#### CONSTRUCTION GOODS AND SERVICES AGREEMENT

This Construction Goods and Services Agreement (this "Agreement") is made and entered into effective February 27, 2019 (the "Effective Date") between City of John Day ("City"), an Oregon municipal corporation, whose address is 450 E Main Street, John Day, Oregon 97845, and Blue Mountain Telecommunications, Inc. ("Contractor"), a Washington corporation, whose address is 291 Chamberlain Road, Walla Walla, WA 99362.

#### RECITAL:

Contractor will perform the Services (as defined below) for and on behalf of City in accordance with, and subject to, the terms and conditions contained in this Agreement.

#### AGREEMENT:

NOW, THEREFORE, in consideration of the parties' mutual obligations contained in this Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

<u>Definitions</u>. For purposes of this Agreement, unless the context clearly requires otherwise, the following terms have the meanings assigned to them below:

"City" has the meaning assigned to such term in the preamble.

"City Manager" and "Project Manager" means the City of John city manager or his or her designee.

"Contractor" has the meaning assigned to such term in the preamble.

"Delivery Address" means 450 East Main Street, John Day, Oregon 97845 or such other place designated in writing by City.

"Goods" means the fiber optic infrastructure, materials and all equipment necessary to perform the Services to the Specifications described herein.

"Effective Date" means the date of the parties' mutual execution of this Agreement.

"Law(s)" means all applicable federal, state, and local laws, regulations, restrictions, orders, codes, rules, and/or ordinances related to or concerning, whether directly or indirectly, Seller, this Agreement, and/or the Goods, including, without limitation, all applicable City of John Day ordinances, resolutions, policies, regulations, orders, restrictions, and guidelines, all as now in force and/or which may hereafter be amended, modified, enacted, or promulgated.

"Services" means all labor and professional services needed to deliver the Goods.

"Specification(s)" includes any plans, drawings, data, instructions, and/or other information relating to the Goods.

# 1. <u>Contractor Services</u>.

1.1 Services; Standards. Subject to the terms and conditions contained in this Agreement, Contractor will perform the following construction services for and on behalf of City (collectively, the "Services"): (a) those services set forth on the attached <u>Schedule 1.1</u>; (b) any other necessary or appropriate services customarily provided by Contractor in connection with its performance of those services set forth on the attached <u>Schedule 1.1</u>; and (c) such other construction services requested by the city manager (or his or her designee) through written change orders. Contractor will (w) consult with and advise City on all matters concerning the Services reasonably requested by City, (x) communicate all matters and information concerning the Goods and Services to the city manager (or his or her designee) and report directly to the city manager, (y) devote such time and attention to the performance of the Services as City and Contractor deem necessary or appropriate, and (z) perform the Services to the best of Contractor's ability. Contractor acknowledges and agrees that City may cause or direct other persons or contractors to provide services for and on behalf of City that are the same or similar to the Services provided by Contractor under this Agreement.

1.2 <u>Schedule of Services</u>. The Services will be completed expeditiously and in a timely manner. Notwithstanding anything contained in this Agreement to the contrary, all Services will be completed in accordance with the schedule of services provided on the attached <u>Schedule 1.2</u>.

1.3 <u>Conditions Precedent</u>. Notwithstanding anything contained in this Agreement to the contrary, City's performance of its obligations under this Agreement is conditioned on Contractor's performance of its obligations under this Agreement, including, without limitation, those Contractor obligations described under Section 4.5.

# 2. <u>Compensation</u>.

2.1 <u>Compensation</u>. Subject to the terms and conditions contained in this Agreement, Contractor will perform the Services at the hourly rates and fixed fees identified in the attached <u>Schedule 2.1</u>. Within thirty (30) days after completing any requested Services, Contractor will submit an invoice to City concerning the completed Services (the "Invoice"). Each Invoice will contain the following information: (a) a summary of the Services performed by Contractor; (b) the applicable fee(s) for performing the Services; and (c) any other information reasonably requested by City. City will pay the amount due under each Invoice within thirty (30) days after City has reviewed and approved the Invoice. No compensation will be paid by City for any portion of the Services not performed. City's payment will be accepted by Contractor as full compensation for performing the Services to which the Invoice relates. Notwithstanding anything contained in this Agreement to the contrary, total compensation payable by City under this Agreement for the performance of the Services will not exceed \$44,924.28.

2.2 <u>No Benefits; No Reimbursement</u>. City will not provide any benefits to Contractor. Contractor will be responsible for obtaining Contractor's own benefits, including, without limitation, insurance, medical reimbursement, and retirement plans. City will not reimburse Contractor for any expenses incurred by Contractor to perform the Services and/or in connection with this Agreement.

## 3. <u>Relationship</u>.

3.1 <u>Independent Contractor; Taxes; Licenses</u>. Contractor is an independent contractor of City. Contractor is not an employee of City. Contractor will be free from direction and control over the

means and manner of performing the Services, subject only to the right of City to specify the desired results. City will not withhold any taxes from any payments made to Contractor, and Contractor will be solely responsible for paying all taxes arising out of or resulting from Contractor's performance of the Services, including, without limitation, income, social security, workers' compensation, and employment insurance taxes. Contractor will be solely responsible for obtaining all licenses, approvals, and certificates necessary or appropriate to perform the Services.

3.2 <u>No Agency Relationship</u>. This Agreement does not create an agency relationship between City and Contractor and does not establish a joint venture or partnership between City and Contractor. Contractor does not have the authority to bind City or represent to any person that Contractor is an agent of City.

# 4. <u>Representations; Warranties; Covenants.</u>

In addition to any other Contractor representation, warranty, and/or covenant made in this Agreement, Contractor represents, warrants, and covenants to City as follows:

4.1 <u>Authority; Binding Obligation; Conflicts</u>. Contractor is duly organized, validly existing, and in good standing under applicable Oregon law. Contractor has full power and authority to sign and deliver this Agreement and to perform all of Contractor's obligations under this Agreement. This Agreement is the legal, valid, and binding obligation of Contractor, enforceable against Contractor in accordance with its terms. The signing and delivery of this Agreement by Contractor and the performance by Contractor of all of Contractor's obligations under this Agreement to which Contractor is a party, or give any person the right to accelerate any obligation of Contractor, (b) violate any law, judgment, or order to which Contractor is subject, and/or (c) require the consent, authorization, or approval of any person, including, without limitation, any governmental body.

4.2 <u>Licenses; Quality of Services</u>. Prior to Contractor's execution of this Agreement, Contractor obtained all licenses, approvals, and/or certificates necessary or appropriate to perform the Services. Contractor will perform the Services to the best of Contractor's ability, diligently, in good faith, in a professional manner, and consistent with the terms and conditions contained in this Agreement. The Services will be performed in accordance with the Regulations (as defined below). Contractor will be solely responsible for the Services. Contractor will make all decisions called for promptly and without unreasonable delay. All materials and documents prepared by Contractor will be accurate, complete, unambiguous, prepared properly, and in compliance with the Regulations.

4.3 <u>Insurance</u>. During the term of this Agreement, Contractor will obtain and maintain, in addition to any other insurance required under this Agreement, the following minimum levels of insurance: (a) general liability insurance for all losses or claims arising out of or related to Contractor's performance of its obligations under this Agreement (including, without limitation, damages as a result of death or injury to any person or destruction or damage to any property) with limits of not less than \$1,000,000 per occurrence, \$2,000,000 in the aggregate; (b) comprehensive automobile liability insurance for all owned, non-owned, and hired vehicles that are or may be used by Contractor in connection with Contractor's performance of the Services with limits of not less than \$1,000,000 per occurrence, \$2,000,000 in the aggregate; (c) errors and omissions insurance with limits of not less than \$1,000,000 per occurrence and in the aggregate. Each liability insurance policy required under this Agreement will be in form and content satisfactory to City, will list City (and City's Representatives (as defined below)) as an additional

insured(s), and will contain a severability of interest clause. The insurance Contractor is required to obtain under this Agreement may not be cancelled without ten (10) days' prior written notice to City. Contractor's insurance will be primary and any insurance carried by City will be excess and noncontributing. Contractor will furnish City with appropriate documentation evidencing the insurance coverage (and provisions) Contractor is required to obtain under this Agreement upon Contractor's execution of this Agreement and at any other time requested by City. If Contractor fails to maintain insurance as required under this Agreement, City will have the option, but not the obligation, to obtain such coverage with costs to be reimbursed by Contractor immediately upon City's demand.

4.4 <u>Workers' Compensation Insurance</u>. If required under applicable law, Contractor will obtain and maintain workers' compensation insurance in form and amount sufficient to satisfy the requirements of applicable Oregon law. Workers' compensation insurance will contain a waiver of subrogation in favor of City.

4.5 <u>Compliance with Laws</u>. Contractor will comply and perform the Services in accordance with the Regulations. Without otherwise limiting the generality of the immediately preceding sentence, Contractor will comply with each and every obligation applicable to Contractor and/or this Agreement under ORS 279B.220, 279B.225, 279B.230, and 279B.235, which statutes are incorporated herein by reference. For purposes of this Agreement, the term "Regulation(s)" means all applicable federal, state, and local laws, regulations, restrictions, orders, codes, rules, and/or ordinances related to or concerning, whether directly or indirectly, Contractor, this Agreement, and/or the Services, including, without limitation, all applicable City ordinances, resolutions, policies, regulations, orders, restrictions, and guidelines, all as now in force and/or which may hereafter be amended, modified, enacted, or promulgated.

4.6 <u>Indemnification</u>. Contractor will defend, indemnify, and hold City, and each present and future City employee, officer, agent, and representative (collectively, "City's Representatives"), harmless for, from, and against all claims, actions, proceedings, damages, liabilities, injuries, losses, and expenses of every kind, whether known or unknown, including, without limitation, attorney fees, resulting from or arising out of, whether directly or indirectly, the following: (a) damage, injury, and/or death to person or property caused directly or indirectly by Contractor (and/or Contractor's members, managers, officers, agents, employees, directors, representatives, and/or contractors); (b) Contractor's failure to pay any tax arising out of or resulting from the performance of the Services; and/or (c) Contractor's breach and/or failure to perform any Contractor representation, warranty, covenant, and/or obligation contained in this Agreement. Contractor's indemnification obligations provided in this Section 4.6 will survive the termination of this Agreement.

4.7 <u>Records</u>. Contractor will maintain complete and accurate records concerning all Services performed, the number of hours each person spent to perform the Services, and all documents produced under this Agreement for a period of five years after the termination of this Agreement. Contractor's records will be maintained in accordance with sound accounting practices. Contractor's records concerning the Services, including, without limitation, Contractor's time and billing records, will be made available to City for inspection, copying, and/or audit immediately upon City's request.

4.8 <u>Confidential Information</u>. During the term of this Agreement, and at all times thereafter, Contractor will maintain all Confidential Information (as defined below) in the strictest confidence and will not directly or indirectly use, communicate, and/or disclose any Confidential Information to any person without the city manager's prior written consent, except that Contractor may (a) use Confidential Information to perform the Services to the extent necessary, and (b) communicate or disclose Confidential Information in accordance with a judicial or other governmental order or as required by applicable law, but only if Contractor promptly notifies the city manager of the order and complies with any applicable protective or similar order. Contractor will promptly notify the city manager of any unauthorized use, communication, and/or disclosure of any Confidential Information and make every possible effort to retrieve any such Confidential Information disclosed by Contractor, and mitigate the disclosure. Upon the earlier of City's request or the termination of this Agreement, Contractor will immediately return to City all documents, instruments, and/or materials containing any Confidential Information accessed or received by Contractor, together with all copies and summaries of such Confidential Information. Notwithstanding anything contained in this Agreement to the contrary, this Agreement does not operate to transfer any ownership or other rights in or to the Confidential Information to Contractor or any other person. For purposes of this Agreement, the term "Confidential Information" means any documentation, information, and/or materials identified by City as confidential and/or any documentation, information, and/or materials relating to or concerning City's future plans, business affairs, employment, legal, and litigation matters that need to be protected from improper disclosure, in whatever form (e.g., hard and electronic copies, etc.), that is received or assessed by Contractor; provided, however, the term "Confidential Information" does not include City's public records which are non-exempt public records under applicable federal, state, and/or local laws.

## 5. <u>Term; Termination</u>.

5.1 <u>Term of Agreement</u>. Subject to the terms and conditions contained in this Agreement, the term of this Agreement commenced on the Effective Date and will remain in full force and effect until June 30, 2019, unless sooner terminated as provided in this Agreement. This Agreement may be extended by the parties' mutual written agreement.

5.2 <u>Termination by Mutual Agreement or City's Prior Notice</u>. Notwithstanding anything contained in this Agreement to the contrary, this Agreement may be terminated (a) at any time by the mutual written agreement of City and Contractor, and/or (b) by City for convenience and without cause by giving thirty (30) days' prior written notice of such termination to Contractor.

5.3 <u>Immediate Termination</u>. Notwithstanding anything contained in this Agreement to the contrary, City may terminate this Agreement immediately upon notice to Contractor upon the happening of any of the following events: (a) Contractor engages in any form of dishonesty or conduct involving moral turpitude related to Contractor's independent contractor relationship with City or that otherwise reflects adversely on the reputation or operations of City; (b) Contractor fails to comply with any applicable law related to Contractor's independent contractor relationship with City; (c) continuous and repeated problems occur in connection with the performance of the Services; and/or (d) Contractor breaches and/or otherwise fails to perform any Contractor representation, warranty, covenant, and/or obligation contained in this Agreement. The determination as to whether any of the aforementioned events have occurred will be made by City in City's sole discretion.

5.4 <u>Consequences of Termination</u>. Upon termination of this Agreement, City will not be obligated to reimburse or pay Contractor for any continuing contractual commitments to others or for penalties or damages arising from the cancellation of such contractual commitments. Within a reasonable period of time after termination of this Agreement (but in no event later than five days after termination), Contractor will deliver to City all materials and documentation, including raw or tabulated data and work in progress, related to or concerning the Services. Termination of this Agreement by City

will not constitute a waiver or termination of any rights, claims, and/or causes of action City may have against Contractor.

5.5 <u>Remedies</u>. If a party breaches or otherwise fails to perform any of its representations, warranties, covenants, and/or obligations under this Agreement, the non-defaulting party may, in addition to any other remedy provided to the non-defaulting party under this Agreement, pursue all remedies available to the non-defaulting party at law or in equity. All available remedies are cumulative and may be exercised singularly or concurrently.

# 6. <u>Miscellaneous</u>.

6.1 <u>Severability: Assignment: Binding Effect</u>. Each provision contained in this Agreement will be treated as a separate and independent provision. The unenforceability of any one provision will in no way impair the enforceability of any other provision contained herein. Any reading of a provision causing unenforceability will yield to a construction permitting enforcement to the maximum extent permitted by applicable law. Contractor will not assign this Agreement to any person without City's prior written consent. Subject to the immediately preceding sentence, this Agreement will be binding on the parties and their respective heirs, personal representatives, successors, and permitted assigns, and will inure to their benefit. This Agreement may be amended only by a written agreement signed by each party.

6.2 <u>Attorney Fees; Dispute Resolution</u>. If any arbitration or litigation is instituted to interpret, enforce, and/rescind this Agreement, including, without limitation, any proceeding brought under the United States Bankruptcy Code, the prevailing party on a claim will be entitled to recover with respect to the claim, in addition to any other relief awarded, the prevailing party's reasonable attorney fees and other fees, costs, and expenses of every kind, including, without limitation, costs and disbursements specified in ORCP 68 A(2), incurred in connection with the arbitration, the litigation, any appeal or petition for review, the collection of any award, or the enforcement of any order, as determined by the arbitrator or court. If any claim, dispute, or controversy arising out of or related to this Agreement occurs (a "Dispute"), City and Contractor will exert their best efforts to seek a fair and prompt negotiated resolution of the Dispute and will meet at least once to discuss and seek a resolution of the Dispute. If the Dispute is not resolved by negotiated resolution, either party may initiate a suit, action, arbitration, or other proceeding to interpret, enforce, and/or rescind this Agreement.

6.3 <u>Governing Law; Venue</u>. This Agreement is governed by the laws of the State of Oregon, without giving effect to any conflict-of-law principle that would result in the laws of any other jurisdiction governing this Agreement. Any action or proceeding arising out of this Agreement will be litigated in courts located in Grant County, Oregon. Each party consents and submits to the jurisdiction of any local, state, or federal court located in Grant County, Oregon.

6.4 <u>Attachments; Further Assurances</u>. Any exhibits, schedules, instruments, documents, and other attachments referenced in this Agreement are part of this Agreement. If any provisions contained in an attached exhibit, schedule, instrument, document, and/or other attachment conflicts with this Agreement, the provisions of this Agreement will control. The parties will sign other documents and take other actions reasonably necessary to further effect and evidence this Agreement. Time is of the essence with respect to Contractor's performance of its obligations under this Agreement.

6.5 <u>Notices</u>. All notices or other communications required or permitted by this Agreement must be in writing, must be delivered to the parties at the addresses first set forth above, or any other address that a party may designate by notice to the other party, and are considered delivered upon actual receipt if delivered personally, by fax, or by a nationally recognized overnight delivery service, or at the end of the third business day after the date of deposit if deposited in the United States mail, postage pre-paid, certified, return receipt requested.

6.6 <u>Waiver; Entire Agreement</u>. No provision of this Agreement may be modified, waived, or discharged unless such waiver, modification, or discharge is agreed to in writing by City and Contractor. No waiver of either party at any time of the breach of, or lack of compliance with, any conditions or provisions of this Agreement will be deemed a waiver of other provisions or conditions hereof. This Agreement contains the entire agreement and understanding between the parties with respect to the subject matter of this Agreement and contains all of the terms and conditions of the parties' agreement and supersedes any other oral or written negotiations, discussions, representations, or agreements. Contractor has not relied on any promises, statements, representations, or warranties except as set forth expressly in this Agreement.

6.7 <u>Person; Interpretation</u>. For purposes of this Agreement, the term "person" means any natural person, corporation, limited liability company, partnership, joint venture, firm, association, trust, unincorporated organization, government or governmental agency or political subdivision, or any other entity. All pronouns contained herein and any variations thereof will be deemed to refer to the masculine, feminine, or neutral, singular or plural, as the identity of the parties may require. The singular includes the plural and the plural includes the singular. The word "or" is not exclusive. The words "include," "includes," and "including" are not limiting. The titles, captions, or headings of the sections herein are inserted for convenience of reference only and are not intended to be a part of or to affect the meaning or interpretation of this Agreement.

6.8 <u>Execution; Counterparts</u>. The parties may execute this Agreement in separate counterparts, each of which when executed and delivered will be an original, but all of which together will constitute one and the same instrument. Facsimile or email transmission of any signed original document will be the same as delivery of an original. At the request of either party, the parties will confirm facsimile or email transmitted signatures by signing and delivering an original document.

IN WITNESS WHEREOF, the undersigned have caused this Agreement to be executed and made effective for all purposes as of the Effective Date.

CITY: City of John Day, an Oregon municipal corporation CONTRACTOR: Blue Mountain Telecommunications, Inc. a Washington corporation

By: Nick Green Its: City Manager

By: Its: Schedule 1.1 Description of Services

## EXHIBIT A. CONSTRUCTION DRAWING SET - CITY HALL LATERAL

(Attached)

#### EXHIBIT B. GENERAL CONSTRUCTION GUIDELINES FOR COMMUNICATIONS INFRASTRUCTURE

### 1. INTRODUCTION

This specification covers the installation of aerial and underground fiber optic cable and the splicing and terminating of such. Vaults will be installed for use as pull boxes and/or splice boxes, at intervals or locations specified. This specification also includes building entrance work.

The Contractor shall install the cable according to standard telecommunication installation procedures and OTEC joint use specifications as identified in the joint use permit and detailed in the construction drawings. Aerial installations will include make-ready work, tree trimming, strand placement and cable placement using lashing, placement of aerial cable storage systems, placement of anchors and guys, and all other work necessary to provide a complete installed system.

The underground conduit shall be placed in the rights-of-way, roadways, and private properties as shown on the construction drawings. The Contractor shall place the designated size and number of conduits the length of the underground routes. Inner duct and/or fiber cable will then be placed in the conduit by pulling or blowing methods. Locate wire to be installed in all conduit segments.

All vaults and hand holes shall be permanently sealed where conduits enter and at all locations where debris can enter. All conduits are to be plugged utilizing blank duct plugs and simplex duct plugs at all vaults and riser locations. Foam sealants shall not be a substitute for these above-mentioned plugs.

The underground methods used may include trenching, rock sawing, boring, directional boring, hand digging, or other. The Contractor shall install cable route warning signs along underground cable routes as designated in the drawings and notes.

The Contractor shall be held responsible, in all cases, to return the areas of construction to original or better condition. Restoration of the work areas shall be done on a daily basis. The City of John Day or its appointed representative reserves the right to stop the Contractor's work until restoration of affected areas has passed inspection.

Refer to the construction drawings for additional general guidelines that the Contractor will be expected to comply with.

## 2. EXISTING SITE CONDITIONS

The Contractor shall be satisfied with the work and soil and site conditions before submitting a bid. Any special handling, back pulling, restoration and all other special conditions shall be included in the Contractor's bid.

The Contractor shall provide the labor, supervision, materials, tools, machinery, services, incidental materials, supplies, insurance, bonds, and licenses necessary to install the cabling system as described herein. All work shall be performed as described herein and in strict accordance with all applicable Federal, State, County, and City Regulations.

#### 3. PROTECTION OF EXISTING UTILITIES

The Contractor shall locate or verify the locating of underground facilities of third parties in the cable route area and/or contact the responsible third party for those locations. Utility companies are to be notified a minimum of two (2) business days prior to any work being performed. The Contractor shall be

responsible for hand digging out any pipeline, drainage tile, cable, or any other buried facility prior to performing any mechanical excavations in the area. The Contractor shall take every precaution to avoid damage to all existing facilities. The Contractor shall be responsible to repair and pay for any damage that may occur due to excavations of existing utilities.

### 4. PRE-INSTALLATION / ON-REEL CABLE TESTING

The Contractor may employ the use of an optical time domain reflectometer (OTDR) to verify that the cable has not been damaged during shipment. The Contractor bears full responsibility for assuring that the fiber system operates within specification at the completion of the project.

If the Contractor elects to pre-test the cable prior to installation, costs associated for pre-installation, on-reel testing shall be included in the installation pricing.

Cable fiber testing will be done at the cable yard prior to the Contractor loading the cable for delivery to the jobsite. The Contractor shall supply all tools, test equipment, consumables, and incidentals necessary to perform quality testing.

Each fiber shall be tested with an OTDR and shall be checked for continuity, length, anomalies, and approximate attenuation. Each measurement shall be recorded with color, location, and type of fiber measured. The cable ends shall be sealed after testing.

#### 5. AERIAL FIBER INSTALLATION

The Contractor shall install all aerial fiber cable according to the manufacturer's Installation procedures, industry standard acceptable practices, and the Pole Owner construction standards and specifications for joint pole attachments. The contractor must also conform to the requirements and specifications of the current edition of the National Electrical Safety Code (NESC) as well as the rules and regulations of the Occupational and Safety Health Act (OSHA).

The Contractor must use the appropriate installation equipment including pulling machines, bull wheels, travelers, sheaves, chain hoists, dynamometers, and pulling grips for the size of the cable to be installed and must adhere to the requirements of the manufacturer with respect to maximum pulling tensions and static and dynamic bend radii.

All anchors are to be installed prior to strand installation. Strand, overhead guys, and down guys are to be installed and properly tensioned prior to cable installation. All fiber will be installed under tension to avoid possible contact or clearance issues with road crossings, structures, and the ground. All cable and strand blocks, rollers, guides and stringing equipment shall be installed to prevent contact with or damage to existing power and communications facilities. Under no circumstances shall any equipment be attached to or supported from existing power or communications facilities that are not designed to support such attachment or loading.

All strand and cable segments are to be properly sagged and tensioned upon completion of the installation to match existing conditions. In locations where there are multiple existing communications and power facilities, the cable is to be sagged and tensioned to match the existing sag of facilities and maintain mid-span clearances.

Portions of the project may also involve installation on rear lot public utility easements and will require the contractor to coordinate access with the property owners or tenants for construction. The

contractor shall provide at least 24 hours' notice to each property owner prior to construction.

The Contractor may be responsible for performing relocation make-ready work of existing communication joint-use facilities. Some communication joint-use facilities and electrical facilities will be relocated as required by their respective crews in advance of the construction.

#### 6. TRENCHING

The Contractor shall be familiar with general guidelines covering the construction of buried and underground communications conduit and cable. The equipment and construction methods used by the Contractor shall be such as to cause minimum displacement of the soil.

Where required, the Contractor shall open a trench, either by hand or by machine, in which to place the ducts, ground wire, and warning tape. The depth of the trench shall be the specified minimum cover from ground level to the top of the conduit. The trench shall be as straight as practical. The bottom of the trench shall be smooth and free from any sharp edges. The trench shall be kept clear of debris and loose rock. All changes in trench grade shall be gradual. Any open trench shall be fenced, or steel plated in travel areas and during all non-working hours. Good judgment and care must be exercised to prevent the public or construction personnel from falling into open trenches at all times.

Driveways, lanes, or roadways, which are open cut, shall be opened just prior to duct placement. In no case shall the driveway, lane, or roadway be left impassable at the end of the day. The Contractor shall cut and restore asphalt or concrete where required. The cut shall be made with the use of a concrete saw or similar. The cut shall be a T-Cut, at a minimum, 12" wider on either side than the trench below. All asphalt/concrete cut and removed shall be disposed of and new asphalt/concrete shall be used to restore the area. The new asphalt/concrete shall match the existing asphalt/concrete in depth (4" min), type, appearance, wear surface and durability to the maximum extent practicable.

After placing the conduit in the trench, the trench areas that are designated to be filled with clean backfill will be filled using lifts of 12 inches with each layer being compacted to the density specified below (or as specified by the jurisdictional permit agency, if stricter):

- Improved areas such as street and sidewalks shall be compacted to at least 90% of maximum dry density to within 3 feet of sub-grade. The last 3 feet shall be compacted to at least 95% of maximum density.
- > Unimproved area or landscape areas shall be compacted to at least 90% of maximum dry density.

This process shall be repeated until the trench is filled to the ground line. A warning tape shall be installed 18 inches below ground surface. The backfill will consist of the earth removed from the trench, unless this material is too rocky, or otherwise unsuitable. The surface restoration of the trench line shall be restored as specified in the trench details in the construction drawings.

For trench areas that are designated for reduced depth and conduit protection, the trench is to be filled with Controlled Density flowable concrete backfill meeting the specification of the jurisdictional permit agency to the depths as specified in the trench details in the construction drawings.

Where the conduits are buried near the edge of pavements, the Contractor shall take particular care to avoid damaging the pavement. If such damage does occur, repairs shall be made immediately to meet the complete satisfaction of state and/or local authorities having jurisdiction over the pavement.

Damage to banks, ditches, driveways, and roads caused by trenching operations shall be immediately repaired to the satisfaction of the inspector and the agency having jurisdiction over highway and road rights-of-way.

The work shall include, but is not limited to, excavating a trench to provide the specified minimum cover over the conduit by whatever means required (i.e., machine trench, backhoe, hand, etc.), placing the conduit in the trench, backfilling, placing warning tape and/or marking balls, compacting, traffic control, and all other operations necessary to restore the area to original or better condition. The work also includes shoring, bracing, dewatering, and placing of select backfill as necessary. The contractor will need to be familiar with the jurisdictional permit agency requirements for hard surface restoration procedures and specifications and must include this knowledge and pricing within the bid proposal.

Refer to the construction drawing guidelines for additional trenching requirements.

## 7. DIRECTIONAL BORING / DRILLING

Where required on the construction drawings, the conduits shall be installed by directional boring methods. Contractor may also elect to install conduit by directional boring method in areas that are not specified as bore. All work performed on public right-of-way or private property shall be done in accordance with requirements and regulations of the jurisdictional permit agency. In no case shall the boring be less than 36 inches from the surface of the ground or greater than 96 inches (unless otherwise specified or approved by Owner in areas that require clearance of existing utilities and substructures).

The directional boring work shall include but is not limited to the functions of boring or pushing to place conduits as specified. This work also includes the excavation, backfilling and compaction of pits, grouting of bore holes and placement of protective barricading and all other operations required to place conduit in this manner. All drilling mud and materials shall be recycled on site or disposed of according to state and local requirements at approved recycling facilities. Directional bore segments where drill casings require HDPE innerduct to be installed to include staging, pulling, proving, organizing and plugging innerducts to prevent intrusion of water, soil and contaminants. This work also includes the placing of warning markers in areas directly along the bore path and restoration of all disturbed areas to original condition or better.

## 8. VAULTS AND HAND HOLES

Vaults shall be installed to be used as pull points, transition points, slack storage, and splice points. The type and location of the vaults and hand holes are shown in the construction drawings, and the specifications are detailed in the notes section of the drawings.

Excavation to the correct depth for the vaults to be installed may be carried out by mechanical excavator or by hand. The floor of the completed excavation must be made level and compacted. The compacted excavation shall then receive a compacted layer of 6 inches of crushed rock. The top of the installed vault will be flush to grade or buried as specified. Backfilling shall commence after the vault is placed and leveled. Backfilling shall consist of placing backfill along the outside of the vault in 8-inch layers, thoroughly tamping each layer until ground level is reached.

The work shall include, but is not limited to, potholing to verify the suitability of the location for placement, digging to the required depth and dimension to allow 12" minimum clearance on all sides of the vault and the delivery, setting, and placement of the vault. The installation of ground rods, ground wire, locate terminal route markers and installation of the locate and ground wires are included.

Backfilling, compaction, and restoration are also included.

### 9. BUILDING ACCESS

All work shall be done in a "neat and workman" like manner, in conformity with local, state and federal building codes. All work must comply with applicable data system standards and National Electric Code standard specifications. Standards include, but are not limited to, EIA/TIA 568-B commercial building wiring standards and EIA/TIA 569-A commercial building standard for telecommunications pathways and spaces.

#### References:

- > EIA/TIA Commercial Building Wiring Standard, 606 And All Recognized TSBS
- National Electric Code
- > Underwriter's Laboratories (UL): Applicable Listings and Ratings
  - 1. All conduits placed on private property are to be SCHD 40 PVC or SDR11 HDPE conduit if placed outside the building and riser-rated flex conduit if placed within the building.
  - 2. Riser conduit or exposed conduit on the exterior of building is to be GRC conduit unless otherwise specified.
  - 3. All conduits are to be equipped with inner duct as specified.
  - 4. 90-deg. bends are to be "sweep" bends, 3' radius or larger, unless otherwise specified.
  - 5. Conduit pathways within building interiors shall be supported with appropriate hardware specific to the existing material or structure.
  - 6. All exterior wall penetrations are to be resealed per building and fire code.
  - 7. All interior wall penetrations are to comply with pertinent building and fire codes and are to be constructed in such a manner as to insure the integrity of the penetrated wall.
  - 8. All pull boxes are to be NEMA Type 3R or equivalent.
  - 9. The Contractor shall route the conduit and cable into buildings per State and Local building codes. Refer to the construction drawings and notes for building entry details.
  - 10. Notify the "building contact" person a minimum of 48 hours prior to commencing any work on the premises.

#### **10. SPLICING, TERMINATION AND TESTING**

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

The Contractor shall perform fusion splicing at locations specified in the Construction Drawings. If applicable, splice locations with live traffic may be spliced between the hours of 12:00 AM and 6:00 AM PST on weekends (Saturday & Sunday) only or as approved by the City of John Day. All splicing and terminations on dark fiber and new fiber locations that do not pose risk to customers and live traffic can be performed during regular business hours.

The Contractor's fusion splicing equipment shall be cleaned, calibrated and adjusted to the fiber and environmental conditions at the start of the job and shall be checked daily and re-adjusted if necessary. Splicing includes picking up and hauling materials to the jobsite, opening the cable, splicing the fibers using the fusion splicing technique, placing a heat shrink on the bare fiber splice, loading the spliced fibers in a splice tray, and placing the splice tray in the closure as directed, encapsulating or sealing the splice, closing the closure.

Upon completing each individual fiber splice, the Contractor shall perform a lid test on the splice to determine loss. Any splice not meeting the test criteria of 0.1 dB shall be re-spliced. The Contractor shall clean up and dispose of excess material. The cost associated with testing the cable shall be included in the splicing and termination lump sum bid items.

Terminations include picking up and hauling materials to the jobsite, installation of rack / wall mounted fiber optic distribution panels (FDP's) and routing the cable(s) to the rack and FDP for termination. Some projects may specify pre-terminated cable stubs; therefore, no pigtails and splice trays will be required at the termination panel. The contractor shall be responsible for installing the bulkheads and connecting the pre-terminated SC connectors from the cable stubs into the panel. All fiber ports shall be labeled as to fiber assignment, cable and direction. In the event that termination is required, scope of work would include installing splice trays; opening the cable sheath; splicing the individual fibers to pigtails; placing a heat shrink on the splice; loading the fibers in a splice tray; placing the tray in the fiber optic distribution panel; assembly of the termination panel; and routing to and terminating the pigtails at the bulkhead. All excess cable shall be neatly coiled, secured and stored in each facility. The Contractor shall clean up and dispose of excess material. The cost associated with testing the cable shall be included in the splicing and termination bid items.

#### **11. POST INSTALLATION TESTING**

Fusion splicing is required for all permanent splices on the project. The maximum allowable splice loss for any splice is 0.10 dB, as measured bi-directionally with an OTDR at 1310 nm and 1550 nm. The average splice loss for the segment shall not exceed 0.05 dB. Set the fusion splice machine for standard single mode fiber.

The Contractor shall supply to the City of John Day the Optical Time Domain Reflectometer (OTDR) traces of individual optical fiber signatures. An access jumper shall be used which shall allow viewing of the entire length of the cable, including the launch end.

Optical attenuation shall be measured, using a stable laser light source and optical power meter, on the terminated fibers in both directions of transmission using the Insertion Loss Method and shall include the pigtails and couplings installed at the system endpoints. To ensure that an accurate measurement of connector loss is made, jumpers shall be used at both transmit and receive ends.

The cable shall also be tested to ensure that no fibers have been transposed along the route. Transmit light (using a stabilized light source) in each fiber at one end of the route segment and verify that light is received from the same fiber at the other end of the route segment using a power meter. Record continuity results and the light power loss between the light source and power meter for each fiber. Repair any transposed fibers that are found.

The Splicing Contractor shall test each fiber independently. Any cable found not to meet the acceptable test criteria due to the installation methods used shall be replaced at the Installation Contractor's cost. The Splicing Contractor shall supply all equipment and personnel necessary to conduct the tests. All test equipment shall be in good working order and shall have been calibrated prior to the tests being held.

The Contractor shall document all test results and provide those results to the City of John Day. The

documentation shall include the name of the person performing the tests, the date and time the test was performed, the cable being tested, the equipment used, the procedures followed, and the results obtained. Provide OTDR traces with event tables identifying each splice point and splice loss for each splice in Excel format with each enclosure location, fiber, and the direction the OTDR is looking accurately identified. Contractor shall provide the documentation of OTDR traces with event tables on a CD / DVD / USB Drive.

## 12. LOCATE WIRE TERMINALS – T3 (VAULT INTERIOR)

T-3 Locate Wire Terminals will be installed at all vault locations that are located in hard surfaces such as streets and/or sidewalks. The terminals are Locate Wire Terminal enclosures made of polycarbonate and are mounted on an accessory angle bracket on the interior riser of a concrete vault lid or interior wall of a fiberglass / composite vault wall. The accessory angle bracket will be secured with screws, anchors or epoxy fasteners specific to the vault wall or riser. The terminal then mounts to the accessory bracket.

The Locate Wire Terminal will have a minimum of 5 Rapid Connect Binding Posts installed with Bonding Straps for each terminal. The binding posts are designed to mount in the terminal plate with a threaded stud on one side and compression set-screw wire termination on the other side. The locate wires and ground wires will terminate on the set-screw side of the plate with the stud side of the plate will having bonding straps and hex nuts to facilitate attachment of the Cable Locating Equipment and isolation of locate wire segments.

## **13. VAULT GROUNDING & LOCATE WIRE TERMINATIONS**

All new vault locations as shown on the drawings will require the installation of a 5/8" x 5' copper clad ground rod in/or through the bottom of the vault, using caution so as not to damage existing substructure. A 6 AWG HDPE 30 MIL Copper Solid Ground Wire will be bonded to the ground rod with a ground rod clamp. The 6 AWG copper wires will be extended neatly from the ground rod to the T-3 Locate Wire Terminal on the interior of the vault and will terminate on the designated ground lug. At each of the vault locations, the new 12 AWG locate wire will be extended to the terminals and secured. The 12 AWG Locate wire will terminate on the T-3 Locate Wire Terminal on the interior of the vault on the designated lug, corresponding with the direction the locate wire departs from the vault.

## 14. POLE RISER LOCATE WIRE GROUNDING

At conduit locations where the underground transitions to aerial, the 12 AWG locate wire will be placed extending up the pole within the riser conduit to the top. At pole locations where a vertical ground exists on the pole, the 12 AWG locate wire will be bonded to the existing 6 AWG copper ground wire with a vice-type compression ground connector. At pole locations where a vertical ground does not exist, a vertical # 6 AWG Solid vertical ground will be placed by the Pole Owner on the pole and the 12 AWG locate wire will be bonded to the new vertical # 6 AWG ground with a vice-type compression ground connector.

## **15. BUILDING INTERIOR GROUNDING**

At building entry locations where the locate wire enters the building, a ground point will need to be established for bonding the locate wire. Extend the locate wire from the building entry location to the nearest suitable ground in the area of the building entry. Follow Local building and electrical codes for acceptable ground connection points.

#### **16. RECORD DRAWINGS**

Walk through inspection with the City of John Day Representative will be required upon project completion. Project shall not be considered complete until deficient items identified (if applicable) on final walk through inspection list have been corrected. Upon notification of completion of the work and acceptance by the City of John Day, the contractor shall provide to the City of John Day Project Manager a set of neat and accurate "As-Built" drawings within 10 business days of completion of the project.

As-Built data shall be updated and maintained daily on field copy drawings for the duration of construction. Upon completion of the project, the as-built data shall be transferred to a clean set of construction drawings for submittal to the City of John Day Project Manager.

The As-Built data shall be detailed on the drawings in either colored ink or colored pencil according to the following color codes:

RED: Work placed according to design and changes to the design

GREEN: Work not placed according to the design; omit from design

BLUE: Existing utilities facilities, Comments and Notes

- Work performed according to the design shall be highlighted or traced in RED. Work performed according to approved changes or variations to the design shall be neatly drawn and detailed on the drawings showing how the changes were constructed in the field.
- Work that was designed but not performed as shown on the drawings shall be highlighted or traced in GREEN to show that the work function was not constructed as designed.
- Existing facilities or utilities encountered; construction notes; additional construction related information identified in the field shall be neatly drawn and detailed in BLUE.

Colored highlighter pens according to the color codes as detailed above are acceptable. Fluorescent yellow highlighter pens are not an acceptable form of as-built coloring.

As-Built drawings shall contain the following data at a minimum for each of the following work functions:

#### Aerial Segments

- > Point of attachment height from the ground to the cable and/or strand on all poles.
- Cable footage (sequential) markings at all cable ends; start and end of slack storage and conduit entrance / exit points.
- > Location of all slack storage and cable splice points.
- > Anchor and down guy size placed and lead length between the anchor and the pole.

#### Underground Segments

- Depth of conduit measured every 25 feet and at every change in direction along the conduit alignment.
- Offset distance measured every 25 feet and at every change in direction from the alignment to a curb, edge of pavement or other physical reference object.
- Location and depth of vaults, hand holes and junction boxes placed.
- > Depth, type and direction of any existing utility encountered crossing the conduit route.
- Location of magnetic locating targets placed.

- Cable footage (sequential) markings at all cable ends, start and end of slack storage, conduit entrance / exit points.
- > Actual quantity of cable slack storage left in vault locations.
- > Actual wall to wall measurements of conduit segments between vaults.

As-Built drawings shall have the words "As-Built" with the name of the contractor and the date stamped on every sheet in the drawing package.

Any changes or deviations from the construction drawings must be approved by the City of John Day Project Manager prior to making any of the said changes or deviations.

# Schedule 1.2 Schedule of Services

The schedule for completion of this project shall be as follows:

- TBD upon negotiation.

### Schedule 2.1 Fee Schedule

Contractor shall provide all labor, physical plant, equipment transportation and other facilities and services as necessary and/or required to execute all of the Services described in the enclosed Schedule 1.1 and Exhibit A for the firm fixed price of \$55,743.21.