduit in the same trench. When a trench is in asphalt, Contractor shall backfill the trench with 2500 PSI concrete up to 2 inches from the surface. All bores shall maintain the minimum depth of 36 inches from the finished grade.
- Terminate underground PVC conduit at a pole, extend the conduit 4" above ground level and locate conduit

90 degrees away from any power or other utility including pole ground wire.

- Verify all vacant conduits or innerducts shall be installed with one 1200 lb pull tape in place and be accessible at each end for pulling future cable.
- Pump out water and clean out all manholes in which work is conducted.
- Verify any manholes or pulling vaults required for long pulls of cable shall be situated so that the maximum pulling tension for the cable will not be exceeded on any run.
- Verify slack points, consisting of 100 feet of fiber optic cable properly looped and bound in accordance with industry standards, are placed approximately every 1500 feet in the nearest manhole.
- Verify proper precautions are taken during the placement of the conduit and cable. If any obstruction or lack of proper path is encountered during the planning of the installation which will not allow continuation of the placement along the designated route, alternate routing of the fiber optic cable must be obtained.
- Verify all underground fiber optic cable systems are identified with the use of industry standard identifiers including but not limited to marker poles, "Warning: Buried Fiber Optic Cable" signage, "Call Before You Dig" signage, etc. adequately spaced. Verify with the County prior to installation.
- Assure that underground construction on State of Texas Right-of-Way must comply with the following additional specifications:
 - All driveways and/or street crossings will be bored.
 - All trees within the construction limits will need to be bored from drip line to drip line.
 - Any TxDOT signs removed due to fiber installation will be replaced immediately. They will be placed according to TxDOT standards with concrete footings and break-away posts.

CLEAN-UP: Contractor shall keep the site and surrounding area free from accumulation of waste materials or rubbish caused by operations under the installation.

- Upon completion of the Work and before acceptance and final payment will be made, the Contractor shall clean and remove from the site(s), all surplus and discarded materials, temporary structures, and debris of every kind as a result of the installation. The site(s) shall be left in a neat and orderly condition at least equal to that which originally existed. Surplus and waste materials removed from the site shall be disposed of in accordance with applicable laws and regulations.

UNDERGROUND FIBER OPTIC CABLE INSTALLATION: Specific requirements for underground fiber optic cable shall include but are not limited to the following. Contractor shall:

- Verify that the sequence of installation provides that no cable trench be left open overnight. The Contractor must not trench more in one day than can be placed and backfilled in the same day. Trenching operations must be scheduled in order that no trenching equipment or Contractor vehicles are left on site overnight.
- Verify that all underground cable is installed in conduit, filled with corrugated innerduct or MaxCell. A metallic cable is to be pulled through the conduit, not in the innerduct, and grounded at each end to allow future location of the cable and conduit.

- Assure the minimum depth of the conduit shall be 36 inches from the finished grade. A detectable orange fiber optic cable warning tape shall be placed approximately 18 inches above the conduit in the same trench. When a trench is in asphalt, Contractor shall backfill the trench with 2500 PSI concrete up to 2 inches from the surface. All bores shall maintain the minimum depth of 36 inches from the finished grade.
- Terminate underground PVC conduit at a pole, extend the conduit 4" above ground level and locate conduit 90 degrees away from any power or other utility including pole ground wire.
- Verify all vacant conduits or innerducts shall be installed with one 1200 lb pull tape in place and be accessible at each end for pulling future cable.
- Pump out water and clean out all manholes in which work is conducted.
- Verify any manholes or pulling vaults required for long pulls of cable shall be situated so that the maximum pulling tension for the cable will not be exceeded on any run.
- Verify slack points, consisting of 100 feet of fiber optic cable properly looped and bound in accordance with industry standards, are placed approximately every 1500 feet in the nearest manhole.
- Verify proper precautions are taken during the placement of the conduit and cable. If any obstruction or lack of proper path is encountered during the planning of the installation which will not allow continuation of the placement along the designated route, alternate routing of the fiber optic cable must be obtained.
- Verify all underground fiber optic cable systems are identified with the use of industry standard identifiers including but not limited to marker poles, "Warning: Buried Fiber Optic Cable" signage, "Call Before You Dig" signage, etc. adequately spaced. Verify with the County prior to installation.
- Assure that underground construction on State of Texas Right-of-Way must comply with the following additional specifications:
 - All driveways and/or street crossings will be bored.
 - All trees within the construction limits will need to be bored from drip line to drip line.
 - Any TxDOT signs removed due to fiber installation will be replaced immediately. They will be placed according to TxDOT standards with concrete footings and break-away posts.

Delivery

- All material shall be delivered to its proper location and installed by the contractor without additional cost or expense to Owner, which shall not be deemed to have accepted the system until the Date of Acceptance.
- During the time between delivery and acceptance, Owner cannot be held liable for any damages to or theft of any components. It will, therefore, be the responsibility of the Contractor to obtain insurance against loss, theft, and damage.

Contractor's Responsibilities

- The Contractor is required to permit, install, document, and test all systems (procedures are outlined in following sections).
- The Contractor shall be responsible for the acquisition of the appropriate permits, licenses, and/or franchises required to occupy the public right of way of the various permitting authorities and their jurisdictions involved. It will be the Contractor's responsibility to secure and fund these permits. The Contractor will be authorized by Williamson County to act as its agent for this purpose.
- The Contractor shall provide to Pole Owner a statement summarizing the standards used by the Contractor for its standard pole attachment installations. Such standards shall be signed and approved by a professional engineer representing the Contractor, confirming that the Contractor's standard installations conform to the NESC and good engineering design. With respect to non-standard Attachments, Contractor's professional engineer shall prepare or review plans for such non-standard Attachments and submit such plans to Pole Owner with a statement that such non-standard Attachments comply with the NESC and good engineering design.
- The Contractor shall be responsible to provide a detailed engineering drawing signed and sealed by a professional engineer registered in the State of Texas, that are required for the acquisition of the appropriate permits, licenses and/or franchises required by the Owner to occupy the public rights-of-way of the various organizations (city, county, state, railroads, TxDOT, etc.) involved. The Cabling Contractor will be authorized by the Owner to act as its agent for this purpose.
- Contractor shall survey the proposed cable route and coordinate the route with the representatives from each agency having jurisdiction over items such as the City of Georgetown, Williamson County, the State of Texas, highways, traffic lights, overpasses, etc. prior to construction. All potential problems with cable placement shall be brought to the Owner's attention a minimum of ten (10) calendar days prior to construction.
- When placing fiber cable on poles, the Contractor shall determine the ability of existing pole lines and guys to support the new cable plant, as well as any restrictions imposed by the pole owner. The Contractor shall ensure proper

clearance from electric power lines and other cables that may sag near the fiber optic cable at the entire length of the proposed aerial route as well as determine the clearances between the proposed fiber optic cable plant and existing facilities on a case-by-case basis by referring to the National Electrical Safety Code (NESC) and appropriate local safety codes. The Contractor shall obtain the required right-of-way clearances and ensure that this right-of-way is free of obstacles such as guy wires, trees, etc.

- The Contractor shall be responsible for establishing grades and elevations, checking all interference, and shall verify all dimensions and locations in the field.
- When placing buried cable on public right-of-way, permits and state licenses will be generally required for the following:
 - Boring, plowing, trenching, or excavating on public right-of-way.
 - Closing or limiting traffic on a thoroughfare.
 - Attaching conduit or cables to bridges, culverts, or public structures.
 - Storing materials or machinery on public property or right-of-way.
 - Crossing streets and railroads by direct burial or by pipe pushing/road bores.
 - Crossing streams, navigable waters, drainage ditches, etc.
- The Contractor must re-verify building entrance and telecommunication room locations prior to installation. Prior to the furnishing or installing of any equipment, approval of equipment, locations, layout, and installation shall be obtained from Owner and Consultant.
- The Contractor shall specifically note that the drawings are intended to only indicate in diagram format the extent, general character, and locations of work included. The exact routing of duct shall be determined by the existing structural conditions and other obstructions.
- The locations of equipment, conduits, etc., as shown on the drawings, are correct to the extent permitted by the scale of the drawings but are subject to such modifications as may be found necessary or desirable at the time of installation to meet any structural conditions. Such changes shall be made by the Contractor without extra charge, subject to the approval of the Owner.
- The Contractor shall be responsible for fully coordinating all of the various parts of the Work included under this document, and such other work of this contract as it may affect the installation, throughout the various phases of construction and before the ordering or fabrication of the various parts of the Work, so as to ensure compliance with the drawings and specifications, and as necessary to provide the installations complete and in satisfactory operating condition.
- Shipping delays are the sole responsibility of the Contractor due to flawed planning.
- It shall be the responsibility of the Contractor to verify the locations of all equipment such as manholes, handholes, pull boxes, and such other apparatus.

Products

- Armored Fiber Optic Cable
 - Fiber optic cables shall meet the following standards: Telecordia GR-20-CORE, ICE 60794-3-11, RUS 7 CFR1755 (PE90 Listed) RoHS Compliant
 - For underground and aerial installation, the Contractor shall use Armored Fiber Optic Cable and shall incorporate a corrugated Steel Armor Tape to provide for resistance to rodent attack.
 - Armored Fiber Optic Cable shall be filled with a dry water-blocking compound.
 - The 144 single-mode armored fiber optic cable shall be manufactured by Panduit # FSWN91A

Pathways – Underground/Aerial

- All underground boring segments shall be installed with (2) 2" HDPE SDR 11 conduits.
- All underground open trench segments shall be installed with (2) 2" Schedule 40 PVC conduit.
- The unoccupied conduit shall contain measured pull tape. The pull tape shall be a minimum of 1200lbs in tensile strength and shall be placed and accessible on each end for future use.
- The conduit shall be Arnco, Carlon Dura-Line or other approved products, which meet industry standards.
- Underground enclosures and lids shall be constructed of a fiberglass-reinforced polymer material with a minimum tier 15 rating.
- Underground enclosures shall be 17"W x 30"L x 24D".
- Underground enclosure shall be equipped with cable racks and hooks.
- The underground enclosures shall be Hubbell, Oldcastle, or other functionally equivalent products which meet these specifications.
- Hand Holes shall be buried to grade level leaving lids exposed.
- Aerial pathways consist of 1/4" EHS galvanized strand and appropriate galvanized pole attachment hardware meeting industry standards.
- 1/4" EHS strand shall consist of 7 wires with a minimum breaking strength of 6,650lbs.
- All wood pole attachment hardware shall be galvanized and appropriately sized.

- All concrete, steel or poles made of other materials shall be banded with 1.25” Heavy-Duty stainless- steel banding with properly size mounting plates and bolt clamps.
- All guying and anchoring shall meet permitting requirements or meet minimum industry standards.
- Aerial Lashing Ties: Select Panduit Ty based on application.
- Insulating Mastic Tape: ST2226-375-10BK, ST2228-200-10BK, ST2228-100-10BK

Fiber Optic Splice Closure

- A fiber optic splice closure and associated hardware shall be used to restore the mechanical and environmental integrity of an optical fiber cable following a splicing operation. In addition, a splice closure shall provide the necessary facilities for organizing and storing optical fiber and splices.
- The splice closures shall feature gel sealing technology for cable terminations.
- The splice closures shall be re-usable and enable easy cables removal.
- The fiber optic splice closures shall meet the following requirements:
 - Single-ended design.
 - Equipped for 144 splices.
 - Base and dome shall be sealed with a clamp and O-ring system.
 - Six round cable ports shall be available in a wrap-around block with pre-installed gel profile for cable sealing.
 - Splice trays shall be hinged for access to any splice without disturbing other trays.
 - Each splice trays shall have the capacity to house 72 single fusions splices.
 - Enable uncut or expressed fibers to be stored in storage baskets.
 - No stress shall be placed on finish splices within trays.
 - Accommodate bonding/grounding: Select Panduit G&B product based on application
 - Fiber optic splice enclosure shall include aerial hanger brackets.
 - Fiber Closure: OFCD6517BF or OFCD9519BF
 - Fiber Splice Tray, 24 Single Fusion splices: OFC24SST
- The fiber optic splice enclosure shall be Panduit, or other approved products which meet these specifications.

Fiber Optic Patch Panel

- The fiber optic patch panel shall be available in 1U and 4U configuration.
- The fiber patch panel shall be mountable in a 19" cabinet or rack.
- The fiber optic patch panel components shall include front and rear covers, radius limiters, vertical cable guide, and designation labels.
- Designation label areas shall be inside the front cover to record cable and patch cord identification.
- A cable clamp kit shall be provided for outside plant (OSP) fiber cable that enters the patch panel.
- Removable covers shall be mounted at the front of the patch panel. Radius limiters shall enable to maintain a minimum fiber bend radius of 1.5 inches and permit coiling excess lengths of cable fibers or pigtails. .
- The patch panels shall be manufactured by Panduit. Part # FCE1U and FCE4U

Fiber Adapter Panels

- Fiber adapter panels shall be duplex LC style for 12/24 fibers.
- Split sleeve shall be made of zirconia ceramic suitable for SM applications.
- The open position in patch panel shall be filled with adapter panel blanks. Panduit Part # FAPB
- The fiber adapter panels shall be manufactured by Panduit. Part #s FAP6WBUDLCZ and FAP12WBUDLCZ
- Fiber Pigtails – 12 Fiber OS2: F9TBN1NNNSZM001
- Fiber Splice Module Holder: FOSMH1U/FOSMH4U
- Fiber Optic Splice Module - 24 Fusion Splices: FOSMF
- Fiber Patch Cord, OS2, 0.5, 1, 2, 3, & 5 meter: F92ERLNLNSNM0.5, F92ERLNLNSNM001, F92ERLNLNSNM002, F92ERLNLNSNM003, F92ERLNLNSNM005 **Underground Enclosures**
- Underground enclosures shall be constructed of a fiberglass-reinforced polymer material and have the same strength rating as concrete handholes of the same proportions.

- Underground enclosures shall be available in two sizes: 24"W x 36"L x 36"D and 30"W x 48"L x 48"D.
- Closures: OFCD6517BF or OFCD9519BF
- Fiber Splice Tray, 24 Single Fusion splices: OFC24SST

Storage System for Aerial Cable System

- Fiber slack management shall be installed in 100' increments for every 1,000' of fiber optic cable installed.
- Aerial fiber slack management shall be installed in a 16' storage looper.
- Storage looper shall have a minimal of 8" bending radius.
- In underground enclosures, fiber slack management shall be installed in every other underground enclosure and fiber dressed around enclosure on provided cable racks and hooks.
- Unspecified Equipment and Material
 - Any item of equipment or material not specifically addressed on the drawings or in this document and required to provide a complete and functional OSP/WAN cabling system installation shall be provided in a level of quality consistent with other specified items.

Execution

- Inspection
 - Examine areas and conditions under which the new exterior telecommunication pathways are to be installed.
 - Verify field measurement and pathway routing conditions.
 - Beginning of exterior telecommunication pathway installation indicates Contractor acceptance of existing conditions.

Directional Boring Operations

- All directional boring operations are subject to the following conditions:
- The machine operator shall follow all current OSHA regulations, including the use of grounding mats and other safety measures.
- The machine operator shall have control over the direction of the boring tool.

- The bore crew must have, in their possession, a copy of the permit authorizing the company to perform work and a copy of the approved drawing and specifications for the bore work location.
- When possible, the Contractor shall mark the proposed running line and bore head location. Mark the proposed running line every 5' to 10', using a longitudinal line; mark the actual location with a white paint spot at the end of each stem push. Only white paint is approved for this use.
- The bore is not allowed to deviate more than six (6) inches from the proposed marked running line, and the ends of the bore must be at the designated depth.
- Slurry use shall be kept at a minimum and only used for head lubrication and/or spoils return. The Contractor shall calculate anticipated slurry use and monitor slurry use during the bore operation to determine slurry loss into the surrounding soil.
- Slurry must be contained during the bore operation and must be removed prior to backfilling, with dry dirt.
- During pull back the mandrels shall be not more than two inches larger than the diameter of the duct or casing.
- Shallow bores or other unsuccessful bores shall be abandoned and filled.
- The bore operation shall be stopped if any damage occurs to a road surface and it shall remain inactive until corrective measures are taken. The Contractor is liable for any damage done to the right-of-way or structures.
- Auger heads are not allowed more than six inches ahead of the casing being inserted.
- Bore stems and cutting heads may have to be left in the ground if they cannot be retrieved through the bore hole. Open excavation to retrieve the parts is not allowed.
- When boring near creeks and streams, silt fences shall be properly installed to prevent disturbed soil from flowing into the waterways and remain in place after the bore has been completed.

Excavation and Trenching Requirements

- Make trench sides as nearly vertical (max depth is 36") as practical except where sloping of sides is allowed.
- Remove all rock, boulders, hard material, unstable material, and yielding and unsatisfactory materials within the limits indicated for trench excavation and dispose of off the site. Notify the Owner's Representative immediately in writing if it becomes necessary to remove such materials beyond the trench limits. Where excavations are deeper or wider than the trench limits in order to remove unsuitable materials, they shall be refilled with approved borrowed

material.

- Existing concrete or granite curb encountered in excavation shall be temporarily supported or replaced in kind. Bituminous lip curb shall be disposed and replaced in kind.
- Excavation operations adjacent to and below existing structures and utilities shall be done manually. Start hand excavation on each side of the indicated obstruction and continue until the obstruction is uncovered or until clearance for the new grade is assured. Support uncovered lines or other existing work affected by the contract excavation until approval for backfill is granted by the Owner's Representative. Report damage to utility lines or subsurface construction immediately to the Consultant.
- Place "Road Closed" signs on temporary barricades at approaches to work or uncovered trenches.
- Keep excavated materials and construction equipment and materials a safe distance back from the edge of excavations to avoid overloading the sides of the trench and to prevent slides or cave-ins.
- Grade areas around trench as necessary to prevent surface water from flowing into excavations.
- Walkway and grassed areas left un-backfilled at the end of the Workday shall be enclosed with snow fence until restored to grade. Roadway trenches shall not be re-opened to traffic unless either a road plate capable of sustaining HS-20 loading is in place or temporary gravel is placed to bring the trench area to finish grade.

Cutting Pavement

- Where trench excavation occurs in paved areas, saw cut existing pavement to obtain sound, vertical edges one foot wider than the indicated trench width on each side of the trench. When the saw cut is within two feet of an existing joint or curb, remove pavement to the existing joint or curb or as required by the Owner or other jurisdictional authority as appropriate.
- Existing pavements and base course beyond the indicated lines for trench excavation which have been disturbed, damaged or undermined shall be restored or replaced by the Contractor to match existing pavements and base course or as requested by the Owner or other jurisdictional authority as appropriate.

Back filling

- Construct backfill in two operations (initial and final) as indicated and specified in this section. Initial backfill shall be select backfill material placed in 6-inch maximum loose lifts to one foot above conduit or duct unless otherwise specified. Bring up evenly on each side and along the full length of the conduit or duct structure. Ensure that no damage is done to the conduit or duct structure, or its protective coating or as required by the Owner or other jurisdictional authority as appropriate.

- Place the remainder of the backfill (final backfill) in 9-inch maximum loose lifts to the bottom of the sub-grade, unless otherwise specified. Compact each loose lift before placing the next lift. Do not backfill where the material in the trench is muddy, except as authorized or as required by the Owner or other jurisdictional authority as appropriate.
- Provide a minimum cover from final grade of 2-1/2 feet for fiber ducts unless otherwise indicated on the Drawings or as required by the Owner or other jurisdictional authority as appropriate.
- Where settlement occurs in trenches and pits due to improper compaction, excavate to the depth necessary to rectify the problem, then backfill and compact the excavation as specified herein and restore the surface to the required elevation or as required by the Owner or other jurisdictional authority as appropriate.
- The Contractor shall coordinate inspection and back filling with their respective inspectors,

Compaction

- Use hand-operated, plate-type, vibratory or other suitable hand tampers in areas not accessible to larger rollers or compactors. Avoid damaging newly installed and existing conduits . Compact material in accordance with local code unless otherwise specified. If necessary, alter, change, or modify selected equipment or compaction methods to meet compaction requirement and meet requirements of the Owner or other jurisdictional authority as appropriate.

Protection of Existing Utilities, Structures and New Work

- Excavation backfill and compaction operations shall be done in such a manner to prevent cave-ins of excavations or the undermining, damage or disturbing of existing utilities and structures or of new work. Backfill shall be placed and compacted to prevent future settlement or damage to existing utilities and structures and new work and meet requirements of the Owner or other jurisdictional authority as appropriate.
- Any damage due to excavation, back filling or settlement of the backfill, or injury to persons or damage to property occurring as a result of such damage shall be the responsibility of the Contractor. All costs to repair such damage, in a manner satisfactory to the Owner's Representative, shall be borne by the Contractor at no additional expense to the Owner and meet requirements of the Owner or other jurisdictional authority as appropriate.
- Protect newly back filled areas and adjacent structures, slopes, or grades from traffic, erosion settlement, or any other damage. Repair and re-establish damaged or eroded grades and slopes and restore surface construction prior to acceptance. Protect existing storm drain inlets from water-borne soil and meet requirements of the Owner or other jurisdictional authority as appropriate.

Restoration

- The Contractor is responsible for repairs to any streets, sidewalks, grass areas, etc., which must be trenched or otherwise disturbed in the process of installation. The County has final determination whether such repairs are acceptable.
- All sidewalks, streets, alleyways, and landscaping shall be replaced to its original condition or better.
- NOTE: All existing conditions shall be photographed or videotaped prior to construction activities to provide information on pre-existing conditions.
- Grassed Areas
- After completion and acceptance of all conduit, excavation, and backfilling work in a given area, the Contractor shall place an appropriate amount of turf sod to cover all disturbed areas. The Contractor may choose to cut and remove turf prior to the area being disturbed. This would be used to place back over the disturbed area and meet requirements of the Owner or other jurisdictional authority as appropriate.

Sidewalks

- All sidewalks shall be constructed using the same backfill and compaction procedures used for street opening.
- Unless unusual conditions exist, sidewalk panels, which are cut into for construction, shall be replaced with full panels. New or prior construction saw cuts are not considered as panel ends. Sidewalk panels end at score lines, curbs, boulevards or property lines. If the curb is part of the sidewalk panel, the curb shall also be replaced.
- Contractor shall take care in removing sidewalk panels. If adjacent panels are chipped, the contractor will be required to replace them.

Road Restoration

- After completion and acceptance of conduit excavation, and backfilling of road trench areas, 12 inches of compacted Gravel Borrow Subbase course shall be placed to a level three inches below the finish road grade. A temporary surface of Bituminous Surface Course Type I-1 shall be placed.
- After allowing 6 months for settlement of the road subbase, the Contractor shall place a saw cut of the pavement 12 inches beyond the limits of the temporary patch. Bituminous binder course shall be placed to within 1-1/2 inches of the finish road grade, and a final course of bituminous Surface Course Type I-1 shall complete the roadwork. Reflectorized pigment pavement markings specially manufactured for roadway use shall be placed to restore any pavement striping that had been in place prior to this contract.

Arial installation Safety Precautions

- All personnel involved in the aerial placement must:
- Be thoroughly familiar with the operation of the equipment and construction apparatus being used.
- Inspect all equipment (ladders, bucket trucks, reel trailers, etc.) for defects and replace if found in unsound condition.
- Use only OSHA-approved equipment.
- Arrange or secure any material in a bucket truck or on a ladder so that it cannot fall. Materials and equipment should not unnecessarily impede pedestrian or vehicular traffic.
- Allocate the appropriate number and type of safety personnel and equipment called for in OSHA safety procedures. Such personnel and equipment may include:
 - Flagmen
 - Pilot vehicles
 - Roadside barricades, warning signs, traffic cones, beacon lights, etc.
 - ABC-rated fire extinguishers on board all Contractor's vehicles.
- Before starting any aerial cable placing operation, all Contractors' personnel must be familiar with their company's safety practices concerning working near power lines, pole climbing, eye protection, safety headgear, and clothing.

Arial Cable Handling Procedures

- The Contractor shall take all necessary precautions to avoid cable damage during placement and handling. The Contractor is responsible for ensuring that manufacturer recommended installation procedures are met.
- Before the installation begins, the Contractor shall inspect the cable reels for imperfections such as nails and broken flanges that might cause damage to the cable as it is unreeled.
- The Contractor shall exercise care to prevent damage to cables while setting up equipment or while using tools of any kind.
- All pulling equipment and hardware that will contact the cable during installation must maintain the minimum bend radius of 20 times fiber cable diameter.
- The Contractor shall avoid surges and jerks of the reel at all times. Properly adjusted reel brakes should be used.

- Cable reels shall be constantly attended by the Contractor while the cable is being pulled to prevent damage to the cable and ensure lowest possible tensile load.
- If the cable has to be unreeled during installation, the Contractor shall use the “figure-eight” configuration to prevent kinking or twisting. Fiber optic cable shall not be coiled in a continuous direction except for lengths of 100 ft. or less.
- If the cable is laid on the pavement/ground during installation, the Contractor shall provide barricades or other means of preventing vehicular or pedestrian traffic in the area.
- DO NOT CUT THE CABLE under any circumstances without prior approval of the Consultant. Changes to the total number of splice points can potentially degrade duality of transmission of the system.
- At the completion of a day’s installation, the Contractor shall protect bare cable ends by placing a cable cap on the end of the cable, followed by several wraps of tape around each cap. If the cable ends are not capped while exposed to the environment for a period of one day, the Contractor will be required to cut off four feet of each cable end before splicing.
- Any unbalanced loading of the Utility Owner’s Poles caused by the placement of The Contractor’s facilities shall be properly guyed and anchored by the Contractor with a guy and anchor provided by the Contractor, at no expense to Utility Owner’s Poles . The Contractor may not place new guy attachments on the Utility Owner’s Poles prior consent.
- A preliminary “ride through” of the proposed route of the Utility Owner’s Pole facility shall be made by representatives of the Contractor and Pole Owner upon request by Pole Owner and at the Contractor’s expense.
- The Contractor shall check and verify the condition of any pole prior to climbing or performing work on it. If a pole is deemed unsafe, The Contractor must immediately notify Pole Owner by telephone and in writing.
- All Attachments shall be located on the same side of each pole as any existing telephone or communications cable, or as otherwise designated by Utility Owner
- On Attached Poles where Pole Owner has secondary conductors, all attachments shall be located on the same side of the pole as the secondary conductors, or as otherwise designated by Utility Pole owner.
- No bolt used by the Contractor to attach its facilities shall extend or project more than one (1) inch beyond its nut.
- All Attachments of the Contractor shall have at least two inches clearance from un-bonded hardware such as pedestals and any other enclosures containing equipment.

- All of The Contractor's Attachments shall comply with NESC clearance requirements and shall be located a minimum of forty (40) inches below Utility Pole Owner lowest attached facilities. All mid- span clearances between the Contractor's facilities and PECT's lowest conductors shall comply with NESC clearance requirements.
- The Contractor may, with prior approval of Utility Pole Owner , install cross arms, alley arms, or cable extension arms for the support of any of its facilities. However, The Contractor shall not use any cross arm or alley arm brace above the arm that it supports.
- The Contractor shall install any and all of its facilities in a neat and workmanlike manner consistent with the maintenance of the overall appearance of the jointly-used pole, subject to the approval of Pole Owner in its sole discretion.
- In the event that any of the Contractor's proposed attachments are to be installed upon poles already jointly used by Pole Owner and another party (ies), The Contractor shall negotiate with such other party (ies) to determine clearances between its facilities and those of Pole Owner and such other party (ies), except that the Contractor may not in any way modify the clearance requirements set forth in this Agreement.

Splicing and Slack Storage

- When selecting splice point locations, the Contractor shall consider the accessibility of these splicing locations by splicing vehicles. These locations should not fall in sites where access is inconvenient or hazardous.
- At the splice points, the Contractor shall leave enough cable slack on each cable end to reach the ground and into a splice vehicle, plus 16 feet.
- A splice enclosure shall use a “butt type” configuration; i.e., both cables enter the same end of a closure.
- The Contractor shall perform all splicing on the ground, not in an aerial bucket.
- The Contractor shall provide thirty-five feet (100’) of cable slack for each 2,000 feet of the aerial cable route. Cable slack loops shall be secured into “snow shoes” Cable slack of fifty feet (100’) shall be provided on one side of all creeks or rivers, major intersections or highway crossings, railroad crossings and bridge attachments.
- The Contractor shall place a slack-cable loop at least 4 feet from poles unless they are protected by a cable enclosure.

Work Within the Owner's Buildings

- If cable taken into a building is not in a metal conduit, it shall be terminated within fifty (50') of the point of entry into the structure. If the termination point (telecommunications room) is located further than 50' from the point of entry into the structured metal ridged conduit shall

be installed from the building penetration point all the way to a telecommunication room.

- All conduits shall be properly sealed at building entrance points.
- At each building entrance, a maintenance loop of fiber 4 feet in diameter and 10 to 15 feet in length must be installed.

Cutting and Patching

- Where it is necessary to do any cutting and patching, no cutting of bearing walls, beams, etc., shall be done without the approval of the Owner's Representative. All patching, finishing, etc., shall match the surroundings. All cutting and patching shall be done by workmen skilled in the trades.
- Holes through concrete and masonry in new and existing structures shall be cut with a diamond core drill or concrete saw. Pneumatic hammer, impact electric, hand or manual hammer type drills shall not be allowed, except where permitted as required by limited working space.
- Holes shall be located so as not to affect structural sections such as beams.
- Holes shall be laid out in advance. The Owner's Representative shall be advised, prior to drilling through structural sections, for determination of proper layout.
- Floor, exterior wall and roof seals shall be watertight. Walls and floors that are cored for installation of conduit shall be sleeved with steel tubing, grouted, and the space between the conduit and sleeve filled as specified herein.
- Conduits shall extend one-inch minimum above finished floor.

Fire Stopping

- Structural Penetrations: Where conduits, wireways, busduct, and other electrical raceways pass through fire partitions, fire walls or walls and floors; install a firestop that provides an effective barrier against the spread of fire, smoke, and gases. Firestop material shall be packed tight, and completely fill clearances between raceways and openings.
- All penetrations of firewalls must be approved by the Owner before any penetrations are made. The Contractor shall provide satisfactory sleeving and fire caulking both inside and outside of that sleeving. If existing sleeving is to be utilized, it will be the responsibility of the Contractor to fire caulk inside the sleeving.
- The Contractor is responsible for adhering to the following standards:
- Conduit penetrations through fire-rated or smoke walls: Completely seal around the conduit penetration with Hilti FS 601 fire-rated sealant or equal Tremco or 3M.

- Conduit sleeves through fire-rated or smoke wall: Completely seal around the conduit penetration with Hilti FS 601 fire-rated sealant or equal Tremco or 3M. Completely seal the inner opening of the conduit sleeve with fire wool packing and Hilti FS 611A intumescent firestop sealant.
- Cable bundles through fire-rated or smoke walls (without sleeves): Completely seal openings with Hilti FS 611A intumescent firestop sealant, or equal Tremco or 3M.
- Cable tray penetrations through fire-rated or smoke walls: Completely seal openings with Hilti FS 635 (trowelable type) or equal Tremco or 3M.
- A submitted response to these specifications assumes that all firestopping will be provided as specified. The firestop manufacturer's specifications and instructions shall be submitted with the final documentation.

Installation Practices for Fiber Optic Cable

- Fiber optic cable is a high-capacity transmission medium with qualities and characteristics which can be degraded when it is subjected to excessive pulling tension, sharp bends, and crushing forces.
- The maximum pulling tension for armored cable is 2,700 Newtons (600 lbs).
- Maximum long-term crush forces for armored cable are 100N/cm (57.1 lb. /in).
- The minimum bend radius for an armored cable during installation and following installation over the life span of the cable must be 20 times (20 x) the cable diameter.
- The minimum diameter required for pull wheels or rollers should be double the minimum bend radius. The contractor will be responsible to check manufacturer's specifications for the cable feed-chute, to make sure that the chute's critical dimensions and clearances are compatible with the placing cable. The chute must have a 31-inch minimum radius.

Test/Acceptance Criteria

- Testing
- The fibers utilized in the installed cable shall be traceable to the manufacturer. The Contractor shall provide cable manufacturer's test report for each reel of cable provided. These test reports shall include (1) manufacturer's on-reel attenuation test results at the specified wavelengths for each optical fiber of each reel prior to shipment from the manufacture and (2) on-the-reel bandwidth performance as tested at the factory.
- The Contractor is responsible for supplying all equipment and personnel necessary to conduct the acceptance tests.

- The Contractor shall conduct acceptance testing according to a schedule coordinated with the Consultant. The Consultant may be in attendance to witness the test procedures. The Contractor shall offer adequate advance notice to the Consultant as to allow for such participation.

Optical Time Domain Reflectometer (OTDR) Testing

- All links shall be tested with an OTDR. Single mode fibers shall be tested at 1300/1500-nm (nominal).
- The OTDR(s) shall incorporate high-resolution optics optimized for viewing of short cable sections. Launch cables of adequate length (1000' minimum) shall be used to allow viewing of the entire length of the cable, including the patches at the launch and receive end.
- OTDRs used as part of these testing specifications shall be calibrated to sheath (jacket) length, not optical length by adjusting the unit's index of refraction.
- All OTDR traces shall maximize both the vertical and horizontal scales to the greatest extent possible and still fit the entire cable link trace on the screen with optimum resolution.
- All OTDR tests shall be averaged for a minimum of 2 minutes.
- Documentation of the OTDR signature traces displaying the entire length of the cable run shall be provided to the Owner to include a record of:
 - Wavelength
 - Fiber type
 - Fiber and cable number
 - Measurement direction
 - Test equipment model and serial number
 - Calibration date
 - Operator

ORL Testing

- All single mode fiber links shall be tested for optical return loss (ORL) using OLTS (Optical Loss Test Set). The OLTS shall be capable of measuring patch spike with respect to the backscatter signal on the OLTS. This technique shall be accomplished by software embedded in the instrument.
- The launch cords must be kept clean and periodically re-polished to insure as perfect a surface finish as possible to match polishing on the patches.
- The single-mode patch' optical return loss shall be not less than 55 dB for UPC patches.
- Test documentation must be provided in PDF and raw file format.
- The Contractor shall provide the Owner with a licensed copy of the OTDR/OLTS viewing software one week prior to the commencement of fiber testing.

Documentation

- Drawing Records
- The following requirements apply to all record drawings:
 - They shall be maintained at the Contractor's expense.
 - All such drawings shall be provided as necessary for clarification.
 - The Contractor shall indicate on the drawings the fiber optic cable location with the reference to the center of the street.
 - The record drawings shall be returned to the Owner on completion of the Work and are subject to the approval of the Owner.
- The record drawings shall be submitted in the following formats:
 - In one redline set
 - In one KMZ set
 - In one AutoCAD set
- Test records: Test readings shall be recorded along with the annotation that these are post-installation readings. Printed copies of these readings shall be provided to the Owner upon completion of the Project. Records are to include date of testing, name of technician, and readings of all above-described test results.

Labeling

- A labeling plan must be submitted to and approved by the Owner prior to installation, and the completed labeling must meet the approval of the Owner. EIA 606 standards are to be met.

- The size, color and contrast of all labels should be selected to ensure that the identifiers are easily read.
- All labels are to be mechanically printed; no hand-printed labels allowed for any component.
- Labels should be visible during the installation of and normal maintenance of the infrastructure. Labels should be resistant to the environmental conditions at the point of installation (such as moisture, heat or ultraviolet light) and should have a design life equal to or greater than that of the labeled component.
- Provide vinyl substrate with a white printing area and black print.
- Labels shall be flexible.
- Each cable is to be permanently labeled at each end with a unique cable number. In addition, labels shall be affixed to the cable/inner duct at every transition of a vault, hand hole, riser closet, or major pull box. Labels will be in the form of "Location one-Location two- fiber strands#". For example, cable number from Elementary school to the Owner Distribution Center building would be labeled as "ES#6- Distribution-24".
- Each fiber optic strand shall be labeled with a unique identifier at the LC coupler in the fiber optic patch panel. Patches shall be labeled on the identifying sheets on the front of the fiber optic patch panel.
- Fiber cable shall be permanently labeled in each handhole and at each splice point with a unique cable identifier.

Fiber Optic System Acceptance

- The fiber optic outside plant system will be accepted by Owner when:
- All of the Work has been completed in accordance with the contract and specifications.
- The system operates in conformance with manufacturer's published specifications.
- The system has completed a successful performance period. The performance period will begin on the day following the cutover and must continue for 30 consecutive days during which time the system will operate at an average effectiveness level of 99 percent or more. If for any reason this level cannot be maintained, a new 30-day performance period will be initiated. It is not necessary that one 30-day period expire before another performance period begins.
- The Contractor has certified in writing to the Consultant when the cable is installed, operational in accordance with these specifications, and ready for use.
- The final step in accepting buried cable installation will be a thorough inspection of the entire route from start to finish. The "as-built" drawings must be submitted to the Owner one week prior to final inspection. The drawings will be examined by all personnel and involved parties

for conformance to plans, codes, regulations, and general accuracy.

- The construction area above ground will be inspected to ensure the following:
 - Restoration has been accomplished.
 - Permanent markers have been installed immediately beside the cables.
 - Road bores, if used, are properly completed, and will not collapse a portion of the road.
 - Debris and trash have been removed from the site.
 - Other instructions specific to the installation have been completed to the Project manager's specifications.

CLEAN-UP: Contractor shall keep the site and surrounding area free from accumulation of waste materials or rubbish caused by operations under the installation.

- Upon completion of the Work and before acceptance and final payment will be made, the Contractor shall clean and remove from the site(s), all surplus and discarded materials, temporary structures, and debris of every kind as a result of the installation. The site(s) shall be left in a neat and orderly condition at least equal to that which originally existed. Surplus and waste materials removed from the site shall be disposed of in accordance with applicable laws and regulations.

Modification/Clarification to Contractor's Proposal, Section VI. Exclusions, #8:

Contractor and Owner hereby agree the original Exclusion #8 of Contractor's Proposal shall be amended and supplanted by the following:

8. Contractor (BryComm) has included innerduct for free and clear existing pathways from the ROW (Right of Way) to the entrance facility of each building.

Project Schedule

Project Schedule:

The Project schedule shall have the following milestones commencing from the notice to proceed:

- Initial survey and planning stage: 30 Calendar Days
- Permitting and approvals stage: 180 Calendar Days
- Construction stage: 585 Calendar Days
- Project Closure stage: 45 Calendar Days
- Project Handover stage: 45 Calendar Days

BOM

| Williamson County Fiber Expansion Bill of Materials | | | | | |
|---|------------------------|---------|-----------|-------|---------------|
| Panduit OSP Rated Fiber Optic Cable Per Segment | | | | | |
| SEG # | Item Description | Mfg | Part # | Qty | Unit of Issue |
| S-1 | 432 STRAND SM OSP SJSA | Panduit | FSWN93A/N | 22930 | FT |
| S-2 | 288 STRAND SM OSP SJSA | Panduit | FSWN92A/N | 30218 | FT |
| S-3 | 96 STRAND SM OSP SJSA | Panduit | FSWN996 | 19425 | FT |
| S-4 | 288 STRAND SM OSP SJSA | Panduit | FSWN92A/N | 12836 | FT |
| S-5 | 288 STRAND SM OSP SJSA | Panduit | FSWN92A/N | 44021 | FT |
| S-6 | 144 STRAND SM OSP SJSA | Panduit | FSWN91A | 6386 | FT |
| S-7A | 96 STRAND SM OSP SJSA | Panduit | FSWN996 | 6085 | FT |
| S-7B | 144 STRAND SM OSP SJSA | Panduit | FSWN91A | 13341 | FT |
| S-8 | 48 STRAND SM OSP SJSA | Panduit | FSWN948 | 8906 | FT |
| S-9 | 48 STRAND SM OSP SJSA | Panduit | FSWN948 | 14943 | FT |
| S-10 | 144 STRAND SM OSP SJSA | Panduit | FSWN91A | 43000 | FT |
| S-11 | 96 STRAND SM OSP SJSA | Panduit | FSWN996 | 5418 | FT |
| S-12 | 144 STRAND SM OSP SJSA | Panduit | FSWN91A | 32465 | FT |
| S-13 | 144 STRAND SM OSP SJSA | Panduit | FSWN91A | 66811 | FT |
| S-14 | 96 STRAND SM OSP SJSA | Panduit | FSWN996 | 11760 | FT |
| S-15 | 144 STRAND SM OSP SJSA | Panduit | FSWN91A | 17109 | FT |
| S-16 | 144 STRAND SM OSP SJSA | Panduit | FSWN91A | 16001 | FT |
| S-17 | 144 STRAND SM OSP SJSA | Panduit | FSWN91A | 12900 | FT |
| S-18 | 144 STRAND SM OSP SJSA | Panduit | FSWN91A | 32094 | FT |
| S-19 | 96 STRAND SM OSP SJSA | Panduit | FSWN996 | 9245 | FT |
| S-20 | 144 STRAND SM OSP SJSA | Panduit | FSWN91A | 25805 | FT |
| S-21 | 144 STRAND SM OSP SJSA | Panduit | FSWN91A | 4386 | FT |
| S-22 | 96 STRAND SM OSP SJSA | Panduit | FSWN996 | 16044 | FT |
| S-23 | 144 STRAND SM OSP SJSA | Panduit | FSWN91A | 61259 | FT |
| S-24 | 96 STRAND SM OSP SJSA | Panduit | FSWN996 | 17727 | FT |
| S-25 | 48 STRAND SM OSP SJSA | Panduit | FSWN948 | 4139 | FT |
| S-26 | 48 STRAND SM OSP SJSA | Panduit | FSWN948 | 16340 | FT |
| S-27 | 144 STRAND SM OSP SJSA | Panduit | FSWN91A | 18340 | FT |
| S-28 | 96 STRAND SM OSP SJSA | Panduit | FSWN996 | 32831 | FT |
| S-29 | 144 STRAND SM OSP SJSA | Panduit | FSWN91A | 54701 | FT |

| Panduit Connectivity and Hardware - Overall Project | | | | | |
|---|--|--------------|------------------|--------|-----|
| | 1U Rack Mount Fiber Enclosure | Panduit | FCF1U | 13 | FA |
| | 4U Rack Mount Fiber Enclosure | Panduit | FCF4U | 16 | EA |
| | LC/SM Fiber Adapter Panel 24F | Panduit | FAP12WBUDLCZ | 124 | EA |
| | Splice Tray | Panduit | FOSMF | 124 | EA |
| | Splice Module Handler - 1U | Panduit | FOSMH1U | 13 | EA |
| | Splice Module Handler - 4U | Panduit | FOSMH4U | 16 | EA |
| | 12 Strand SM 900um Pigtail 1M | Panduit | F9TBN1NNNSZM001 | 248 | EA |
| | Fiber Adapter Panel Blank | Panduit | FAPB | 78 | EA |
| | Armored Cable Grounding Kit | Panduit | ACG24K | 29 | EA |
| | Outdoor Splice Enclosure | Panduit | OFC9519BF | 54 | EA |
| | Single Fiber Splice Tray 24Ct. | Panduit | OFC24SST | 176 | EA |
| | Fiber Optic Splice Protector | Panduit | FOSP61-C | 9500 | EA |
| Aerial Construction Materials - Overall Project | | | | | |
| | 1/4" EHS Galvanized Strand w/Attachment Hardware | Hubbell | MISC. | 603850 | FT |
| | S/S Lashing Wire w/ Bonding, Fiber Tags, Strap/Spacers | Hubbell | MISC. | 640850 | FT |
| | 6Ft. X 5/8" Anchor Rods | Hubbell | 5346 | 786 | EA |
| | 8" Expanding Plate/Bell | Hubbell | 88135 | 786 | EA |
| | 8ft. Full Round Guy Markers | Hubbell | 96FRPMYEL | 786 | EA |
| | 30'/Class 3 Wood Utility Poles CCA Treated | Stella-Jones | 3/30/SYP/CAA | 556 | EA |
| | GROUND ROD 5/8" X 8" | Hubbell | 615880 | 556 | EA |
| | GROUND ROD CLAMP | Hubbell | CP58 | 556 | EA |
| | BARE #6 GROUND WIRE | Hubbell | BARE-CU-SD-6-SOL | 27800 | FT |
| | CU STAPLE,STEEL 1-1/4IN | Hubbell | J6493 | 16680 | EA |
| | STRUCTURAL POLE SETTING FOAM; 5 CF/KIT | Hubbell | POLECRETE | 556 | EA |
| | 1.25" HD BUCKLES (BOX OF 25) | USA Band | 812442 | 11 | EA |
| | 1.25" MOUNTING PLATES | USA Band | 812512 | 11 | EA |
| | 1.25" BANDING DEADENDS ASM | USA Band | 812514 | 110 | EA |
| | 1.25" BANDING BOLT/CLAMP | USA Band | 812504 | 68 | EA |
| | 16" Snow Shoe w/Tap Bracket | Mutilink | 71244K | 426 | EA |
| | HEAVY DUTY CABLE TIE 18" (50 PACK) | ABB | L-18-120-0-L | 9000 | EA |
| | One Click Cleaner LC/MU | AFL | 8500-05-0002MZ | 30 | EA |
| Underground Construction Material - Overall Project | | | | | |
| | 2" SDR11 HDPE Roll Pipe | Duraline | 2" SDR11 | 41720 | FT. |
| | 3" Sch40 PVC Conduit | Cantex | A52DA12 | 2000 | FT. |

| | | | | | |
|--|---|-------------------|--------------|------|-----|
| | 3" Sch40 PVC 90 Sweep | Cantex | A52DA13 | 100 | EA |
| | 3" Sch40 PVC Coupling | Cantex | A52DA14 | 100 | EA |
| | 1,800lb Muletape | Neptco | WP1800P | 19 | EA |
| | 3/4" Gravel | MISC | MISC. | 41 | TON |
| | 17" x 30" x 24" Tier 15 Polymer Vault | Quazite | PG1730BA24 | 83 | EA |
| | 17" x 30" x 24" Tier 15 Polymer Vault Cover | Quazite | PG1730HA0012 | 83 | EA |
| | Single Set Station Rack | Maclean | J5125 | 83 | EA |
| | Round Dome Fiber Optic Marker | Global Industrial | 113779B | 83 | EA |
| | 1.25" Corrugated Innerduct | ABB Carlon | A6D2S1JNNB | 4500 | FT. |

Cost Breakout

Fiber Sections

[illegible]

| | Can be a short spur from nearest major run (see map) |
|--|--|
| | |

| Section | Cost |
|---------|----------------|
| Blue | \$2,208,569.00 |
| Red | \$1,828,635.00 |
| Yellow | \$1,440,937.00 |
| Green | \$2,520,140.00 |

Payment & Performance Bond: \$80,227.00
Maintenance Bond: \$3,349.00
Total: \$8,081,857.00

Routing Maps