**GOLDEN STATE CONNECT AUTHORITY**

**AGREEMENT FOR PROFESSIONAL SERVICES**

**WITH**

**TILSON TECHNOLOGY MANAGEMENT**

**([NAME OF COUNTY OR CITY])**

This Professional Services Agreement (“Agreement”) is made by and between the Golden State Connect Authority, a Joint Exercise of Powers Authority and political subdivision of the State of California, (“GSCA”) and Tilson Technology Management, (“Contractor” or “Tilson”), and is effective as of the latest date corresponding to the signatures below.

In consideration of the mutual covenants and conditions set forth in this Agreement, the parties hereby agree as follows:

1. **SERVICES TO BE PROVIDED.** As directed by GSCA, Contractor shall perform the services described in **Exhibit A** in conformity with the terms of this Agreement. The services are generally described as the following scope items/work products: (1) Conceptual Network Design and Cost Estimation for potential project areas throughout \_\_\_\_\_\_\_\_\_ County; (2) Refined High-Level Design and Foundational Planning for project areas selected by GSCA; and (3) Low-Level Design and Engineering for project areas selected by GSCA.

The proposed network design shall be primarily underground, within existing public road rights-of-way, unless otherwise directed by GSCA.

Upon completion of each scope item/work product set forth in **Exhibit A**, Contractor shall submit a report for that item setting forth the information described **Exhibit A**, including any conclusions and recommendations. Each report shall further include all of the following:

* Short summary of the work product(s) created for that scope item.
* A short description of the work completed that is suitable for submission to GSCA's funding sources.
* Identification of areas where GSCA may deploy broadband infrastructure stemming from this work, suitable for submission to GSCA's funding sources.
* An acknowledgement, on the cover page, that: “Funding for this project has been provided in part through a grant for Local Agency Technical Assistance from a program administered by the California Public Utilities Commission.”

Contractor shall cooperate with GSCA’s assigned engineering manager, Utah Telecommunication Open Infrastructure Agency (UTOPIA) in the performance of all services hereunder, unless otherwise directed by GSCA.

1. **PAYMENTS BY GSCA.** GSCA shall pay Contractor for all services satisfactorily provided herein in accordance with the payment provisions set forth in **Exhibit B**, subject to the limitations set forth in this Agreement. The payments specified in Exhibit B shall be the only payments to be made to Contractor for services rendered pursuant to this Agreement. The total amount payable by GSCA to Contractor under this Agreement shall not exceed the sum of $\_\_\_\_\_\_\_\_\_\_\_\_.
2. **TERM.** The term of this Agreement is from \_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_, unless sooner terminated pursuant to the terms of this Agreement. This Agreement is of no force or effect until signed by both Contractor and GSCA, and Contractor may not commence work before GSCA signs this Agreement.
3. **PERFORMANCE STANDARDS.**
   1. Contractor warrants that its agents, employees, and subcontractors performing services under this Agreement are specially trained, experienced, competent, and appropriately licensed to perform the work and deliver the services required hereunder, and are not employees of the GSCA, or immediate family of an employee of GSCA.
   2. Contractor, its agents, employees, and subcontractors shall perform all work in a safe and skillful manner and in compliance with all applicable laws and regulations.
   3. Contractor shall furnish, at its own expense, all materials, equipment, and personnel necessary to carry out the terms of this Agreement, except as otherwise specified herein.
4. **PAYMENT CONDITIONS.**
   1. Contractor shall submit to GSCA an invoice on a form acceptable to GSCA. If not

otherwise specified, the Contractor may submit such invoice periodically or at the completion of services, but in any event, not later than 30 days after completion of services. The invoice shall set forth the amounts claimed by Contractor for the previous period, together with an itemized basis for the amounts claimed, and such other information pertinent to the invoice as GSCA may require. GSCA will make payment of all undisputed amounts within 30 days of receipt of Contractor’s invoice.

* 1. The compensation paid to Contractor hereunder is inclusive of all expenses, costs, fees, or charges incurred by Contractor for services provided under this Agreement.

1. **TERMINATION.**
   1. Termination Without Cause. GSCA may terminate the Agreement without cause by giving written notice setting forth the effective date of termination to the Contractor at least 30 days prior to the effective date. In such event, the amount payable under this Agreement shall be reduced in proportion to the services provided prior to the date of termination.
   2. Termination for Cause. GSCA may cancel and terminate this Agreement for good cause effective immediately upon written notice to Contractor. “Good cause” herein includes, but is not limited to, the failure of the Contractor to perform the required services at the time and in the manner provided herein. If GSCA terminates this Agreement for good cause, GSCA may be relieved of the payment of any consideration to Contractor and GSCA may proceed with the work in any manner which GSCA deems proper. The cost to GSCA shall be deducted from any sum due herein to Contractor.
2. **INDEMNIFICATION.** Contractor shall indemnify, defend and hold harmless the GSCA, and its elected and appointed officials, directors, officers, employees, agents, and volunteers, from any and all claims, causes of action, damages, losses, expenses, fines, penalties, judgments, demands and defense costs, whether in law or equity (including, without limitation, actual, direct, out-of-pocket costs and expenses and amounts paid in compromise or settlement and reasonable outside legal fees arising from litigation of every nature or liability of any kind or nature including civil, criminal, administrative or investigative) (collectively, "**Claim**") arising from or related to the services performed by Contractor under this Agreement or the actions or inactions of Contractor, or accruing or resulting to any and all contractors, subcontractors, materialmen, laborers and any other person, firm or corporation furnishing or supplying work, services, materials or supplies in connection with the performance of Contractor's duties and services hereunder, except such loss or damage that was caused by the sole, active negligence or willful misconduct of GSCA. Contractor shall, at its own expense, defend any suit or action founded upon a claim of the foregoing. GSCA shall promptly notify Contractor of any claim made in connection with the performance of services rendered hereunder.

Notwithstanding the foregoing, to the extent that the services or work hereunder include design professional services subject to Civil Code section 2782.8, Contractor’s duty to indemnify and defend shall only be to the maximum extent permitted of the law.

**This section shall survive the termination or expiration of this Agreement.**

1. **INSURANCE.** Contractor shall at all times maintain in force the insurance coverage required herein. Contractor shall send GSCA annual certificates of insurance without demand by GSCA. Failure by Contractor to maintain such insurance is a default of this Agreement which entitles GSCA, in its sole discretion, to terminate this Agreement immediately.
   1. Evidence of Coverage. Prior to commencement of work pursuant to this Agreement, Contractor shall provide a “Certificate of Insurance” certifying that coverage as required herein has been obtained. Individual endorsements executed by the insurance carrier shall accompany the Certificate and the Contractor shall provide GSCA a copy of the policy(ies) upon request.
   2. Qualifying Insurers. All coverages shall be issued by companies which hold a current holder’s alphabetic and financial size category rating of not less than A-VII, according to the current Best’s Key Rating Guide or a company of equal financial stability as approved by the GSCA.
   3. Insurance Coverage Requirements. Without limiting Contractor’s duty to indemnify, Contractor shall maintain in effect throughout the term of this Agreement a policy(ies) of insurance with the following minimum limits of lability:
2. Commercial General Liability Insurance, including but not limited to premises and operations, coverage for Bodily Injury and Property Damage, Personal Injury, Contractual Liability, Broadform Property Damage, Independent Contractors, Products and Completed Operations with a combined single limit for Bodily Injury and Property Damage of not less than $1,000,000 per occurrence.
3. Business Automobile Liability Insurance, covering all motor vehicles, including owned, leased, non-owned, and hired vehicles, used in providing services under this Agreement, with a combined single limit for Bodily Injury and Property Damage of not less than $1,000,000 per occurrence.
4. Worker’s Compensation Insurance, if Contractor employs others in performance of this Agreement, in accordance with Labor Code section 3700 and with Employer’s Liability limits not less than $1,000,000 each person, $1,000,000, each accident, and $1,000,000 each disease.
5. Professional Liability Insurance, in the amount of not less than $1,000,000 per claim and $2,000,000 in the aggregate, to cover liability for malpractice, errors, or omissions made in the course of rendering professional services.
6. All insurance required herein shall be issued and executed by an admitted insurer authorized to transact Insurance business in the State of California. Unless otherwise specified herein. Unless otherwise specified herein, all such insurance shall be written on an occurrence basis. For any policy written on a claims basis, and accepted by GSCA, Contractor shall, upon the expiration or earlier termination of this Agreement, obtain extended reporting coverage (“tail coverage”) with the same liability limits. Any such tail coverage shall continue for at least 3 years following the expiration or earlier termination of this Agreement.

Each insurance policy shall provide that GSCA shall be given notice in writing at least 30 days in advance of any endorsed reduction in coverage or limit, cancellation, or intended non-renewal thereof. Each policy shall provide coverage for Contractor and additional insureds with respect to claims arising from each subcontractor performing work hereunder or be accompanied by a certificate of insurance from each subcontractor showing subcontractor has identical coverage as required above.

Commercial General Liability and Automobile Liability polices shall provide an endorsement naming GSCA, its elected officials, officers, agents, and employees as Additional Insureds with respect to liability arising out of Contractor’s work, including ongoing and completed operations, and shall further provide that such insurance is primary insurance to any insurance or self-insurance maintained by GSCA and that the insurance of the Additional Insureds shall not be called upon to contribute to a loss covered by Contractor’s insurance. (ISO Form CG 20 10 11-85, or CG 20 10 10 01 in tandem with CG 2037 10 01 (2000); and ISO Form CA 20 48 02 99.)

Contractor shall provide GSCA with any new or amended certificate of insurance within 5 days after any change is made to any policy.

1. **RECORDS AND CONFIDENTIALITY.** 
   1. GSCA Records. Contractor shall not disclose any confidential records or other confidential information received from GSCA or prepared in connection with the performance of this Agreement unless GSCA provides Contractor with written authorization to disclose a specific record(s) or information on a case-by-case basis. Contractor shall promptly transmit to GSCA all requests for disclosure for any records or information related to this Agreement. Contractor shall not use any confidential information or records provided by GSCA for any purpose whatsoever, excepting for the sole purpose of performing Contractor’s obligations herein. Contractor shall return to GSCA all GSCA records which Contractor used or received from GSCA to perform services hereunder upon the termination or expiration of this Agreement.

* 1. Contractor Records. Contractor and its officers, employees, agents, and subcontractors shall prepare and preserve all reports and records that may be required by federal, state, and GSCA laws and regulations related to services performed herein, and shall maintain such records for a period of at least 5 years after receipt of final payment hereunder. If any litigation, claim, negotiation, audit exception, or other action relating to this Agreement is pending at the end of the 5-year period, then Contractor shall retain said records until such action is resolved.
  2. Access to and Audit of Contractor Records. GSCA has the right to examine, monitor and audit all records, documents, conditions, and activities of Contractor and its subcontractors related to services provided herein. Pursuant to Government Code section 8546.7, the parties hereto may be subject, at the request of the GSCA or as part of any audit of the GSCA, to the examination and audit of the State Auditor pertaining to matters connected with the performance of this Agreement for a period of five years after final payment hereunder.

1. **OWNERSHIP OF MATERIALS.** All materials developed under this Agreement, including without limitation all documents, drawings, estimates, notes, reports, work sheets, electronic storage media, plans, specifications, professional and technical information, and related data (collectively, "Deliverables") shall become the property of GSCA, and Contractor agrees to deliver such Deliverables to the GSCA upon completion of the services hereunder or other termination of this Agreement.

With respect to any Deliverables, or portions or components thereof, that do not become the property of GSCA in accordance with this section, the parties acknowledge and agree that Golden State Connect Authority shall have an exclusive, perpetual, irrevocable, royalty-free, fully paid-up, worldwide, transferable, and unrestricted license (with the right to sublicense) to use, copy, publicly perform, publicly display, broadcast, reformat, combine, translate, excerpt (in whole or in part), and distribute such Deliverables, portions, and components for any purpose, and to prepare derivative works of, or incorporate into other works, the Deliverables and all of their portions and components. The above rights may be exercised in all media and formats whether now known or hereafter devised. These license provisions shall survive any termination of the Agreement.

1. **THIRD PARTY BENEFICIARY LIMITATION.** This Agreement is intended solely for the benefit of the parties to this Agreement, and no third party shall be deemed to be a beneficiary or to have any rights hereunder against any of the parties hereto.
2. **NON-DISCRIMINATION.** Contractor and its subcontractors, shall not unlawfully discriminate against any person because of race, religious creed, color, sex, national origin, ancestry, physical disability, mental disability, medical condition, marital status, age (over 40), sexual orientation, or any other characteristic set forth in Government Code sections 12940 et seq., either in Contractor’s employment practices or in the furnishing of services to recipients. Contractor shall ensure that the evaluation and treatment of its employees and applicants for employment and all persons receiving and requesting services are free of such discrimination. Contractor any all subcontractors shall, in performance of this Agreement, fully comply with all federal, state, and local laws and regulations which prohibit discrimination.
3. **COMPLIANCE WITH APPLICABLE LAWS**. Contractor shall keep itself informed of and in compliance with all federal, state, and local laws, ordinances, regulations, and orders that may affect its performances of services herein in any manner. Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices required by law in the performance of services. Contractor shall further comply with all provisions of any state or federal grant agreements providing funding for the services herein to the extent applicable to Contractor as a subgrantee under said agreement, as though such agreement were fully set forth herein.
4. **INDEPENDENT CONTRACTOR.** At all times during the term of this Agreement, Contractor shall be an independent contractor and shall not be an employee of GSCA. Nothing in this agreement is intended nor shall be construed to create a partnership or a joint venture relationship. GSCA shall have the right to control Contractor only insofar as the results of Contractor’s services rendered pursuant to this Agreement; however, GSCA shall not have the right to control or direct the means by which Contractor performs services rendered pursuant to this Agreement. Contractor shall set its own hours and location of work, provided the results described herein are accomplished. Contractor warrants that it is responsible for paying payroll or any other kind of taxes resulting from compensation paid to Contractor hereunder. Contractor further warrants and represents that each of the following is true and correct:

(i) If any work hereunder is performed in a jurisdiction that requires Contractor to have a business license or business tax registration, Contractor shall obtain and maintain the required business license or business tax registration as required by law during the term of this Agreement.

(ii) Contractor maintains a business location that is separate from the business or work location of GSCA.

(iii) Contractor is customarily engaged in an independently established business of the same nature as that involved in the work performed hereunder.

(iv) Contractor actually contracts with other businesses to provide the same or similar services and maintains a clientele without restrictions from GSCA.

(v) Contractor advertises and holds itself out to the public as available to provide the same or similar services.

(vi) Contractor provides its own tools, vehicles, and equipment to perform the services.

(vii) Contractor can negotiate its own rates.

(viii) Contractor can set its own hours and location of work, consistent with the nature of the work.

(ix) Contractor is not performing the type of work for which a license from the Contractors’ State License Board is required.

By initialing this Agreement in the space provided immediately below, Contractor acknowledges that this Agreement is complete, that it does not create an employer-employee relationship between GSCA and Contractor or any person performing services hereunder on behalf of Contractor, and that this Agreement cannot and will not be modified by any oral representation of employment. Contractor further acknowledges that he is responsible for paying payroll or any other kind of taxes resulting from compensation paid to Contractor hereunder.

Contractor's Initials: \_\_\_\_\_

1. **PREVAILING WAGE**. Contractor certifies that it is aware of the requirements of California Labor Code Sections 1720 et seq. and 1770 et seq., as well as California Code of Regulations, Title 8, Section 16000 et seq. (“Prevailing Wage Laws”), which require the payment of prevailing wage rates and the performance of other requirements on certain “public works” and “maintenance” projects. If the services hereunder are being performed as part of an applicable “public works” or “maintenance” project, as defined by the Prevailing Wage Laws, and if the total compensation is $1,000 or more, Contractor agrees to fully comply with and to require its subcontractors to fully comply with such Prevailing Wage Laws, to the extent that such laws apply. If applicable, GSCA will maintain the general prevailing rate of per diem wages and other information set forth in Labor Code section 1773 at its principal office, and will make this information available to any interested party upon request. Contractor shall defend, indemnify and hold GSCA, its officials, officers, employees and agents free and harmless from any claims, liabilities, costs, penalties, or interest arising out of any failure or alleged failure of the Contractor or its subcontractors to comply with the Prevailing Wage Laws. Without limiting the generality of the foregoing, Contractor specifically acknowledges that GSCA has not affirmatively represented to Contractor in writing, in the call for bids, or otherwise, that the work to be covered by the bid or contract was not a “public work.” To the fullest extent permitted by law, Contractor hereby specifically waives and agrees not to assert, in any manner, any past, present, or future claim for indemnification under Labor Code section 1781.

Contractor acknowledges the requirements of Labor Code sections 1725.5 and 1771.1 which provide that no Contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 (with limited exceptions from this requirement for bid purposes only under Labor Codes section 1771.1(a)).

Contractor acknowledges that no Contractor or subcontractor may be awarded a contract for public works on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5

If the services are being performed as part of the applicable “public works” or “maintenance” project, as defined by the Prevailing Wage Laws, Contractor acknowledges that this project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

1. **MISCELLANEOUS PROVISIONS.**
   1. Conflict of Interest. Contractor represents that it presently has no interest and agrees not to acquire any interest during the term of this Agreement, which would directly or indirectly conflict in any manner or to any degree with the full complete performance of the professional services required to be rendered under this Agreement.
   2. No Waiver. Any waiver of any terms or conditions of this Agreement must be in writing and signed by the parties. A waiver of any of the terms or conditions of this Agreement shall not be construed as a waiver of any other term or condition of this Agreement, and a single (or multiple) waiver shall not be construed as a perpetual waiver.
   3. Disputes. Contractor shall continue to perform under this Agreement during any dispute.
   4. Non-assignment and Subcontracting. Contractor shall not assign, sell, or otherwise transfer its interest or obligations in this Agreement without the prior written consent of the GSCA. None of the services covered by this Agreement shall be subcontracted without the prior written approval of the GSCA. Notwithstanding any such subcontract, Contractor shall remain liable for the performance of all requirements of this Agreement.
   5. Successors and Assigns. This Agreement and the rights, privileges, duties, and obligations of the parties herein, to the extent assignable or delegable, shall be binding upon and inure to the benefit of the parties and their respective successors, permitted assigns, and heirs.
   6. Headings. The headings herein are for convenience only and shall not be used to interpret the terms of this Agreement.
   7. Resolution of Ambiguities. The parties agree that each has fully participated in the review and revision of this Agreement and that any rule of construction to the effect that ambiguities are to be resolved against the drafting party shall not apply in the interpretation of this Agreement.
   8. Entire Agreement and Amendment. This Agreement represents the entire Agreement between the parties with respect to the subject matter hereto and shall supersede all prior negotiations, representations, or agreements, either written or oral, between the parties as of the effective date of this Agreement. This Agreement may be amended or modified only by written instrument signed by the parties.
   9. Time is of the Essence. Time is of the essence in each and all provisions of this Agreement.
   10. Governing Law and Venue. This Agreement shall be governed by and interpreted under the laws of the State of California. In the event of litigation between the parties hereto, venue shall be the Superior Court of the State of California, for the County of Sacramento.
   11. Non-exclusive Agreement. This Agreement is non-exclusive and both GSCA and Contractor expressly reserve the right to contract with other entities for the same or similar services.
   12. Authority. Any individual executing this Agreement on behalf of a party represents and warrants hereby that they have the requisite authority to enter into this Agreement on behalf of such party and bind the party to the terms and conditions of this Agreement.
   13. Interpretation of Conflicting Provisions. In the event of any conflict or inconsistency between the provisions of this Agreement and the provisions of any exhibit or other attachment hereto, the provisions of this Agreement shall prevail and control.
   14. Severability. If it is determined by a court of competent jurisdiction, that any provision(s) of this Agreement is illegal or unenforceable, such provision(s) shall be severed from the Agreement and shall be inoperative such that all other provisions of the Agreement remain binding with full force and effect. The invalidity of any portion of this Agreement shall not prevent the remainder from being carried into effect.
   15. Counterparts. This Agreement may be executed in 2 or more counterparts, each of which constitutes an original, and transmitted electronically via facsimile transmission or by delivery of a scanned counterpart via email transmittal.
   16. Notices. All notice required under this Agreement shall be delivered personally or by first class mail as follows:

For GSCA:

GOLDEN STATE CONNECT AUTHORITY

1215 K Street, Suite 1650

Sacramento, CA 95814

Attn: Executive Director

For Contractor:

TILSON TECHNOLOGY MANAGEMENT

16 Middle St.

Portland, ME 04071

**IN WITNESS WHEREOF** GSCA and Contractor have executed this Agreement as of the day and year written below

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **GSCA:**

Golden State Connect Authority

By:

Name:

Its:

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **CONTRACTOR:**

Tilson Technology Management

By:

Name:

Its:

EXHIBIT A

SCOPE OF WORK

# Project Description and Approach

Tilson will work with GSCA to strategically plan for and develop a robust fiber network within the County identified in this Agreement, moving from conceptual design all the way through low-level design and engineering to create constructible network designs that are shovel-ready. Tilson will work closely with key stakeholders and partners to extend and improve broadband connectivity throughout the County identified in this Agreement. Tilson will focus on a design that not only meets the objectives of GSCA but will maximize eligibility for various funding opportunities available.

Tilson has extensive experience assisting network owners design and deploy fiber and wireless networks, as well as advising public officials on broadband policy. This experience gives Tilson the understanding of how different types of infrastructure are useful for deploying different types of service. Tilson’s work has encompassed developing strategic approaches to holistically evaluate, plan for, and implement reliable networks that meet the bespoke needs of Tilson’s clients. Tilson understands how goals, available data, and the scale and structure of funding can all shape the approach.

Our network designs are created with durability and scalability in mind. Tilson will assist GSCA in creating a long-term appreciating asset for GSCA, capable of serving a growing user base and meeting the needs of next generation technology, applications, and devices.

Additionally, Tilson’s consultants have familiarity with all major federal funding opportunities from both sides of these unprecedented funding vessels: pursuing/securing as well as developing/administering. This experience provides insight into the inner-workings of how grant programs operate and has helped to refine process around grant-compliance related consulting and engineering.

Tilson will cooperate with and take direction from UTOPIA in the performance of all services hereunder, unless otherwise directed by GSCA.

## Technical Capabilities

Tilson possesses the in-house resources for end-to-end, full turnkey fiber network consulting, design, and engineering. Tilson self-performs all survey, design, and permitting using industry-standard technologies and is consequently intimately familiar with a variety of advanced tools to support technical support and GIS-related consulting, including:

**3-GIS** is a web-based fiber network design studio that uses industry-standard ESRI ArcGIS on its backend. Tilson uses 3GIS for all desktop engineering tasks. Tilson’s engineers use the information in Tilson’s geographic database as a starting point for editing the GIS data to complete engineering design deliverables. All fiber architecture, including mapping all fiber routes, determining cable size and placement, attachment points, equipment locations, slack, logical cable names and complements, fiber counts, and splice diagrams, is completed in GIS.

**QuickBase** is a low‐code platform for building, customizing and connecting scalable, secure cloud applications mapped to unique business challenges. The platform includes workflow and process automation, forms, and personalized charts and reports driven by customizable business logic. Quickbase is used at Tilson for project management, schedule management, and cost and revenue analysis, allowing all users to work from the same data. Data can be transferred to external systems via API calls, an ODBC connector, or Excel/CSV exports.

**AutoCAD** is an industry-standard computer aided drafting tool. Tilson uses AutoCAD to create construction-ready drawings.

**O-Calc** is structural analysis software used to model utility pole loading. O-Calc can model all aspects of structural loading on a variety of pole types and materials. Using O-Calc, Tilson’s engineers and make-ready team can provide analysis-based counters to excessive utility make ready costs.

**Biarri FOND** is software that enables Tilson’s engineering team to create, customize, adjust and optimize fiber, broadband and 5G network designs.  It allows complete control of network parameters and specifications to design an appropriate network architecture, and calculate designs based on project preferences.

## Project I: Conceptual Network Design

Tilson proposes its time-tested and repeatable project management process to provide conceptual designs for early and rapid evaluation of established project areas. These designs are to align with the preferred architecture and completed using a combination of customer input data and/or Tilson-sourced non-proprietary input data. These designs will be a desktop-based activity aimed at assisting in network deployment cost calculations and determining the viability of the fiber network deployment.

The conceptual design will require GSCA to determine some basic architectural rules and constraints and Tilson’s consulting engineers will discuss the network requirements as part of the initial project kick-off meeting and throughout subsequent touchpoints as necessary.  Tilson will then review any existing data-sets available for the project. After reviewing the geographic area for the best central office location(s), Tilson will perform GIS analyses and load in centerline data and specific address locations into the working design. The design will then be ready for selecting the network architecture and uploading appropriate shape files for the region.  Tilson will then be able to generate preliminary design routes based on the requirements of the network.  A high level review of the preliminary routes will be undertaken to ensure proper design to all address locations.  Finally, a bill-of-materials will be produced based on the ~~d~~esign including all cables, terminals, drops and fiber distribution cabinets.

The capital expense model that Tilson will develop, with input and oversight by GSCA and UTOPIA, as a byproduct of the conceptual design includes estimates of the labor, materials (including all cables, terminals, drops and Fiber Distribution Huts), professional services, and other cost elements needed to deploy the potential solution(s). Tilson will look to comparable networks and key operating and cost ratios to estimate costs for these solutions. Tilson will also utilize publicly available data and industry information to estimate the operating costs for the proposed solution.

The goal for this project is to gain quick and actionable intel on the proposed network and associated costs. Tilson will focus on the basic conceptual network routing and fiber allocation that will drive a large part of the overall project and eventual build. The conceptual design and resulting bill of materials will aim to be within ±20% accuracy of the final project build.

As the final work product for Phase I, Tilson shall provide a report and summary overview of conceptual network design for review by GSCA and its stakeholders and submission to GSCA’s funding sources. The report shall include all components and information necessary for GSCA to submit a payment request to its funding sources.

## Project II: Refined High Level Design and Foundational Planning

Building off the conceptual design and associated deliverables, Tilson will dive deeper into the design process to refine the working design and begin assisting GSCA with making a more concrete selection of areas based on census blocks and eligible areas. This phase will involve a more thorough route review to ensure route constructability, as well as a more acute data gathering exercise around vendors, equipment, and project-related pricing. As a result, the design will start to really take shape, better informing decision-making (such as understanding the necessary permitting tasks, environmental studies, facilities engineering etc…), and forming a strong foundation for the low-level engineering and development of constructable prints for network construction and deployment.

Tilson’s consultants and engineers will work closely with GSCA stakeholders to communicate project progress advising on key road-map items and adjusting the design process as necessary throughout the phase to suit the needs of GSCA and the communities it aims to serve.

By the end of this process, Tilson will have the project areas solidified and prioritized for boots-on-the-ground field survey work and low-level design engineering. Tilson aims to be ±10% accuracy with an updated bill of materials which directly informs the capital expenditure estimation.

As the final work product for Project II, Tilson shall provide a report and summary overview of the refined high-level design, and all foundational planning efforts, for review by GSCA and its stakeholders and submission to GSCA’s funding sources. The report shall include all components and information necessary for GSCA to submit a payment request to its funding sources.

## Project III: Low Level Design and Engineering

Tilson will develop low level route designs for project areas selected by GSCA based on network design rules and permitting models established in the refined high- level design and foundational planning stage. This development will result in ‘Approved for Construction’ drawings that will be used to award the construction to the approved contractors. This shall also include all required permitting, easements, and rights-of-way processing.

**Permit and License Requirements:**

Upon request by GSCA, Tilson will assist GSCA in securing all required permits to construct networks in selected locations. These include, but are not limited to:

* Pole and conduit licensing
* Local building permits
* Local zoning variances
* Railroad crossings
* Highway crossings
* Water crossings
* Historic preservation
* Environmental

Tilson pricing for low level design and engineering, resulting in constructable network designs, is $1.93 per linear foot. This includes:

* Field Surveying of proposed routes from approved high-level design
* Standard Route Construction Drawings and Typical
* Standard Permitting Package as described above.
* Standard Pole Applications (exclusive of Pole Loading Analysis mandates), for any aerial attachments, as directed by GSCA.

As the final work product for Project III, Tilson shall provide ‘Approved for Construction’ drawings that may be used to award the construction to the approved contractors, and copies of any draft or final permits, licenses, easements, applications, or similar documents prepared at GSCA’s direction under this section. The foregoing shall be accompanied by a report including all components and information necessary for GSCA to submit a payment request to its funding sources.

Additional as-needed services not included in this price-per-linear foot model, such as any required specialty permits, environmental studies, facilities engineering etc., will be identified and communicated as a potential amendment to this Agreement.

EXHIBIT B

TIME AND MANNER OF PAYMENT

Compensation: 1. Contractor shall be paid an all-inclusive flat fee of **$25,000** for all services rendered under the scope item/work product entitled “Conceptual Network Design,” as set forth in **Exhibit A**.

2. Contractor shall be paid an all-inclusive flat fee of **$40,000** for all services rendered under the scope item/work product entitled “Refined High Level Design and Foundational Planning,” as set forth in **Exhibit A**.

3. Contractor shall be paid an all-inclusive flat fee of **$1.93 per linear foot of network** for all services rendered under the scope item/work product entitled “Low Level Design and Engineering,” as set forth in **Exhibit A**.

The flat fees set forth above are inclusive of all compensation, reimbursement, costs, or charges due to Contractor for services provided under this Agreement.

The Maximum Compensation payable under this Agreement, including any expense reimbursement, shall not exceed $\_\_\_\_\_\_\_\_, unless otherwise agreed to in a written amendment to this Agreement executed by both parties.

Contractor shall submit an invoice for the applicable flat fee amount to GSCA within thirty (30) days after each scope item/work product has been completed to the reasonable satisfaction of GSCA. Such bills shall conform to the general requirements for invoices to GSCA – including brief statement of work performed and any other information required by GSCA's funding sources – and shall be paid by GSCA under its normal invoicing procedures.