

MEMORANDUM OF UNDERSTANDING

THIS Memorandum of Understanding (“MOU”) is made as of the __ day of January, 2022, by and between:

- Colorado Springs Utilities, an enterprise of the City of Colorado Springs, with its principal place of business at 121 S. Tejon Street, Colorado Springs, Colorado 80903 (“Utilities”)
- the City of Colorado Springs, a Colorado home rule city and municipal corporation, with its principal place of business at 30 S. Nevada Avenue, Colorado Springs, Colorado, 80903
- El Paso County, by and through the Board of County Commissioners of El Paso County, Colorado, with its principal place of business at 200 S. Cascade Avenue, Colorado Springs, Colorado, 80903
- the El Paso-Teller County E911 Authority, with its principal place of business at 2350 Airport Road, Colorado Springs, Colorado, 80910
- the City of Fountain, a Colorado home rule city and municipal corporation, with its principal place of business at 116 S. Main Street, Fountain, Colorado, 80817
- Teller County, with its principal place of business at PO Box 959, Cripple Creek, Colorado, 80813.

(individually referred to as “Party” or collectively as the “Parties”).

WITNESSETH:

WHEREAS, the City of Colorado Springs, Utilities, El Paso County, Teller County, and El Paso – Teller County E911 Authority entered into an agreement called the Pikes Peak Geospatial Alliance Intergovernmental Agreement dated June 24, 2004 (“PPGA IGA”), attached hereto as Exhibit 1, to establish the Pikes Peak Geospatial Alliance (“PPGA”);

WHEREAS, the Parties desire to be Participants, as defined in the PPGA IGA, to execute a common Memorandum of Understanding to acquire digital orthorectified imagery for an area encompassing El Paso County and Teller County (“OP 2022”);

WHEREAS, although not a Member of the PPGA, the City of Fountain has chosen to participate in this MOU and is considered a Non-Member Agency for the purpose of data related to the OP 2022, as defined in the PPGA IGA, Article 5.02-Subsection (b);

WHEREAS, the acquisition cost to individual Parties can be substantially reduced by jointly acquiring this data;

WHEREAS, the cost to each Party was determined by the PPGA IGA steering committee and the formula takes into account factors such as the size of area of interest, overlapping areas of interest, and desired resolution and accuracy;

WHEREAS, each Party has identified funds for the joint acquisition of the digital orthorectified imagery;

WHEREAS, with respect to the OP 2022, the Parties wish to establish the funding and contracting procedure, the specification of requirements and deliverables, and the guidelines for ownership and distribution of data;

WHEREAS, as applicable, the articles and stipulations of the PPGA IGA shall be adhered to by all Parties;

WHEREAS, Utilities entered into a contract for orthorectified imagery with the Sanborn Map Company, Inc. (“Contractor”) which was selected through a competitive RFP process in October 2021; a copy of the Contract with Contractor and all Exhibits and Appendices thereto is attached and incorporated herein as Exhibit 2;

WHEREAS, each of the Parties that co-funds or solely funds any Primary Product shall receive an original copy of the OP 2022 Base Product deliverables indicated in Appendix A to the Contract;

WHEREAS, each of the Parties that co-funds or solely funds any Secondary Product deliverables indicated in Appendix A to the Contract shall receive an original of such OP 2022 Secondary product deliverable.

NOW, THEREFORE, for and in consideration of the mutual covenants herein contained, the Parties hereby agree as follows:

ARTICLE 1: COVENANTS OF THE PARTIES

The Parties represent, covenant, and warrant as follows:

- 1.1 Each Party is duly authorized to execute and deliver this MOU and further represents, covenants and warrants that all requirements have been met and procedures have been completed in order to ensure the enforceability of this MOU, and each Party has complied with its public procurement requirements, if any, which are necessary to make this MOU enforceable.
- 1.2 Each Party agrees to abide by the articles and stipulations of the PPGA IGA.
- 1.3 Subject to the provisions of this MOU and the PPGA IGA, each Party agrees to recognize and honor in perpetuity the licensing agreements, copyrights, and other proprietary claims for software, databases, collateral information, and products established or produced by any other Party and the vendors furnishing said items to such Party.

ARTICLE 2: PURPOSE

The purpose of this MOU is to provide joint funding for a contract with Contractor. Contractor is to provide Professional Services for OP 2022. The anticipated payment to Contractor for the Base Product deliverables shall not exceed **\$148,419.96**. The anticipated payment to Contractor for Secondary Product deliverables shall not exceed **\$70,463.97**.

This MOU specifies the project requirements and deliverables and articulates the guidelines for ownership and distribution of those deliverables.

The Parties acknowledge and agree that, notwithstanding any of the provisions in this MOU, the PPGA IGA, or any related documents to the contrary, delivery of specific end product(s) is required under this MOU and the SOW defined in Section 3.2 below, so this MOU does not constitute a public contract requiring the furnishing of labor, time or effort by a contractor or a subcontractor not involving the delivery of a specific end product other than reports that are merely incidental to the required performance. Therefore, no explicit certification from the Contractor related to hiring practices is required to comply with C.R.S. §8-17.5-102(1).

ARTICLE 3: ORTHORECTIFIED IMAGERY FUNDING AND PARTICIPATION

- 3.1 The Parties agree that Utilities has been selected by the PPGA IGA steering committee as lead agency and as such has contracted on behalf of the Parties with Contractor. Such contract shall be referred to herein as “Contract”. The Parties further agree that this orthorectified imagery benefits them all, and that each Party’s funding share and in-kind contributions will be provided by each Party to Utilities in the amounts or percentages set forth in Exhibit 3. OP 2022 project costs in excess of the limit provided in Article 2 shall be paid by the Parties hereto in proportion to their financial contributions in Exhibit 3, subject to additional appropriations and approval by each Party in advance. Utilities shall use all these funds to finance the orthorectified imagery in accordance with the terms of the OP 2022. In the event any funds are reimbursed under terms of the Contract, those funds will be distributed to the Parties in proportion to the funding provided by each Party.
- 3.2 Utilities agrees to perform the following duties under this MOU:
- A. Issue the "Statement of Work with Appendices" (“SOW”) approved by the PPGA IGA steering committee to Contractor for the digital orthorectified imagery contractual services in 2022, attached hereto as Exhibit A to the Contract and incorporated herein. Such digital orthorectified imagery contractual services are referred to herein as OP 2022.
 - B. Ensure that Contractor delivers the specific products listed in the Deliverable Products and Acceptance section of the SOW by the approximate dates indicated.
 - C. Fully perform its obligations in accordance with standard business practices and such other professional standards as may be appropriate.
 - D. During the term of the Contract, or until the conclusion of any matters on which Contractor works hereunder, whichever shall occur last, Utilities shall take no position contrary to those advocated by the Parties in the contracted matters, nor represent any client whose interests are in conflict with the positions advanced by the Parties in the contracted matters.

- E. Maintain a complete file of all records, documents, communications, and other written materials which pertain to the performance of the Contract, including the delivery of services, and shall maintain such records for a period of three years after the date of completion of OP 2022. Each Party shall have the right to audit records at reasonable times and upon reasonable notice.

- 3.3 The Parties to this MOU shall pay Utilities an amount not to exceed that set forth in Article 2 according to the percentages listed on Exhibit 3, attached hereto, upon receipt of invoices from Utilities. Utilities will issue one invoice to each Party that will be issued at a mutually agreed upon time following the start of the OP 2022 project. The final amounts shall be determined when the Contract is confirmed and shall be based on the same funding proportions as those currently listed in Exhibit 3.

- 3.4 The Parties agree that all digital products, as listed in Exhibits 2 and 3, that are delivered by the Contractor shall be subject to the terms of the PPGA IGA and the rights and restrictions defined in Articles 5 and 6 of this MOU.

- 3.5 Subject to the terms of the PPGA IGA, for the purpose of OP 2022, each of the fifteen (15) orthorectified imagery deliverables (collectively the “Base Product deliverables” – Sub Areas 1-3 and “Secondary Product deliverables” – Sub Area 4) will be made available to the Parties for internal use only after written “preliminary acceptance” of each deliverable. The Parties recognize that until final written acceptance and payment for each imagery deliverable of OP 2022 has been made, the accuracy and quality of the OP 2022 deliverables may be subject to correction, and any Party that uses or relies on any such deliverables prior to each acceptance assumes the risk of use of such OP 2022 deliverables. External data distribution may occur only after acceptance and payment for each respective final OP 2022 deliverable. The allocation of risk provisions in this Section also apply to any Secondary deliverables. Procedures for Quality Assurance are included in the SOW.

- 3.6 Final Report. Utilities shall prepare and submit to the Parties a final accounting of all expenses of the OP 2022 at the termination of the project.

ARTICLE 4: TERMINATION

- 4.1 A Party may terminate its participation in this MOU by providing 30 days’ written notice to the other Parties by certified mail, return receipt requested. If notice is so given, the Party’s participation in this MOU shall terminate on the expiration of the thirty days, and the liability of the Party hereunder for the further performance of the terms of this MOU shall thereupon cease, provided the Party shall not be relieved of the duty to perform their obligations under Article 6, Restrictions on Use of the Data, and provided further, that if this MOU is terminated after a Contract has been negotiated by Utilities, all monies obligated by the terminating Party but not yet paid over to Utilities for the performance of the Contract shall be due to Utilities and shall be paid to Utilities within thirty (30) days of the date of termination.

- 4.2 If, through any cause, the Contractor shall fail to fulfill, in a timely and proper manner, the Contractor's obligations under the awarded Contract, or if the Contractor shall violate any of the covenants, agreements, or stipulations of the awarded Contract, any Party to this MOU shall thereupon have the right to terminate that Party's participation in this MOU for cause by giving written notice to the other Parties, and subject to payment of the terminating Party's funding obligations per the above paragraph. In the event of Contract termination, remaining project funds will be reimbursed to the Parties in proportion to the funding provided.
- 4.3 In the event of nonperformance by Contractor, Utilities may pursue any available remedy at law or in equity against Contractor on behalf of the Parties or individually as provided for under the Contract either on its own or as directed by the PPGA steering committee.

ARTICLE 5: DATA OWNERSHIP

- 5.1 The OP 2022 Base Product deliverables will be jointly owned by the Parties who co-funded those products. Ownership of Secondary products is defined by those participants that co-fund each Secondary product as specified in Exhibit 3. PPGA project participants shall only receive products they fund. Each Party's decision regarding whether to participate in and fund each Secondary product shall be confirmed in writing. In the event that a Party chooses not to fund a Secondary product (referenced within Exhibit 3), the proportionate payment requirements for that non-participating Party shall be zero for such Secondary product, and the proportionate payment requirements for the remaining participating Parties shall be adjusted accordingly.
- 5.2 Any products delivered in hard-copy format, such as camera calibration reports and other supporting documents, shall be owned by the Parties as specified in Exhibits 1 and 3.
- 5.3 All additional, optional products that are included as deliverables and are not otherwise addressed herein shall be discussed with the PPGA steering committee. After each Party, including Non-Member Participants, has had a reasonable opportunity to provide input to the PPGA steering committee, cost sharing, usage, and ownership of additional products shall be determined by the PPGA steering committee and in accord with the PPGA IGA.

ARTICLE 6: RESTRICTIONS ON USE OF THE DATA

- 6.1 Each Party shall be bound by the data distribution guidelines specified in Article VI of the PPGA IGA.
- 6.2 Each Party shall have the right to use the digital data to prepare presentations such as maps, exhibits, memoranda, reports, etc., on paper, mylar, or other printed media. These hard-copy materials may be distributed to the public as governed by the internal policies held by each Party.
- 6.3 Each Party shall have the right to use the digital data to prepare presentations such as maps, exhibits, memoranda, reports, etc., in electronic document form for distribution to the

public via electronic media or via the Internet. These electronic documents may be distributed to the public as governed by the internal policies held by each Party as defined in the PPGA IGA.

- 6.4 Each Party shall have the right to use the digital data for internet map applications. Internet map applications that deliver orthorectified imagery data as map images to the end user may be developed at the discretion of the Parties, subject to the display area restrictions described in Section 6.5. The PPGA steering committee shall be advised of the application and data security architecture of any internet map applications that propose to deliver aerial photography feature data to the end user. The Parties agree to mitigate any data security concern raised by a PPGA steering committee member before deploying orthorectified imagery applications that deliver feature data.
- 6.5 The Parties agree that the sublicensing of the digital data for a fee to the general public or to other agencies, organizations, or commercial businesses can only be undertaken by PPGA members and only in accordance with Article 6 of the PPGA IGA. Digital products and their unit prices are defined as follows:
- 4000 by 4000-foot tile shall be \$50 for 1 foot resolution imagery
 - 4000 by 4000-foot tile shall be \$100 for 6-inch resolution imagery

These price figures are based upon current business strategies and policies. The distribution and fee schedules for Secondary products will be addressed by an amendment to this MOU if necessary. Release of the digital data to external customers (or to a non-participating PPGA member) requires the execution of a License Agreement by the respective issuing agency in a form substantially similar to Exhibit B of the PPGA IGA (“Customer Geospatial Data License Agreement”). Any Party may, in its sole discretion, designate certain portions of the digital orthorectified imagery, not to exceed 1% of project area, as “Confidential” due to security concerns. Security concerns in excess of 1% must be unanimously approved by the PPGA. The Parties shall be prohibited from sub-licensing and releasing confidential digital data.

- 6.6 The Parties who co-funded the Base Product agree that the jointly owned Base Product deliverable will be made publicly available free of charge following a period of two (2) years after final acceptance of the entire OP 2022 project or when the PPGA executes final acceptance of a subsequent Orthorectified Imagery Project of the same scope, whichever comes first.

ARTICLE 7: CONFIDENTIALITY

- 7.1 Any confidential and/or proprietary information that any Party discloses to any third party with respect to this MOU shall be designated as confidential and proprietary by the disclosing Party at the time of disclosure. Each Party shall require the recipient to hold such information confidential to the extent provided by law and shall require the recipient not to engage in any use or disclosure of such information unless such use or disclosure is

expressly provided for in this MOU. Some of the Parties to this MOU are public entities subject to the provisions of the Colorado Open Records Act (“CORA”). In the event a Party receives a request for such confidential and/or proprietary information from a third party, notice thereof shall promptly be given to the other Parties. Each Party shall take all reasonable steps to prevent any unauthorized possession, use, transfer, or disclosure of such confidential information. Should a Party learn of any such unauthorized possession, use, transfer, or disclosure, it shall promptly notify the other Parties.

- 7.2 The disclosure provisions of Section 7.1 above shall not apply to information that a) a Party had in its possession prior to disclosure by another Party; b) becomes public knowledge through no fault of the recipient; c) a Party lawfully acquires from a third party not under an obligation of confidentiality to the Parties to this MOU; or d) is required to be disclosed by law or court order.

ARTICLE 8: ADDITIONAL PROVISIONS

- 8.1 This MOU is subject to and shall be interpreted under the laws of the State of Colorado, and the Charter, City Code, Ordinances, Rules and Regulations of the City of Colorado Springs, Colorado, a Colorado Home Rule City. Court Jurisdiction and venue shall exclusively be in the Colorado District Court for El Paso County, Colorado.
- 8.2 Expenditures and Fees of Each Party Deemed Expenditures of that Party: The Parties to this MOU agree that the purpose of this MOU is to jointly accomplish pursuant to C.R.S. Section 29-1-203 activities which could be performed separately by each Party. Accordingly, it is agreed and understood for purposes of the Colorado Constitution, Article X Section 20, and the Colorado Springs City Charter, that any fees contributed or paid, or otherwise provided by any Party to another Party are and remain an expenditure of the contributing, paying, or otherwise providing Party, and are not revenue or expenditures of the receiving Party.
- 8.3 In accord with the Colorado Constitution, Colorado Law, and the Colorado Springs City Charter, performance of a Party’s obligations under this MOU is expressly subject to appropriation of funds by the governing body of that Party and the availability of those funds for expenditure under this MOU.
- 8.4 Counterparts; Facsimile: This MOU may be executed in one or more counterparts, each of which shall be deemed to be an original, but all of which shall be considered one and the same instrument. This MOU may be executed and delivered by facsimile transmission.

THE PARTIES HERETO HAVE EXECUTED THIS MEMORANDUM OF UNDERSTANDING.

FOR THE **CITY OF COLORADO SPRINGS**, A HOME RULE CITY AND COLORADO MUNICIPAL CORPORATION:

By: _____ on this _____ day of _____, 2022.
Title: Mayor

Attest: _____
City Clerk

Approved As to Form:

By: _____
Attorney
City of Colorado Springs

AND FOR **COLORADO SPRINGS UTILITIES**, AN ENTERPRISE OF THE CITY OF COLORADO SPRINGS:

By: _____ on this _____ day of _____, 2022.
Title: Water Services Officer

Approved As to Form:

By: _____
City Attorney's Office

AND FOR **EL PASO COUNTY, COLORADO:**

By: _____ on this _____ day of _____, 2022.
Title: Board of County Commissioners Chair

Attest:

By: _____
County Clerk and Recorder

Approved As to Form:

By: _____
County Attorney's Office

AND FOR **EI PASO – TELLER COUNTY E911:**

By: _____ on this _____ day of _____, 2022.

Title: _____

Attest: _____

AND FOR **TELLER COUNTY, COLORADO:**

By: _____ on this _____ day of _____, 2022.

Title: _____

Attest:

By: _____
County Clerk and Recorder

Approved As to Form:

By: _____
County Attorney's Office

AND FOR **THE CITY OF FOUNTAIN, COLORADO:**

By: _____ on this _____ day of _____, 2022.

Title: City Manager

Attest: _____

Title: City Clerk

Approved as to Form:

By: _____
City Attorney's Office

Exhibit 1

**Pikes Peak Geospatial Alliance
Intergovernmental Agreement**

This Pikes Peak Geospatial Alliance Intergovernmental Agreement, dated this ___ day of _____, 2004, is made by and between the following governmental entities:

- the City of Colorado Springs, a Colorado municipal corporation and home rule city
- the Colorado Springs Utilities, an enterprise of the City of Colorado Springs
- El Paso County, Colorado
- Teller County, Colorado
- El Paso – Teller County E911 Authority

The Parties to this Intergovernmental Agreement hereby agree as follows:

Article I. Authority

This intergovernmental agreement is made under authority of Colorado Constitution, Article XX, Section 6; Colorado Constitution Article XIV, Section 18; and Section 29-1-203 C.R.S.

Article II. Purpose

This intergovernmental agreement establishes the Pikes Peak Geospatial Alliance (PPGA) and defines its membership, organization and activities. The primary purpose of the PPGA is to acquire geospatial data and technologies for the benefit of its members. This agreement does not supercede existing agreements between the member agencies unless stated otherwise herein or in follow-up memorandums of understanding (MOU).

Article III. Membership

Section 3.01 Charter Members

PPGA charter agencies include the City of Colorado Springs, Colorado Springs Utilities, El Paso County, Teller County and El Paso – Teller County E911 Authority. Each agency's governing body must formally adopt this intergovernmental agreement for their membership to become official.

Section 3.02 Additional Membership

Additional governmental agencies may be added to the PPGA through the unanimous consent of the charter members. Each charter member will execute an IGA addendum followed by the candidate agency executing the original IGA and all addendums before the candidate agency's membership is considered to be complete.

Article IV. Steering Committee

The PPGA steering committee is hereby established to administer the terms and conditions of this agreement and conduct the routine business of the Alliance. The steering committee will generally meet on a monthly basis to maintain communication between member agencies.

Section 4.01 Membership

Each member agency shall designate one representative to serve on the PPGA steering committee. The representative or their proxy will communicate their agency's position on PPGA business items through participation in PPGA meetings.

The representatives for the Steering Committee are as follows:

- (a) Colorado Springs Representative: Geographic Information Officer
- (b) Colorado Springs Utilities Representative: Resource Technology Services Manager
- (c) El Paso County Representative: Information Technologies GIS Manager
- (d) Teller County Representative: LIS/GIS Coordinator
- (e) El Paso – Teller E911 Representative: E9-1-1 System Manager

Section 4.02 Responsibilities

- (a) Administer IGA terms and conditions
- (b) Identify and prioritize PPGA projects
- (c) Discuss PPGA projects with members, other governments and local entities as appropriate to determine level of financial interest
- (d) Develop cost sharing formulas and proposed agreements
- (e) Participate in the development of request for information/request for proposal (RFI/RFP) language
- (f) Participate in vendor selection and contract maintenance
- (g) Participate in quality assurance/quality control (QA/QC) processes
- (h) Administer data distribution processes as defined in Article VI, Geospatial Data Distribution, and in the project-specific MOUs
- (i) Communicate the Geographic Information Systems (GIS) needs and

capabilities of member agencies to state and federal interests (grants, user groups, etc.)

- (j) Other implied responsibilities not explicitly defined

Section 4.03 Governance

- (a) Chairperson

The steering committee chairperson is hereby established to act as a point of contact for the PPGA. Additional responsibilities include the organization of PPGA meetings and coordination of external data distribution requests. The chairperson role will rotate on an annual basis to each of the member agency representatives.

- (b) Decision-Making

Steering committee decision-making will be based on unanimous consent.

- (c) By-laws

The steering committee shall establish by-laws as necessary to carry out the responsibilities defined in Section 4.02.

Article V. Geospatial Data Acquisition

A principal role of the PPGA is to acquire mutually beneficial geospatial data.

Section 5.01 Purpose

Cooperative geospatial data acquisition reduces costs by eliminating redundancies and capturing economy of scale discounts while providing additional data sets for decision makers. Cooperation on joint agency projects may be streamlined due to a single data acquisition project.

Cooperative geospatial data acquisition may be used for concurrent geospatial analysis, joint agency projects or to support the independent operations of member agencies.

Section 5.02 Participation

Participating agencies (Participants) are defined as PPGA members and non-member entities that agree to the terms of an individual project by executing a common MOU and following through with any financial commitments identified therein.

- (a) PPGA Member Agencies

Member agencies are eligible to participate in any project undertaken by the PPGA. PPGA member agencies that originally decline participation and wish to acquire the project data after MOUs have been executed will be charged the non-participant acquisition rate.

(b) Non-Member Agencies

Public or private sector agencies may participate on individual PPGA projects by unanimous approval of the PPGA steering committee. Non-member agencies must agree to the terms and conditions of the project through the execution of the project MOU by their governing body or authorized agency representative. Execution of the project MOU indicates an agency's commitment to abide by the project funding formula and distribution restrictions.

Section 5.03 Project Selection

The PPGA steering committee will meet as necessary to discuss the data needs of both individual agencies and any ongoing or upcoming agency cooperative efforts. A prioritized list of projects will be developed based on interest, feasibility and funding. External agencies that might benefit from candidate projects will be contacted to determine their level of interest and availability of funds.

Each PPGA member agency will be given the opportunity to participate in all projects organized pursuant to this intergovernmental agreement. Member agencies have the right to decline participation in any individual PPGA project. Agencies that decline to participate in individual projects surrender all rights to project deliverables.

Each project will result in a geospatial data set jointly owned by the participating PPGA member agencies. Usage of the jointly owned data shall be subject to all terms and conditions in this agreement as well as any additional conditions contained in the accompanying project MOU.

Section 5.04 Funding

(a) Co-Funding Model

Geospatial data acquisition will utilize a co-funding model that allows multiple agencies to fund and obtain the benefit and use of an individual project procured by a single member agency. The PPGA steering committee will develop a funding formula for each project that defines the contribution percentages of participating agencies.

(b) Lead Agency

The PPGA steering committee will select a lead agency to act as the procuring and contracting authority on each project. The lead agency will provide documentation on their procurement and contracts procedures to the participating agencies for review. Agencies unable or unwilling to comply with the lead agency's procurement procedures will withdraw from participation.

(c) Memorandum of Understanding

An interagency MOU will be drafted and executed by each participating agency prior to starting each project. The MOU will formalize the participant funding formula, procurement and data distribution guidelines that will govern the project. Agencies unable or unwilling to sign the MOU will withdraw from participation in the project identified by said MOU.

(d) Expenditures

All participants acknowledge that the purpose of this Agreement is to jointly accomplish activities that could be performed separately by each Party. It is agreed and understood for purposes of the Colorado Constitution, Article X Section 20 that any funds contributed for data acquisition or otherwise contributed under this Agreement by any Party to this Agreement, is and remains an expenditure of that Party only.

Section 5.05 Proposal Solicitation

A scope of work and schedule of deliverables will be developed and approved by the PPGA steering committee and submitted to the lead agency for inclusion into requests for proposals. The procurement and contracting policies of the lead agency govern the formal acquisition process. All projects must be advertised for competitive bid by the lead agency.

Section 5.06 Proposal Evaluation

The procuring and contracting agency shall include all participating members of the PPGA steering committee to serve on their project evaluation and selection process. Non-technical members of the evaluation and selection committee will be determined by the lead agency based on their internal guidelines. Participating members of the PPGA steering committee may also select, through unanimous consent, additional non-voting members to provide technical expertise to the evaluation and selection committee. Each PPGA steering committee member must accept the lead agency evaluation and selection participation requirements, including but not limited to confidentiality agreements and/or other disclosures. Vendor selection proceedings and contract administration will be governed by the internal policies of the lead agency.

Section 5.07 Contract Administration

Members of the project evaluation and selection committee will assist the lead agency with contract administration including, but not limited to, pilot area selection, interim deliverable acceptances, quality assurance, quality control and final product acceptance. Additional contract support may be requested by the lead agency.

Section 5.08 Deliverables

Participating PPGA member agencies shall receive an original set of all project deliverables. Non-member participants are entitled to receive an original of the

project deliverable that corresponds to the area of interest used to define their funding contribution.

Article VI. Geospatial Data Distribution

Distribution of geospatial data acquired by the Participants under this agreement will be conducted on an individual project basis. For each project, Participants must agree to the following data distribution guidelines. All data distribution transactions will require the product recipient to execute a license agreement with the issuing agency. Agencies will use due diligence in distributing data.

The following general guidelines apply to all geospatial data sets acquired under this agreement. Additional distribution restrictions may be implemented on an individual project basis through inclusion in the project MOU.

Section 6.01 Internal Data Distribution

Internal data distribution is defined as the release of project deliverables by a Participant to internal departments, offices, units and enterprises, and is permitted by this Agreement.

Law, fire, and EMS agencies in El Paso and Teller Counties and Public Service Answering Points (PSAP) shall, for the purposes of this IGA, also be considered as internal departments to the El Paso – Teller E-911 Authority.

Project deliverables may also be released to a Participant's consultant. A consultant is defined as an entity under contract and financial commitment to a Participant. Exhibit A will be used for internal consultant licensing.

Section 6.02 External Data Distribution

External data distribution is defined as the release of project deliverables to a non-participating entity and shall require payments as provided in this Section 6.02. Exhibit B will be used for external customer licensing.

Non-member Participants are prohibited from releasing any project deliverables to external entities except as noted in Section 6.01.

Distribution of project deliverables to external customers or for Colorado Open Records Act requests is subject to Colorado Revised Statutes. Additional distribution constraints may be applied based on agency, local, regional or national security policies, as defined by project MOUs.

Each PPGA project will be assigned a unit price factor as determined in the project specific MOU, that will be used to categorize individual data transactions into those over and under \$1000.

(a) Transactions under \$1000

Single or collective transactions to individuals or agencies totaling less than \$1000 as calculated using the data's unit price factor will be governed by the internal data distribution policies of the agency receiving the request. Once the cumulative requests total \$1000 or more, the process detailed in section (b) below apply.

(b) Transactions equal to or over \$1000

Single or collective transactions to individuals or agencies totaling \$1000 or more as calculated using the data's unit price factor shall be forwarded to the PPGA steering committee chairperson. Data distribution will be administered by the chairperson with proceeds of said transaction returned to participant Members in proportion to their project contribution rate. The individual or agency receiving the data shall separately and directly compensate each participant Member agency accordingly.

Data delivered under this process will only be licensed by complete tile(s).

Article VII. Infrastructure Acquisition

A potential role of the PPGA is to acquire mutually beneficial infrastructure assets including geospatial technologies. While the exact nature of these technologies is not totally known, the intent is to provide a mechanism to amend this Agreement to exploit future technology opportunities.

Article VIII. General Terms and Conditions

Section 8.01 Term

This Agreement shall commence upon final execution and end twenty-five (25) years thereafter unless sooner terminated or extended hereunder. Regardless of the date of execution or termination, this Agreement shall be in full force and effect from the date of a Party's receipt, in digital form, of any jointly acquired GIS Data, and for so long as any portion of said geospatial data, in any form whatsoever, remains in the possession of the other Party or any of its employees, agents, contractors or subcontractors. This Agreement shall remain in effect unless a Party terminates this Agreement by giving the other Parties six (6) months' written notice. The provisions set forth in Articles VI and VII herein shall survive the termination of this Agreement.

Section 8.02 Assignment

No Member shall assign or otherwise transfer this Agreement or any right or obligation hereunder without the prior written consent of the other Members.

Section 8.03 Law

This Agreement is subject to and shall be interpreted under the laws of the State of Colorado, and the Charter, City Code, Ordinances, Rules and Regulations of

the City of Colorado Springs, Colorado, a Colorado Home Rule City. Court Jurisdiction and venue shall exclusively be in the Colorado District Court for El Paso County, Colorado.

Section 8.04 Expenditures

Expenditures and Fees of Each Party Deemed Expenditures of that Party: The Parties to this Agreement agree that the purpose of this Agreement is to jointly accomplish pursuant to C.R.S. Section 29-1-203 activities which could be performed separately by each Party. Accordingly, it is agreed and understood for purposes of the Colorado Constitution, Article X Section 20, and the Colorado Springs City Charter, that any fees contributed or paid, or otherwise provided by any Party to this Agreement to another Party to this Agreement are and remain an expenditure of the contributing, paying, or otherwise providing Party, and are not revenue or expenditures of the receiving Party.

Section 8.05 Appropriation of Funds

In accord with the Colorado Constitution, Colorado Law, and the Colorado Springs City Charter, performance of a Member's obligations under this Agreement are expressly subject to appropriation of funds by the governing body of that Member and the availability of those funds for expenditure under this Agreement.

Section 8.06 Integration

This is a completely integrated Agreement and contains the entire agreement between the Members. Any prior written or oral agreements or representations regarding this Agreement shall be of no effect and shall not be binding on the Members.

Section 8.07 Headings

The headings of the several articles and sections of this Agreement are inserted only as a matter of convenience and for reference and do not define or limit the scope or intent of any provisions of this Agreement and shall not be construed to affect in any manner the terms and provisions hereof or the interpretation or construction thereof.

Section 8.08 Local Concern

The Members agree and acknowledge that the activities undertaken pursuant to this Agreement are matters of local concern only, and that the Members have mutually joined together for the performance of the matters of local concern, and that nothing in this Agreement shall be construed as making any of the concerns covered herein matters of mixed or statewide concern.

Section 8.09 No Third Party Beneficiary

It is expressly understood and agreed that enforcement of the terms and conditions of this Agreement, and all rights of action relating to such enforcement, shall be strictly reserved to the Members hereto, and nothing contained in this Agreement shall give or allow any such claim or right of action by any other or third person or entity on this Agreement. It is the express intention of the Members hereto that any person or entity, other than the Members of the Agreement, receiving services or benefits under this Agreement shall be deemed to be incidental beneficiaries only.

Section 8.10 Compensation

No Party to this Agreement shall be required to pay any compensation to the other Party or the other Party's personnel for any services rendered hereunder. Nothing in this agreement shall be construed to place the personnel of any Party under the control or employment of another Party. Each Party remains responsible for all pay, entitlement, employment decisions, and worker's compensation liabilities, for its own personnel. Nothing in this agreement is intended to create or grant to any third party or person any right or claim for damages or the right to bring or maintain any action at law, nor does any Party waive its immunities at law, including immunity granted under the Colorado Governmental Immunity Act.

Section 8.11 Modification

This Agreement may only be amended in writing with the approval of the governing bodies of the Members under this Agreement.

Section 8.12 Dispute Resolution

- (a) The parties intend that all disputes, as defined below, shall be resolved in accordance with these dispute resolution procedures. The parties shall continue to perform their respective obligations under the terms of this Agreement until the stages of dispute resolution have been completed.
- (b) Disputes include any controversy or claim, whether based in contract, tort or otherwise, arising out of, relating to, or in connection with this Agreement or the scope, breach, termination or validity thereof ("Dispute").
- (c) In the event of a Dispute, a party will deliver written notice of the Dispute to the other parties of its intent to invoke resolution of the Dispute (the "Dispute Notice"). A party may assert the existence of a Dispute against the other party or parties until delivery of such Notice. Within thirty (30) days after the date of delivery of the Notice of Dispute the receiving party shall submit to the other a written response ("Dispute Notice Response"). The Dispute Notice Response shall include (i) a statement of the party's position and a summary of the evidence and arguments supporting the

party's position, and (ii) the name and title of the person who will represent that party.

- (d) If a Dispute Notice is given, the parties shall promptly and diligently attempt to negotiate a settlement of the Dispute through direct negotiations between representatives of the parties who are authorized to enter into settlements on behalf of the parties. The representatives shall meet at a mutually acceptable time and place within twenty (20) days after the date of delivery of the Dispute Notice Response and thereafter, as often as they reasonably deem necessary to exchange relevant information and to attempt to resolve the Dispute. If an authorized representative intends to be accompanied at a meeting by an attorney, the other authorized representative shall be given at least three (3) working days notice of such intention and may also be accompanied by an attorney. All negotiations pursuant to this Section are confidential and shall be treated as compromise and settlement negotiations for the purposes of the Federal Rules of Evidence and State Rules of Evidence. No subpoenas, summonses, citations, or other processes shall be served at or near the location of any negotiation upon any person who may be entering, leaving, attending, or in transit to any negotiation session.
- (e) If the Dispute has not been resolved within sixty (60) days following the first negotiations, either party may initiate litigation in Colorado, in the courts described below, upon thirty (30) days written notice to the other party. For the purpose of litigating any Dispute, the party's consent to the jurisdiction of the District Court of El Paso County, Colorado.
- (f) All deadlines specified in this Section may be extended by mutual agreement.
- (g) Each party is required to continue to perform its obligations under this Agreement, pending final resolution of any Dispute.
- (h) The procedures specified in this Section shall be followed for the resolution of Disputes between the parties arising out of, or relating to this Agreement; prior to the filing on any litigation between the parties, except for cases where undue prejudice would be caused by delay; a party may seek a preliminary injunction or other preliminary judicial relief; if in the judgment of that party, such action is necessary to avoid irreparable damage or to preserve the status quo. Despite the initiation of any such judicial proceedings, the parties will continue to participate in good faith in the procedures specified in this Section. As between the parties, all applicable statutes of limitation shall be tolled while the procedures specified in this Section are pending and the parties will take all actions, if any, required to effectuate such tolling. If these procedures are not successful in resolving the dispute, the procedures set forth in Section 8.12e shall apply.

- (i) The parties commitment to resolve Disputes, pursuant to this Section, survives the expiration or termination of this Agreement.

Section 8.13 Termination

A withdrawing Member must provide at least six months written notice of intent to terminate participation. The terminating Member shall continue to be financially responsible for and pay its share of any financial obligations entered into, pursuant to an MOU signed by the terminating agency, during the period when the terminating agency was a member of the PPGA.

As long as a terminating Member continues to possess data acquired under the auspices of the this IGA and associated project MOUs, that Member shall continue to be bound by the data distribution polices set forth in this IGA and project MOUs.

Exhibit A: Internal Consultant Geospatial Data License Agreement

Exhibit B: Customer Geospatial Data License Agreement

THE PARTIES HERETO HAVE EXECUTED THIS INTERGOVERNMENTAL AGREEMENT.

FOR THE CITY OF COLORADO SPRINGS:

By _____ this _____ day of _____, 2004.

Title: _____

ATTEST: _____

FOR COLORADO SPRINGS UTILITIES:

By _____ this _____ day of _____, 2004.

Title: _____

ATTEST: _____

FOR EL PASO COUNTY:

By Alvin R. Burr this 8th day of July, 2004.

Title: BOCC Chairman

ATTEST: [Signature]
Deputy County Clerk

FOR TELLER COUNTY:

By _____ this _____ day of _____, 2004.

Title: _____

ATTEST: _____

PPGA IGA

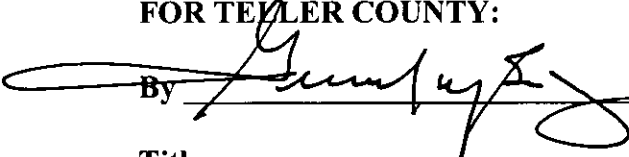
FOR EL PASO-TELLER COUNTY E911:

By _____ **this** _____ **day of** _____, **2004.**

Title: _____

ATTEST: _____

FOR TELLER COUNTY:

By  this 27 day of July, 2004.

Title: _____

ATTEST: _____

FOR THE CITY OF COLORADO SPRINGS:

By:

Paul Aron

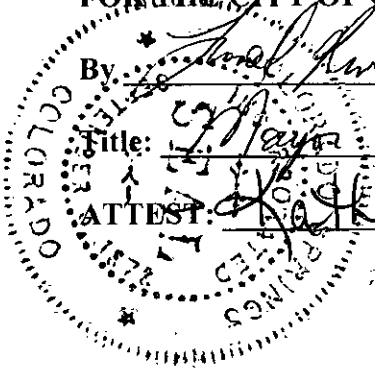
this 23d day of July, 2004.

Title:

Mayor

ATTEST:

Kathryn McYoung



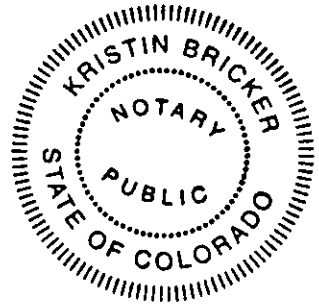
FOR COLORADO SPRINGS UTILITIES:

By Phillip H. Tollison this 26th day of July, 2004.

Title: CEO

ATTEST: *[Signature]*

My Commission expires
3/5/2007



FOR EL PASO-TELLER COUNTY E911:

By Jane R. Day this 28th day of July, 2004.

Title: _____

ATTEST: [Signature]

EXHIBIT A

Pikes Peak Geospatial Alliance Internal Consultant Geospatial Data License Agreement

This Consultant Geospatial Data License Agreement is made and entered into as of the < Day > day of < Month, Year > by and among (check one):

- El Paso County, Colorado
- The City of Colorado Springs, a home rule municipality
- The Colorado Springs Utilities, an enterprise of the City of Colorado Springs
- Teller County, Colorado
- El Paso – Teller County E911 Authority

(hereafter "Licensor") and

< Company > (hereafter "the Consultant"), with its principal place of business at < Address >.

The parties understand that they are independent entities, and that this Agreement does not create a joint venture, partnership, or other similar relationship between them. Further, no agent, employee, or servant of the Consultant shall be deemed to be an employee of Licensor.

The undersigned warrants to Licensor that he/she has full power and authority to enter into, and where applicable, to act as the agent of the Consultant and be bound to perform its obligations under this Agreement.

1. LICENSOR'S AGREEMENT TO PROVIDE PRODUCTS:

Licensor agrees to provide the following geospatial data:

in an area described as follows:

approximate area in square mile(s):

to conform to the requirements of Licensor Purchase Order/Contract Number: _____ (hereafter "the Purchase Order(s)").

a. Licensor agrees to deliver Products to the Consultant within thirty (30) days of Consultant's execution of the original of this Agreement and its return to Licensor, provided that Licensor has the products available for delivery to the Consultant. Licensor and the Consultant understand that this Agreement facilitates a one-time delivery of Licensor's Product. This Agreement is not intended to impose upon Licensor any duty to provide the Consultant with Products on any ongoing basis. Further, Licensor has no duty or responsibility for updating the Products contained therein. Licensor may provide semi-annual updates of the Products to the Consultant as consideration for any updated data and information the Consultant may acquire and provide to Licensor as such data becomes available in the future.

b. Licensor makes no warranties or guarantees, either expressed or implied, as to the completeness, accuracy, or correctness of such Products, nor accept any liability, arising from any incorrect, incomplete or misleading information contained therein. There are no warranties, either expressed or implied, of merchantability or fitness of such Products for a particular purpose.

2. CONSULTANT'S AGREEMENT TO PROVIDE DATA:

a. As consideration under this Agreement, and in exchange for the use of the data provided to the Consultant, the Consultant shall provide Licensor with the following:

b. Unless otherwise provided for in the Purchase Order(s), the Consultant agrees to deliver the data identified above in the State Plane Coordinate System, Colorado Central Zone, Datum NAD83.

c. The Consultant agrees that all physical material, photographs, reports, drawings, studies, information, specifications, estimates, maps, computer tapes, digital data, computations, intellectual property and other data (hereinafter referred to collectively as "Material" or "Products") prepared by or for the Consultant or prepared by or for any affiliate consultant or subcontractor under the terms of the project agreement are the property of the Licensor and the Licensor owns the copyright to the same. The Consultant understands that the Licensor may, at a later date, have the copyrighted Material registered with the U.S. Copyright office.

3. TIME OF CONSULTANT'S PERFORMANCE AND USE OF LICENSOR PRODUCTS:

The Consultant is granted the right to use the Products Licensor provides to it for the period of the Purchase Order(s), but in no instance beyond < Date >, at which time the Consultant shall cease all use of the Products, and shall delete the Licensor Products data from their computer systems. This grant of time shall be renewable by mutual consent of the parties.

4. RESTRICTIONS ON CONSULTANT'S USE OF THE PRODUCTS:

The undersigned authorized agent of the Consultant acknowledges that Licensor has imposed upon the Consultant certain limitations and restrictions on the use of the Products and the information contained therein as follows:

a. Licensor grants the Consultant the right to use Licensor's Products solely for the Consultant's internal use and as specified in paragraph 2 above. Licensor prohibits the release of its Products by the Consultant to any third party contractor without the written permission of Licensor. The Consultant agrees to use the Products for the following sole purpose:

Any other use of the Products shall be deemed a breach of this Agreement. The Consultant agrees to allow Licensor to inspect the Consultant's records regarding any possible misuse of the Products or their unauthorized release to third parties.

b. This Agreement does not constitute a sale of any title or interest in the Products. Licensor reserves all ownership rights to its Products and such other rights not expressly granted to the Consultant by this Agreement.

c. The Products are protected by the copyright laws of the United States and are being furnished with all rights reserved. The Consultant shall not copy or transmit in any form or by any means whatsoever Licensor's Products, including but not limited to, electronic, mechanical, photocopying, recording, scanning, or by any information or retrieval system for any non-approved purpose without the expressed written permission of Licensor. The Consultant shall not license, sublicense, assign, release, publish, transfer, sell or otherwise make available the Products or portion thereof to any third party without the expressed written permission of Licensor. This restriction on assignments and transfers shall apply to assignments or transfers by operation of law, as well as by contract, merger, or consolidation. Any attempted assignment or transfer in derogation of this prohibition is void.

d. The Products have been developed solely for Licensor's internal use. The Consultant understands and acknowledges that Licensor's geospatial database and data in the Products are subject to constant change and that its accuracy and completeness cannot be guaranteed. **UNDER NO CIRCUMSTANCE SHALL LICENSOR MAPPING BE USED FOR FINAL DESIGN PURPOSES.**

e. The Consultant agrees to recognize and honor in perpetuity the copyrights, and other proprietary claims for survey control information, databases, collateral information, and products established or produced by Licensor or the vendors furnishing said items to Licensor.

f. The Consultant will do or cause to be done all things necessary to meet the restrictions imposed on the use of the Products and to meet its obligations under this Agreement.

g. Assignment: Contractor shall not assign or otherwise transfer this agreement or any right or obligations therein.

5. BREACH OF AGREEMENT, DAMAGES, CLAIMS:

a. In the event the Consultant breaches any of the terms, conditions, covenants, or agreements contained in this Agreement, the license granted herein shall immediately cease, and Licensor shall thereupon have the right to any and all legal or equitable remedies, including but not limited to injunctive relief and damages.

b. Upon any termination or expiration of this Agreement, all licenses granted hereunder shall immediately terminate, and the Consultant shall immediately discontinue all use of the Products and delete the Products from their files and storage media. Upon Licensor's request, the Consultant shall promptly confirm in writing that they have complied with the foregoing.

c. Licensor is not responsible for incidental, consequential, or special damages arising out of the use of the Products provided to the Consultant. The Consultant agrees that the Products shall be used and relied upon only at the risk of the Consultant. The Consultant agrees to indemnify and hold harmless Licensor, its officials, officers, employees and servants from any liability, claims, loss, damages, injury, costs and attorney fees arising out of procuring, compiling, collecting, interpreting, producing, using or communicating the Products or information contained therein.

6. MISCELLANEOUS:

a. This Agreement contains no financial commitments on the part of Licensor, and any financial commitments on the part of Licensor that become a part of this Agreement are subject to the appropriation by the governing body of the Licensor.

b. This Agreement is subject to and shall be interpreted under the laws of the State of Colorado, and the Charter, City Code, Ordinances, Rules and Regulations of the City of Colorado Springs, Colorado, a Colorado Home Rule City. Court Jurisdiction and venue shall exclusively be in the Colorado District Court for El Paso County, Colorado.

c. If any provisions of this Agreement are determined to be invalid or unenforceable, the remaining provisions of this Agreement shall continue to be valid and enforceable.

d. This Agreement together with the terms of the Purchase Order(s)/Contract embodies the entire agreement between the Consultant and Licensor. The parties shall not be bound by or liable for any statement, representation, promise, inducement, or understanding of any kind or motive not set forth herein. No additional agreements or modifications of any of the terms or conditions of this Agreement shall be valid unless reduced to writing and signed by the parties.

e. Place of Performance: The place of performance for this Agreement is deemed to be:

< licensor jurisdiction >

IN WITNESS WHEREOF, the parties hereto have executed this Agreement
this < Day > day of < Month, Year >.

CONSULTANT

By

Title

For Licensor: _____

If applicable:
Approved as to Form: _____

EXHIBIT B

Pikes Peak Geospatial Alliance Customer Geospatial Data License Agreement

The undersigned on behalf of

(hereafter referred to as "the Customer") in accepting geospatial Products from (check one):

- El Paso County, Colorado
- The City of Colorado Springs, a home rule municipality
- The Colorado Springs Utilities, an enterprise of the City of Colorado Springs
- Teller County, Colorado
- El Paso – Teller County E911 Authority

(hereafter "Licensor") hereby acknowledges the limitations of the Products and the information contained therein and restrictions on its use:

1. Licensor grants the Customer a non-exclusive, non-transferable license to use the Products for internal use by the Customer and its clients and contractors. The Products are being provided to the Customer for the sole purpose of:

2. The types of Products being provided are:

3. The period of time for which the Customer is granted the right to use the Products is: < Years > years beginning < Date >. All Licensor geospatial product usage and storage must be discontinued by the customer by < Date >.

4. Delivery of the Products to the Customer shall be made by Licensor only after the Customer has fully executed this unmodified agreement and returned it to Licensor.

5. This Agreement does not constitute a sale of any title or interest in the Products. Licensor reserves all rights not expressly granted to the Customer by this Agreement.

6. The Customer understands this is a one-time delivery and that Licensor has no responsibility for updating the Products or information contained therein.

7. Upon any termination or expiration of this Agreement, all licenses granted hereunder shall immediately terminate, and the Customer shall immediately discontinue all use of the Products and delete the Products from their files and storage media. Upon Licensor's request, the Customer shall promptly confirm in writing that they have complied with the foregoing.

8. The Products are protected by the copyright laws of the United States and are being furnished with all rights reserved. No part of the information may be copied, reproduced or transmitted in any form or by any means whatsoever, including but not limited to, electronic, mechanical, photocopying, recording, scanning, or by any information or retrieval system for any non-approved purpose without the expressed written permission of Licensor. The Customer shall not license, sublicense, assign, release, publish, transfer, sell or otherwise make available the Products or portion thereof to a third party without the expressed written permission of Licensor.

9. The Products have been developed solely for internal use only. The Customer understands and acknowledges that Licensor geospatial data in the Products are subject to constant change and that its accuracy and completeness cannot be guaranteed. **UNDER NO CIRCUMSTANCE SHALL THESE PRODUCTS BE USED FOR FINAL DESIGN PURPOSES.** Licensor makes no warranties or guarantees, either expressed or implied, as to the completeness, accuracy, or correctness of such Products, nor accept any liability, arising from any incorrect, incomplete or misleading information contained therein. There are no warranties, either expressed or implied, of merchantability or fitness of such Products for a particular purpose.

10. Non-Federal/State customers: Licensor is not responsible for incidental, consequential, or special damages arising out of the use of the Products provided the Customer. The Customer agrees that the Products shall be used and relied upon only at the risk of the Customer. The Customer agrees to indemnify and hold harmless Licensor, its officials, officers, employees and servants from any liability, claims, loss, damages, injury, costs and attorney fees arising out of procuring, compiling, collecting, interpreting, producing, using or communicating the Products or information contained therein.

10a. Federal/State customers: Licensor is not responsible for incidental, consequential, or special damages arising out of the use of the Products provided the Customer. The Customer agrees that the Products shall be used and relied upon only at the risk of the Customer.

11. In the event the Customer breaches any of the terms, conditions, covenants, or agreements contained in this Agreement, not only shall the license granted herein immediately cease, but Licensor shall thereupon have the right to any and all legal or equitable remedies, including but not limited to injunctive relief and damages.

12. The Customer agrees to recognize and honor in perpetuity the copyrights, and other proprietary claims for survey control information, databases, collateral information, and products established or produced by Licensor or the vendors furnishing said items to Licensor.

13. This Agreement embodies the entire agreement between the Customer and Licensor. The parties shall not be bound by or liable for any statement, representation, promise, inducement, or understanding of any kind or motive not set forth herein. No additional agreements or modifications of any of the terms or conditions of this Agreement shall be valid unless reduced to writing and signed by the parties.

14. Neither this Agreement nor the rights granted by it shall be assigned or transferred by the Customer under any circumstance whatsoever. This restriction on assignments and transfers shall apply to assignments or transfers by operation of law, as well as by contract, merger, or consolidation. Any attempted assignment or transfer in derogation of this prohibition is void.

15. The Customer will do or cause to be done all things necessary to preserve its rights and meet its obligations under this Agreement.

16. This Agreement contains no financial commitments on the part of Licensor, and any financial commitments on the part of Licensor that become a part of this Agreement are subject to the appropriation by the governing body of the Licensor.

PROVISIONS

17. This Agreement is subject to and shall be interpreted under the laws of the State of Colorado, and the Charter, City Code, Ordinances, Rules and Regulations of the City of Colorado Springs, Colorado, a Colorado Home Rule City. Court Jurisdiction and venue shall exclusively be in the Colorado District Court for El Paso County, Colorado.

18. If any provision of this Agreement is determined to be invalid or unenforceable, the remaining provisions of this Agreement shall continue to be valid and enforceable.

19. The undersigned warrants to Licensor that he/she has full power and authority to enter into, and where applicable, to act as the agent of the Customer and be bound to perform its obligations under this Agreement.

20. Place of Performance: The place of performance for this Agreement is deemed to be:

< licensor jurisdiction >

21. Other restrictions imposed on the use of such products are:

Customer Signature line:

Signature

Date

Printed or Typed Name

Title

Company or Organization Name

PPCP Exhibit B

Approved:

Signature

Date

Printed or Typed Name

Title

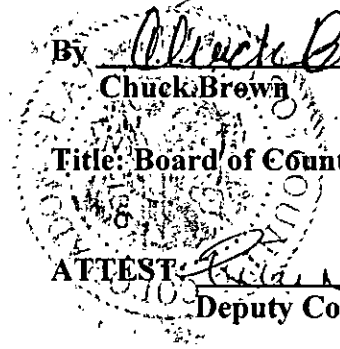
FOR EL PASO COUNTY:

By *Chuck Brown* this 8th day of July 2004.

Chuck Brown

Title: Board of County Commissioners Chairman

ATTEST: *[Signature]*
Deputy County Clerk



FOR EL PASO COUNTY:

By *Chuck Brown* this 8th day of July 2004.
Chuck Brown

Title: Board of County Commissioners Chairman

ATTEST: *Patricia Williams*
Deputy County Clerk



PROFESSIONAL SERVICES AGREEMENT

Contract Number 202119286

2022 Pikes Peak Geospatial Alliance Orthoimagery Project

Between

Colorado Springs Utilities

and

The Sanborn Map Company Inc

Effective Date: November 22, 2021

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PROFESSIONAL SERVICES AGREEMENT

This Professional Services Agreement (Agreement) is made and entered into as of the 22nd day of November, 2021, (Effective Date) by and between Colorado Springs Utilities (Utilities) an enterprise of the City of Colorado Springs, a Colorado home rule city and municipal corporation, with its principal place of business at 121 S. Tejon Street, 2nd Floor, Colorado Springs, Colorado 80903, and The Sanborn Map Company, Inc (Contractor), with its principal place of business at 1935 Jamboree Drive, Suite 100, Colorado Springs CO 80920 each individually a “Party”, or collectively the “Parties”.

Services shall mean work performed to meet a demand, especially work not connected with a manufacturing process. The furnishing of labor, time, or effort by the Contractor, not involving the delivery of any specific end product, other than reports that are incidental to the required performance.

1. Scope of Work

- 1.1. During the term of this Agreement, Contractor shall perform the Services as defined in the specific Statement of Work attached hereto as Exhibit A (Services).
- 1.2. Task Order Conditions:
 - 1.2.1. Each Task Order (using form #F02-09727) will include a specific Scope of Services, Times for Rendering Service(s), and Fees/Charges and shall be mutually agreed upon in advance by the Parties in writing.
 - 1.2.2. The amount of Services to be performed by Contractor under Task Orders hereunder, if any, is not guaranteed, and actual Services shall be subject to and in accordance with the applicable Task Order.
 - 1.2.3. Invoicing per Section 4 below shall be separated by, and comply with instructions in, each specific Task Order.

2. Term

- 2.1. With Renewal Options: The term of this Agreement shall be from the Effective Date through November 22, 2023 with three (3) one-year renewal options (Term) at the sole discretion of Colorado Springs Utilities.”

3. Independent Contractor

- 3.1. During the Term of this Agreement, Contractor shall act at all times as an independent contractor and shall have the responsibility for and control over the details and means of performing the Services. Contractor acknowledges it has the duty to provide continuous, adequate supervision of its personnel, consultants and subcontractors, if any. Nowhere in this Agreement shall it be construed or implied that Contractor or any of its consultants, subcontractors, affiliates, employees, agents, or representatives are employees, representatives, or agents of Utilities. Contractor shall be subject to the direction of Utilities only with respect to the scope of the services and the general results required. Contractor shall not make any commitment nor incur any charge or expense in Utilities’ name without the prior written approval of Utilities.
- 3.2. Contractor will remain objective at all times and shall have no conflicts of interest. A conflict of interest exists when there is any personal or financial relationship that could influence or be perceived to influence the representation or conduct of business for, or on behalf of, Utilities. Any conflict of interest and/or potential conflict of interest will be reported to Utilities in writing within fifteen (15) calendar days from the date of discovery of the conflict of interest/potential conflict of interest. Contractor shall send the written notice of conflict of interest/potential conflict of interest to the Strategic Sourcing Specialist delineated within the Representatives and Notice Section (See Section 10 - Representatives and Notice).

4. Payment

- 4.1. Utilities shall pay Contractor for Services performed or furnished in accordance with Contractor's Rates attached as Exhibit B. Utilities shall pay Contractor for Reimbursable Expenses incurred by Contractor or Contractor's subcontractors as set forth in Exhibit B. Travel shall be pre-approved by Utilities in writing; lodging, meals and incidental expenses in accordance with Utilities' Contractor Travel Reimbursement Policy attached as Exhibit L.
- 4.2. Invoices will be prepared in a manner acceptable to Utilities by Contractor. Invoices must be mailed, faxed or emailed to the address(s) listed below and shall be in a protected format that cannot be altered.
- 4.3. Each invoice shall be accompanied by supporting documentation as required by Utilities. Utilities, a governmental entity, is exempt from taxes per Federal Tax ID # 84-600574. Original invoices for payments shall be submitted one of three ways:
 - **US Mail to:**
Accounts Payable
Colorado Springs Utilities
PO Box 1103
Colorado Springs, Colorado 80947-0929
 - **Email:** accountspayablemail@csu.org
 - **Fax:** 719-668-8600
- 4.4. Unless otherwise stated in this Agreement, a copy of each invoice, duly marked "Copy", shall be sent directly to the project manager or contract administrator as identified in this Agreement or as otherwise advised in writing.
- 4.5. Net Payment of undisputed invoices is due and payable Net Thirty (30) days of Utilities' receipt of a complete and accurate invoice, notwithstanding anything that may be printed on such invoice. These payment terms shall also be subject to discounts for prompt payment, if any, as set forth in Exhibit B, or any other applicable discounts offered by Contractor for any reason, including the terms of any applicable price warranty. Payment by credit card, "P-card," or electronic funds transfer is a means of remitting payment only and shall not be construed as limiting Utilities' rights or altering any of the terms or conditions incorporated into this Purchase Agreement. In the event Utilities disputes or contests all or any part of any invoice, Utilities reserves the right to request a replacement invoice stating only the undisputed amount, and to promptly pay any undisputed amount and to withhold payment of any disputed amount, without waiving any of its claims or defenses to payment of the disputed amount. In the event that Contractor issues a replacement invoice for any undisputed amount, it is agreed that such issuance of a replacement invoice does not constitute a waiver of Contractor's rights with regard to the disputed amount.
- 4.6. Utilities is committed to paying invoices within the terms of the Agreement. Utilities will not pay any late charges or service charges that may be incurred due to late payment.
- 4.7. In the event of any termination Contractor will be entitled to invoice Utilities and will be paid in full for all Services accepted and all reasonable reimbursable expenses incurred through the effective date of termination. In the event of termination by Utilities for convenience, Contractor shall be entitled to invoice Utilities and shall be paid a reasonable amount for Services and expenses directly attributable to termination, such as reassignment of personnel, costs of terminating contracts with Contractor's subcontractors, and other related close-out costs, using methods and rates for additional Services as set forth in this Agreement.

5. Confidentiality

- 5.1. Contractor acknowledges that Utilities is a public entity subject to the provisions of the Colorado Public Records Act, C.R.S. § 24-72-201 et seq. Any confidential and/or proprietary information that either party discloses to the other with respect to this Agreement shall be designated as confidential and proprietary by the disclosing party at the time of disclosure and shall herein be referenced as “Confidential Information”.
- 5.2. In the course and scope of the Services being performed under this Agreement, Contractor may be provided, including by way of presence on Utilities’ premises or by use of or access to Utilities’ computer system, access to information that is Utilities’ Customers’ information. Customers’ information includes, but is not limited to names, addresses, telephone numbers, or personal financial information of past or present users of Utilities. All Customers’ information is deemed Confidential Information, whether it is marked or not, notwithstanding any other provision of this Agreement. In addition to the above Contractor acknowledges that Utilities is subject to the provisions of the Fair and Accurate Credit Transactions Act of 2003 (“FACT Act”), 15 U.S.C. § 1681 et seq. and when applicable shall comply with Fact Act rules. Contractor agrees that it shall not use, commercialize or disclose such Confidential Information to any person or entity, except to its own employees or Utilities-authorized subcontractors having a “need to know” to the extent and for the time necessary to performance of this Agreement. Furthermore, Contractor shall burn, pulverize, or shred papers and destroy or erase all electronic media that contain Utilities’ customer Confidential Information upon termination of this Agreement or completion of the Services, whichever is sooner, or such other time(s) as may be specified in the Statement of Work so that such Confidential Information cannot practically be read or reconstructed. Utilities has the right, but not the obligation, to audit Contractor compliance with this Section 5 “Confidentiality” by providing Contractor written notice 24 hours in advance of such audit.
- 5.3. The recipient shall not engage in any use or disclosure of Confidential Information not expressly provided for in this Agreement. In the event either Party receives a request for such Confidential Information from a third party, notice thereof shall promptly be given to the other Party. The recipient shall take all reasonable steps to prevent any unauthorized possession, use, transfer or disclosure of such Confidential Information. Should the recipient learn of any such unauthorized possession, use, transfer or disclosure, it shall promptly notify the other Party. If requested, the recipient shall deliver to the other Party all Confidential Information (including all copies) disclosed to it with respect to this Agreement. All items of intellectual property governed by federal patent or federal copyright laws and received by Utilities from Contractor shall be treated as property and not as information, if they are marked as such. Thus, engineering drawings and software code, among other things normally subject to such patent or copyright laws, shall be considered intellectual property received under license or such other arrangement as may appear from any applicable contract documents and is not information or a record that is subject to disclosure in response to a request under CORA, whether or not marked as confidential.
- 5.4. The disclosure provisions of this section shall not apply to information that a) the Parties had in their possession prior to disclosure by the other Party; b) becomes public knowledge through no fault of the recipient; c) the recipient lawfully acquires from a third party not under an obligation of confidentiality to the disclosing Party; or d) is required to be disclosed by law or court order.
- 5.5. Contractor shall not disclose any such Confidential Information or documents to any third party without the prior written authorization of Utilities.

6. Subcontractors

- 6.1. Contractor may retain subcontractors to carry out the Services outlined in this Agreement. Utilities reserves the right to approve all subcontractors prior to their use by Contractor. There shall be no relationship, fiduciary or otherwise, between Utilities and the subcontractors hired by Contractor. Contractor shall ensure that all subcontractors retained by Contractor acknowledge this Agreement, including the confidentiality provisions, in writing.
- 6.2. Contractor shall be fully responsible to Utilities for all acts and omissions of the subcontractors, suppliers, and other individuals or entities performing or furnishing any of the Services just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the contract documents shall create for the benefit of any such subcontractor, supplier, or other individual or entity any contractual relationship between Utilities and any such subcontractor, supplier, or other individual or entity, nor shall it create any obligation on the part of Utilities to pay or to see to the payment of any moneys due any such subcontractor, supplier, or other individual or entity except as may otherwise be required by laws and regulations.
- 6.3. All Services performed for Contractor by a subcontractor or supplier will be pursuant to an appropriate agreement between Contractor and the subcontractor or supplier, which specifically binds the subcontractor or supplier to the applicable terms and conditions of this Agreement for the benefit of Utilities.

7. Warranties

- 7.1. Contractor agrees to perform Services with the same degree of care, skill and diligence as is ordinarily possessed and exercised in the same profession under similar circumstances and shall ensure that its subcontractors, if any, have the level of skill in the area commensurate with the requirements of the Services to be performed. Contractor shall at all times attempt to serve the best interests of Utilities in connection with such Services and shall advise Utilities when Services it requests are not in Utilities' best interests.
- 7.2. If it is shown within twenty-four (24) months of completion of the Services that Contractor or its submitted an error in the performance of the Services or that normal standards of care and diligence have not been met, and Utilities promptly notifies Contractor of such an error or deficiency, Contractor shall perform corrective Services at no cost to Utilities as may be necessary to remedy the error or deficiency. If Contractor does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, Utilities may have the corrective Services performed by a third party, and all costs, losses, and damages arising out of or relating to such correction will be paid by Contractor.
- 7.3. Contractor warrants that all Services will meet applicable Utilities' specifications and agrees to correct deficiencies in any Services performed, in whole or in part, by the Contractor, which Utilities can demonstrate does not meet the applicable Utilities specifications, provided written notice is given to Contractor within two (2) years.
- 7.4. Contractor warrants that it is the lawful owner or licensee of any software programs or other proprietary materials used by Contractor in the performance of the Services called for in this Agreement and has all rights necessary to grant to Utilities any licenses necessary to use any equipment or intellectual property installed or specified by Contractor.
- 7.5. Contractor shall obtain from all suppliers and manufacturers any and all warranties and guarantees of such suppliers and manufacturers received for any products obtained on behalf of Utilities as part of Contractor's performance of this Agreement, whether or not specifically required by the Statement of Work and shall assign such warranties and guarantees to Utilities.

- 7.6. Contractor shall warrant that all products obtained on behalf of Utilities for the purpose of performing this Agreement shall have warranties that are transferable to Utilities and shall transfer all such warranties to Utilities.

8. Indemnification/Liability

- 8.1. To the fullest extent permitted by law, Contractor hereby releases Utilities and shall fully protect, defend, indemnify and hold harmless Utilities, the City of Colorado Springs, their officers, City Council, Utilities Board, directors, employees, agents and representatives from and against any and all claims, costs (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs), losses, damages, causes of action, or liability of any nature to the extent caused by the willful misconduct or negligent, reckless or tortious acts or omissions of Contractor or anyone for whose acts Contractor may be liable in the performance of its obligations under this Agreement.
- 8.2. Contractor will indemnify Utilities against a claim that any Service, as provided by Contractor to Utilities and used within the scope of this Agreement, infringes any copyright or any United States patent or trademark, or incorporates any misappropriated trade secret (a "Claim"). Contractor will pay any liabilities, costs, damages, or expenses, including reasonable attorneys' fees, attributable to such a Claim that are incurred by Utilities and/or awarded against Utilities in a final judgment or settlement approved in advance and in writing by Contractor, provided that Utilities notifies Contractor in writing within Thirty (30) days of the Claim.
- 8.3. Nothing in this Agreement shall be interpreted to limit or prevent the protections afforded to Utilities or the City of Colorado Springs under the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, et seq.

9. Insurance

- 9.1. See Exhibit I, "Insurance Requirements."
- 9.2. The types and amounts of insurance required under this Agreement or any exhibit attached hereto do not in any way limit the liability of the Contractor, including under any warranty or indemnity provision of this Agreement, or any other obligation whatsoever Contractor may have to Utilities or others.
- 9.3. Nothing in this Agreement or any exhibit attached hereto limits Utilities' access to the minimum required types and limits of insurance found in Exhibit I, "Insurance Requirements."

10. Representatives and Notice

Utilities may appoint a representative to act as liaison with Contractor in accordance with Exhibit A. Utilities' representative may be changed upon prior written notice to Contractor. All notices necessary or required under this Agreement shall be in writing and shall be personally delivered, sent by overnight delivery service, or mailed by certified mail, postage prepaid and return receipt requested, as follows:

If to Utilities:

Colorado Springs Utilities
Attn: Procurement Manager
PO Box 1103, MC 920
Colorado Springs, CO 80947-0920
Phone: (719) 668-3887

If to Contractor:

The Sanborn Map Company, Inc.
Attn: John R. Copple
1935 Jamboree Drive, Suite 100
Colorado Springs, CO 80920
Phone: (719) 593-0093

- 10.1. Notice given by personal delivery, overnight delivery, or mail shall be effective upon actual receipt. The Parties may change any address to which notice is to be given by giving notice as provided above of such change of address.

11. Changes in Work

- 11.1. Appropriation of Funds, any request by either Party for additional work or for changes in the manner or method of work performance, shall be made only by written amendment, which shall specify the part of the Agreement affected by the change. Utilities shall not be liable for payment of any additional work performed by Contractor not previously authorized by Utilities by written amendment.

12. Force Majeure

- 12.1. Neither Party shall be liable for delays in performing its obligations to the extent the delay is caused by an unforeseeable condition beyond its reasonable control without fault or negligence including strikes, riots, wars, floods, fires, explosions, acts of nature, acts of government (other than the Colorado Springs City Council), or labor disturbances.

13. Dispute Resolution

- 13.1. If a dispute arises between the Parties relating to this Agreement, the procedure below shall be followed:
 - 13.1.1. The Parties shall hold a meeting promptly, but in no event later than thirty (30) calendar days from the initial written notice of the dispute, attended by persons with decision-making authority regarding the dispute, to attempt in good faith to negotiate a resolution of the dispute; provided, however, that no such meeting shall be deemed to vitiate or reduce the obligations and liabilities of the Parties hereunder or be deemed a waiver by a Party hereto of any remedies to which such Party would otherwise be entitled thereunder unless otherwise agreed to by the Parties in writing.
 - 13.1.2. If, within thirty (30) calendar days after such meeting, the Parties have not succeeded in negotiating a resolution of the dispute, they agree to submit the dispute to non-binding mediation and to bear equally the costs of the mediation.
- 13.2. The Parties will jointly appoint a mutually acceptable mediator. If they fail to do so within twenty (20) calendar days from the conclusion of the negotiation period, they shall each select a mediator. The two mediators will then appoint a third mediator who shall, as the sole mediator, conduct mediation for the Parties. The Parties agree to participate in good faith in the mediation and negotiations related thereto for a period of thirty (30) calendar days. The substantive and procedural law of the State of Colorado shall apply to the proceedings. If the Parties are not successful in resolving the dispute through mediation, then the Parties shall be free to litigate the matter, and agree that in the event of such litigation, the exclusive venue for such litigation shall be the El Paso County District Court, Colorado Springs, Colorado, and if necessary, for exclusive federal questions, the United States District Court for the District of Colorado.

14. Appropriation of Funds

- 14.1. This Agreement is expressly made subject to the limitations of the Charter of the City of Colorado Springs. Nothing herein shall constitute, nor be deemed to constitute, the creation of a debt or multi-year fiscal obligation or an obligation of future appropriations by the City Council of Colorado Springs or any other constitutional, statutory, or charter debt limitation. Notwithstanding any other provision of this Agreement, with respect to any financial obligations of Utilities which may arise under this Agreement in any fiscal year after the year of execution, in the event the budget or other means of appropriation for any

such year fails to provide funds in sufficient amounts to discharge such obligation, such failure (i) shall act to terminate this Agreement at such time as the then-existing and available appropriations are depleted, and (ii) neither such failure nor termination shall constitute a default or breach of this Agreement, including any sub-agreement, attachment, schedule, or exhibit thereto, by Utilities.

15. Termination

- 15.1. The following conduct shall be deemed to be a default of Contractor under this Agreement:
 - 15.1.1. The Services under this Agreement are abandoned by Contractor; or
 - 15.1.2. The Agreement is assigned by Contractor without the written consent of Utilities;
or
 - 15.1.3. Contractor is adjudged bankrupt; or
 - 15.1.4. A general assignment of Contractor's assets is made for the benefit of its creditors; or
 - 15.1.5. A receiver is appointed for Contractor or any of its property; or
 - 15.1.6. At any time, Utilities sends notice that the performance of the Services under this Agreement is being unnecessarily delayed, that Contractor is violating any of the conditions of this Agreement or that Contractor is executing the same in bad faith or otherwise not in accordance with the terms of said Agreement; or
 - 15.1.7. The Services are not substantially completed within the time named for its completion.
- 15.2. Upon default, Utilities may send written notice upon Contractor of Utilities' intention to terminate this Agreement. If Contractor agrees to corrective action, then Contractor will have an additional five (5) calendar days to develop a corrective action plan acceptable to Utilities for completion of the services. If Contractor fails to complete the previous two activities within the prescribed times, or if Contractor fails to complete the services pursuant to the corrective action plan, then Utilities may terminate this Agreement without further notice to Contractor. In the event of such termination, Utilities may take over and prosecute the services to completion, by contract or otherwise. Contractor shall be liable to Utilities for all reasonable costs sustained by Utilities by reason of such prosecution and completion.
- 15.3. This Agreement may be terminated for convenience regardless of default by Utilities upon thirty (30) days advance written notice to Contractor. Contractor shall not be paid for any Services performed after the date of termination, unless otherwise mutually agreed upon by the Parties in writing.

16. Copyrights/Intellectual Property

- 16.1. Contractor agrees that Utilities will have extensive input in the process of rendering Services associated with this Agreement. Therefore, Contractor agrees and acknowledges that all work produced as a result of the Services (e.g. video, artwork, brochures, covers, labels, writings, designs, models, etc.) that have been or will be used by or paid for by Utilities, pursuant to this Agreement is a work made for hire as that term is defined by the United States copyright laws, but within full control of Utilities, and that Utilities is the sole owner of any work product which Contractor has made or will make under this Agreement, including but not limited to all intellectual property rights in said work product under copyright, patent, trademark, trade secret and other applicable law, and that compensation to Contractor for acceptance and acknowledgment of this Agreement is included in any compensation or price whatsoever paid to Contractor. It is the intent of the Parties that Utilities shall have full ownership of the work product produced pursuant to this Agreement upon payment in full by Utilities to Contractor.

- 16.2. Contractor hereby warrants to Utilities that it will take no action to copyright, patent, trademark, or trade secret any and all of the work product described in this Agreement.
- 16.3. In the event this Agreement is deemed by a court of competent jurisdiction not to be a work for hire under federal copyright laws, this Agreement provision shall act as an irrevocable disclaimer by Contractor in favor of Utilities and as an irrevocable assignment to Utilities by Contractor of any and all intellectual property rights in Contractor's work product, including, but not limited to, copyright, patent, trademark and trade secrets, including, but not limited to, all rights in perpetuity. Under this irrevocable assignment, Contractor hereby assigns to Utilities the sole and exclusive right, title, and interest in and to Contractor's work product, in any and all countries. It is Contractor's specific intent to assign all right, title, and interest whatsoever in any media and for any purpose, to Utilities, including all rights of renewal and extension. To that end, Contractor agrees to execute and deliver all necessary documents requested by the City of Colorado Springs and/or Utilities in connection therewith and appoints City of Colorado Springs and/or Utilities as Contractor's agent and attorney-in-fact to act for and in Contractor's behalf and stead to execute, register and file any such applications, and to do all other lawfully permitted acts to further the registration, prosecution, issuance, renewals, and extensions of copyrights or other protections with the same legal force and effect as if executed by Contractor. Further, the Parties expressly agree that the provisions of this paragraph shall be binding upon the Parties and their legal representatives, successors, and assigns.
- 16.4. Royalties and fees for patents covering materials, articles, apparatus, devices, or equipment (as distinguished from processes) used in the work or Services, shall be included in the hourly rate amounts paid to Contractor in accordance with Exhibit B. No additional compensation shall be due to Contractor for such items. Contractor shall satisfy all demands that may be made at any time for such royalties or fees and they shall be liable for any damages or claims for patent infringements. Contractor shall, at its own cost and expense, defend all suits or proceedings that may be instituted against Utilities and hold Utilities harmless for infringement or alleged infringement of any patents involved in the work and, in case of an award, including any costs and attorney fees awarded, and any and all costs and attorney fees associated with any appeals that may be taken from any judgment rendered on any such suits or proceedings of damages, Contractor shall pay such award provided Utilities gives Contractor prompt notice in writing of such claim and permits Contractor to contest same through its counsel or, at its option, to settle by securing for Utilities the right to continue to use such products or by modifying them to avoid infringement, or by reclaiming them and reimbursing Utilities the sum paid therefore; and provided Utilities gives Contractor all necessary authority and assistance, at the expense of Contractor, to enable Contractor to do so. Final payment to Contractor by Utilities will not be made while any suit or claim remains unsettled.

17. Non-Discrimination

- 17.1. Utilities is committed to equal employment opportunity for all and maintains and implements equal opportunity and affirmative action where necessary in all of its daily operations. Utilities is a federal subcontractor and an affirmative action employer subject to the Vietnam Era Veterans' Readjustment Assistance Act of 1974, Jobs for Veterans Act, as amended, and Section 503 of The Rehabilitation Act of 1973, as amended. Contractor and subcontractor(s) with whom Utilities contracts may be obliged to undertake Affirmative Action to provide equal employment opportunity without regard to race, color, religion, national origin, sex, veteran status or disability. Additional obligations may be imposed on Contractor and subcontractor(s) with whom Utilities contracts by the above-cited Executive Order and federal statutes.

17.2. Contractor and all subcontractor(s) shall abide by the requirements of 41 CFR §§ 60-1.4(a), 60-300.5(a), and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities and prohibit discrimination against all individuals based on their race, color, religion, sex, or national origin. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, national origin, protected veteran status or individuals with disability.

18. Publicity

18.1. Contractor and Utilities shall not at any time use the name, trademark(s) or trade name(s) of the other in any advertising or publicity without the prior written consent of the other.

19. Audit

19.1. Contractor shall maintain accurate records of all amounts billable to and payments made by Utilities hereunder in accordance with recognized accounting practices and in a format that will permit audit, for a period of three (3) years after payment of the last invoice related to this Agreement. Such records shall be open to reasonable inspection and subject to audit and/or reproduction, during normal working hours, by Utilities or its authorized representative. Utilities shall give Contractor advance notice of intended audits.

20. Severability

20.1. If any provision of this Agreement shall be found to be illegal or unenforceable, the remaining provisions of this Agreement shall remain in full force and effect, and such term or provision shall be deemed stricken for as long as it remains illegal or unenforceable.

21. Assignment

21.1. Neither Party may assign or transfer any part of this Agreement without the written consent of the other Party, except to an affiliate but only if (a) the assignee agrees in writing to be bound by the terms of this Agreement and (b) the assigning Party remains liable for obligations under the Agreement. Any other attempt to transfer or assign is void.

21.2. Upon a change of control (for example, through a stock purchase or sale, merger, or other form of corporate transaction), (a) the Party experiencing the change of control will provide written notice to the other Party within 30 days after the change of control, and (b) the other Party may immediately terminate this Agreement any time between the change of control and 30 days after it receives the written notice in subsection (a).

22. Compliance with Laws and Regulations

22.1. This Agreement and the rights and obligations of the Parties hereunder shall be subject to all applicable laws, orders, court decisions, directives, rules and regulations of any duly constituted governmental body or official having jurisdiction.

22.2. Compliance with C.R.S. Sec. 8-17.5.102. Pursuant to Colorado Revised Statutes Section 8-17.5-102, Contractor certifies that Contractor shall comply with the provisions of C.R.S. Sec. 8-17.5-102. Contractor shall not knowingly employ or contract with a worker without authorization to perform work under this Agreement or enter into a contract with a subcontractor that fails to certify to Contractor that the subcontractor shall not knowingly employ or contract with a worker without authorization to perform work under this Agreement. For services to be performed under the Agreement, Contractor represents, warrants, and agrees that it (i) has confirmed that it does not employ any workers without authorization, either through participation in the e-Verify Program administered by the Social Security Administration and Department of Homeland Security, or by participating

in the Colorado Department of Labor and Employment program; and (ii) otherwise will comply with the requirements of C.R.S. Sec. 8-17.5-102(2)(b). Contractor shall inform Utilities of its choice of verification program and will comply with all reasonable requests made in the course of an investigation under C.R.S. Sec. 8-17.5-102 by the Colorado Department of Labor and Employment. If Contractor violates any requirement of this provision or C.R.S. Sec. 8-17.5-102., Utilities may terminate this agreement for breach.

- 22.3. If Contractor is a sole proprietor, then Contractor shall comply with Colorado Revised Statutes Sec. 24-76.5-101, et seq., 24-37.5-101 and 39-22-604.
- 22.4. Contractor has a duty to report any suspected unlawful act impacting the City of Colorado Springs operations and its enterprises. Anyone who becomes aware of the existence or apparent existence of fraud, waste, and abuse in City of Colorado Springs is encouraged to report such matters to the City Auditor's Office in writing or on the telephone hotline (719) 385-2387 (ADTR). Written correspondence can be mailed to:

City Auditor
P.O. Box 2241
Colorado Springs CO 80901

Or via email CityAuditManagement@springsgov.com. Any of these mechanisms allow for anonymous reporting. For more information, please go to the website <https://coloradosprings.gov/cityfraud>.

23. Security Compliance

- 23.1. Contractor agrees that Contractor, all Contractor personnel, and all subcontractors shall comply with all of Utilities' then current security policies, rules, procedures, and guidelines when at Utilities' locations and/or when accessing any Utilities network. Bringing or possessing firearms, ammunition, explosives or other weapons on Colorado Springs Utilities property is prohibited. Contractor and their subcontractors are prohibited from having weapons on their person while performing work for Colorado Springs Utilities.

24. Governing Law

- 24.1. This Agreement shall be construed in accordance with the laws of the State of Colorado without reference to conflicts of laws, the Colorado Springs City Charter, City Code, Ordinances, Rules and Regulations. In the event of litigation, this Agreement shall be enforceable by or against the City of Colorado Springs on behalf of Utilities as provided in Colorado Springs City Code Sec. 12-1-108. In the event of any dispute over the Agreement's terms and conditions, the exclusive venue and jurisdiction for any litigation arising thereunder shall be in the District Court of El Paso County, Colorado, and, if necessary for exclusive federal questions, the United States District Court for the District of Colorado.

25. Survival

- 25.1. The provisions of this Agreement with respect to confidentiality, copyrights/ intellectual property, dispute resolution, warranties, liability, appropriation of funds, audit, payment and indemnification shall survive the termination of this Agreement.

26. Counterparts; Copies of Signatures

- 26.1. This Agreement may be executed in one or more counterparts, each of which shall be deemed original and all of which together shall constitute one and the same instrument. Copies of signatures shall be permitted for purposes of the binding nature of this Agreement.

27. Time is of the Essence

27.1. The Parties agree that time is of the essence and performance of the Services under this Agreement shall be developed, completed and implemented according to the Scope of Work. Any delays in performance within the control of Contractor, its consultants, subcontractors, employees or agents shall not be cause for extending the date for completion of the Services.

28. Entire Agreement

28.1. This Agreement with all referenced exhibits or attachments constitutes the entire agreement between the Parties and supersedes all previous written or oral communications, understandings, and agreements between the Parties unless specifically stated herein. This Agreement may only be amended by a written agreement signed by both Parties. Email and all other electronic (including voice) communications from Utilities in connection with this Agreement are for informational purposes only. No such communication is intended by Utilities to constitute either an electronic record or an electronic signature, or to constitute any agreement by Utilities to conduct a transaction by electronic means. Any such intention or agreement is hereby expressly disclaimed.

In witness whereof, the representatives of each party hereto certifies via execution below that they are duly authorized to commit their organization to this Agreement in its entirety:

Colorado Springs Utilities

The Sanborn Map Company Inc

By: Ariel Balderas

By: John R. Copple

Name: Ariel Balderas

Name: John R Copple

Title: Sr. Strategic Sourcing Specialist

Title: President/CEO

Date: December 7, 2021

Date: December 7, 2021

Approved as to form by: N/A
(Signature)

(Print Name)
City Attorney's Office – Utilities Division



Exhibit A

**STATEMENT OF WORK (SOW)
General Services**

For

Contract Number 202119286

2022 Pikes Peak Geospatial Alliance Orthoimagery Project

Exhibit A

STATEMENT OF WORK (SOW) for 2022 Pikes Peak Geospatial Alliance Orthoimagery Project

1.0 Introduction

Colorado Springs Utilities (Utilities) is requesting an experienced Contractor with demonstrable expertise to provide the services more fully described below as part of the 2022 Pikes Peak Geospatial Alliance Orthoimagery Project (Project).

The goal of the 2022 Project is for the Pikes Peak Geospatial Alliance (PPGA), through Colorado Springs Utilities (Utilities), to receive high quality digital orthoimagery in a timely fashion for both El Paso and Teller counties. The Contractor shall take a conservative approach to the project to ensure that the accuracy and aesthetics of the final product are free from defects and meet or exceed PPGA expectations.

Proper Contractor preparation and resource and asset management can result in acquiring and producing the product without major issues. Contractor shall approach this project in such a way as to be in the position to meet final delivery specifications without undue delays.

2.0 Background

The Project addresses on-going needs for current digital aerial imagery by multiple governmental agencies in a two-county area of the Pikes Peak region. The following subsections describe the area of interest of each of the participants and the resulting project sub-areas. Four Band, Color/Infra-Red, digital orthorectified aerial imagery must be delivered for the entire project area. All four sub-areas may require some level of Digital Elevation Model (DEM) updating or development. As detailed in Section 3, it may also be necessary to establish additional survey control points in the sub-areas. Map accuracy requirements shall be specified in terms of standards set by the American Society of Photogrammetry and Remote Sensing (ASPRS).

Utilities is administering this project on behalf of the PPGA. The PPGA, for this project is comprised of the following participants:

- El Paso County
- Teller County
- El Paso - Teller E-911 (E911)
- Colorado Springs Utilities
- City of Colorado Springs
- City of Fountain

3.0 Scope

Utilities shall oversee this project and will designate an individual to act as the official Project Manager. The Project Manager shall, with the consent of the participating members of the PPGA Steering Committee, perform the following duties and functions relative to this project:

1. Interpret and define project specifications regarding Contractor's work activities
2. Direct and coordinate the PPGA responsibilities
3. Review Respondent's performance
4. Manage deliverables from Respondent(s) to other PPGA participants

5. Approve payments to Respondent(s) in accordance with defined payment and deliverable acceptance terms
6. Perform such other activities as may from time to time be necessary in the performance of the terms of the contract
7. Issue final acceptance of all deliverable products and services
8. Issue any change orders or modifications to the scope of the contract.

3.1 Contractor Responsibilities:

1. At the time of contract execution and subject to Utilities approval, Contractor shall assign a Project Manager with at least five years of project management experience to the project. Contractor shall obtain written approval from the PPGA prior to any change to the assigned project manager.
2. Develop a complete and concise project schedule
3. Contractor Project Manager shall strictly adhere to developed project plans, project schedules, and communication agreements.
4. At the time of fully executed Agreement and subject to Utilities approval, Contractor shall retain all required subcontractors needed to complete the project as per the project schedule.
5. Develop and document procedures to meet specifications as contracted.
6. Produce required new digital orthophotography in accordance with specifications.
7. Implement stringent QA/QC procedures and maintain specified quality standards.
8. Deliver all deliverable products as per the detailed schedule.
9. Provide project management and support services, such as required reporting, demonstrations, data handling, progress reports, and others as required.

3.2 Contract Administration

Contractor shall be responsible for the professional quality, technical accuracy, timely completion, and the coordination of all digital files, specifications, reports, and other products and services required to be furnished by it under this Agreement. PPGA shall have full and complete authority to reject any work deemed unacceptable pursuant to this Agreement. Contractor shall, without additional compensation, correct or revise any errors or deficiencies in such products and services if products do not conform to the specifications. In cases of rejection of Contractor’s work, Utilities may suspend further deliveries and payments until the work tasks (products and services hereafter defined) in question are redelivered and reclassified as accepted.

4.0 Deliverables & Schedule

The following matrix shows deliverable data from Contractor to Utilities:

Data	Section
Updated Digital Elevation Model	Sections 4.3.4, 4.4.4, 4.5.4

Camera Calibration Report and/or other camera specifications and	Section 5.1
Digital flight Line Plans	Section 5.4
Fort Carson Flight Plan Approval	Section 5.4
Aircraft FAA Documentation	Section 5.6
Digital Photo Flight Line Index	Section 5.13
Raw image delivery (if necessary)	Section 5.14
Digital photo point center index	Section 5.15
Ground control points	Section 6.1
Digital point dataset of the control points utilized	Section 6.3
Aerial Triangulation report, results, and narrative	Section 6.6
Raw Imagery Review	Section 7.2
Prototype orthos	Section 7.3.1
Preliminary Othophoto Delivery (as per schedule)	Section 7.3.2
Final Orthophoto delivery	Section 7.6
Project Wide Mosaic Deliveries	Section 7.8
Digital Stereo Pairs (Optional)	Section 8.1
LiDAR Products (Optional)	Section 8.2
Contours (Optional)	Section 8.3
Buildings (Optional)	Section 8.4

The following table outlines the major schedule milestones for the 2022 PPGA Orthoimagery Project. Utilities understands that poor weather and undesirable ground conditions could lead to delays in aerial acquisition. However, poor planning, resources issues, or other items caused by poor performance by Contractor are not appropriate reasons for schedule changes. Initial schedule dates cannot be changed without prior written approval by the PPGA. **Contractor shall complete the project by March 1, 2023.**

The below schedule is a *simplified preliminary schedule* and will be mutually reviewed and revised during the project kickoff phase such that dates for initial delivery, PPGA quality review, corrections, and final acceptance can be defined.

Notice to proceed	March 1, 2022
Begin Sub-Area 1 flights	March 15, 2022
Begin Sub-Area 2 flights	April 15, 2022
Conclude Sub-Area 1 flights	April 30, 2022
Conclude Sub-Area 2 flights	May 31, 2022
Begin Sub-Area 3 flights	June 1, 2022
Conclude Sub-Area 3 flights	July 31, 2022
Final Acceptance of all data, Project Complete	March 1, 2023

Upon delivery and final acceptance of all data deliveries, the project shall be deemed complete.

At that time, the PPGA shall provide Contractor with a formal letter indicating final acceptance of the data and overall completion of the project. At that point, the data shall be considered under warranty as specified in Section 7 of Professional Services Agreement

4.1 Project Area and Sub-Areas

Historically, the total project has been divided geographically into four (4) sub-areas, each reflecting a change in the delivery date. The map in Appendix B-1 illustrates these boundaries as well as a tiling scheme in which the tiles are dimensioned at 4,000' x 4,000'.

Note that all areas are represented in terms of tiles. Tiles within each of the four sub-areas are further grouped into project deliverable areas. The project deliverable areas equate to the desired delivery sequence. Deliverables for the project shall therefore include fifteen (15) area deliverables (refer to Appendix B-2).

Digital data representing the area and sub-area boundaries, tile layout, and deliverable areas shall be made available to Contractor. ***The total project area is approximately 2,787 square miles.***

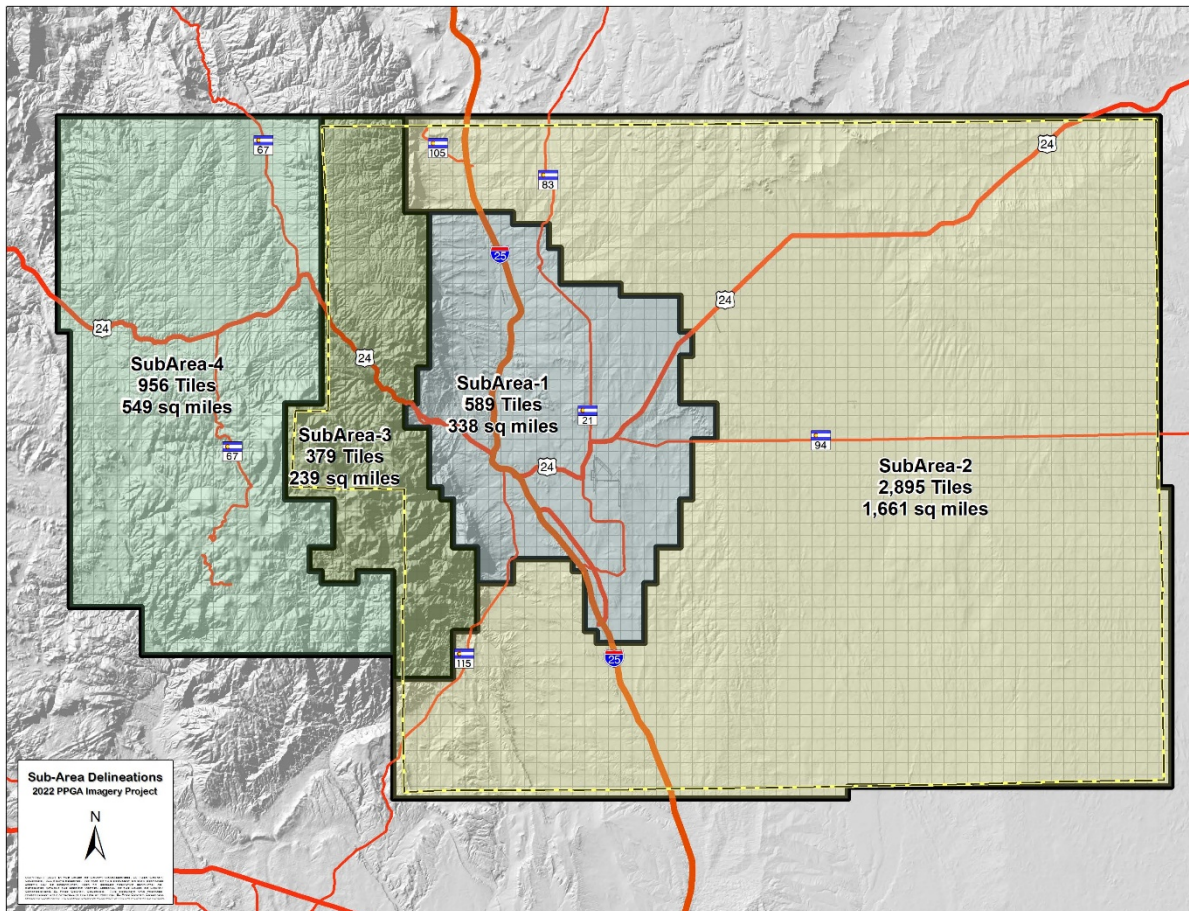


Figure 1 – 2022 Sub Areas

4.1.1 Sub-Area 1

Sub-Area 1 consists mostly of the Colorado Springs metropolitan area, including the US Air Force Academy and the City of Fountain (refer to Appendix B-1). The City of Colorado Springs, Colorado Springs Utilities and the City of Fountain have a primary interest in this sub-area with overlapping interests by E911 and El Paso County.

Sub-Area 1 must be flown in the spring of 2022 during leaf-off conditions. Depending on conditions, Sub-Area 1 flights must be conducted starting on or around March 15, 2022, and concluding on or around April 30, 2022. ***Sub-area 1 is 338 square miles, comprised of 589 tiles.***

4.1.2 Sub-Area 2

Sub-Area 2 shall encompass Fort Carson and the majority of El Paso County east of the mountains; less Sub-Area 1 (refer to Appendix B-1). El Paso County and E911 have the primary interest in Sub-Area 2 with the City of Colorado Springs and Colorado Springs Utilities having an interest in portions of the area as well.

Sub-Area 2 must be flown during the spring of 2022. Depending on conditions, Sub-Area 2 flights must be conducted starting on or around April 15, 2022, and concluding on or around May 31, 2022. ***Sub-area 2 is 1,661 square miles, comprised of 2,895 tiles.***

4.1.3 Sub-Area 3 & 4

Sub-Area 3 and 4 are comprised of the mountainous areas of the western portion of El Paso County and all of Teller County. E911, El Paso County, Colorado Springs Utilities, and El Paso County all have predominant interest in the sub-area. **Due to snow considerations, Sub-Area 3 and 4 must be flown during the summer of 2022. Depending on conditions, Sub-Area 3 and 4 flights must be conducted starting on or around June 1, 2022, and concluding no later than July 31, 2022. Sub-area 3 is 239 square miles and comprised of 416 tiles while Sub Area 4 is 549 square miles and comprised of 956 tiles.**

Should conditions be optimal for collection of sub-areas 3 & 4 starting prior to June 1, 2022, Contractor and PPGA Project Manager shall discuss and make the decision on if an earlier flight will be undertaken.

4.2 Sub-Area Specifications

Project Specification Overview

Project Specification Overview				
Sub Area	SA-1	SA-2	SA-3	SA-4
Total Area / Tiles	338 sq mi / 589 tiles	1661 sq mi / 2895 tiles	239 sq mi / 416 tiles	548 sq mi / 956 tiles
Ground Sampling Distance	0.5'	1.0'	1.0'	1.0'
Ortho Resolution	Six Inch (6")	One Foot (1')	One Foot (1')	One Foot (1')
Orthoimagery Accuracy	ASPRS Class 1 for 1:1200 Map Scale (One Foot RMSE)	ASPRS Class 1 for 1:2400 Map Scale (Two Foot RMSE)	ASPRS Class 1 for 1:2400 Map Scale (Two Foot RMSE)	ASPRS Class 2 for 1:2400 Map Scale (Four Foot RMSE)
DEM Source	2018 LiDAR Data – Updated as needed to meet accuracy	2018 LiDAR Data – Updated as needed to meet accuracy	2018 LiDAR Data – Updated as needed to meet accuracy	Latest Available USGS NED data of 1/3 arc seconds (10 meters)
Coordinate System / Datum / Units	Colorado State Plane Central Zone, NAD 83 (HARN)	Colorado State Plane Central Zone, NAD 83 (HARN)	Colorado State Plane Central Zone, NAD 83 (HARN)	Colorado State Plane Central Zone, NAD 83 (HARN)
Control Source	CSU FIMS NAVD88 (DEM Update)	NGS, Colorado State Plane Central Zone, NAD 83 (HARN) NAVD 88 (DEM UPDATE)	NGS, Colorado State Plane Central Zone, NAD 83 (HARN) NAVD 88 (DEM Update)	NGS, Colorado State Plane Central Zone, NAD 83 (HARN) NAVD 88 (DEM Update)
Tiled Delivery Format	TIFF/TFW	TIFF/TFW	TIFF/TFW	TIFF/TFW
Mosaic Delivery Format	JP2	JP2	JP2	JP2
Imagery Type	RGBNIR	RGBNIR	RGBNIR	RGBNIR
Tile Scheme	PPGA 4000 x 4000	PPGA 4000 x 4000	PPGA 4000 x 4000	PPGA 4000 x 4000
Target Flight Window	Mar 15 – Apr 30	Apr 15 – May 31	Jun 1 – Jul 31*	Jun 1 – Jul 31*

*Flights may be obtained sooner if PPGA and Contractor agree

4.3 Sub-Areas 1

4.3.1 Image Resolution

Image pixel resolution for Sub-Area 1 shall be six (6) inches.

4.3.2 Ground Sampling Distance

Contractor is not to exceed flying heights for the 6” pixel acquisition. Contractor shall not deviate from these requirements unless prior approval is obtained by the PPGA. Statistical sampling (RMSE) must show that these GSD values are achieved. **Offsets from the required ground sampling distances should not exceed ten percent (10%).**

Sub-area 1: Resolution = 0.5’ GSD MAXIMUM

4.3.3 Horizontal Accuracy

All final image products must meet the horizontal accuracy specifications listed below:

ASPRS Class 1 accuracy standard for 1:1200 mapping. This specifies a point coordinate accuracy requirement in which the horizontal Root Mean Square Error (RMSE) for a minimum of 20 well defined points is less than 1.0 ‘

4.3.4 Digital Elevation Model (DEM)

The existing 2018 DEM ground surface, originally derived from the 2018 LiDAR data, shall be used as the rectification source for the 2022 flight. Contractor shall update any tile or tiles of DEM data for the surface to be adequate for accurate orthoimagery rectification.

Should the DEM for an orthophoto imagery tile need to be updated, the PPGA requires that the DEM be re-delivered in tile format (4000'x4000') containing all DEM data used for that tile. This updated data shall be delivered in an LAS format.

4.3.5 Coordinate System

The coordinate system for this project shall be Colorado State Plane Coordinate System, Central Zone, Datum of NAD83 (HARN), units of US Survey Feet. Although limited to the DEM delivery, the Vertical Datum shall be NAVD88.

4.3.6 Flight Dates

Imagery shall be flown when deciduous foliage is generally under leaf-off condition. Thus, the target flight window shall be from March 15, 2022 to April 30, 2022. The appropriate flight dates are listed below and may be adjusted due to ground or weather conditions upon prior approval of Utilities.

Area	Start Date	Finish Date
Area SA-1	March 15, 2022	April 30, 2022

4.4 Sub-Area 2

4.4.1 Image Resolution

Image pixel resolution for Sub-Area 2 shall be one (1) foot.

4.4.2 Ground Sampling Distance (GSD)

Contractor is not to exceed flying heights for the 1' pixel acquisition. Contractor shall not deviate from these requirements unless requested by Contractor and approved by Utilities. Statistical sampling (RMSE) must show that these GSD values are being achieved. **Offsets from the required ground sampling distances should not exceed ten percent (10%).**

Sub-area 2: Resolution = 1.0' GSD MAXIMUM

4.4.3 Horizontal Accuracy

All final image products must meet the horizontal accuracy specifications listed below:

ASPRS Class 1 accuracy standard for 1:2400 mapping. This specifies a point coordinate accuracy requirement in which the horizontal Root Mean Square Error (RMSE) for a minimum of twenty (20) well defined points is less than 2.0 ‘

4.4.4 Digital Elevation Model (DEM)

The existing 2018 DEM ground surface, originally derived from the 2018 LiDAR data, shall be used as the rectification source for the 2022 flight. Contractor shall update any tile or tiles of DEM data for the surface to be adequate for accurate orthoimagery rectification.

Should the DEM for an orthophoto imagery tile need to be updated, the PPGA requires that the DEM be re-delivered in tile format (4000'x4000') containing all DEM data used for that tile. This updated data shall be delivered in an LAS format.

4.4.5 Coordinate System

The coordinate system for this project shall be Colorado State Plane Coordinate System, Central Zone, Datum of NAD83 (HARN), units of US Survey Feet. Although limited to the DEM delivery, the Vertical Datum shall be NAVD88.

4.4.6 Flight Dates

Imagery shall be flown when deciduous foliage is generally under leaf-off condition. Thus, the target flight window shall be from April 15, 2022, to May 31, 2022. The appropriate flight dates are listed below and may be adjusted due to ground or weather conditions upon prior approval of Utilities.

Area	Start Date	Finish Date
Area SA-2	April 15, 2022	May 31, 2022

4.5 Sub Area 3

4.5.1. Image Resolution

Image pixel resolution for Sub-Area 3 shall be one (1) foot.

4.5.2. Ground Sampling Distance

Contractor is not to exceed flying heights for the 1' pixel acquisition. Contractor shall not deviate from these requirements unless approved by Utilities. Statistical sampling (RMSE) must show that these GSD values are being achieved. **Offsets from the required ground sampling distances should not exceed ten percent (10%).**

Sub-area 3: Resolution = 1.0' GSD MAXIMUM

4.5.3. Horizontal Accuracy

All final image products must meet the horizontal accuracy specifications listed below:

ASPRS Class 1 accuracy standard for 1:2400 mapping. This specifies a point coordinate accuracy requirement in which the horizontal (RMSE) for a minimum of 20 well defined points is less than 2.0'

4.5.4. Digital Elevation Model

The existing 2018 DEM ground surface, originally derived from the 2018 LiDAR data, shall be used as the rectification source for the 2022 flight. Contractor shall update any tile or tiles of DEM data for the surface to be adequate for accurate orthoimagery rectification.

Should the DEM for an orthophoto imagery tile need to be updated, the PPGA requires that the DEM be re-delivered in tile format (4000'x4000') containing all DEM data used for that tile. This updated data shall be delivered in an LAS format.

4.5.5. Coordinate System

The coordinate system for this project shall be Colorado State Plane Coordinate System, Central Zone, Datum of NAD83 (HARN), units of US Survey Feet. Although limited to the DEM delivery, the Vertical Datum shall be NAVD88.

4.5.6. Flight Dates

Imagery shall be flown when deciduous foliage is under leaf-on condition yet early enough to minimize shadows and reduce the chance of snow. Thus, the target flight window shall be from June 1, 2022, to July 31, 2022. The appropriate flight dates are listed below and may be adjusted due to ground or weather conditions upon prior approval of Utilities.

Area	Start Date	Finish Date
Area SA-3	June 1, 2022*	July 31, 2022

*Flights may take place earlier if PPGA and Contractor agree

4.6 Sub Area 4

4.6.1 Image Resolution

Image pixel resolution for Sub-Area 4 shall be one (1) foot.

4.6.2 Ground Sampling Distance

Contractor is not to exceed flying heights for the 1' pixel acquisition. Contractor shall not deviate from these requirements unless approved by Utilities. Statistical sampling (RMSE) must show that these GSD values are being achieved. **Offsets from the required ground sampling distances should not exceed ten percent (10%).**

Sub-area 3: Resolution = 1.0' GSD MAXIMUM

4.6.3 Horizontal Accuracy

All final image products must meet the horizontal accuracy specifications listed below:

ASPRS Class 2 accuracy standard for 1:2400 mapping. This specifies a point coordinate accuracy requirement in which the horizontal Root Mean Square Error (RMSE) for a minimum of 20 well defined points is less than 4.0 ‘

4.6.4 Digital Elevation Model

Existing DEM data available from the USGS shall be used as the DEM data source. National Elevation Dataset (NED) available data of 1/3 arc-second, or approximately 10 meters, can be downloaded for free from the USGS using the National Map viewer. Contractor is responsible for downloading this publicly available data to cover Sub-Area 4. Note that available data may be in multiple files and based on different collection years. Contractor is expected to update or supplement this DEM data, if necessary, to ensure that final orthophotos for the area meet specified horizontal accuracy tolerances.

4.6.5 Coordinate System

The coordinate system for this project shall be Colorado State Plane Coordinate System, Central Zone, Datum of NAD83 (HARN), units of US Survey Feet.

4.6.6 Flight Dates

Imagery shall be flown in late spring to early summer, under leaf-off conditions if conditions make that possible, and early enough to minimize shadows and reduce the chance of snow. The appropriate flight dates are listed below and may be adjusted due to ground or weather conditions upon prior approval of Utilities.

Area	Start Date	Finish Date
Area SA-4	June 1, 2022*	July 31, 2022

*Flights may take place earlier if PPGA and Contractor agree

5.0 Performance Requirements/Acceptance Criteria

Utilities and Contractor recognize that time is of the essence concerning this Contract and that Utilities shall suffer financial loss if the services provided by Contractor are not completed within the times specified in the schedules outlined in this scope, including any extensions thereof. Utilities and Contractor also recognize the delays, expense, and difficulties involved in proving the actual loss suffered by the Utilities if the services of this scope of work are not completed on time.

The PPGA reserves the right to terminate the contract with Contractor if the following project milestones or specifications do not occur according to schedule or are not met, respectively:

- Target flight windows are missed by Contractor (as noted above for each section, flight dates)
- Non-compliance of mapping specifications by Contractor
- Non-usage of specified DTM/DEM by Contractor
- Orthoimagery has been excessive manipulated by Contractor through copy/paste methods

All products must meet the specifications agreed to in the resultant contract. All deliverable products shall be reviewed by Utilities to determine whether the products are acceptable.

An acceptance program shall be executed based on a thorough review of the prototype delivery and the proper completion of the above deliverables. The prototype calls for the early delivery of three (3) separate locations that contain four (4) contiguous tiles each. Prototype information is defined in section 7.3.1 of this document.

Utilities shall use all specification and requirement criteria outlined in this document and accompanying appendices to determine acceptance and rejection of all identified deliverables.

After acceptance checking, products shall be either:

ACCEPTED - Products that meet specifications and contain no errors, or so few errors as to be acceptable to Utilities, shall be formally indicated as ACCEPTED. Utilities shall notify Contractor of the products accepted. Payment for work completed shall not be made until the products are accepted by Utilities.

REJECTED - This means that the number and character of the errors detected by Utilities are such that the products are returned to Contractor. Utilities shall formally notify the Contractor of the REJECTED status of the products. Contractor must edit and correct the products for resubmittal to Utilities for its quality control edit. If, at the sole discretion of Utilities, there are an undue number of rejected products, the Utilities may require Contractor to suspend production until the problems contributing to the rejections are identified and corrected. Execution of the correction procedure shall not affect the overall production schedule.

Upon delivery and final acceptance of all data deliveries, the project shall be deemed complete. At that time, the PPGA shall provide Contractor with a formal letter indicating final acceptance of the data and overall completion of the project. At that point, the data shall be considered under warranty as specified in Section 7 of Professional Services Agreement

5.1. Digital Aerial Camera

The aerial camera used shall be a precision large-format digital aerial camera equipped with low distortion, high-resolution optics, and high pixel count charge-coupled device (CCD) sensors. It must be capable of:

- Ground resolution equal to or better than 6"
- Generating four-band imagery from separate red, green, blue, and near infrared bands
- Supporting high geometric accuracy through forward motion compensation and image stabilization
- Producing images that are compatible with existing softcopy photogrammetric environments (Image station)

A digital camera calibration report shall be submitted. If not, any available results of camera tests completed by the USGS or other organizations independent of Contractor shall be submitted. In addition, to be submitted are 1) the results of testing done by the camera manufacturer and/or Contractor and 2) detailed camera specifications. Contractor shall own the digital aerial camera and ensure that there are spare cameras of the same make and model available should issues occur with camera performance.

5.2. Multi-spectral Image Acquisition

For all project areas, the color (RGB) and near-infrared (NIR) bands are to be acquired simultaneously such that a four-band image (RGBNIR) can be created for delivery. Any attempt to use image compression during image acquisition must be approved by the PPGA prior to the start of the project.

5.3. Flight Conditions

Utilities and the PPGA strongly prefers flights to be under sunny conditions and encourages Contractor to not fly during overcast conditions. Contractor should contact Utilities before flying under overcast skies.

To ensure product uniformity, it is imperative that Contractor addresses adherence to the specific flight conditions. Flight time schedules, quality assurance of color balancing processes, continuity between flights and continuity from one sub area to the next are all conditions that must be addressed in Contractor responses.

The sun angle for all flights shall not be less than thirty (30) degrees and orthophoto imagery shall be acquired generally between 10:00 am and 2:00 pm local time. In no case shall orthophoto imagery be undertaken when the ground is obscured by snow; in the presence of obscuring fog or dust; when streams are not within their normal banks; or when cloud shadows appear on more than two percent (2%) of the area in any one image. Photographs shall not contain objectionable shadows (e.g., obscuring roads and other important features) caused by relief or low solar altitude. Contractor shall use photographic targets for use in establishing horizontal control during aerial triangulation, targets should be of an appropriate size to be easily recognizable within the aerial imagery.

5.4. Flight Plans

There are several military reservations within the project area. Authorization for over flights of these areas and for flights within Traffic Control Zones associated with both military and civil air operations may have to be secured and shall be the responsibility of Contractor to do so. The PPGA, if requested, can set up a meeting with Colorado Springs municipal airport and Fort Carson officials (Fort Carson absolutely requires overflight authorization) to assist with flight coordination and other communication requirements. All final arrangements shall be the responsibility of Contractor and must be reported to Utilities. Any issues securing clearance in these areas must be reported to the PPGA within twenty-four (24) hours.

All flight lines shall be submitted digitally in a standard ESRI shape file format and in the coordinate system specified for the given project area. Flight line features shall be attributed with appropriate identification information. Flight lines may be broken up into flight segments to accommodate terrain changes, atmospheric problems, or military flight approval. Ground sampling distances shall be maintained throughout the flight line, which would be flown at the same altitude. Each segment of a flight line shall be flown continuously, without interruption. The principal points of the first two (2) and the last two (2) exposures of each flight line shall fall outside the boundaries of the area to be covered by the flight, and all side boundaries shall be covered by a minimum of 25% of the photo stereo image format. The principal points of the first two (2) and the last two (2) exposures of each flight segment shall overlap. These flight plans shall be submitted for approval by the PPGA prior to the aerial photography imagery phase. Upon completion of the photographic missions, all revised, final flight lines shall be submitted with photo centers.

5.5. Re-flights

Unacceptable orthophoto imagery shall be corrected, at no additional cost to Utilities. The re-flight coverage shall overlap the accepted orthophoto imagery by at least two (2) stereo models. Re-flights fall under the same quality control standards and guidelines as all other imagery in this project. Upon

completion of the re-flight(s), Contractor shall submit a detailed quality control report to the PPGA project manager for approval based upon stated specifications.

5.6. Aircraft

Any aircraft to be used on the project shall be equipped with all essential navigational and photographic instruments, including Airborne Global Positioning Satellite (ABGPS) enhanced navigational systems. All aircraft must be operated by a well-trained and experienced crew. Performance of the aircraft shall be adequate to complete the proposed project in accordance with the technical specifications. All operations shall be in conformity with the applicable official regulations and ordinances. Appropriate Federal Aviation Administration documentation indicating that the aircraft used is within current requirements and operating specifications shall be submitted by Contractor prior to the first flight in which the aircraft is used on the project. Contractor shall provide evidence that all aircraft used for this project are properly insured.

The aircraft shall have a proven service ceiling with an operating load of not less than five percent (5%) above the highest altitude requirements to secure the specified orthophoto imagery. It is not mandatory, but it is preferred, that Contractor own the aircraft used for the OP 2022 project and that Contractor has access to a backup aircraft.

5.7. Spacing of Images

Overlapping images in each flight line and between flight lines shall provide full stereoscopic coverage of the area to be mapped in accordance with the end lap and side lap specifications.

5.8. End lap

Images used as stereoscopic pairs shall have overlap of between fifty-five percent (55%) and sixty-five percent (65%) in the respective frames. Consecutive images in each flight line shall have an end lap of approximately sixty percent (60%) to ensure full stereoscopic coverage.

5.9. Side lap

Side lap between adjacent parallel flight lines shall be adequate to satisfy the requirement for stereoscopic coverage, and shall be approximately thirty percent (30%), plus or minus five percent (5%).

5.10. Crab

Any flight or portion thereof in which crab is more than three degrees (3°) shall be cause for rejection of orthophoto imagery. Contractor shall describe how the proper crab shall be maintained and documented throughout the flight.

5.11. Tilt

Tilt of the camera from vertical at the instant of exposure shall not exceed three degrees (3°), nor shall it exceed five degrees (5°) between successive exposure stations. Average tilt over the entire project shall not exceed one degree (1°). Contractor shall describe how the proper tilt shall be maintained and documented throughout the flight.

5.12. Flight Height

Proper flight heights must be maintained to meet the ground sampling distance requirements as outlined in section 4 of this document. The departure above or below the flying height required to maintain the specified photo scale must not exceed five percent (5%). Contractor shall be responsible for maintaining proper flying height throughout the project.

5.13. Flight Data Tagging

Contractor shall provide a digital photo flight line index containing the geographic centers of each flight line in an ESRI shape file format. The index shall be in the coordinate system specified for this project and must include the following information.

- Flight line number
- Exposure number/ID Time of day of exposure (in the format: hr:min:sec)
- Date of flight line flight (in the format: mm/dd/yyyy)
- Elevation in feet above sea level
- Scale of orthophoto imagery
- Ground Sampling Distance

5.14. Disposition of the Original Imagery

The original orthophoto imagery and products provided shall be the property of the PPGA and shall not be used by the Contractor without the written consent of the PPGA. Delivery of the original imagery to Utilities in TIFF format may be required to perform spot checks of the photo collection. Utilities prefers deliveries using portable hard drives with USB connectors. However, if Contractor has other means of viewing the imagery (i.e. – on-line QC), then the delivery of raw images may not be needed. Contractor shall propose any optional means of viewing raw imagery but that does not adversely affect the cost of the project. (See section 7.2)

5.15. Photo Point Index

Contractor shall provide a digital photo point index containing the geographic centers of each original image in an ESRI shape file format. The index shall be in the coordinate system specified for this project and must include the following information:

- Flight line number
- Exposure number/ID
- Date of exposure (in the format: mm/dd/yyyy)
- Time of day of exposure (in the format: hr:min:sec)
- Elevation in feet above sea level
- X Location of Point
- Y Location of Point
- Scale of orthophoto imagery

- Ground Sampling Distance

6.0 Survey Control and Analytical Triangulation Requirements

6.1 Ground Control Points

Contractor shall need to select and use enough ground control points as necessary to facilitate both Airborne GPS data capture and sufficient ground referencing. Contractor should identify the desired location of the ground control points as part of their operational flight map.

These points shall be delivered to the PPGA in a standard ESRI shape file format, in the coordinate system specified for this project and must include the following information:

- Point Name
- X Location of Point
- Y Location of Point
- Z Location of Point

6.2 Survey Control

Survey control points currently exist across a portion of the project area, generally within the Colorado Springs city limits. The Colorado Springs Utilities Land Base Services group shall be available to Contractor as available to help identify survey control points within the Colorado Springs city limits as needed for this project. In addition, the City of Fountain can help identify control in the Fountain area, but if additional control is needed in any area, Contractor is responsible for collection. Contractor is responsible for control in all other areas. Sub area delineations can be found in Appendix B-1. Note that delivery area order must be maintained. Delivery area order shall not be changed without the consent of the PPGA.

6.2.1 Sub-Area 1

Portions of Sub-Area 1 have been photographed and mapped under several previous projects and therefore most of the area has sufficient control to ensure proper adjustment of new imagery. The PPGA shall work with Contractor to provide existing control point information within this area.

If new control is required within sub-area 1, if available, the PPGA may be able to provide survey services within the city limits and will provide reports of any survey efforts indicating the accuracy attained in capturing new control points. All surveying shall be conducted under the direct supervision of a licensed Colorado Professional Land Surveyor. The accuracy of any new control surveys shall meet or exceed the accuracy requirements for this project.

Contractor shall be responsible for collecting new control outside of the city limits. Contractor must fully justify any requirement for additional control to the PPGA. Upon completion of new survey control, a digital survey report shall be produced by Contractor and delivered to the PPGA project manager for approval. The accuracy of any new control surveys shall meet or exceed the accuracy requirements for this project.

6.2.2 Sub-Area 2

Portions of Sub-Area 2 have been photographed and mapped under many previous projects and therefore most of the area has sufficient control to ensure proper adjustment of new imagery. Utilities shall work with Contractor to provide existing control point information and for any additional control that may be needed to cover any new areas within Sub-Area 2. It is doubtful that any new control is needed within this area.

However, should new control be required in this area, Contractor shall provide all survey services. Contractor must fully justify any requirement for additional control to the PPGA. Upon completion of new survey control, a digital survey report shall be produced by Contractor and delivered to the Utilities project manager for approval. All surveying shall be conducted under the direct supervision of a licensed Colorado Professional Land Surveyor. The accuracy of any new control surveys shall meet or exceed the accuracy requirements for this project.

6.2.3 Sub-Area 3

Sub-Area 3 is the smallest of the sub-areas but is also the most remote. Sub-Area 3 has been photographed and mapped under many previous projects and therefore most of the area has sufficient control to ensure proper adjustment of new imagery.

Should new control be required in this area, Contractor shall provide all survey services. Contractor must fully justify any requirement for additional control to Utilities. Upon completion of new survey control, a digital survey report shall be produced by Contractor and delivered to Utilities project manager for approval. All surveying shall be conducted under the direct supervision of a licensed Colorado Professional Land Surveyor. The accuracy of any new control surveys shall meet or exceed the accuracy requirements for this project.

6.2.4 Sub-Area 4

Sub-Area 4 consists of the entirety of Teller County that is not already part of another sub-area.

Should new control be required in this area, Contractor shall provide all survey services. Upon completion of new survey control, a digital survey report shall be produced by Contractor and delivered to Utilities project manager for approval. All surveying shall be conducted under the direct supervision of a licensed Colorado Professional Land Surveyor. The accuracy of any new control surveys shall meet or exceed the accuracy requirements for this project.

6.3 Control Point Data

Data depicting the control points utilized for this project shall be delivered to Utilities in a standard ESRI shape file format and shall be in the coordinate system specified for this project. Note that all points must also include elevation (Z) coordinate information as an attribute.

6.4 Aerial Triangulation Standards

Fully analytic aerial triangulation shall be used during this project to obtain high accuracy solutions for all project areas. Second generation orientation techniques are not to be used on this project. Contractor shall ensure Utilities that all equipment, software, and procedures used during the Aerial Triangulation process are acceptable to meeting this requirement.

The aerial triangulation solution shall adequately control all aerial imagery to facilitate accurate ortho-rectification of the imagery. At a minimum, the positional accuracy of pass and tie points established through the aerial triangulation process shall meet or exceed each of the following conditions:

- Root mean square error (RMSE) of the final block adjustment at all control and check points shall not exceed 1/7500 of the flight height.
- The maximum allowable error of any point shall not exceed $\pm 1/5000$ of the flight height.

Contractor should employ checkpoints to validate the accuracy of the aerial triangulated solution. Contractor should report the results of the check to Utilities before proceeding with any ortho-rectification. Should these results fail to meet project accuracy standards, Utilities reserves the right to halt project progress until corrective actions have been put in place to correct the situation.

6.5 Aerial Triangulation Check Points

Check points are horizontal/vertical control points that have been established by ground control procedures throughout the photo block for accuracy checking purposes. At the discretion of Contractor, checkpoints may be used to improve the aerial triangulation results. Contractor shall notify Utilities of the locations of any check points used within the final solution. The positional values of these points may subsequently be used in the aerial triangulation adjustment once the checks have been evaluated and approved. Independent of these check points, Utilities shall use its own set of checkpoints to independently validate from the Contractor deliverable product.

6.6 Aerial Triangulation Report

Upon completion of all aerial triangulation work or for any required sub-block adjustments, Contractor shall deliver two separate reports for the PPGA to review. The first report shall be an overview report of flight, control, and exposure information, and shall include, but shall not be limited to, the following items:

- Control and flight line indexes
- Exposure stations
- Control points (properly labeled)

The second report shall be an Aerial Triangulation report outlining the results of the AT process.

This report shall include, but shall not be limited to, the following items:

- All geometric closure errors for survey control points
- Computed coordinates of all control, pass, and check point locations
- Identification of all points to include:
 - Points that were included in the AT solution
 - Points that were discarded from the AT solution
 - Explanation of why points were discarded
 - Weighting factors applied to all points used in the AT solution

Reports shall also include, at a minimum, a brief narrative that describes the overall AT process including equipment used, procedures, software, RMSE summaries, bundle adjustment solution results, and geometric closure errors. Also included should be significant issues (misfits) encountered at control points and the steps taken to analyze the problem and solutions to rectifying these discrepancies.

7.0 Digital Imagery Requirements

7.1. Delivery Areas

Orthophotos shall be delivered for each Sub-Area of this project. Delivery areas are delineated in Appendix B-2. Delivery area order shall not be changed without the consent of Utilities.

7.2 Raw Imagery Review

Utilities expects the collection of Raw imagery to meet all specifications in this scope regarding clouds, shadows, snow, etc. However, as a simple check of the raw imagery, Contractor will provide samples of raw imagery for each delivery area for Utilities to review. Parties will work out the details of data delivery prior to data collection.

If Contractor has other means of viewing the imagery (i.e., on-line QC), then the delivery of raw images through digital means may not be needed. See section 7.3.2 for more information.

7.3 Orthophotos

Contractor will process raw imagery at the highest bit depth possible to achieve optimum effectiveness. Orthophotos shall be delivered in the following formats listed below.

- 8-bit, 4 Band (Red, Green, Blue, Near-Infrared)
- GeoTiff, TFW

7.3.1 Prototype Areas

To begin the project, three (3) prototype areas consisting of four (4) tiles each will be completed. The prototype areas will be selected by Utilities and will be complete and accepted prior to any other deliveries. The intent of these prototype areas is to ensure that color balancing, tonal balancing, and radiometric corrections are properly undertaken prior to major work on the rest of the project.

7.3.2 Orthophoto Delivery

All orthophotos shall be delivered in accordance with the delivery schedule. Contractor is free to propose any optional means of viewing and performing the quality assurance of the orthophoto images. This process should be simple and allow multiple users to perform quality assurance review at the same time. Not only should the process allow users to specify an image to be acceptable or not, but if the image is not acceptable, the user should be able to outline the areas that are outside of the specifications and to define the error type for those areas. Examples of error types include edge match issues, seam line issues, warped bridges, inconsistent radiometry, hardlines, smeared terrain, excessive displacement, no data or color holes, blurry areas, and excessive dark shadows. Implementing such a process should not adversely affect the cost of the project as this type of process should be cost effective for both Contractor and Utilities.

7.4 Image Quality

Orthophotos shall not contain defects such as missing pixels, pixel color anomalies, excessive color bleed, etc. Contractor is expected to correct any distortions caused by elevated or depressed structures such as bridges, railroad beds, overpasses, or steep terrain. Any images that are delivered to Utilities with these types of anomalies shall be rejected. In addition, visible image seams or sutures within a digital orthophoto shall also be rejected, including any with edge or feather effects. Furthermore, orthoimagery with evidence of imagery manipulation, such as copy/paste of pixels, shall be rejected by Utilities.

7.5 Image Mosaic Tiles

Creating image mosaic tiles is an essential part of producing a digital orthoimagery. The methods used to mosaic imagery are critical to the final product produced. Where digital mosaic orthoimages are created, it is essential that proper color, contrast, and brightness be maintained across such areas so that visual effects are essentially eliminated. All radiometric correction processes must result in minimal radiometric seams within or between flight lines. Images must also be well edge matched such that tonal values are consistent across edges. Finally, Contractor should use advanced color balancing techniques to create an output dataset that has a seamless context across the entire project.

7.6 Delivery of Final Orthophotos

Digital orthoimagery data shall be delivered in a TIFF format with associated world (TFW) files. Files shall be named and sized (4000' x 4000') according to the tile layout provided by Utilities. Data should be transferred to the PPGA using portable disk technology. Each PPGA participant will be provided a delivery of final imagery. Cost of the portable hard drives should be built into the total cost of the contract. If applicable, Contractor shall perform anti-virus software checking of all portable disks prior to any delivery to Utilities.

7.7 Quality Acceptance / Acceptance Standards

Contractor shall provide orientation to its employees assigned to this project so that all employees clearly understand the requirements and deliverable specifications of the project. Contractor shall also perform quality assurance checks of the data prior to delivery of the data to Utilities and shall provide evidence of such quality assurance checks by delivering feedback regarding each delivery. In addition to that undertaken by Contractor, Utilities shall perform its own quality acceptance check. Acceptability of deliveries of data shall occur when all digital files and digital orthophotos delivered meet all project requirements regarding file structure and conformity as per Utilities review. ***Utilities shall provide feedback on all orthoimagery deliverables within 21 days of receipt of data.***

7.8 Project Wide Mosaic

Upon completion and acceptance of orthoimagery tiles and completion of sub-areas, Contractor is to produce and deliver project wide mosaic datasets for the areas and formats listed below.

- One JP2 file covering SA1 (City of Colorado Springs area)
- Twelve JP2 files splitting SA1 into 12 pieces (Layout will be provided)
- One JP2 file covering PD Area 4 (City of Fountain area)
- One JP2 file covering SA1-SA3 (El Paso County Area)
- One JP2 file covering SA Area 4 and extended areas comprising all of Teller County boundary (Teller County)

- One JP2 file covering SA Areas 1-4 (Entire Project Area)

Compression parameters shall be discussed and agreed upon prior to delivery.

7.9 Labor Resources

Utilities will allow the major production work of Orthophoto production to be performed by Contractor subcontractors. Although Utilities prefers work to be done within the United States, offshore subcontractors are allowed but must first be approved by Utilities.

Utilities requires that all *final* quality control steps be completed by Contractor within the United States by Contractor employees located at that site. Should Contractor need additional production resources from outside vendors or other Contractor offices to adhere to the project schedule, the PPGA must be notified and approve such changes prior to implementation.

7.10 Metadata

Product metadata (FGDC compliant, XML format metadata) is required for all deliverable products.

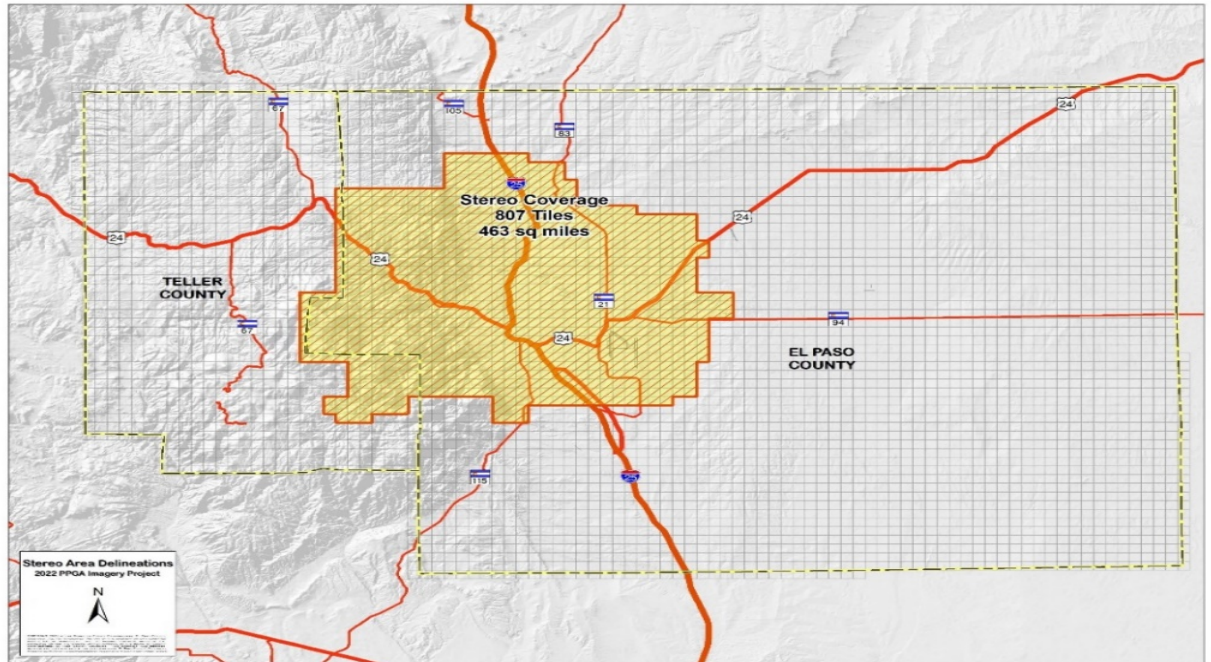
8.0 Other Optional Products

8.1 Digital Stereo Pair Requirements (Optional)

Digital stereo pairs are a required deliverable for the area outlined below and covers approximately 463 square miles. Stereo pair delineations can be found in Appendix B-3. All digital stereo pairs for delivery shall be processed using DAT/EM Photogrammetry Suite.

As part of this delivery, the following information related to the stereo models shall also be included with the delivery to the Utilities:

- Photo Position – photo center x,y,z , with Z being the above ground average
- Omega, Phi, Kappa values
- Camera Calibration
- Photo Direction
- 6 Interior orientation coefficients
- 6 exterior orientation parameters



Deliverable Stereo Coverage Extents

8.2 LiDAR (Optional) – General Requirements and Specifications

Utilities requests that the Contractor prepare a technical response for the creation of a LiDAR dataset for the areas within the PPGA mapping extent.

This option is for the planning, acquisition, processing, and production LiDAR data and the delivery of derivative products. The acquisition, production, and delivery of data will be based on a modified specification derived from the “National Geospatial Program Lidar Base Specification 2020, Revision A”. The LiDAR data to be collected will generally meet USGS QL2 specifications.

Base deliverables in project tiled format will include the following:

- Classified LiDAR Point Cloud (LAS)
- Bare Earth Digital Elevation Model (TIF)
- First Return Intensity Images (TIF)
- Breaklines (Shapefile)
- FGDC Metadata (txt)

8.2.1 Project Area

The collection area will cover both El Paso and Teller Counties. Contractor will provide a separate cost estimate for each county. The LiDAR data will be delivered under the same tiling scheme as the orthophotos. Together, El Paso and Teller County tiles cover approximately 2787 square miles. Separately, El Paso County tiles cover 2238 square miles while Teller County tiles cover 607 square miles.

8.2.2 Schedule

Utilities requires that the LiDAR collection be undertaken during the same time period as the image collection to avoid differences or discrepancies between datasets. As with the imagery, the LiDAR data will be collected during leaf-off conditions.

8.2.3 Coordinate System

The coordinate system for the LiDAR product shall be consistent with the orthoimagery as defined in section 4, “Colorado State Plane Coordinate System, Central Zone, Datum of NAD83 (HARN)”, using the vertical datum of NAVD88. Measurements shall be given in units of US Survey Feet. All data shall be delivered in Orthometric Heights.

8.2.4 Data Collection

Contractor will clearly define the planned flight procedures and control specifications in their work plan. The Contractor must demonstrate experience in performing LiDAR surveys covering terrain similar to the Pikes Peak Region.

Contractor will provide a proposed schedule plan for flight periods with detailed contingency plans for inclement weather conditions.

Contractor will be required to gain the necessary aircraft clearances for flying over the project area.

Contractor shall submit a written report that the proposed LiDAR system has been properly calibrated by the manufacturer.

Contractor shall be responsible for the acquisition of LiDAR data of sufficient density and quality to meet the following USGS QL2 requirements:

- **Aggregate Nominal Pulse Spacing:** Aggregate Nominal Pulse Spacing (ANPS) shall be no greater than 0.71 meters (QL2).
- **Aggregate Nominal Pulse Density:** Aggregate Nominal Pulse Density (ANPD) shall be no less than 2 points per square meter (QL2).
- **Signal Returns:** The laser system shall be configured to collect multiple echoes per pulse, with a minimum of a first return and a last return and at least one additional intermediate return. All returns captured during acquisition shall be delivered. Return number shall be recorded.
- **GPS Times:** Shall be recorded as Adjusted GPS Time, at a precision sufficient to allow unique timestamps for each return. Adjusted GPS Time is defined to be Standard (or satellite) GPS time minus 1×10^9 . See the LAS Specification for more detail.
- **Signal Strength:** The signal strength (intensity) of each return pulse shall be recorded.
- **Clustering:** The spatial distribution of geometrically usable points is expected to be uniform and free from clustering. To ensure uniform densities throughout the data set, a regular grid, with cell size equal to the designed $2 \times \text{ANPS}$ will be laid over the data. At least 90% of the cells in the grid shall contain at least 1 LiDAR point. Clustering will be

tested against only the 1st return data points. Acceptable data voids identified elsewhere in this task order are excluded.

- **Overlap:** Flight line overlap is at the Contractor's discretion, however, there must be no data gaps between the usable portions of the swaths and the aggregate nominal pulse density (ANPD) must be achieved. Collections in high relief terrain are expected to require greater overlap. Any data with gaps between the geometrically usable portions of the swaths will be rejected.
- **Data Voids:** A data void is any area greater than or equal to $(4 \times \text{ANPS})^2$, which is measured using first returns only. Data voids within a single swath are not acceptable, except in the following circumstances:
 - where caused by waterbodies
 - where caused by areas of low near infra-red (NIR) reflectivity such as new asphalt or composition roofing
 - where caused by LiDAR shadowing from buildings or other features
 - where appropriately filled-in by another swath
- **Data Acquisition Conditions:** All LiDAR shall be collected under the following conditions:
 - Atmospheric conditions should be cloud and fog-free between the aircraft and ground
 - Ground conditions should be snow free with no unusual flooding or inundation, except in cases where the goal of the collection is to map the inundation.
 - Leaf-off conditions are strongly preferred

8.2.5 Technical Specifications

8.2.5.1 Survey Control

Contractor shall be responsible for using the appropriate ground and airborne to meet the following requirements:

- **Supplemental Ground Control:** Differentially corrected GPS Ground Control will be used to supplement the Airborne GPS positional accuracy.
- **Quality Check points:** Contractor shall collect additional Ground Control Check Points in each project area that shall be delivered in ESRI shapefile format and will be used by the Utilities for validation.
 - Checkpoints shall be used for non-vegetated vertical accuracy (NVA) checks.
 - All check points shall be within the defined project area.
 - Checkpoints will be located within clear, open terrain, where there is a high probability that the sensor will have detected the ground surface without influence from surrounding vegetation. Ground that has been plowed or disturbed is not acceptable. Checkpoints should be surveyed on slopes of $\leq 10^\circ$.
 - Contractor shall define the appropriate number of checkpoints for each of delivery areas as defined in the USGS QL2 specification. Based on project size

(~2700 sq miles), approximately 100 checkpoints would be required. It is understandable that certain delivery areas, containing many treed areas, may be an issue in finding checkpoint locations. Contractor shall propose the number of checkpoints to be used for these areas. Utilities must approve the number of points and the checkpoint locations for these areas prior to checks taking place.

- The same check points may be used for the assessment of the point cloud and DEM.
- The checkpoint accuracy shall be 3 times the targeted accuracy of the LiDAR data.
- Check points shall not be incorporated into the Contractor's vertical solution

8.2.5.2 Data Accuracy

Contractor shall meet the following accuracy requirements for all collected LiDAR data.

- **Vertical Accuracy:**

- Absolute vertical accuracy of the LiDAR data and the derived DEM shall be assessed and reported in accordance with ASPRS (2014). LiDAR collected shall meet or exceed these vertical accuracies.
 - $RMSEZ \leq 10$ cm (non-vegetated area, assessed against: a TIN surface made of ground-classified points, and the DEM)
 - $NVA \leq 19.6$ cm 95% Confidence Level (assessed against: a TIN surface made of ground-classified points, and the DEM)

- **Horizontal Accuracy:**

The horizontal accuracy of this LiDAR project shall be reported using the form specified by the ASPRS (2014):

“This data set was produced to meet ASPRS “Positional Accuracy Standards for Digital Geospatial Data” for a ___ (cm) $RMSE_x / RMSE_y$ Horizontal Accuracy Class which equates to Positional Horizontal Accuracy = +/- ___ cm at a 95% confidence level.”

Horizontal accuracy may differ within each project sub area. Should this be the case, a separate report as outlined above shall accompany each sub area delivery.

8.2.6 Data Processing and Formatting

Contractor shall be responsible for post processing of LiDAR data of sufficient density and quality to meet the requirements specified in the USGS Lidar Base Specification. All processing should be carried out with the understanding that all point deliverables are required to be in fully compliant LAS format, v1.4.

8.2.6.1 Hydro Flattening

A traditional DEM surface represents the ground surface with hydrologic features handled in established ways. For this project, hydrographic features should be processed to the following specifications.

Inland Ponds and Lakes:

- Lakes and ponds should be two acres or greater in surface area. Note: During the previous LiDAR collection process of 2011, Utilities received seven (7) waterbodies that were less than two (2) acres and would therefore require that those same waterbodies be

captured again. Utilities can provide example data of those features as compiled during our last LiDAR acquisition in 2011.

- Waterbodies should be flat and level (single elevation for every bank vertex defining a given water body).
- All reservoirs and lakes within the project area and regardless of size should be treated as a flat surface. High water marks should define the waterbody boundary.
- The entire water surface edge must be at or just below the immediately surrounding terrain.

Streams:

- Streams should be flat and level, bank-to-bank (perpendicular to the apparent flow centerline); gradient to follow the immediately surrounding terrain.
- The entire water surface edge must be at or just below the immediately surrounding terrain.
- Streams should break at road crossings (culvert locations). These road fills should not be removed from the DEM. However, streams and rivers should not break at bridges. Bridges shall be removed from the DEM. When the identification of a feature as a bridge or culvert cannot be made reliably, the feature should be regarded as a culvert.
- The bare earth surface below the bridge shall be a continuous logical interpolation of the apparent terrain lateral to the bridge deck.
- No geometric changes shall be made to the originally computed LiDAR points. Bare earth LiDAR points that are near the breaklines shall be classified as Ignored Ground and excluded from the DEM generation process. This process prevents unnatural surface artifacts from being created between mass points and breakline vertices. The proximity threshold for reclassification as Ignored Ground is at the discretion of the data producer, but in general shall not exceed the aggregate nominal pulse spacing (ANPS).
- Streams, rivers, and water bodies that are being hydro-flattened shall be monotonically continuous where bridge decks have been removed.
- All breaklines used to enforce a logical terrain surface below a bridge shall be considered a required deliverable.
- This project has very specific stream specifications. Utilities requires that only Fountain Creek, Monument Creek, and Sand Creek be flattened.
- Because the Streams are specifically defined, there will be no nominal width defined for the project. For the defined streams, the width will be defined from bank to bank on either side of the feature. Processing should not unnecessarily break a stream or river into multiple segments. At times, the feature may be upwards of 300' wide and at other times as narrow as 10' wide. Utilities can provide example data of those features as compiled during our last LiDAR acquisition in 2011.

8.2.6.2 Point Classification

The following Classification Scheme should be used for classification of LiDAR points:

- Class 1 – Processed, but unclassified
- Class 2 – Bare-earth ground
- Class 7 – Low Noise (low, manually identified, if necessary)
- Class 8 – Model Key Points

- Class 9 – Water
- Class 17 – Bridge Decks
- Class 18 – High Noise (high, manually identified, if necessary)
- Class 20 – Ignored Ground (breakline proximity)
- Class 21 – Snow (if present and identifiable)
- Class 22 – Temporal exclusion (use as necessary)

No points in the classified point cloud shall remain assigned to Class 0, unless flagged as withheld. Note: The withheld bit flag shall be used to identify “noise” points. Contractor may use Classes 7 or 18 to specify the type of “noise.”

8.2.6 LiDAR Deliverables

8.2.6.1 Classified Point Cloud

Classified Point Cloud (LAS) data will be delivered in tiled format as per the project tiling scheme.

Fully compliant LAS v1.4, Point Record Format 6, 7, 8, 9, or 10 including “File Source ID” which shall be set to 0. Geometrically unreliable points and points that cannot be reasonably interpreted as valid surface returns, as well as any other points the data producer deems unusable are to be identified using the withheld bit flag.

Use of the overlap bit flag is at the discretion of Contractor and should be used to delineate overage points that might be isolated for removal from derived products, including digital elevation models. All points within the overage region assigned the overlap bit flag should follow normal classification criteria for the project.

All points that fall within the minimum classification scheme (see section 8.2.5.3) and not flagged as withheld shall be properly classified. Points flagged with the overlap bit must be properly classified using this minimum classification scheme.

Georeference information must be included in the LAS header (OGC WKT). In accordance with LAS specification Version 1.4 - R15 published 9 July 2019, the Coordinate Reference System (CRS) shall be represented in each LAS file using OGC (2001) dialect of Well-Known Text (WKT) (www.opengeospatial.org/standards/ct, document # 01-009). ESRI WKT and OGC (2018)/WKT2 dialects are not accepted at this time. Refer to USGS Lidar Base Specification 2020, Rev. A, Coordinate Reference System, Well-Known Text for more detail.

GPS times are to be recorded as Adjusted GPS Time, at a precision sufficient to allow unique timestamps for each return. In compliance with LAS specification requirements, the encoding tag in the LAS header must be properly set.

The Intensity value is the integer representation of the pulse return magnitude. Intensity is always normalized to a 16-bit, unsigned value. For systems based on technology other than pulsed lasers, Intensity values may represent estimated relative reflectivity, rather than a direct measurement of pulse return magnitude, and may be derived from multiple sources. See LAS specification version 1.4-R15 (ASPRS 2011) for more information.

The Classification Scheme of the data should be as defined in section 8.2.5.3.

Data coordinate system information can be found in section 8.2.3.

8.2.6.2 Bare Earth Digital Elevation Model

Bare Earth Digital Elevation Models shall be delivered in tiled format as per the project tiling scheme. The following specifications shall apply to the Bare Earth deliverable:

- Bare Earth DEM tiles will be delivered in GeoTiff format.
- The raster cell size shall be two (2) feet.
- Format shall be 32bit floating point.
- Geo-reference information shall be included
- DEM tiles will show no edge artifacts or mismatch. A quilted appearance in the overall project DEM surface, whether caused by differences in processing quality or character between tiles, swaths, lifts, or other non-natural divisions will be cause for rejection of the entire DEM deliverable.
- Bridges shall be removed from the DEM. Roads or other travel ways over culverts shall remain intact in the surface.
- Void areas shall be coded using a unique “NO DATA” value. This value shall be identified in the appropriate location within the file header.
- Data Coordinate system information can be found in section 8.2.3.

In addition, the Contractor shall provide additional optional costs for developing three additional DEM surfaces for the project area. These must include the following areas.

- One DEM file covering SA1 (City of Colorado Springs area)
- One DEM file covering Delivery Area 4 (City of Fountain area)
- One DEM file covering SA1-SA3 (El Paso County Area)
- One DEM file covering SA4 and extended areas comprising all of Teller County boundary
- One DEM file covering SA Areas 1-4 (Entire Project Area)
- Data Coordinate system information can be found in section 8.2.3.

8.2.6.3 First Return Intensity Images

First Return Intensity Images shall be delivered in tiled format as per the project tiling scheme. The following specifications shall apply to the Intensity Image deliverable:

- Tiles will be delivered in GeoTiff format.
- The raster cell size shall be two (2) feet.
- Format shall be 8bit unsigned integer, 256 color greyscale.
- Geo-reference information shall be included
- Void areas shall be coded using a unique “NO DATA” value. This value shall be identified in the appropriate location within the file header.
- Data Coordinate system information can be found in section 8.2.3.

8.2.6.4 Breakline Data

Breaklines for all hydro-flattened areas shall be delivered in an ESRI shapefile format as PolylineZ for lines and PolygonZ for polygons. feature classes. At a minimum, breaklines shall be developed to the

limit of the Project Area. Breakline data shall be sufficient for the development of 2-foot contours meeting ASPRS accuracy requirements.

Data Coordinate system information can be found in section 8.2.3.

8.2.6.4 Lidar Metadata

Product metadata (FGDC compliant, XML format metadata) is required for each LiDAR product, that being, Classified Point Cloud Data, Bare-Earth DEMs, Intensity Images, and Breaklines.

8.3 Contours (Optional)

Optional contours are to be produced from the LiDAR bare earth DEM surface. Contours will be delivered in a tiled format based on the project tiling scheme.

- Contours will have an interval of 2' with index contours being every 10'.
- Contours will contain a feature **Type** attribute which will be text(20).
- Specific contour types will consist of "INDEX" and "INTER". The type "INDEX" is for index contours (every 5th contour, 10, 20, 30, etc.), while type "INTER" will be for intermediate contours.
- Contours will contain an Elevation attribute and will be stored as Long Integers.
- Contour topology will match consistently across tile boundaries such that line end position is correct, line Type values match, and line Elevation values match. Lines should end cleanly at the tile edge.
- This dataset shall be in an ESRI compatible format.
- This dataset shall have FGDC compliant metadata.

8.4 Buildings (Optional)

Building representations are planimetric features representing buildings that is defined as any type of man-made structure with a roof and walls and built for permanent use. The following outlines general requirements for these features.

- All buildings greater than or equal to 100 square feet will be captured. Contractor should propose cost savings for providing buildings limited to 200 square feet and for 400 square feet.
- Each enclosed building representation will be a polygon. Square corners of the building should be square and not be improperly angled.
- Buildings will be attribute-typed (Long Integer) to match the following types:
 - Building
 - Foundation
 - Tank
- Buildings will be attributed with a z-value (elevation) that represents the highest point of the building, but will exclude such items as flag poles, chimneys, and other features smaller than 4-foot wide.

- All building data shall meet American Society for Photogrammetry and Remote Sensing (ASPRS) accuracy standards for large scale class I maps for 1" = 100' (Sub-Area 1) and 1" = 200' (Sub-Areas 2-4).
- Vertical datum shall be NAVD88.
- This dataset shall be in an ESRI compatible format.
- This dataset shall have FGDC compliant metadata.

9.0 Pricing

Please refer to Exhibit B for pricing details.

10.0 Performance Measurement Methods

Utilities and Contractor recognize that time is of the essence concerning this agreement and that the Utilities shall suffer financial loss if the services provided by Contractor are not completed within the times specified in the schedules outlined in this scope, including any extensions thereof. Utilities and Contractor also recognize the delays, expense, and difficulties involved in proving the actual loss suffered by the Utilities if the services of this scope of work are not completed on time.

The PPGA reserves the right to terminate the contract with Contractor if the following project milestones or specifications do not occur according to schedule or are not met, respectively:

- Target flight windows are missed by Contractor (as noted above for each section, flight dates)
- Non-compliance of mapping specifications by Contractor
- Non-usage of specified DTM/DEM by Contractor
- Orthoimagery has been excessive manipulated by Contractor through copy/paste methods

11.0 Supplier’s Key Personnel

The Contractor personnel listed below are considered to be essential to the work being performed hereunder. Prior to diverting any of the specified individuals to other programs or in the event a key personnel terminates his/her employment, Contractor shall notify the identified Utilities’ Strategic Sourcing Specialist in advance and shall submit justification, including proposed substitutions, in sufficient detail to permit evaluation of the impact on the program. No diversion or substitution shall be made by the Contractor without written consent of Colorado Springs Utilities.

Resource/Role	Name	Phone	e-mail
Project Manager			

12.0 Applicable Documents

Appendix A Technical Diagrams

13.0 Security Requirements

13.1 Contractor agrees that all Contractor’s personnel assigned to this Project shall adhere to all Utilities’ security policies and guidelines at all times and at all Utilities’ locations.

- 13.2 Utilities may require the completion of annual cyber security training and a written background check verification prior to the start date of any work under this SOW for those Contractor's, or any of Contractor's employees, who will need unescorted physical or cyber access to any BES Cyber Asset (BCA).
- 13.3 Utilities prohibits the connection of any computing equipment, network devices, storage devices, or any other device which is not owned and managed by Utilities. The only exception is Contractor use of Utilities-approved VPN solution(s) sourced from an external network. All removable media must be scanned and sanitized at organization-provided kiosks located within Utilities facilities. Only content deemed 'safe' may be used on Utilities' devices or systems.

14.0 Change Control

14.1 In Scope Changes

Utilities has expended great efforts in preparing this SOW and in attempting to describe as thoroughly the requirements therein; however, it is possible that some of the requirements might have been inadvertently omitted from the SOW. If any requirements have been overlooked that relate to, or are similar to, the requirements contained in the SOW, those requirements shall be included if those additional requirements do not impact time, schedules, resource allocation, or incur additional costs.

14.2 Out of Scope Changes

All requests for Services outside of the agreed upon scope and requirements contained in this SOW, and prior to the performance of such Services, shall require a mutually agreed upon Amendment to this SOW. Utilities shall not be liable for any out of scope work or Services which are performed prior to the execution of an Amendment between the two parties.

**Exhibit B
Price and Rates**

The Services as set forth in Exhibit A shall be provided by Contractor at a firm rate as outlined in the table below. If optional items below will be performed, Utilities will notify Contractor in writing prior to the start of any work.

Digital Ortho Imagery Fee						
Area	Sq. Miles	Resolution	Survey Point Count	Survey Fee	Onshore Ortho Fee	Hybrid Onshore/Offshore
Area 1	338	6-inch	16	\$4,800.00	\$44,331.68	\$34,140.98
Area 2	1661	12-inch	5	\$1,500.00	\$69,690.46	\$57,515.33
Area 3	239	12-inch	1	\$300.00	\$28,619.00	\$23,542.64
Area 4	549	12-inch	5	\$1,500.00	\$32,505.06	\$25,121.01

Sanborn has presented pricing for the ortho imagery program with an optional survey cost. If the Utilities or other PPGA partners elects to complete the survey and provide it to Sanborn this cost can be removed.

Building Outline Fee Option			
Sq. Mi.	Minimum Size	Onshore Cost	Hybrid Onshore/Offshore
2238	100	\$322,474.61	\$60,686.28
	200	\$294,203.58	\$55,365.97
	400	\$250,714.12	\$47,181.72

USGS QL2 Lidar Data with NVA/VVA and Extra Hydro Flattening Option		
Sq. Mi.	Onshore Cost	Hybrid Onshore/Offshore
2238	\$394,760.82	\$282,256.56

Automated 2-foot Contour Creation with Additional Breaklines Option		
Sq. Mi.	Onshore Cost	Hybrid Onshore/Offshore
2238	\$144,574.80	\$71,011.74

Building Outline Fee Option (Teller County)			
Sq. Mi.	Minimum Size	Onshore Cost	Hybrid Onshore/Offshore
549	100	\$51,932.66	\$9,777.69
	200	\$47,439.09	\$8,932.23
	400	\$41,081.67	\$7,738.16



Colorado Springs Utilities
It's how we're all connected

Contractor Minimum Safety Requirements (CMSR)

For

“General Services Contracts”

***F03 - Version 1.3
April 1, 2021***

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Section 1 – Authority, Purpose and Applicability

Safety & Health Management is vigorously supported by Colorado Springs Utilities for all Colorado Springs Utilities' employees, Contractors, and the public. Colorado Springs Utilities is dedicated to achieving and maintaining a goal of zero accidents and injuries.

1.1 Definitions

- a. **General Services Work:** This Contractor Minimum Safety Requirements (CMSR) applies to all Contractors hired directly by Colorado Springs Utilities to perform work or services which are defined and covered under OSHA 29 CFR 1910 and 1926.32(g) as:
 - i. "General industry" refers to all industries not included in agriculture, construction or maritime. General industries are regulated by OSHA's general industry standards.
 - ii. As defined in a 2003 OSHA LOI - "Maintenance activities" have commonly been defined in dictionaries as making or keeping a structure, fixture or foundation (substrates) in proper condition in a routine, scheduled, or anticipated fashion. In OSHA's directive on the general industry confined space standard, the Agency stated that maintenance involves "keeping equipment working in its existing state, i.e., preventing its failure or decline"
 - iii. Types of General Services covered under this document and its Requirements include but are not limited to:
 1. Contractor with less than 20 employees on site at any time (Contractor and Sub Contractor employees)
 2. "Light" or "Minor" facility services such as
 - a. Remodeling
 - b. Painting
 - c. Reconfiguration
 - d. HVAC Servicing or minor repair
 - e. Lighting
 - f. Electrical - 110/120 v or less
 3. Landscaping / Snow Removal Services
 4. Product, chemical or general goods deliveries
 - a. Large or bulk process related or highly hazardous chemical deliveries will typically fall under the "Construction Services CMSR".
 5. Janitorial services
 6. Telecommunications
 7. Vegetation / Insect Management
 8. On Site Professional / Engineering / Consulting Services

- iv. Unless exempted and authorized to be covered under this CMSR for General Services Contracts by Colorado Springs Utilities Safety and Health Department, Contractors hired to perform work in the following areas are typically not covered under this CMSR, they are covered under the Construction Contracts CMSR:
 - 1. Any Contractor which has 20 or more employees on site at any time (Contractor and Sub Contractor employees)
 - 2. Work in Power Plants
 - 3. Work in Water and/or Waste Water Treatment Plants
 - 4. Work in or on Electric, gas, water and wastewater infrastructure and systems
 - 5. Facility (office, building, or similar) maintenance and servicing (does not include services such as cleaning or office equipment servicing and repair)
- b. **Contractor:** An entity or individual hired directly by Colorado Springs Utilities to perform work or provide services and all employees thereof.
- c. **Contractor Minimum Safety Requirements (CMSR)** – This document which outlines the minimum safety and health requirements and standards for Contractors to follow for Colorado Springs Utilities’ General Services Contracts.
- d. **Contractor Safety Qualification Form (CSQF) - Attachment D** – A form which is required to be filled out by the Contractor and returned with their Solicitation for Bid packet. This form is used by Colorado Springs Utilities Safety and Health to assess a Contractor’s safety program and performance.
- e. **Project Manager** –The Colorado Springs Utilities assigned Project Manager or Representative identified in the contract between Colorado Springs Utilities and Contractor.
- f. **Safety and Health Department** – The Safety and Health Department for Colorado Springs Utilities.
- g. **Site Safety Plan (SSP)** – A plan created by each contracted entity that is specific to the project or scope of work they are working on to include requirements from this CMSR and other applicable regulations or requirements for all personnel to follow on site (including their Sub-contracted entities).
- h. **Sub-Contractor** – An entity or individual of any tier supplying labor, services, and/or materials for a Contractor and that has a direct contract with such Contractor or with any of the Contractor’s other Sub-Contractors and all employees thereof.

1.2 Applicability of CMSR Safety and Health Standards

- a. This CMSR applies to all Colorado Springs Utilities general services type contracts to which this CMSR is attached as an exhibit, and to all Sub-Contractors supplying labor, services, and/or materials related to such general services contracts.
- b. Contractors performing work for Colorado Springs Utilities are regulated by the Occupational Safety & Health Administration (OSHA) Standards (1926 or 1910 when not covered by 1926).
- c. All Contractors and their Sub-Contractors performing general services work for or on behalf of Colorado Springs Utilities are required to comply with OSHA regulations (1926 or 1910) or other Federal, State, or Colorado Springs Utilities requirements, whichever is most stringent. In a case where the Contractor is formed in a country other than the United States (i.e., Canada), the more stringent safety and health requirements shall be followed.

- d. Use of and compliance with this CMSR in no way transfers the responsibility for the Contractor's safety and health requirements or procedures to Colorado Springs Utilities. The Contractor is responsible for their own means and methods of working and their own SSP.
- e. Colorado Springs Utilities shall not approve a Contractor's SSP. Colorado Springs Utilities may provide input to a Contractor's SSP to ensure regulatory requirements are properly addressed.

1.3 Purpose and Scope

- a. The purpose of this CMSR is to ensure Contractors and their Sub-Contractors comply with the Contractor Minimum Safety Requirements (CMSR) during work activities in which they are directly hired by Colorado Springs Utilities.
- b. This CMSR is intended to provide a framework for Contractors to work safely and possibly enhance their safety practices. This CMSR is not all inclusive. This CMSR does not include a verbatim replication of technical specifications or regulatory requirements.
- c. It is expected each Contractor will have a full understanding of applicable regulatory requirements (OSHA, NFPA, ANSI, etc.) for their contracted work activities.
- d. The scope of this CMSR is to ensure Contractors bring a program and culture to work safely and not expose their employees, Colorado Springs Utilities personnel, or the public to unidentified and uncontrolled hazards or injury.
- e. The following requirements are applicable to all Contractors who are subject to this General Services CMSR:
 - i. **Contractor Safety Qualification Form (CSQF)** – Found in Attachment D of this document, Contractors are required to complete and submit the CSF. This form is provided to prospective Contractors during solicitation of upcoming work or on a case by case basis by the Colorado Springs Utilities Procurement and Contract Services Department. The Colorado Springs Utilities Safety and Health Department reviews and assigns a classification for each Contractor based on evaluation of the criteria provided. This process and scoring are defined in the Colorado Springs Utilities Contractor Safety Management Program.
 - ii. **Contractor Minimum Safety Requirements (CMSR)** - Contractors are required to comply with this CMSR for their scope of work and contract.
 - iii. **Contractor Site Safety Plan (SSP)** – Under this general services CMSR, Contractors are required to develop a project or contract-specific SSP.
 - iv. **Colorado Springs Utilities Site Visitor Safety Requirements** - Contractors are required to comply with all Colorado Springs Utilities facility site visitor safety and security requirements.

1.4 Sub-Contractors

- a. Prior to commencement of subcontracted work activities and during the course of the project, Contractor shall provide to Colorado Springs Utilities a list of Sub-Contractors it will use and the work the Sub-Contractor will be performing.
- b. Colorado Springs Utilities reserves the sole right to reject any Sub-Contractor based on known safety and health performance issues or other reasonably responsible reasons.
- c. A Sub-Contractor's safety performance issues are the responsibility of the Contractor and will be reflected in Contractor's Safety and Health Post Project Evaluation Form.

Section 2 - General Requirements

2.1 Contractor Safety Review

- a. All Contractors responding to a Colorado Springs Utilities solicitation, shall complete the CSQF (See Attachment D) and return it along with all other information required as part of the solicitation.
- b. All fields shall be completed on the form.
- c. The CSQF is then reviewed by Colorado Springs Utilities Safety and Health Department, which classifies the Contractor as Acceptable, Provisional, In-Complete, or Not Recommended in accordance with Colorado Springs Utilities' process.

1. Requirements of Contractor when classified as "Provisional" or "Not Recommended":

Provisional	Not Recommended
*Contractor must complete and submit Contractor Narrative and Justification Form.	*Contractor must complete and submit Contractor Narrative and Justification Form.
Can be awarded multiple year contract with the requirement for Contractor to submit Contractor Safety Qualification Form annually.	Contract term not to exceed 1 Year.
Must submit Contractor Safety Qualification Form for each new contract.	Must submit Contractor Safety Qualification Form for each new contract.
Requires Springs Utilities approval by respective Division General Manager.	Requires Springs Utilities approval by Officer, respective Division General Manager, and General Manager of Regulatory Compliance Division.

* Contractor must provide a narrative description of the safety and health capabilities and processes of the contractor and major subcontractors that will detect, prevent, and control hazards, and ensure compliance with applicable safety and health requirements, during the performance of the work described in the solicitation. This may include safety and health management systems, planning methods, work area oversight and inspection, hazard reporting and correction systems, use of specialized equipment, involvement of qualified/certified safety and health specialists, training of managers, supervisors, and employees, and/or other information deemed pertinent by the contractor.

Any further evidence the contractor may wish to provide to indicate the capability of the contractor and/or any major subcontractor to successfully manage the safety and health aspects of the work described in the solicitation. This may include descriptions of safety and health performance for similar prior work, comments provided by past customers, formal recognition of safety and health programs/performance by competent authorities, and/or other information deemed pertinent by the contractor.

2.2 Variances

- a. No variance to the requirements of this CMSR shall be approved that:
 - i. Endangers the safety and health of any person,
 - ii. Is not consistent with the intent of the provisions of these standards, or
 - iii. Would be a variance to Federal, State or local regulations.
- b. If a literal application of this CMSR is impractical or creates conflicts or an unsafe condition, the appropriate Contractor's representatives in consultation with Colorado Springs Utilities Safety and Health Manager or assigned representatives, may authorize a variation to the provision.
- c. Requests for a variance shall be in writing and directed to Colorado Springs Utilities Project Manager and Colorado Springs Utilities Safety and Health Manager. The written request shall include:
 - i. A reference to the specific provision of the CMSR for which the Contractor is seeking a variance,
 - ii. An explanation as to why the provision is considered impractical, and
 - iii. The requested action.
- d. The variance request shall contain pertinent technical data, drawings, material or equipment specifications, and other information. Contractor shall not operate as though the variance is approved until such time as Colorado Springs Utilities provides written approval of the variance.

2.3 General Rules of Conduct

All Contractors and their employees and Sub-Contractors shall comply with the following general rules of conduct while engaged in work for or on behalf of Colorado Springs Utilities.

- a. Comply with all applicable OSHA regulations and this CMSR.
- b. All work sites and areas shall be maintained to avoid potential hazards introduced by poor housekeeping and work practices.
- c. Housekeeping - Good housekeeping, including provisions for routine scrap and debris removal, and safe organized storage of materials shall be maintained in all areas at all times.
- d. At no time shall any employee knowingly place themselves or another employee in a situation that could cause injury or harm.
- e. Hazards are to be addressed by the following hierarchy of controls: (i) engineering them out, (ii) process or procedure administrative controls, or (iii) by identification of proper PPE.
- f. Identify and isolate hazardous work areas with safety markers, tape barriers, safety cones, or other means.
- g. Alcoholic beverages, illegal substances (including marijuana), and/or persons under the influence of such products are not permitted on Colorado Springs Utilities property or project sites and personnel under the influence of them shall be removed from the site immediately and permanently. Marijuana, whether it is used medically or recreationally, is a violation of the Federal Controlled Substances Act. Additionally, the U.S. Department of Transportation's Drug and Alcohol Testing Regulation (49 CFR Part 40) prohibits the use of Schedule 1 drugs, including marijuana, for any reason. As such, the use of marijuana – medical or otherwise – is a violation of federal law.

- h. Firearms, explosives and ammunition are strictly prohibited on Colorado Springs Utilities property and project sites unless approved as part of the work activities in accordance with the Statement of Work of an executed contract.
- i. Employees shall wear appropriate attire at all times while onsite.
- j. All posted instructional signs such as DANGER, WARNING, CAUTION, RESTRICTED AREA, etc. shall be followed.
- k. Best Management Practices shall be utilized to ensure safe and environmentally sound performance of all tasks.
- l. Appropriate signage shall be used to adequately direct traffic in the event of road or property access closures.
- m. Building exits and emergency equipment shall be kept accessible at all times.
- n. Indoor painting, soldering, grinding or similar activities shall be coordinated in advance with the site and shall not be a hazard to any individual at the site. Use of general or point of operation ventilation shall be used as necessary or required.
- o. Contractor and Sub-Contractor employees shall have received appropriate safety training for their job tasks and for all chemicals and equipment to be used.
- p. Property, equipment, and materials left at a Colorado Springs Utilities job site shall be stored at Contractor's risk and in a manner that does not expose any individual on the site to a hazard.
- q. Contractor shall cooperate during any inspection of the work area by any authorized entity.
- r. Smoking is permitted only in designated areas and Contractor will prevent the ignition of surrounding materials.
- s. All safety and health incidents (whether or not there is an injury or damage) shall be reported to the Contractor's management and the appropriate Colorado Springs Utilities point of contact in accordance with the incident reporting requirements set forth in section 3.2 of this CMSR.

2.4 Public Safety and Protection of Property

- a. The Contractor shall take all necessary action to prevent hazards or injury to the public and/or property damage.
- b. Work performed in any area occupied or used by the public shall be coordinated with the Colorado Springs Utilities Project Manager.
- c. When it is necessary to maintain public use of work areas involving sidewalks, entrances to buildings, lobbies, corridors, aisles, stairways, and vehicular roadways, the Contractor shall protect the public with appropriate guardrails, barricades, temporary fences, overhead protection, temporary partitions, and shields, and ensure adequate visibility. Such protection shall guard against physical hazards, including, but not limited to, harmful chemicals, flying materials, falling or moving materials and equipment, hot or poisonous materials, explosives and explosive atmospheres, flammable or toxic liquids and gases, open flames, energized electric circuits, or other harmful substances and situations.
- d. Sidewalks, entrances to buildings, lobbies, corridors, aisles, doors, or exits that remain in use by the public shall be kept clear of obstructions to permit safe ingress and egress of the public at all times.

- e. Appropriate warnings, signs, including, but not limited to, instructional safety signs, shall be conspicuously posted where necessary. In addition, a signal-person shall control the moving of motorized equipment in areas where there may be a risk or danger to the public.
- f. Temporary sidewalks shall be provided when a permanent sidewalk is obstructed by the Contractor's operations.

2.5 Utility Damage Prevention

- a. Before conducting any activities involving any excavation, digging, or other earth movement, Contractor and its Sub-Contractors shall comply with all requirements of §§ 9-1.5-101, et seq., Colorado Revised Statutes, also known as the Colorado One Call Law or the Call Before You Dig Law.
- b. Contractor or its Sub-Contractors shall request locates for underground utilities by phone by calling 8-1-1 or online at colorado811.org at least 3 days prior to any digging, excavation, or other activities involving earth movement.
- c. Contractor shall keep utility locate documentation on the project site throughout the excavation period. If documentation becomes lost or invalid, Contractor or its Sub-Contractor shall call for new locates of underground facilities.
- d. If locate marks are found to be inaccurate, Contractor shall call 811 and request a new locates for underground facilities. Contractor or its Sub-Contractors shall not perform any excavation or earth movement work until such time as all underground facilities have been located or Contractor or its Sub-Contractors have confirmed there are no underground facilities in the work area.
- e. Contractor shall protect locate marks. Locate marks are good while visible for up to 30 days from the date locates are made. If new or additional locates are required, Contractor shall contact Colorado811, as set forth above, and request the new or additional locates. Contractor or its Sub-Contractors shall not perform any excavation or earth movement work until such time as all underground facilities have been located or Contractor or its Sub-Contractors have confirmed there are no underground facilities in the work area.
- f. Contractor must use reasonable care to protect underground utilities to include, but not limited to:
 - i. Using hand tools within 18" on either side of a locate mark or pothole to identify the location of the underground utility facilities and/or expose the utility facility for proper width and depth before proceeding with any mechanized tools. This includes all duct banks.
 - ii. Contractor shall pothole and expose all utilities in the specified dig area.
 - iii. Contractor shall pothole where Contractor's work will cross an underground utility facility.
- g. In the event utility damage occurs, Contractor shall notify the affected utility owner and Colorado 811, and must cease work until repairs can be made.
- h. Dig Alert Process: In the event the documentation provided with the utility locates identifies that there is a "Dig Alert" for one or more underground utility facilities, the Contractor or its Sub-Contractors are required to notify Colorado Springs Utilities (719-448-4800, press "1") 24 hours prior to beginning any excavation work. Colorado Springs Utilities will issue Dig Alerts:
 - i. Electric
 - 1. 115 kv electric
 - 2. Downtown Electric Network
 - ii. Gas
 - 1. 150 psi gas mains (high pressure)
 - 2. All gas mains 4-inch in size and above, that will be crossed or paralleled during excavation
 - iii. Water
 - 1. All water mains 16-inch and above

2. All asbestos (ACP) water mains
- iv. Waste Water
 1. All mains 12 inches and above
 2. All mains that are crossing or run parallel to a creek
 3. All forced mains
 4. All excavation taking place on the property of a wastewater lift station
 5. All abandoned mains
- v. Sludge
 1. Waste water sludge lines
 2. Abandoned twin 10-inch sludge lines
- vi. Fountain Valley Water Authority Water Mains
- vii. Southern Delivery System Water Lines
- viii. Non-Potable water mains
- i. Request for Overhead Transmission or Distribution System Outages or Modifications - In the event a Contractor is moving materials, equipment, or structures on a roadway or area with overhead electric lines and the need arises to request temporary de-energization, moving, or removal of an overhead power line, Contractor shall comply with all notification and operational requirements set forth in the most current version of the Colorado Springs Utilities Electric Line Extension and Service Standards.

2.6 Training

- a. General Safety and Health Training - All Contractor and Sub-Contractor employees on-site shall receive training about hazards and hazard control methods specific to their jobs or tasks. The Contractor is responsible for providing these instructions, together with ensuring that Contractor and Sub-Contractor employees possess the necessary qualifications, licenses, and permits required to perform the work.
- b. Site Safety Orientation - All Contractor and Sub-Contractor employees on-site shall receive any orientation on the requirements and provisions of the job or task, Colorado Springs Utilities site specific information as well as any other applicable safety and health requirements.
 - i. Site Safety Orientation shall also include any Colorado Springs Utilities-required site safety orientations.
- c. Contractor is required to maintain records of training delivered to Contractors, Sub-Contractors, and Visitors. Such records shall be available for review upon request.
- d. Training and other safety instructions shall be given in a language which each employee understands and comprehends.

Section 3 – Contractor Responsibilities

- 3.1 Contractor’s Responsibilities** - This section contains minimum standards and practices that are required of all Contractors during contracted work activities.
- a. Contractor shall conduct a pre-construction safety briefing (or equivalent as identified in the statement of work or any contractual technical data) with affected parties (Colorado Springs Utilities, Contractor, Sub-Contractors, and other entities or individuals who may be impacted by the work) to demonstrate the requirements of this CMSR and safety management of the project or work activities.
 - b. Contractor shall develop and implement an SSP which complies with this document that is specific to their operations and hazards.
 - i. The SSP shall be submitted and deemed acceptable prior to the commencement of site work activities and updated as needed. The SSP shall be updated as needed to reflect new hazards introduced or recognized during site activities. An outline is provided in Attachment E for the Contractor to follow to ensure all required topics are covered in the SSP.
 - ii. The SSP shall include the Competent Person Designation Form (Attachment A), the Emergency Contacts List (Attachment B), and the Emergency Medical Preparedness / Response form (Attachment C).
 - iii. With approval through the Safety and Health Department, the SSP can be covered through a Job, Task, or Activity Hazard Analysis or similar planning process if the overall risk level of the statement of work is low enough to do so effectively and the work is a singular occurrence.
 - iv. The Safety and Health Department may require that specific safety and health requirements be added to the Contractor’s SSP at any time to ensure compliance with any given topic.
 - c. Consistent with contractual obligations, Contractors are responsible to:
 - i. Provide a safe and healthy work environment for all individuals working on the site.
 - ii. Conduct and document at least weekly, a project or task specific audits or inspections to monitor compliance with safety requirements.
 - iii. Conduct daily pre-job safety meetings for individuals working on the site if:
 1. There are 2 or more Contractor or Sub Contractor employees on site at any time
 2. Work impacts operations of Colorado Springs Utilities facilities, operations, systems or people. If so, the pre-job safety meeting shall include the impacted Colorado Springs Utilities personnel.
 - iv. Provide Colorado Springs Utilities with copies of statistical reports, injury/illness logs, and other safety and health documents as requested.
 - v. The safety of a Contractor’s and any associated Sub-Contractor’s employees remains the Contractor’s responsibility. Each Contractor shall:
 1. Designate one employee responsible (Manager, Superintendent, Supervisor, Crew lead, etc) for overall safety and health at each Colorado Springs Utilities project.

2. Any project that is considered high risk by the Utilities Safety & Health Department, the Contractor shall provide a dedicated full-time safety and health representative for the project.
3. This dedicated full-time safety and health representative shall be educated, trained, certified and experienced in the field of safety and health.
4. A resume of the dedicated full-time safety and health representative shall be included in the SSP along with the Competent Person Designation form for the individual.
5. Colorado Springs Utilities reserves the sole right to review and accept or reject the full-time safety and health representative proposed by the Contractor.

3.2 Incident / Event Reporting

- a. Immediately (within 15 minutes of occurrence and/or as soon as the Contractor is able to report due to response and safety of the scene), Contractor shall report any and all safety and health events to the Colorado Springs Utilities Project Manager and the Safety and Health Department which meet any of the following criteria (if a Contractor is working within a Power Plant, they shall follow the Energy Supply Unusual Event Reporting procedure in addition to this requirement):
 - i. Any incident requiring the call and dispatching of emergency services.
 - ii. Death.
 - iii. Hospitalization (Contractor employee, Sub-Contractor, public, etc).
 - iv. Any incident involving an employee and a Confined Space (injury or rescue).
 - v. Damage to any vehicle which renders it inoperable.
 - vi. Amputation of any body part.
 - vii. Electrical Contact or Arc Blast.
 - viii. Injury resulting in an unconscious employee.
 - ix. Safety system failures (slings breaking, support structures collapse, etc).
 - x. Any injury requiring transportation to a medical provider such as a hospital, or urgent care.
 - xi. Any fire requiring the discharge of more than 1 fire extinguisher to extinguish the fire or calling 911 for Fire Department Response.
 - xii. Any incident resulting in property damage to Colorado Springs Utilities equipment.
 - xiii. Any incident resulting in near miss, injury or property damage to any members of the public.
 - xiv. Any near miss which could have resulted in any of the above.
 - xv. Any Notification to Stop Work.
- b. Incident Investigation – Contractors are required to conduct an investigation on all reported incidents and provide a written initial and final report, with findings and corrective measures, to the Colorado Springs Utilities Project Manager.
 - i. Initial reports are due within one business day.
 - ii. Final reports are due within 3 business days.

- iii. Contractor will implement interim controls and any other preventative measures or corrective actions as identified in the incident investigation report to the satisfaction of Springs Utilities.
- iv. Initial and final incident report, the contractor is required to regularly update Springs Utilities on the status of interim and follow-up actions.
- c. If an OSHA inspector appears at a Contractor's job site that is owned by Colorado Springs Utilities, the Contractor is to immediately notify Colorado Springs Utilities by contacting, in the following order (reference the Emergency Contact List Form):
 - i. The Colorado Springs Utilities Project Manager, and
 - ii. The Colorado Springs Utilities assigned Safety and Health Representative, or
 - iii. The Colorado Springs Utilities Safety and Health Engineering SupervisorIf "ii" or "iii" above are not available, contact Colorado Springs Utilities Dispatch for the on-call safety and health representative.
- d. If a job-site is visited by OSHA (or other regulatory agency), the Contractor shall provide documentation to the Colorado Springs Utilities Project Manager and Safety and Health Representative relating to the visit such as:
 - i. Findings, citations, and recommendations from the visit.
 - ii. Contractor's response to correct any items found out of compliance.

3.3 Safety Inspections

- a. Contractor is required to conduct and document weekly site and/or project safety inspections at a minimum.
 - i. Frequency of documented site and/or project safety inspections shall be determined by the overall risk of the project or by risk of each phase of the project.
- b. Site safety inspection findings and corrective actions shall be made available to Colorado Springs Utilities personnel upon request.
- c. Any reports that arise from Contractor's safety and health inspections shall be reviewed with site personnel and Springs Utilities to share the findings and ensure corrective measures are completed in a timely manner.

3.4 Stop Work Authority

- a. Any Colorado Springs Utilities employee has the right to stop any Contractor's work if they feel it is unsafe or if they believe Contractor has failed to comply with this CMSR, the SSP, or Federal, State, and Local safety and health requirements. Springs Utilities is required to immediately notify the contractor's Project Manager of the stop work activity. Contractor may resume work upon approval from either the Colorado Springs Utilities' Project Manager or Safety and Health Department.
 - i. A written report of findings and corrective actions associated with the stop work activity shall be provided to Springs Utilities within 3 business days by the contractor.
 - ii. Contractor will implement interim controls and any other preventative measures or corrective actions as identified in the stop work investigation report to the satisfaction of Springs Utilities.

- iii. In the event a Colorado Springs Utilities employee stops work in accordance with paragraph 3.4.a., above, Colorado Springs Utilities shall have up to four hours to make an initial determination as to whether Contractor's activities are in violation of this CMSR, the SSP, or Federal, State, or Local safety and health requirements. Contractor shall not be entitled to request any additional compensation or time to perform the work associated with this first-four-hour period even if a violation is not found to exist.
- b. Contractor's employees shall have the right to stop an unsafe activity and report unsafe actions. They shall report their intentions and reason to their immediate supervisor. Work will not resume until the situation has been resolved. Retaliation against an employee that stops work for safety concerns shall not be permitted.
 - i. The Contractor is required to notify the Colorado Springs Utilities Project Manager within 1 hour of the stop work activity and provide a written report of findings and corrective actions associated with the stop work activity within 3 business days.
 - ii. Contractor will implement interim controls and any other preventative measures or corrective actions as identified in the stop work investigation report to the satisfaction of Springs Utilities.
- c. Contractor's SSP shall include individual Stop Work Authority and processes.

3.5 Safety Permits and Procedures

- a. All Contractors and their Sub-Contractors shall provide a permit and work procedure (Contractor provided) for review through the Colorado Springs Utilities Safety & Health Department or the Project Manager prior to proceeding with any of the following work:
 - i. Working on fire protection/detection systems
 - ii. Working with asbestos-containing materials
 - iii. Critical lifts
 - iv. Performing blasting operations
 - v. Use of highly hazardous or noxious chemicals
 - vi. Energized Work (Electrical)
 - vii. Hot Work
 - viii. Confined Space

3.6 Safety & Health Responsibilities:

- a. **Contractor's Project Manager**
 - i. Create and maintain the project Emergency Contacts Form (Attachment B). For every project or contract, an Emergency Contacts list shall be generated that includes 24-hour emergency contacts for all Contractor or Sub-Contractor employees on-site.
 - ii. Establish the necessary policies, standards and resources for implementing and enforcing an effective SSP.
 - iii. Provide sufficient resources to adequately implement safety policies, standards and best practices.
 - iv. Communicate safety requirements, standards, and expectations to their team.

- v. Inform individuals on-site of the site's hazards, incidents, and near misses.
 - vi. Participate in site safety audits and inspections
 - vii. Promote open communication, cooperation, and trust between Contractor management and its employees with regards to safety and health issues.
 - viii. Promote and communicate safety performance expectations to their entire on-site team.
 - ix. Facilitate compliance with applicable statutory regulations and SSP requirements.
 - x. Promote, support, and maintain an incident free work environment.
 - xi. Establish clear responsibility and accountability for SSP implementation.
 - xii. Promote housekeeping and environmental stewardship.
- b. Contractor's Superintendent / Supervisors / Crew Forman**
- i. Actively promote and support all safety requirements.
 - ii. Provide and require employees to wear identified PPE.
 - iii. Initiate immediate action to correct reported or observed unacceptable conditions and/or behaviors.
 - iv. Conduct reviews of work activities and take necessary corrective actions to eliminate substandard practices, conditions and/or behaviors.
 - v. Plan and conduct safety meetings.
 - vi. Participate in incident investigations and prepare required reports.
 - vii. Enforce safety related work rules and standards and take action as required to ensure compliance. Participate in pre-job planning and development and communication of Job Safety Analysis (JSA).
 - viii. Conduct drug and alcohol "fit for duty" observations as appropriate.
 - ix. Promote housekeeping and environmental stewardship.
- c. Contractor's Designated Safety Representative**
- i. Develop and monitor safety and health compliance through:
 - 1. Promoting a safe project philosophy.
 - 2. Conducting scheduled safety reviews of Contractor's work area.
 - 3. Conducting employee safety orientations to acquaint employees with site conditions, safe work practices, policies and standards.
 - 4. Monitoring Contractors' compliance with applicable safety requirements.
 - 5. Conducting applicable air monitoring to ensure employees exposure to chemicals does not exceed OSHA's PEL's.
 - 6. Conducting safety training for company employees.
 - 7. Interpreting safety regulations and requirements.
 - 8. Completing and timely filing safety reports, as required.

9. Advising employees of hazardous conditions/concerns or near miss incidents
10. Assisting in the facilitating/conducting of incident investigations.
11. Promoting and ensuring housekeeping and environmental stewardship.

d. Contractor's Craft and Other Employees

- i. All Contractor employees are responsible to:
 1. Accept individual responsibility for their safe behavior and actions.
 2. No employee shall be required or knowingly be permitted to work in an unsafe environment except for the purpose of making safety corrections and then only after all precautions have been taken for their protection.
 3. Maintain a proactive role in implementing safety and health requirements.
 4. Work in a safe manner at all times.
 5. Ensure they use any required PPE, but only after being properly trained in its use.
 6. Learn and comply with safety practices and standards applicable to their work tasks and for reporting substandard practices, conditions or behaviors to their supervisor.
 7. Promptly report incidents, injuries, and near misses to their supervisor.
 8. Comply with safety requirements, standards and work practices.

3.7 Enforcement of CMSR

- a. Compliance with the SSP and applicable regulation standards is mandatory. The SSP is to be used in concert with federal, state, and local regulations to address the tasks needed to implement a solid safety foundation for the work.
- b. The SSP shall include a description of the Contractors Enforcement and Disciplinary Measures for Safety & Health violations.

3.8 Contractor Competent Person

- a. The Contractor's SSP shall include a competent person designation using the form provided (or an equivalent) in Attachment A – Competent Person Designation Form. Proper documentation including training certification and experience (description, resume, etc.) may be requested with each form for each topic they are identified as a Competent Person. The main topics that will be required to have a competent person identified for include the following topics at a minimum:
 - Site Safety Representative
 - Excavation & Trenching
 - Electrical expert
 - Scaffolding erection or inspection
 - Fall Protection
 - Confined Space
 - Cranes and Derricks
 - Rigging, Lifting

- Steel Erection
- Asbestos Abatement
- Industrial Diving Operations
- Blasting and Explosives

Section 4 – Work Planning

This section sets forth the requirements of work planning including hazard assessment, job hazard analysis, communications, and emergency response planning.

4.1 Hazard Assessments

- a. Contractor shall conduct an analysis of the work activities to identify known Personal Protective Equipment which will be required for the job site or task specific applications.
- b. The Contractor shall assess the workplace and work activities to determine if hazards are present or are likely to be present. The Contractor is responsible for creating Job Hazard Analysis (JHA) or similar for each work breakdown structure/definable feature of work to identify known or potential hazards and hazard controls. The Contractor's SSP shall include a description of their process for daily pre-job safety planning, toolbox talks, safety meetings, etc.

4.2 Required Permits / Inspections

The Contractor is required to obtain and maintain all necessary permits and certifications and follow all required procedures for applicable operations as listed below (in addition to any OSHA Requirements):

- a. **Lifting Chains Annual Certification Required.** All chains that are used in a lifting or rigging application are required to be inspected and certified annually in accordance with OSHA Regulations.
- b. **All Other Rigging Equipment** – Shall be in good condition and safe to use for the lift. All Rigging shall be inspected by the Contractor prior to use, in addition to any Contractor specific inspections.
- c. **Powder-Actuated Tool Operator:** Each powder-actuated tool operator shall be certified in accordance with OSHA requirements.
- d. **Excavation Permits:** A daily (at a minimum per OSHA requirements) excavation inspection permit is required to be completed by the onsite competent person on any excavation that an employee can enter.
- e. **Hot Work Permit:** Required on all projects for all burning, welding, cutting, grinding or similar operations capable of producing a flame or spark source that is not performed in a properly designated Hot Work Area.
- f. **Confined Space Entry Permit:** Required prior to entry into a permit required confined space.
- g. **Crane-Suspended Personnel Platform Permit:** Required prior to using a crane for lifting personnel via a suspended platform.
- h. **Critical Lift Permit:** This permit is required for any crane lift that meets the definition of a critical lift under subsection 6.1.l.vii, below.

4.3 Requirements for Job Hazard Analysis (JHA)

Develop a Job Hazard Analysis during the preparation stage for each work breakdown structure/definable feature of work. A JHA is a procedure that integrates accepted health and safety principles and practices into a particular operation. Each basic step of the overall task is examined to identify potential hazards and to determine the safest way to perform the work.

- a. JHA shall be prepared for daily common tasks and non-routine tasks.

- b. JHA shall be reviewed with all personnel impacted by the task. Documentation of review with personnel is required.
- c. Maintain copies of JHA's on job site at all times.

4.4 Working Alone

- a. When employees shall work alone and when the possibility of injury and inability to provide medical treatment could create life-threatening situations, supervisors shall implement protective measures. The JHA process will determine appropriate protective measures and will address the specific situations and hazards.

4.5 Communication

- a. In a safety critical operation, or where verbal and visual communications cannot be maintained, communication resources shall be available for all personnel for either normal or emergency needs.
- b. This communication could include cellular phones, two-way radios, hard line telephones, and check-in and check-out procedures. Selected communications resources shall be tested prior to start of operation to verify that equipment will operate efficiently in the environment.
- c. Contractor shall establish an effective communication plan for workers that are working remotely or alone.

Section 5 – Emergency Planning, Response and Medical Services

This section sets forth the requirements with respect to emergency planning, response and medical services. Additionally, the Contractor is required to identify and provide the information specified below utilizing the Colorado Springs Utilities provided Site Specific Emergency Medical Plan form (Attachment B).

5.1 The Contractor's SSP shall include the following elements:

- a. Emergency Contacts List (Attachment B) is required:
 - i. If Contractor employees will be on site for more than 3 consecutive days, and or;
 - ii. Contractor has hired any Sub-Contractors
- b. The Emergency Medical Preparedness / Response form (Attachment C) is required:
 - i. if Contractor has 5 or more employees on site, and or;
 - ii. Contractor will be on site for more than 3 consecutive business days.

5.2 Alert Systems for Emergency Situations

- a. Contractors shall be familiar with the Colorado Springs Utilities site alert systems and develop any specific alert system to warn of existing or imminent emergency situations if applicable. Alert systems may also be designed to alert and summon emergency response personnel.
- b. Alert systems shall be coordinated with Colorado Springs Utilities Project Manager and site contacts such as Security.

5.3 Requirements for Medical Services

- a. Contractors shall provide for Medical / Emergency Services for the Site-Specific Emergency Medical Plan form including the following:
 - i. Site process for Emergency notification – cell phone, radio, etc.
 - ii. Emergency Equipment Supplies & Location
 - 1. First Aid Kits – size, type and location
 - 2. Blood Borne Pathogens Clean Up Kit

Section 6 – Specific Safety & Health Requirements

Colorado Springs Utilities Specific Safety & Health Requirements

The following requirements are Safety and Health requirements that are specific to Colorado Springs Utilities and are typically considered as more stringent than OSHA requirements or are a clarification of existing OSHA requirements. Contractors are required to comply with these requirements.

6.1 Use of Colorado Springs Utilities Equipment and Safety Supplies

- a. Contractors shall not use any Colorado Springs Utilities-owned equipment (tools, vehicles, equipment, etc.) or safety supplies (harnesses, air monitors, respirators, etc), unless authorized to do so by Colorado Springs Utilities as provided in a signed contract, subject to review and acceptance by Colorado Springs Utilities Safety and Health Department, Procurement and Contract Services Department, and project management.

6.2 Personal Protective Equipment (PPE)

- a. Each Contractor shall identify the PPE requirements for each task.
 - i. When performing work in a field environment or providing construction oversight duties, the minimum safety PPE shall consist of safety glasses, a hardhat, long pants, sturdy footwear or safety toed boots, and a 4” short sleeve shirt
- b. PPE shall be in full functional condition and not in a deteriorated state.
- c. Hard hat usage shall comply with OSHA and manufacturer requirements:
 - i. Shall not be worn backwards unless designed and approved by the manufacturer
 - ii. Garments not specifically designed for use with hard hats shall not be worn, this includes items such as baseball caps or similar
 - iii. Items such as winter liners are allowed if designed for the purpose of being worn under a hard hat.
- d. PPE requirements can be identified and documented in a Job Hazard Analysis if appropriate.
- e. The following are Colorado Springs Utilities specific PPE requirements which shall always be followed:
 - i. Powered hand and pedestal grinders – Eye protection (ANSI rated safety glasses or goggles) and Face Shield shall be worn during the operation of a powered hand and pedestal grinder (either as a cutting tool, grinding tool or wire wheel operation). Hand/pedestal grinders shall have guards installed per the manufacturer’s and OSHA requirements.
 - ii. Roadway Safety – All personnel working in or within 20 feet of a city, county, state, or federal roadway shall wear a high-viz ANSI Class 2 or 3 garment in addition to the minimum PPE required in subsection 6.2.a.i., above.
 - iii. Construction Site (Not within a Roadway) - In addition to the minimum PPE required in subsection 6.2.a.i., above, a high-viz safety vest (Class 1, 2, or 3, or a Non-ANSI rated high-viz color shirt (orange or yellow) are acceptable on a construction site where there is only construction equipment (excavators, trucks, cranes, etc.) and they are not on or within 20 feet of a public roadway and there is no public traffic present.

- iv. Hand Protection – Personnel shall identify hand hazards before the start of the operation and protect their hands appropriately using the proper glove (such as chemical resistant, cut, or abrasion resistant, etc.).

6.3 Control of Hazardous Energy (Lock Out/Tag Out - LOTO)

- a. LOTO activities performed by a Contractor on a Colorado Springs Utilities owned and operated system, process, and equipment, or similar, shall be coordinated with the Colorado Springs Utilities Project Manager or their designee.

6.4 Fall Prevention and Protection

- a. Fall protection is required as identified in the OSHA (Revised Walking and Working Surfaces Program).
- b. Additional or clarification points to fall protection requirements include:
 - i. Walking / Working Surfaces
 - ii. Where an employee is walking or working on a surface that exposes them to a fall of greater than 6 feet to the surface or object below, or when an employee is working directly above a hazardous condition (rotating shafts, chemical vats), regardless of working height, the employee shall be protected by implementation of applicable fall protection systems.
 - iii. Fall Protection on Roofs – Contractor shall always comply with OSHA Walking Working Surfaces requirements .
 - iv. Use of Shock Absorbing Lanyard (SAL) or Self Retracting Lifelines (SRL) on low sloped roofs (\leq 4:12 pitch) shall comply with the following:
 - v. SAL's shall be rated for an anchor point at the employee's feet, greater than a 6-foot free fall.
 - vi. Use of an SRL designed for leading edge work shall be used, or
 - vii. Any SRL (other than a designed leading edge SRL) with a specifically identified (by the manufacturer) separate in-line energy absorber can be installed between the end of the lifeline and the harness to reduce the arrest forces resulting from falling over an edge.
 - viii. Steep Roof Operations (>4:12 pitch). Each employee walking or working on a steep roof with unprotected sides greater than 4 feet in general industry applications or 6 feet in construction industry related applications above lower levels shall be protected by a personal fall arrest system at all times. These systems can include the following:
 - 1. Self-Retracting Lifelines (as designed and approved by the manufacturer for this application).
 - 2. Shock Absorbing Lanyard with a Rope Grab System.
 - 3. Lifeline / Rope Grab System
 - ix. The use of Rope Grabs on a flat or sloped roof is acceptable as a means of fall protection under most conditions. The following guidelines should be observed, and the special conditions noted
 - x. The rope grabs shall be used on a properly identified lifeline

- xi. The anchor point shall be capable of supporting 5,000 pounds for fall arrest or 3,000 pounds for restraint applications.
- xii. The rope grab shall be connected directly to the body harness with a short lanyard (not to exceed three feet in length).
- xiii. Provisions shall be implemented to prevent swing falls from otherwise unprotected roof edges or corners.
- xiv. The lifeline shall be protected from contact with sharp or abrasive edges and surfaces.
- xv. The rope grab locking operation shall not be hindered by interference with the roof or objects on the roof surface.
- xvi. The rope grab and the lifeline system shall be positioned to minimize any free fall.
- xvii. Training shall be conducted on the correct care and use, operating characteristics, application limits and consequences of improper use of the rope grab system.
- xviii. Work out of a Bucket Truck, JLG man lift, etc. - When an employee is working out of a bucket truck, JLG, Boom Lift or other similar equipment, the following requirements shall be followed:
 - 1. Employees are prohibited from standing on or climbing over the railings or sides of the aerial lift bucket or cage. Employee is always to stand firmly on the floor of the lift.
 - 2. The employee shall use either a restraint system to prevent the employee from falling out of the device (i.e, a 3-foot lanyard tied off to the inside of the bucket or floor, that will not allow the employee to fall out), or an approved SAL or SRL that is designed and rated for bucket truck tie off. The SAL or SRL must be rated for tie off anchor below the users back D-Ring (Greater than 6 feet free fall).

6.5 Fire Prevention and Protection

- a. Contractors shall include in their SSP a fire prevention plan for each facility or job site if applicable. The plan shall include a list of the following elements at a minimum:
 - i. Major fire hazards;
 - ii. Potential ignition sources;
 - iii. Type of fire suppression equipment on site;
 - iv. Housekeeping procedures, including the removal of waste materials.

6.6 Hazard Communication / New Chemical Review Procedure

- a. The Colorado Springs Utilities Safety and Health Department has a Chemical Review Procedure for evaluating new chemicals for potential safety, health, environmental, and warehouse or storage issues. Colorado Springs Utilities uses an online Safety Data Sheet (SDS) management system (the "IHS Dolphin System") to maintain lists of chemicals used or stored at Colorado Springs Utilities locations. A chemical is considered new if the SDS is not listed in the IHS Dolphin System for the location where the chemical will be used or stored.
- b. Contractors and the Colorado Springs Utilities Project Managers or designee, need to evaluate the chemicals being used for a project and identify if they meet any of the following criteria:
 - i. Chemicals that will be received by or stored in Colorado Springs Utilities warehouses
 - ii. Protective coating chemicals applied to Colorado Springs Utilities structures

- iii. Chemicals that will be stored on a Colorado Springs Utilities site during the contract period
 - iv. Chemicals that will remain on-site for future use after the job is complete (for repairs, touch-up, etc.)
 - v. Chemicals used on the roof of a Colorado Springs Utilities facility or in the vicinity of the facility air handling units or air intakes
 - vi. Chemicals that will be used in confined spaces
 - vii. Chemicals used in work areas shared with Colorado Springs Utilities employees
 - viii. Chemicals that, when used, will create a waste
- c. Contractors will need to supply SDSs to the Colorado Springs Utilities Project Manager for chemicals that meet the above criteria. The Project Manager will check the IHS Dolphin System to see if the chemicals are listed at the project location. Chemicals that are not listed are considered new and the Project Manager will need to submit them for review. It is important for the Contractor to collaborate with the Project Manager well in advance of the Contractor's need to bring the chemical onto the site to ensure that work is not unduly delayed due to the review process. Submitted forms are reviewed by approvers from Colorado Springs Utilities' Safety and Health Department, Environmental Services Division, and Warehouse. The approvers review the SDS, document findings and approve or not approve the chemical for use. The Project Manager will receive an email with a link to the completed request. The Project Manager needs to share the approvers' recommendations and requirements with the Contractor. The Safety and Health Department will update the IHS Dolphin System with the SDSs if needed.
- d. Contractors shall have copies of SDSs for the chemicals being used on the Colorado Springs Utilities project easily accessible, including SDSs for those chemicals not requiring review but being used for a project. Binders or files of SDSs are only to include the chemicals that are being used on the Colorado Springs Utilities project and not chemicals that the Contractor has used or uses on other jobs.
- e. Contractors need to make sure all chemical containers (original and secondary) are labeled, tagged, or marked with the following information:
- i. Identity of the hazardous chemical
 - ii. Appropriate hazard warnings
 - iii. Name and address of the chemical manufacturer, importer, or other responsible party
- f. Contractors need to ensure their employees are adequately trained on hazardous chemicals according to OSHA 29CFR 1910.1200 Hazard Communication Standard.

6.7 Respiratory Protection

- a. Colorado Springs Utilities requires respiratory protective equipment when chemical, dust, fume or other respiratory exposures cannot be controlled below PEL or other appropriate limits through engineering or administrative controls. Colorado Springs Utilities requires a written respiratory protection program at a minimum meeting OSHA Respiratory Protection Standard 29 CFR 1910.134 when respirator use is required.
- b. Worksites shall be evaluated for respiratory hazards prior to and during work. Common respiratory hazards include dust, silica, chemical vapor, and welding fumes. If hazards are identified, proper engineering, administrative, and/or PPE controls shall be chosen. In addition, exposure levels shall be documented to show that limits are not exceeded. When exposure levels are unknown or not documented they are assumed to be over applicable limits and

appropriate respiratory protection shall be used. Documentation of exposure can be in the following forms:

- i. Direct reading instrument appropriately calibrated and used according to manufacturer instructions.
 - ii. Industrial hygiene sampling done in accordance with National Institute of Occupational Safety and Health (NIOSH) or OSHA Analytical Methods.
 - iii. Historical data from previous jobs performed in the same way with the same materials.
- c. A Job Hazard Analysis is required for every operation during which a respirator of any type is used (other than a dust mask that is requested, not required).
 - d. Entry into immediately dangerous to life or health (IDLH) atmospheres will not be allowed. Worksites that have the potential for or develop IDLH atmospheres require a job specific safety plan that is reviewed by the Colorado Springs Utilities Safety Department.

6.8 Confined Space

- a. Colorado Springs Utilities requires continuous air monitoring of the confined space using a properly calibrated 4 gas air monitor at all times while an employee is in the confined space (regardless of whether it is a permit required space or not).
- b. Contractors shall provide all their own equipment (including confined space permit) and personnel for proper entry and non-entry rescue.
- c. Where it is agreed upon by all parties involved, a Contractor may enter a Permit Required Confined Space under a Colorado Springs Utilities Permit as well as a Colorado Springs Utilities employee may enter a Permit Required Confined Space under a Contractors Permit.

6.9 Barricade Tape Procedure

- a. The barricade procedure is applicable to barricading potentially hazardous areas, operations, or pieces of equipment such as:
 - i. Working overhead or handling materials overhead which creates a hazard to passersby's due to the possibility of falling materials or tools.
 - ii. Hazardous areas or equipment such as chemical cleanings, chemical leaks, chemical transfer, new / temporary equipment.
 - iii. Hazardous conditions such as, sewers and sewer pits, excavations, and equipment with guards removed, exposed electrical systems, open excavations, hazardous walking surfaces, respiratory hazards and exposure, suspected high concentrations of hazardous air contaminants, etc. (If barricading is not provided with appropriate PPE use in these areas, then sampling shall be conducted to prove that the contaminants do not exceed the allowable exposure limits).
- b. Caution (Yellow) Tape Barricade: Barricading an area where specific potential hazards exist using standard Yellow Tape with the word "CAUTION" in black letters and the CAUTION barricade sign. Employees may enter this area when they have been made aware of the specific hazard(s), have taken the necessary precautions to avoid the hazard, and are required to enter the barricade in order to perform work. Persons entering this area shall remain in the area no longer than is necessary. The caution barricade shall be removed when the hazardous situation has been eliminated.
- c. Caution Area Signage: In all areas impacted by Yellow Caution Tape, an awareness sign shall be

attached to all sides / areas that personnel can reasonable approach from to inform them of the following:

- i. Responsible Party / Point of Contact
 - ii. POC Phone Number
 - iii. Nature of Hazard(s) along with required PPE, tools, equipment, procedures, etc. needed to enter the area if applicable
 - iv. Date barricade tape set up
 - v. Estimated date of removal (not to exceed 15 days)
- d. **Danger (Red) Tape Barricade:** Barricading an area using the standard Red Danger Tape with the word "DANGER" in black letters and the DANGER barricade sign. This is used to notify all individuals in the area of imminent danger and that special precautions are required prior to entering the area. The red tape with the word "DANGER" in black letters shall be used for hazards which are immediately dangerous to life and health. No one shall enter these areas, unless authorized by the Point of Contact (the person responsible for the work activities and area), to enter or work within the Danger hazard area. The danger barricade shall be removed as soon as the imminent danger has been abated.
- e. **Danger Area Signage:** In all areas impacted by Red Danger Tape, an awareness sign shall be attached to all sides / areas that personnel can reasonable approach from to inform them of the following:
- i. Responsible Party / Point of Contact
 - ii. POC Phone Number
 - iii. Nature of Hazard(s) along with required PPE, tools, equipment, procedures, etc. needed to enter the area if applicable
 - iv. Date barricade tape set up
 - v. Estimated date of removal (not to exceed 15 days)
- f. **Watchman/Flagman:** If applicable in a Caution or Danger Barricaded area may be assigned whose sole responsibility is to monitor the hazard area in lieu of or in addition to a barricade tape barrier to eliminate or minimize exposure of others to the hazard. Due to the potential transient nature of work activity, instructions from a watchman/flagman supersede that of posted barricade tape/signs.
- g. **Responsibilities**
- i. Individuals erecting barricade tape, or their assigned designee, shall perform the following:
 1. Inform operations and maintenance personnel of the need to erect a barricade if pedestrian or vehicular routes are affected, or if operator access to production equipment is restricted.
 2. Erect barricade tape around all entrances to the area with conspicuous posting of barricade signs.
 3. Minimize the area barricaded to encompass only that required to prevent personnel exposure to the hazard.

4. Always Maintain the integrity of the barricade.
 5. Ensure the barricade is promptly removed once the hazard(s) have been abated.
- ii. Watchman/Flagman: An employee whose sole responsibility is to monitor the hazard area in lieu of or in addition to a barricade tape barrier to eliminate or minimize exposure of others to the hazard. Due to the potential transient nature of work activity, instructions from a watchman/flagman supersede that of posted barricade tape/signs.
- h. General work procedures involving barricade tape.
- i. Barricading areas where a hazard exists which could threaten the safety and health of employees entering an area shall be accomplished as follows:
 - ii. Contractors shall supply the required barricade tape for their jobs.
 - iii. Barricade signs shall include information on when the barricade is in effect, the employee responsible for barricading the area, the employee's supervisor (or Contractor's project manager), the employee's department (or Contractor's company) and phone number, the reason for barricading the area, and special comments or precautions. Required personal protective equipment should be identified in the comments section of the barricade sign.
 - iv. Post enough barricade signs with the completed information on all sides of the roped off area. There shall be 360-degree coverage with the barricade tape, and barricade signs shall be posted on all sides and at all normal entrances to the area. The barricade tape and signs shall also cover entrances to the barricaded area by stairs or ladders from above or below.
 - v. Barricade only the minimum area necessary to protect safety and health. When the barricade will interfere with a regular pedestrian or vehicular thoroughfare, or access to equipment, coordinate the barricading with the operating area supervisor to preserve the thoroughfare or identify an alternate thoroughfare, or means of access.
 - vi. As soon as the hazard no longer exists, all barricade tape and signs shall be removed.
 - vii. The condition for which the barricade tape was installed shall be corrected as soon as possible. Barricade tape shall not be left to mark hazardous conditions/areas for more than 15 days. After this duration, the responsible first line supervisor shall review the hazard and barricaded area for either a more permanent long-term barrier or continuation of the barricade tape procedure. If the barricade tape is determined to continue past the 15 days, the first line supervisor will inform the Superintendent and Plant Manager of the status.
- i. Work Practices Inside a Barricade
- i. Employees shall evaluate all potential hazards when working inside a barricade. They shall take the necessary precautions to protect themselves from the hazards or eliminate the hazards.
 - ii. Precautions need to be taken to assure employee protection as identified and appropriate for the specific hazards inside the barricaded area.
- j. Exceptions
- i. Very short durations of potential exposure to a hazard or a change in the hazards within

a barricaded area may require posting a watchman/flagman to warn passersby and other personnel working in the area. An adequate number of watchman/flagman shall be posted to stop pedestrian and vehicular traffic in all access routes to the potentially hazardous area.

- ii. While barricading according to this procedure may be used to temporarily identify operating equipment with guards removed, structural, rigid barriers shall be installed as soon as possible.
- iii. For repetitive postings, operating departments may elect to install and utilize more durable barricade components such as chain and fiberglass signs in lieu of the standard barricade tape and paper sign. However, the markings of these alternative barricade components shall be consistent with the requirements of this procedure (e.g., yellow chain with a caution sign or red chain with a danger sign).

ATTACHMENT A - COMPETENT PERSON DESIGNATION FORM

Contractor:	Project:
Competent Person:	Contact #:
Authorizing Employee:	Contact #
<p>29 CFR 1926.32(f) <u>Competent Person</u> means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, <u>and</u> who has the authorization to take prompt corrective measures to eliminate them</p>	
Instructions	
<ul style="list-style-type: none"> • Each Contractor shall appoint, as a minimum, one competent person (C/P) for key activities, as applicable to their respective scope(s) of work. • A separate form shall be completed for each competent person • Affected work shall be completed under the supervision of the competent person(s). • Provide documentation of training, and/or experience that qualifies the individual as a competent person for each activity 	

The above named individual is designated as a <i>COMPETENT PERSON (C/P)</i> for the following activities (Check either C/P or N/A).		
DISCIPLINE	C/P	N/A
Site Safety Representative		
Excavation & Trenching		
Electrical		
Scaffolds		
Fall Protection		
Cranes and Derricks		
Rigging, Lifting		
Lift Slab Operations		
Steel Erection		
Asbestos Abatement		
Industrial Diving Operations		
Blasting and Explosives		
Confine Space:		
Other:		
Other:		
Other:		

Designee Signature	Competent Person Signature	Date

ATTACHMENT B - PROJECT INFORMATION & EMERGENCY CONTACT LIST

Name of Project: _____

Address / Location of Project: _____

Contractor Information		
Prime Contractor:	_____	
Street Address:	_____	
Main Office Phone #:	_____	
Emergency Office Phone #:	_____	
Project Manager:	_____	Cell Phone #: _____
PM Email:	_____	
Project Superintendent:	_____	Cell Phone #: _____
Superintendent Email:	_____	
Alternate Emergency Contact 1:	_____	Cell Phone #: _____
Alternate Emergency Contact 2:	_____	Cell Phone #: _____

Colorado Springs Utilities Information			
Project Manager:	_____	Cell Phone #:	_____
PM Email:	_____	Office #:	_____
Alternate Project Manager:	_____	Cell Phone #:	_____
Alternate PM Email:	_____	Office #:	_____
Project Manager Supervisor	_____	Cell Phone #:	_____
Site / Facility Main Contact:	_____	Office #:	_____
Procurement Specialist:	_____	Office #:	_____
Procurement Specialist Email:	_____		
Primary Safety Representative:	_____	Cell Phone #:	_____
Safety Representative Email:	_____		
Safety Engineering Supervisor:	_____	Cell Phone #:	_____
S&H on Call (24/7 Coverage):	CSU Dispatch 719-448-4800 Option 1 request On Call S&H Support		
Environmental Representative:	_____	Cell Phone #:	_____
Env. Representative Email:	_____		
Security Control:	719-668-7867 (STOP) for Roving Security Guard or Response and Support		
Site / Facility Security Desk:	_____	Phone #:	_____
Electric / Water / Gas Control:	<i>Identify the applicable one</i>	Phone #:	668-XXXX

Sub-Contractor Information		
Sub-Contractor:	_____	
Street Address:	_____	
Main Office Phone #:	_____	
Emergency Office Phone #:	_____	
Contact Name:	_____	Cell Phone #: _____
Contact Email:	_____	
Alternate Emergency Contact 1:	_____	Cell Phone #: _____
Alternate Emergency Contact 2:	_____	Cell Phone #: _____

- Type of Work:
- | | | | | |
|--|--|--|--|---|
| <input type="checkbox"/> Brick / Masonry | <input type="checkbox"/> Carpentry | <input type="checkbox"/> Concrete | <input type="checkbox"/> Drywall / Plaster | <input type="checkbox"/> Electrical – Low Voltage |
| <input type="checkbox"/> Electrical – High Voltage | <input type="checkbox"/> Excavation | <input type="checkbox"/> Fire Protection | <input type="checkbox"/> Flooring | <input type="checkbox"/> Heavy Civil Construction |
| <input type="checkbox"/> HVAC | <input type="checkbox"/> Landscaping | <input type="checkbox"/> Painting | <input type="checkbox"/> Plumbing | <input type="checkbox"/> Paving |
| <input type="checkbox"/> Sheet Metal | <input type="checkbox"/> Steel / Metal | <input type="checkbox"/> Window | <input type="checkbox"/> Wrecking / Demolition | <input type="checkbox"/> Material Supply |
| <input type="checkbox"/> Other (List): _____ | | <input type="checkbox"/> Other | | |

ATTACHMENT B - PROJECT INFORMATION & EMERGENCY CONTACT LIST

Name of Project: _____
 Address / Location of Project: _____

Sub-Contractor Information																													
Sub-Contractor:	_____																												
Street Address:	_____																												
Main Office Phone #:	_____																												
Emergency Office Phone #:	_____																												
Contact Name:	_____	Cell Phone #:	_____	_____																									
Contact Email:	_____																												
Alternate Emergency Contact 1:	_____	Cell Phone #:	_____	_____																									
Alternate Emergency Contact 2:	_____	Cell Phone #:	_____	_____																									
Type of Work:	<table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> Brick / Masonry</td> <td><input type="checkbox"/> Carpentry</td> <td><input type="checkbox"/> Concrete</td> <td><input type="checkbox"/> Drywall / Plaster</td> <td><input type="checkbox"/> Electrical – Low Voltage</td> </tr> <tr> <td><input type="checkbox"/> Electrical – High Voltage</td> <td><input type="checkbox"/> Excavation</td> <td><input type="checkbox"/> Fire Protection</td> <td><input type="checkbox"/> Flooring</td> <td><input type="checkbox"/> Heavy Civil Construction</td> </tr> <tr> <td><input type="checkbox"/> HVAC</td> <td><input type="checkbox"/> Landscaping</td> <td><input type="checkbox"/> Painting</td> <td><input type="checkbox"/> Plumbing</td> <td><input type="checkbox"/> Paving</td> </tr> <tr> <td><input type="checkbox"/> Sheet Metal</td> <td><input type="checkbox"/> Steel / Metal</td> <td><input type="checkbox"/> Window</td> <td><input type="checkbox"/> Wrecking / Demolition</td> <td><input type="checkbox"/> Material Supply</td> </tr> <tr> <td><input type="checkbox"/> Other (list):</td> <td></td> <td><input type="checkbox"/> Other</td> <td></td> <td></td> </tr> </table>				<input type="checkbox"/> Brick / Masonry	<input type="checkbox"/> Carpentry	<input type="checkbox"/> Concrete	<input type="checkbox"/> Drywall / Plaster	<input type="checkbox"/> Electrical – Low Voltage	<input type="checkbox"/> Electrical – High Voltage	<input type="checkbox"/> Excavation	<input type="checkbox"/> Fire Protection	<input type="checkbox"/> Flooring	<input type="checkbox"/> Heavy Civil Construction	<input type="checkbox"/> HVAC	<input type="checkbox"/> Landscaping	<input type="checkbox"/> Painting	<input type="checkbox"/> Plumbing	<input type="checkbox"/> Paving	<input type="checkbox"/> Sheet Metal	<input type="checkbox"/> Steel / Metal	<input type="checkbox"/> Window	<input type="checkbox"/> Wrecking / Demolition	<input type="checkbox"/> Material Supply	<input type="checkbox"/> Other (list):		<input type="checkbox"/> Other		
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<input type="checkbox"/> Other (list):		<input type="checkbox"/> Other																											

Sub-Contractor Information																													
Sub-Contractor:	_____																												
Street Address:	_____																												
Main Office Phone #:	_____																												
Emergency Office Phone #:	_____																												
Contact Name:	_____	Cell Phone #:	_____	_____																									
Contact Email:	_____																												
Alternate Emergency Contact 1:	_____	Cell Phone #:	_____	_____																									
Alternate Emergency Contact 2:	_____	Cell Phone #:	_____	_____																									
Type of Work:	<table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> Brick / Masonry</td> <td><input type="checkbox"/> Carpentry</td> <td><input type="checkbox"/> Concrete</td> <td><input type="checkbox"/> Drywall / Plaster</td> <td><input type="checkbox"/> Electrical – Low Voltage</td> </tr> <tr> <td><input type="checkbox"/> Electrical – High Voltage</td> <td><input type="checkbox"/> Excavation</td> <td><input type="checkbox"/> Fire Protection</td> <td><input type="checkbox"/> Flooring</td> <td><input type="checkbox"/> Heavy Civil Construction</td> </tr> <tr> <td><input type="checkbox"/> HVAC</td> <td><input type="checkbox"/> Landscaping</td> <td><input type="checkbox"/> Painting</td> <td><input type="checkbox"/> Plumbing</td> <td><input type="checkbox"/> Paving</td> </tr> <tr> <td><input type="checkbox"/> Sheet Metal</td> <td><input type="checkbox"/> Steel / Metal</td> <td><input type="checkbox"/> Window</td> <td><input type="checkbox"/> Wrecking / Demolition</td> <td><input type="checkbox"/> Material Supply</td> </tr> <tr> <td><input type="checkbox"/> Other (List):</td> <td></td> <td><input type="checkbox"/> Other</td> <td></td> <td></td> </tr> </table>				<input type="checkbox"/> Brick / Masonry	<input type="checkbox"/> Carpentry	<input type="checkbox"/> Concrete	<input type="checkbox"/> Drywall / Plaster	<input type="checkbox"/> Electrical – Low Voltage	<input type="checkbox"/> Electrical – High Voltage	<input type="checkbox"/> Excavation	<input type="checkbox"/> Fire Protection	<input type="checkbox"/> Flooring	<input type="checkbox"/> Heavy Civil Construction	<input type="checkbox"/> HVAC	<input type="checkbox"/> Landscaping	<input type="checkbox"/> Painting	<input type="checkbox"/> Plumbing	<input type="checkbox"/> Paving	<input type="checkbox"/> Sheet Metal	<input type="checkbox"/> Steel / Metal	<input type="checkbox"/> Window	<input type="checkbox"/> Wrecking / Demolition	<input type="checkbox"/> Material Supply	<input type="checkbox"/> Other (List):		<input type="checkbox"/> Other		
<input type="checkbox"/> Brick / Masonry	<input type="checkbox"/> Carpentry	<input type="checkbox"/> Concrete	<input type="checkbox"/> Drywall / Plaster	<input type="checkbox"/> Electrical – Low Voltage																									
<input type="checkbox"/> Electrical – High Voltage	<input type="checkbox"/> Excavation	<input type="checkbox"/> Fire Protection	<input type="checkbox"/> Flooring	<input type="checkbox"/> Heavy Civil Construction																									
<input type="checkbox"/> HVAC	<input type="checkbox"/> Landscaping	<input type="checkbox"/> Painting	<input type="checkbox"/> Plumbing	<input type="checkbox"/> Paving																									
<input type="checkbox"/> Sheet Metal	<input type="checkbox"/> Steel / Metal	<input type="checkbox"/> Window	<input type="checkbox"/> Wrecking / Demolition	<input type="checkbox"/> Material Supply																									
<input type="checkbox"/> Other (List):		<input type="checkbox"/> Other																											

Sub-Contractor Information																													
Sub-Contractor:	_____																												
Street Address:	_____																												
Main Office Phone #:	_____																												
Emergency Office Phone #:	_____																												
Contact Name:	_____	Cell Phone #:	_____	_____																									
Contact Email:	_____																												
Alternate Emergency Contact 1:	_____	Cell Phone #:	_____	_____																									
Alternate Emergency Contact 2:	_____	Cell Phone #:	_____	_____																									
Type of Work:	<table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> Brick / Masonry</td> <td><input type="checkbox"/> Carpentry</td> <td><input type="checkbox"/> Concrete</td> <td><input type="checkbox"/> Drywall / Plaster</td> <td><input type="checkbox"/> Electrical – Low Voltage</td> </tr> <tr> <td><input type="checkbox"/> Electrical – High Voltage</td> <td><input type="checkbox"/> Excavation</td> <td><input type="checkbox"/> Fire Protection</td> <td><input type="checkbox"/> Flooring</td> <td><input type="checkbox"/> Heavy Civil Construction</td> </tr> <tr> <td><input type="checkbox"/> HVAC</td> <td><input type="checkbox"/> Landscaping</td> <td><input type="checkbox"/> Painting</td> <td><input type="checkbox"/> Plumbing</td> <td><input type="checkbox"/> Paving</td> </tr> <tr> <td><input type="checkbox"/> Sheet Metal</td> <td><input type="checkbox"/> Steel / Metal</td> <td><input type="checkbox"/> Window</td> <td><input type="checkbox"/> Wrecking / Demolition</td> <td><input type="checkbox"/> Material Supply</td> </tr> <tr> <td><input type="checkbox"/> Other (List):</td> <td></td> <td><input type="checkbox"/> Other</td> <td></td> <td></td> </tr> </table>				<input type="checkbox"/> Brick / Masonry	<input type="checkbox"/> Carpentry	<input type="checkbox"/> Concrete	<input type="checkbox"/> Drywall / Plaster	<input type="checkbox"/> Electrical – Low Voltage	<input type="checkbox"/> Electrical – High Voltage	<input type="checkbox"/> Excavation	<input type="checkbox"/> Fire Protection	<input type="checkbox"/> Flooring	<input type="checkbox"/> Heavy Civil Construction	<input type="checkbox"/> HVAC	<input type="checkbox"/> Landscaping	<input type="checkbox"/> Painting	<input type="checkbox"/> Plumbing	<input type="checkbox"/> Paving	<input type="checkbox"/> Sheet Metal	<input type="checkbox"/> Steel / Metal	<input type="checkbox"/> Window	<input type="checkbox"/> Wrecking / Demolition	<input type="checkbox"/> Material Supply	<input type="checkbox"/> Other (List):		<input type="checkbox"/> Other		
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<input type="checkbox"/> Electrical – High Voltage	<input type="checkbox"/> Excavation	<input type="checkbox"/> Fire Protection	<input type="checkbox"/> Flooring	<input type="checkbox"/> Heavy Civil Construction																									
<input type="checkbox"/> HVAC	<input type="checkbox"/> Landscaping	<input type="checkbox"/> Painting	<input type="checkbox"/> Plumbing	<input type="checkbox"/> Paving																									
<input type="checkbox"/> Sheet Metal	<input type="checkbox"/> Steel / Metal	<input type="checkbox"/> Window	<input type="checkbox"/> Wrecking / Demolition	<input type="checkbox"/> Material Supply																									
<input type="checkbox"/> Other (List):		<input type="checkbox"/> Other																											

ATTACHMENT C - Emergency / Medical Preparations and Response

JOB LOCATION / ADDRESS:			
LATITUDE:		LONGITUDE:	
CREW LEAD:		CREW LEAD PHONE #:	

Does the crew have a first aid kit? Yes No (If yes, where is it located?) _____

Does the crew have eye wash bottles? Yes No

Is there a need to have an EMT on site due to recognized hazards or remote location? Yes No

(If yes, this employee shall have their EMT / Medical bag. Plan as far in advance as possible to ensure EMT is available)

NEAREST LOCAL RESPONDING FIRE / EMS			
NAME OF FIRE / EMS	LOCATION / ADDRESS OF NEAREST STATION	PHONE NUMBER	RESPONSE TIME

MEDICAL AID STATIONS, CLINICS, TRAUMA CENTERS OR HOSPITALS – PROVIDE MAPS AND DIRECTIONS TO EACH IDENTIFIED					
NAME OF MEDICAL CARE FACILITY	PHYSICAL ADDRESS	TRAVEL TIME (MINUTES) AIR / GND.	PHONE NUMBER	MEDICAL TRAUMA LEVEL / SPECIALTY	HELIPAD (Check Y or N)
1					
<i>Directions:</i>					
2					
<i>Directions:</i>					
3					
<i>Directions:</i>					

Description of job / Project:	
--------------------------------------	--

Objective of job:	
--------------------------	--

REQUIRED NOTIFICATIONS: (Only have appropriate notifications based on the location or project)

<i>Agency</i>	<i>Phone</i>	<i>Notified Y / N</i>	<i>Date / Time Notified</i>
Colorado Springs Utilities PM / S&H	719-		
City of Colorado Springs Fire Department Dispatch	719-444-7623		
City of Colorado Springs Police Department	719-444-7000		
El Paso County Sheriff's Office	719-390-5555		
American Medical Response (AMR) Ambulance	719-597-1277		
Fountain Fire Department	719-382-8555		
Security Fire Department	719-390-5555		
Colorado State Patrol	719-544-2424		
Ft. Carson Fire Department	719-526-0651		
Teller County Sheriff	719-687-9652		
Woodland Park Fire Department	719-687-1866		
Pueblo County Sheriff	719-583-6125		
Pueblo Police	719-553-2538		
Pueblo Fire	719-553-2830		

Attachment D - Contractor Safety Qualification Form (CSQF)

SECTION 1 - GENERAL INFORMATION			
Company Name:			
Address:	City/State:	Zip:	
Telephone #:	Fax #:		
How many employees do you employ (approximately): Full Time Part Time: Seasonal:			
Describe the nature of business your organization typically (or will) perform for Colorado Springs Utilities:			
Check the appropriate box or boxes for the areas your organization typically works with or on:			
<input type="checkbox"/> Power Plant Operations & Maintenance	<input type="checkbox"/> Substations Operations & Maintenance	<input type="checkbox"/> Electric T&D Operations & Maintenance	
<input type="checkbox"/> Electrical Operations (low voltage)	<input type="checkbox"/> Water/Waste Water Treatment Plants	<input type="checkbox"/> Water/Waste Water Construction	
<input type="checkbox"/> Facility Maintenance / General	<input type="checkbox"/> Facility / Building Construction	<input type="checkbox"/> Gas Operations & Maintenance	
<input type="checkbox"/> Other (list):			
Are you a division of a corporation? <input type="checkbox"/> Yes <input type="checkbox"/> No			
If Yes, provide name and address of parent corporation:			
Are you self-insured for Worker's Compensation Insurance? <input type="checkbox"/> Yes <input type="checkbox"/> No			
If no, who is your third-party insurance organization:			
Is your company OSHA VPP Certified: <input type="checkbox"/> Yes <input type="checkbox"/> No Date of Certification:			
Form completed by: (Name)			Date:
Title:	Ph:	Email:	Fax:
SECTION 2 – SAFETY & HEALTH INFORMATION			
Do you have a dedicated fulltime safety & health professional within your company? <input type="checkbox"/> Yes <input type="checkbox"/> No			
<u>Name / Title:</u>	<u>Telephone Number:</u>	<u>Location:</u>	
If you do not have a dedicated safety & health professional, who is responsible for safety & health within your organization?			
<u>Name / Title:</u>	<u>Telephone Number:</u>	<u>Location:</u>	
SECTION 3 - SAFETY & HEALTH PROGRAMS AND PROCEDURES			
Does your company have a written comprehensive S&H program? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Does your written S&H program cover all types of work activities which you will perform while on a Springs Utilities Project? <i>(Full list of topics on following page)</i> <input type="checkbox"/> Yes <input type="checkbox"/> No			
Does your S&H program address the following elements:			
• Management commitment and expectations?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
• Accountabilities and responsibilities for managers, supervisors, and employees?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
• Hazard recognition and control?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
• Workplace analysis?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
• S&H training for employees?	<input type="checkbox"/> Yes <input type="checkbox"/> No		

SECTION 3 - SAFETY & HEALTH PROGRAMS AND PROCEDURES - Continued

Under Column "A", answer "Yes" or "No" if your work for CSU will fall under each topic. In addition, identify if your company has a written program (Column "B") and any OSHA Citations in the last 5 years (Column "C") for each Column "A" "Yes" topic

S&H TOPIC	"A" - Does your work fall under this topic?	"B" - If "A" is Yes, Do you have a Written Program	"C" - OSHA Citations in last 5 years	S&H TOPIC	"A" - Does your work fall under this topic?	"B" - If "A" is Yes, Do you have a Written Program	"C" - OSHA Citations in last 5 years
Atmospheric Hazards (Gases, Mist, Dust, Vapors, Silica)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Heat and Cold Stress	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Compressed Air	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Hot Work / Welding Operations	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Compressed Gas Safety (Handling and Storage)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Incident Reporting & Investigation	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Concrete / Cement / Masonry Safety	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Material Handling (Manual)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Confined Space Entry	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Motor Vehicle Safety / Operations	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Control of Hazardous Energy (LOTO)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Personal Protective Equipment	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Cranes and Derricks	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Power, Transmission & Distribution	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Electrical Safety (low or High Voltage)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Powered Industrial Equipment	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Emergency Action Plans & Response	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Respiratory Protection	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Excavation & Trenching Safety	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Rigging / Lifting	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Fall Protection	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Scaffolding	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Fire Prevention / Protection	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Stairs / Ladders (fixed - Portable)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Flammable and Combustible Liquids	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Storage and Handling of LPG	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Hand and Powered Tools	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Traffic Control and Barricading	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Hazard Communication	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Ventilation	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Hearing Conservation / Noise Exposure	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	Walking / Working Surfaces	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

If your company has received any OSHA citations in the last 5 years, please provide the citation and your response to correct the hazard

SECTION 3 - SAFETY & HEALTH PROGRAMS AND PROCEDURES - Continued

Do you have employees trained in First Aid / AED / CPR?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Do you have a substance abuse program (random drug and alcohol testing)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Do you employ persons with a Commercial Driver's License (CDL)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Do you hold site safety meetings? (If yes, what is the frequency)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Do you conduct safety and health inspections / audits?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Do you have a disciplinary action process for addressing employee S&H performance and deficiencies?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Do you use any subcontractors for work?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Do you use S&H Performance criteria in the selection of subcontractors?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
SECTION 4 – TRAINING			
Do you perform New Employee S&H Orientation Training?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Do you provide the necessary and OSHA required S&H training for your employees?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Are employees tested for their comprehension of the training materials?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Is your S&H Training documented (sign in sheets, formally scheduled, etc)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Are employees properly trained / certified / qualified to operate all machinery and industrial equipment they are asked or required to operate?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
SECTION 5 - JOB SAFETY ANALYSIS			
Are job observations, such as a job safety analysis (JSA) conducted and reviewed with employees?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Do your employees conduct pre-job safety briefings?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Do you have and require (as applicable) the following permits / checklist:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Confined Space Permit	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Daily Excavation Inspection Checklist	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Hot Work Permit	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Critical Lifts	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
Others:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA		
SECTION 6 – SAFETY & HEALTH PERFORMANCE			
List your company's Worker's Compensation Experience Modification Rate (EMR) for the three (3) most recent years:			
20	EMR		
Provide letter from Insurance Carrier or Broker validating the EMR			
20	EMR		
20	EMR		
Use your OSHA 300 log (or equivalent) to record the below data for the three (3) most recent years.			
Provide a copy of OSHA's 300A Form, Summary of Work-Related Injuries and Illnesses for the three (3) most recent years.			
Employers with 10 or fewer employees throughout the previous 3 calendar years do not need to submit copies of OSHA's 300A Form.			
Last 3 Years	20	20	20
Fatalities (Provide details if any)			
Number of OSHA Recordable Cases			
Number of OSHA Restricted Only Cases			
Number of OSHA Lost Time Cases			
OSHA Recordable Incident Rate			
OSHA Restricted Only Incident Rate			
OSHA Lost Time Incident Rate			
Number of Labor Hours Worked			
Use the following formulas for calculating the "OSHA Incident Rates"			
$\frac{\text{Number of Recordable Cases} \times 200,000}{\text{Number of Hours Worked}}$	$\frac{\text{Number of Restricted Only Cases} \times 200,000}{\text{Number of Hours Worked}}$	$\frac{\text{Number of Lost Time Cases} \times 200,000}{\text{Number of Hours Worked}}$	
I certify and warrant that I am authorized to represent my company and provide the information above and that the information provided is complete and accurate.			
Signature:	Title:	Phone #:	

**Attachment E - Contractor Site Safety Plan (SSP)
Template and Checklist of Inclusion**

- 1) Contract Scope of Work Narrative
 - a) List of self-performed activities
 - b) List of Sub-Contracted activities
 - c) List of Sub-Contractors performing each activity
- 2) General Requirements
 - a) List of General Rules of S&H Conduct by Contractor and Sub-Contractor employees
 - b) Describe procedures for Public safety and protection of property if applicable by Contractors operations.
 - c) Procedures for Utility Damage Prevention
 - i) Underground and Overhead
 - d) Training - Describe S&H Training for site personnel
 - i) Site orientation / SSP review
 - ii) Ongoing S&H Training (Frequency and topics)
- 3) Contractor Responsibilities
 - a) Incident Reporting and Investigation requirements and procedure
 - b) Safety Inspections process
 - c) Stop Work Authority
 - d) Required Safety Permits and Procedure
 - e) Contactor Safety and Health Roles and Responsibilities
 - i) Project Manager
 - ii) Superintendent / Supervisor / Crew Forman
 - iii) Safety Representative
 - iv) employees
 - f) Enforcement of the SSP
 - g) Competent Persons process and forms - Attachment A
 - h) Project Information and Emergency Contact List - Attachment B
- 4) Work Planning
 - a) Hazard Assessments Process and requirements
 - b) Applicable Permits and Required Inspections
 - c) Job Hazard Analysis Program Requirements
 - d) Working alone Protocol
 - e) Site Communications
- 5) Emergency Planning, Response and Medical Services
 - a) Project Emergency Plan
 - i) Emergency Alert System
 - ii) Emergency Communications
 - iii) Site Specific Emergency / Medical Preparations and Response Plan Form – Attachment C
 - b) Response to hazardous Materials release
 - c) Site First Aid Kits
 - d) Emergency Medical Services (onsite and offsite)
- 6) Site Safety Specifics (Colorado Springs Utilities Requirements)
 - a) Statement on the prohibited use of Colorado Springs Utilities equipment, tools, etc.
 - b) PPE – list project minimum and task specific PPE

- c) Control of Hazardous Energy Coordination requirements
- d) Fall Protection - Describe how fall protection of employees shall be managed for each specific exposure
- e) Fire Prevention and Protection Measures
- f) New Chemical Reviews
 - i) Describe the process to request CSU approval of chemicals to be used on CSU Property (per the CSR)
 - ii) List all known chemicals that will need approval
 - iii) List of known chemicals and their Safety Data Sheets to be used on the project
- g) Respiratory Protection - Identify any task or specific hazards requiring respiratory protection and the type to be used.
- h) Confined Space - Describe confined space entry, management and rescue plans
- i) Welding in a Confined Space – if applicable, describe the process and development of a JHA
- j) Vertical Confined Space Entry – Provide a narrative or JHA for manhole entry
- k) Pipelines - Provide a narrative or JHA for Pipeline entry
- l) Critical Lifts
 - i) Identify project Critical Lifts
 - ii) Process for Critical Lifts
- m) Mechanized Equipment – Policy and Procedure for operation of mechanized equipment
- n) Barricade Tape Procedure



Exhibit G

CONTRACTOR ACCESS SECURITY POLICY

For

Contract 202119286

2022 Pikes Peak Geospatial Alliance Orthoimagery Project

EXHIBIT G CONTRACTOR ACCESS SECURITY POLICY

1. General Information

The day to day security management of the Contractor Access Security Policy is the Security Operations Supervisor and the Security Operations Specialist (SOS). This policy does not pertain to vendors, delivery personnel or consultants. Any security issue shall be reported immediately to Utilities' Security Operations Center (SOC) at 668-STOP (7867).

Project Contractors and their designated subcontractors are external personnel who work on behalf of Colorado Springs Utilities hereinafter referred to Project Contractors. The management of project contractor's employees and their subcontractors is the responsibility of Colorado Springs Utilities Project Managers hereinafter referred to as CSU PM.

CSU PMs are required to meet and coordinate with SSOS and SOS before any project work is started to ensure all security requirements are addressed.

Most Project Contractors will have physical access only, to specific work site(s). Project Contractors who require physical and cyber access will have to complete a background investigation before access is granted to their work site(s).

Project Contractors who will require physical access only and will be working on any Utilities' site for 9 days and less will be treated as a visitor and be escorted at all times in performance or their work.

Project Contractors who require physical access only and will be working on any Utilities' site for 10 days or more will be required to obtain a CSU Contractor ID badge (ID Badge) with limited access to specific work site(s).

Only Project Contractors in a supervisory role within their company may have the ability to escort other project contractor personnel. Those designated as escorts, will receive an (E) on their ID badge and are allowed to escort up to 10 project contractor employees and their designated subcontractor personnel at their designated work site Those contractor visitors will be seen as visitor and will have to be sign into (VMS) Visitor Management System and be escorted by designee. See NERC Restricted areas for escort requirements into those designated areas.

All Project Contractors shall read and sign a Security Awareness Form prior to receiving an ID badge.

All Project Contractors shall comply with all Utilities' security measures and requirements for personnel and access to Utilities' sites. Security measures vary by site and include the following provisions.

Repercussions of violating Utilities' Security policies could result in denied access.

- Utilities reserves the right to request additional security measures (e.g. background investigations for access to designated critical infrastructure assets) or to further control access to the site as conditions dictate.
- Utilities reserves the right to implement new technology improvements in the management of Project Contractors (e.g. Visitor Management System or enhanced government ID requirements including secure storage of PII information).
- Utilities may refuse access to any Project Contractor for misconduct or illegal activity. Notifications of any changes or any other nature will be made to the CSU PM who will contact their Project Contractor Manager.

2. Military Installation Access

Colorado Springs Utilities will follow all military installation access procedures and will comply with all government regulations when operating on the local military installations. All local military installations require 72 hours (3 business days) processing time of their required forms before a contractor(s) are granted access, to their installation.

- CSU PM shall contact the SSOS for all questions and the required forms needed related to local military installation access. If unavailable, secondary contact is SOS.

3. Sharing ID Badges

Sharing an ID Badge with anyone else for any reason (i.e. to gain access to a Utilities' site or facility) is strictly prohibited. Any project contractor(s) who commits this act is subject to the disciplinary actions:

- Project Contractors shall wear their issued Utilities' Contractor ID badges on an external garment, above the waist while on Utilities' property. The only exception to this policy is if wearing the ID badge creates a safety concern. If wearing the ID badge creates a safety concern the badge may not be worn but must be kept on the person while on site and, if asked, must be shown.

4. Piggybacking

Piggybacking is defined as following a person through an entry gate or door without coordinating entry with the onsite Security Officer or following another person through an entry gate or door without using an individual's access card. Piggybacking into any Utilities' site or facility is strictly prohibited. Any Project Contractor(s) who commits this act is subject to the following disciplinary actions: First Offense, a written warning and discussion with CSU PM; Second Offense, is access denial and removal from contract. Any damage done to Utilities' site/facility/property due to piggybacking shall be the sole responsibility of the Project Contractor(s).

5. Reporting Criminal Activity

If, at any time while on Utilities' property, a criminal act of any type is suspected, Project Contractor(s) shall immediately report the incident to the onsite Security Officer or call the Utilities' Security Control Center (SOC) at 668-STOP (7867). If the observed incident is life threatening, Project Contractor(s) shall immediately call 911 and then notify Utilities' Security Operations Center.

6. Reporting Suspicious Activity

If, while working on any Utilities' site or facility, Project Contractor(s) observes someone performing an act of Sabotage (Known or Suspected), Project Contractor(s) shall immediately report the observation to Utilities' Security Operations Center (SOC) at 668-STOP (7867). Utilities defines Sabotage as:

Known Acts of Sabotage

- There are known or confirmed sabotage events where there is no question that a deliberate act has been committed to disrupt operations or damage facilities or equipment. Some of the obvious acts may include:
- Tampering with transmission towers, poles, facilities, equipment, vehicles or other Utilities' facilities
- Disrupting operations by false or real threats (bomb, fire, etc.)
- Causing intentional failure of critical systems or machinery
- Deliberate damage to, and/or, interference with communications sources (including, but not limited to, Energy Management System (EMS), Supervisor Control and Data Acquisition (SCADA), Remote Terminal Units (RTUs), essential communications, and/or other IT Security Devices, networking infrastructures, and servers
- Multiple and coordinated attempted physical intrusions to a Restricted, No Trespassing, and/or "Authorized Individuals Only" identified area

Suspected Acts of Sabotage

- Suspected sabotage events can look like every day abnormal operations, such as:
- Loss of a line or major piece of equipment
- Trip of a major unit
- Relay miss-operation
- Significant interruption or impairment of a function of an energy facility
- Loss of RTU communications circuitry and/or infrastructure services
- Large number of unauthorized cyber or physical attempts to access critical facilities or systems
- Intelligence gathering - unauthorized people requesting information about operations, software, telecommunications, etc.
- Unauthorized physical and/or cyber surveillance activities
- Verbal or written threats to security, operations or facilities by employees or persons not directly associated with the company
- Acts of vandalism on substations or transmission and distribution lines that support critical government agencies or power system operation facilities
- A series of acts of vandalism at numerous substations (within Utilities' service area, or reported across interconnections) within a short period of time that demonstrate a possible plan to disrupt the bulk electric system
- Social engineering- the art of manipulating people into performing actions or divulging confidential information such as: spear-phishing and impersonation of another person on the phone
- Damage to facilities, equipment or vehicles at various facilities effecting operations

7. Securing Utilities' Buildings and Vehicles

If working at a Utilities' Building, Project Contractor(s) shall always ensure the building doors are secure upon entering or exiting the building. If operating any Utilities' vehicle on or off Utilities' sites, Project Contractor(s) shall always secure the vehicle anytime it is left unattended.

8. Site Access Processes

Utilities has two ways for Project Contractor personnel to gain access to its sites; utilizing the CSU Contractor ID Badge process or being escorted as a visitor by a designated escort (E) of the Contractor.

- Those project contractor(s) that will be working on any Utilities sites for 9 days or less will be signed in as visitors daily and be escorted at all times.
- Those project contractor(s) that will be working on any Utilities' site for 10 days or more will require a CSU Contractor ID badge with limited access for specific work site. Only Project Contractor(s) in a supervisory role within their company may have the ability to escort other Project Contractor personnel. Those designated as escorts, will receive an (E) on their badge and are allowed to escort up to 10 project contractor employees and their designated subcontractor personnel at their designated work site.
- Project Contractor Manager/Supervisor will use the Security Operations Specialists (SOS) Project Management Spreadsheet to identify their personnel by filling in all of the required information. This form will be sent to the CSU PM. The CSU PM will send the form to the Project Contractor Manager/Supervisor who will identify all project contractors' employees who will work on the identified project (whether it is for one day or to the end of the contract). The Project Contractor Manager/Supervisor will send the spreadsheet to the CSU PM for review and validation. CSU PM will then send the SOS Project Management Spreadsheet via email attention FSS at: cal@csu.org or fss@csu.org. The spreadsheet should not contain any personal information.
- CSU PM's is/are responsible for maintaining their project contractor's access to the work site. This responsibility includes reviewing the Contractor spreadsheet.

If any of the Project Contractor's employees or subcontractor personnel terminate employment for any reason, the Project Contractor Manager or Supervisor, shall immediately call to notify the CSU PM and then call the Utilities Security Operations Center at 668-7867 to have the terminated employee(s) CSU ID badge deactivated. Project Contractor Manager/Supervisor shall immediately take possession of the CSU Contractor ID Badge and return it in person to onsite Security or the CSU PM if present during the termination. All CSU Contractor ID Badges are returned to the Security Operations Staff by the onsite Security Officer or direct to Security Operations Staff. Within 2 hours of termination, the Project Contractor Manager will follow up with an email to the CSU PM and FSS@csu.org with the persons full name and date and time of termination.

9. Weapons Policy

With the exception of Armed Security Officers or Law Enforcement Officers, open or concealed carrying of a firearm on Utilities' property is not permitted. Project contractor employees or subcontractor personnel may not have firearms on their person or in a vehicle while on Utilities' property.

10. Drug & Alcohol Usage and Drug Possession

Utilities conforms with Federal Law as it pertains to drugs, alcohol usage, drug usage and possession. Illegal drugs (to include marijuana) will not be brought onto or consumed on Utilities' property. Project contractor employees or subcontractor personnel that are under the influence of drugs or alcohol will be escorted off of Utilities' properties.

11. Site Operating Hours

Utilities normal business hours are Monday – Friday from 8 AM to 5 PM. If a project will require site access outside of these hours the CSU PM must specify each site requested by the hours that the Project Contractor employees or subcontractor personnel are authorized to be onsite. The CSU PM will provide the information in an email to FSS@csu.org with site location, contract number, after hours required at this site, and duration. CSU PM may contact for any questions.

12. Video/Photography on Utilities' Sites

If Project Contractor Manager requires any video or photography on a Utilities' site this must be coordinated with the CSU PM and Utilities' Corporate Communications Department. The CSU PM or a designated CSU sponsor must be present while any videos, drone activity and/or photographs are taken. Any drone operations must be coordinated with the Security Operations Supervisor. At this time, there is no drone activity on CSU sites and property. Has to be pre-approve by Security Operations for any activity on CSU sites and property.

13. Contractor Termination/Separation

When the Project Contractor's work agreement is complete or terminated, Project Contractor Manager shall collect and return all ID badge/access control cards, to include those used for military installations, to the CSU PM. These badges will be returned to the Security Operations Staff in person by the receiving CSU PM. A penalty of \$100.00 will be charged for each Utilities' badge not returned upon contract completion, termination or cancellation or for any lost badge. This penalty may be recovered from any remaining payment Utilities owes Contractor at the completion, termination or cancellation of the contract.

14. Right to Search

Utilities reserves the right to search all vehicles entering and exiting Utilities' sites. All personal containers, lunch boxes, brief cases, etc. are subject to search at Utilities' security entry points. Failure to submit to these searches will be grounds for Utilities to refuse access to the site or facility.

15. Theft/Stealing

Any Project contractor employee(s) caught in the act of stealing Utilities' property, or in possession of Utilities' property without prior approval, will be removed from said property and subject to legal recourse. In addition, the individual(s) will be banned from Utilities' property and Project Contractor's business relationship with Utilities could be jeopardized, including, but not limited to, termination of existing contracts, suspension and debarment.

16. Verbal/Physical Altercations

Project contractors involved in verbal or physical altercations with Utilities' employees or another contractor will be subject to removal from Utilities' property, losing contractual associations with Utilities, and possible criminal charges, depending on the severity of the altercation.

17. Other Security Requirements

Depending on the project other security requirements than those outlined in this document may be required when performing work on Utilities' sites/facilities. If required these additional security requirements will be stipulated in the project contract.

- Contractors who require access to Colorado Springs Utilities critical infrastructure will be required to meet the criminal background investigation requirements as provided on award of contract. Contractors requiring only perimeter access may not be subjected to conduct criminal background investigations on award of contract.
- NERC Restricted Areas: CSU has implemented a Visitor Control Program for NERC Restricted Areas Physical Security Perimeters (PSP's). Visitors (vendors, contractors and/or those CSU employees that have not been granted unescorted access to the specific PSP) may only enter a PSP with an authorized CSU PSP escort (someone with authorized unescorted access granted to PSP (NERC Restricted areas). CSU PSP Escorts may only escort up to six visitors at one time and escort must maintain visual contact with all visitor(s) at all times. Please contact the Physical Security Compliance Coordinator for further information in regard to NERC PSP Visitor Access processes and procedures.
- Damaged or defective Utilities' ID badges shall require a new ID badge be issued. The CSU PM will contact Security Operations Staff to schedule a time for a badging appointment. Lost or stolen Utilities' ID badges present a security risk to the organization and it is imperative that all Project Contractor employees and subcontractor personnel take all precautions to ensure Utilities' ID badges are secured. Notification must be made immediately to Utilities Security Operations Center at 668-STOP (7867) and to the CSU PM and the Project Contractor Manager or Supervisor when a Utilities' ID badge has been lost or stolen. A \$100 replacement fee will be imposed to any Project contractor employee or subcontractor personnel that is required to replace its badge if lost or stolen.

18. Prohibited Articles

Any person who possesses, transports, or uses prohibited articles on any Utilities' site is subject to immediate site removal. Prohibited articles include but are not limited to:

- Dangerous weapons
- Explosives, ammunition, and incendiary devices
- Controlled substances and drug paraphernalia (e.g., illegal drugs and associated paraphernalia, but not prescription medication)
- Alcoholic beverages (includes "near" and "non-alcoholic" beer and wine)

Exhibit I
Minimum Insurance Requirements

1. Minimum Insurance Requirements - Nothing in this Contract shall limit Utilities' access to the minimum required types and limits of Insurance in this Section.

1.1 Contractor shall maintain insurance coverage for financial protection from and against claims arising out of Contractor's activities and the performance of this Contract. Such insurance will be through policies placed with commercial insurance companies approved or authorized to conduct insurance business in the state of Colorado and having a minimum A.M. Best rating of "A- / VII" or equivalent from alternate rating agencies which may be acceptable to Utilities' Risk Management Department.

1.2 Insurance shall be of the required types and minimum limits as follows:

<p>Workers' Compensation Workers' Compensation coverage shall include a waiver of subrogation in favor of Utilities, endorsement required.</p>	<p>Statutory limits for where work is performed and/or where benefits can be claimed.</p>
<p>Employers Liability Bodily Injury by Accident – Each Accident Bodily Injury by Disease – Each Employee Bodily Injury by Disease – Policy Limit</p>	<p style="text-align: right;">\$1,000,000 \$1,000,000 \$1,000,000</p>
<p>Commercial General Liability Each Occurrence Policy Aggregate Including but not limited to coverage for: i. Products and Completed Operations ii. Contractual Liability iii. Independent Contractors iv. CCC exclusion removed</p>	<p style="text-align: right;">\$1,000,000 Per Occurrence \$2,000,000 Aggregate</p>
<p>Aircraft Liability Insurance – Unmanned Aircraft</p>	<p style="text-align: right;">\$5,000,000 Combined Single Limit for Bodily Injury and Property Damage</p>
<p>Automobile Liability All owned, hired and non-owned vehicles</p>	<p style="text-align: right;">\$1,000,000 Combined Single Limit</p>
<p>Umbrella/Excess Liability Excess Liability coverage above the Following Policies: i. Commercial General Liability</p>	<p style="text-align: right;">\$1,000,000 Per Occurrence</p>

Exhibit I
Minimum Insurance Requirements

<ul style="list-style-type: none"> ii. Automobile Liability iii. Employers Liability 	
<p>Pollution Liability Including but not limited to coverage for:</p> <ul style="list-style-type: none"> i. Coverage for bodily injury, property damage (including natural resource damage) and cleanup costs ii. New on-site and off-site releases iii. Transportation of hazardous substances 	<p>Not Applicable</p>
<p>Professional Errors and Omissions Liability Including but not limited to coverage for:</p> <ul style="list-style-type: none"> i. Economic damages arising out of negligent acts, errors or omissions in professional services rendered ii. No exclusion for punitive damages (Where allowed by law) 	<p>\$1,000,000 Each Claim</p>

1.3 [Reserved for Cyber Liability if required in Section 1.2]

1.4 Except for Contractor policies of Workers’ Compensation, Employers Liability and Professional or Cyber Liability (if required), Utilities, the City of Colorado Springs, their officers, and including its directors, City Council, Utilities Board, employees, successors and assigns, shall be included as Additional Insureds on all other policies required herein by specific policy endorsements. Commercial General Liability policies and Umbrella / Excess Liability policies as applicable, shall specifically include Utilities as an Additional Insured for products and completed operations liability coverages, which coverages and Additional Insured status shall be continued for a period not less than two (2) years after final completion.

1.5 In any policy where Utilities is an Additional Insured, Contractor policies of insurance required herein shall state that such policies are specifically primary and shall not require contribution from any other insurance maintained by Utilities. Any insurance maintained by Utilities shall apply excess of any Contractor insurance required herein and shall be for the sole protection of Utilities only.

1.6 All Contractor policies of insurance required herein shall waive rights of subrogation against Utilities, including its directors, officers, employees, successors and assigns.

Exhibit I
Minimum Insurance Requirements

1.7 Liability insurance policies providing coverage as required in this Section shall be written on an “occurrence form” basis. For policies traditionally written on a “claims-made form” which may be required in this Section, Contractor shall provide an extended reporting or “tail” provision for each policy, allowing potential claims to be discovered and reported for a period of not less than two (2) years after final completion of this Contract.

1.8 Prior to the commencement of the Work and before Contractor or its subcontractors shall enter Utilities’ property, and at all times during the course of the Work and any activities of Contractor related to Utilities business, Contractor shall provide Utilities with current Certificate(s) of Insurance evidencing continuous compliance with all insurance policy terms and limits as required in Sections above, and confirming that such coverages will not be cancelled except after 30 days written notice to Utilities. Replacement certificates shall be provided to Utilities at least 14 days prior to renewal of any insurance policies evidenced thereon. If requested by Utilities, specific endorsements confirming compliance with specifically required terms shall be included with the Certificate(s) of Insurance. In the event of any claim or potential claim against Utilities whereby Utilities may potentially be protected as an Additional Insured under any of the insurance policies required herein, Contractor agrees to provide a full and complete copy of any such policy if so requested by Utilities.

1.9 Contractor shall require each of its subcontractors to furnish evidence that the subcontractor has General Liability Insurance, Workers’ Compensation, Employer’s Liability, and Automobile Liability Insurance with the limits of liability appropriate to the risk of its scope of work, including appropriate endorsements, and in no event less than \$1,000,000 per occurrence.

1.10 Insurance requirements herein are only the minimum types and amounts required for compliance with this Contract, and shall not be construed as the full amount and types of insurance which may be necessary to adequately protect the Contractor for its full and complete obligations to Utilities and others as provided for in this Contract, or otherwise to any other party. Contractor shall be solely responsible for any deficiencies thereof. It is Contractor’s sole obligation to determine and implement any other types or amounts of insurance necessary and sufficient to protect Contractor’s obligations and interests. The types and amounts of insurance required herein shall not serve to in any way limit the liability of the Contractor, including under any warranty or indemnity provision of this Contract, or any other obligation whatsoever Contractor may have to Utilities or others.

Scope of Services

for

**2022 Pikes Peak Geospatial Alliance
Orthoimagery Project**

December 20, 2021

Revision History

Revision	Date	Description
1.0	07/01/2021	<i>Previous RFP scopes, managed by CSU, were revised to account for changing specifications and new requirements.</i>

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1.0 Introduction

The goal of the 2022 PPGA project is for the Pikes Peak Geospatial Alliance (PPGA), through Colorado Springs Utilities (UTILITIES), to receive high quality digital orthoimagery in a timely fashion for both El Paso and Teller counties. The CONTRACTOR shall take a conservative approach to the project to ensure that the accuracy and aesthetics of the final product are free from defects and meet or exceed PPGA expectations.

Because the desired product is to be created under “leaf-off” conditions, aerial flights are anticipated during typical summer months of June to August. Proper CONTRACTOR preparation and resource and asset management can result in acquiring and producing the product without major issues. CONTRACTOR shall approach this project in such a way as to be in the position to meet final delivery specifications without undue delays.

2.0 Background

The Orthoimagery Project 2022 addresses on-going needs for current digital aerial imagery by multiple governmental agencies in a two-county area of the Pikes Peak region. The following subsections describe the area of interest of each of the participants and the resulting project sub-areas. Four Band, Color/Infra-Red, digital orthorectified aerial imagery must be delivered for the entire project area. All four sub-areas may require some level of Digital Elevation Model (DEM) updating or development. As detailed in Section 3, it may also be necessary to establish additional survey control points in the sub-areas. Map accuracy requirements shall be specified in terms of standards set by the American Society of Photogrammetry and Remote Sensing (ASPRS).

UTILITIES is administering this project on behalf of the PPGA. The PPGA, for this project is comprised of the following participants:

- El Paso County
- Teller County
- El Paso - Teller E-911 (E911)
- Colorado Springs Utilities (UTILITIES)
- City of Colorado Springs
- The City of Fountain, Colorado

3.0 Scope of Services

3.1. Purpose

UTILITIES shall oversee this project and will designate an individual to act as the official Project Manager. The Project Manager shall, with the consent of the participating members of the PPGA Steering Committee, perform the following duties and functions relative to this project:

1. Interpret and define project specifications regarding the Contractor’s work activities
2. Direct and coordinate the (PPGA) responsibilities
3. Review Respondent’s performance
4. Manage deliverables from Respondent(s) to other PPGA participants
5. Approve payments to Respondent(s) in accordance with defined payment and deliverable acceptance terms
6. Perform such other activities as may from time to time be necessary in the performance of the terms of the contract

7. Issue final acceptance of all deliverable products and services
8. Issue any change orders or modifications to the scope of the contract.

3.2. CONTRACTOR Responsibilities:

1. At the time of contract Amendment execution and subject to UTILITIES approval, CONTRACTOR shall assign a Project Manager with at least *five years* of project management experience to the project. CONTRACTOR shall obtain written approval from the PPGA prior to any change to the assigned project manager.
2. Develop a complete and concise project schedule
3. CONTRACTOR Project Manager shall strictly adhere to developed project plans, schedules and communication agreements.
4. At the time of fully executed Amendment and subject to UTILITIES approval, CONTRACTOR shall retain all required subcontractors needed to complete the project as per the project schedule.
5. Develop and document procedures to meet specifications as contracted;
6. Produce required new digital orthophotography in accordance with specifications;
7. Implement stringent QA/QC procedures and maintain specified quality standards;
8. Deliver all deliverable products as per the detailed schedule;
9. Provide project management and support services, such as required reporting, demonstrations, data handling, progress reports, and others as required.

3.3. Contract Administration

CONTRACTOR shall be responsible for the professional quality, technical accuracy, timely completion, and the coordination of all digital files, specifications, reports, and other products and services required to be furnished by it under this Agreement. PPGA shall have full and complete authority to reject any work deemed unacceptable pursuant to this Agreement. CONTRACTOR shall, without additional compensation, correct or revise any errors or deficiencies in such products and services if products do not conform to the specifications. In cases of rejection of CONTRACTOR's work, UTILITIES may suspend further deliveries and payments until the work tasks (products and services hereafter defined) in question are redelivered and reclassified as accepted.

4.0 Tasks and Deliverables

4.1 Project Area and Sub-Areas

Historically, the total project has been divided geographically into four (4) sub-areas, each reflecting a change in the delivery date. The map in Appendix B-1 illustrates these boundaries as well as a tiling scheme in which the tiles are dimensioned at 4,000' x 4,000'.

Note that all areas are represented in terms of tiles. Tiles within each of the four sub-areas are further grouped into project deliverable areas. The project deliverable areas equate to the desired delivery sequence. Deliverables for the OP 2022 project shall therefore include fifteen (15) area deliverables (refer to Appendix B-2).

Digital data representing the area and sub-area boundaries, tile layout, and deliverable areas shall be made available to CONTRACTOR. **The total project area is approximately 2787 square miles.**

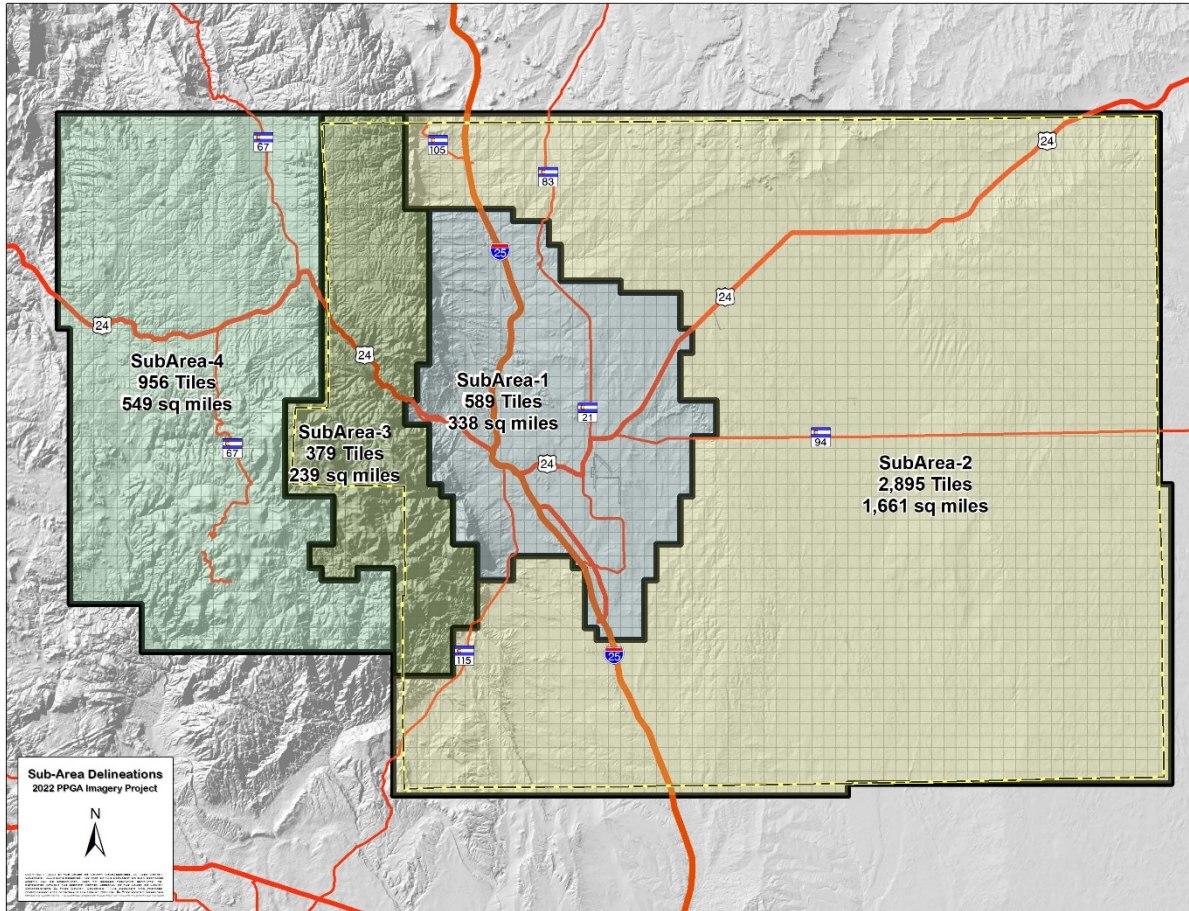


Figure 1 – 2022 Sub Areas

4.1.1 Sub-Area 1

Sub-Area 1 consists mostly of the Colorado Springs metropolitan area, including the US Air Force Academy and the City of Fountain (refer to Appendix B-1). The City of Colorado Springs, Colorado Springs Utilities and the City of Fountain have a primary interest in this sub-area with overlapping interests by E911 and El Paso County.

Sub-Area 1 must be flown in the spring of 2022 during leaf-off conditions. Depending on conditions, Sub-Area 1 flights must be conducted starting on or around March 15, 2022 and concluding on or around April 30, 2022. **Sub-area 1 is 338 square miles, comprised of 589 tiles.**

4.1.2 Sub-Area 2

Sub-Area 2 shall encompass Ft Carson and the majority of El Paso County east of the mountains; less Sub-Area 1 (refer to Appendix B-1). El Paso County and E911 have the primary interest in Sub-Area 2 with the City of Colorado Springs and Colorado Springs Utilities having an interest in portions of the area as well.

Sub-Area 2 must be flown during the spring of 2022. Depending on conditions, Sub-Area 2 flights must be conducted starting on or around April 15, 2022 and concluding on or around May 31, 2022. **Sub-area 2 is 1,661 square miles, comprised of 2,895 tiles.**

4.1.3 Sub-Area 3 & 4

Sub-Area 3 and 4 are comprised of the mountainous areas of the western portion of El Paso County and all of Teller County. E911, El Paso County, Colorado Springs Utilities, and El Paso County all have predominant interest in the sub-area. **Due to snow considerations, Sub-Area 3 and 4 must be flown during the summer of 2022. Depending on conditions, Sub-Area 3 and 4 flights must be conducted starting on or around June 1, 2022 and concluding no later than July 31, 2022. Sub-area 3 is 239 square miles and comprised of 416 tiles while Sub Area 4 is 549 square miles and comprised of 956 tiles.**

4.2 Sub-Area Specifications

Project Specification Overview				
Sub Area	SA-1	SA-2	SA-3	SA-4
Total Area / Tiles	338 sq mi / 589 tiles	1661 sq mi / 2895 tiles	239 sq mi / 416 tiles	548 sq mi / 956 tiles
Ground Sampling Distance	0.5'	1.0'	1.0'	1.0'
Ortho Resolution	Six Inch (6")	One Foot (1')	One Foot (1')	One Foot (1')
Orthoimagery Accuracy	ASPRS Class 1 for 1:1200 Map Scale (One Foot RMSE)	ASPRS Class 1 for 1:2400 Map Scale (Two Foot RMSE)	ASPRS Class 1 for 1:2400 Map Scale (Two Foot RMSE)	ASPRS Class 2 for 1:2400 Map Scale (Four Foot RMSE)
DEM Source	2018 LiDAR Data – Updated as needed to meet accuracy	2018 LiDAR Data – Updated as needed to meet accuracy	2018 LiDAR Data – Updated as needed to meet accuracy	Latest Available USGS NED data of 1/3 arc seconds (10 meters)
Coordinate System / Datum / Units	Colorado State Plane Central Zone, NAD 83 (HARN)	Colorado State Plane Central Zone, NAD 83 (HARN)	Colorado State Plane Central Zone, NAD 83 (HARN)	Colorado State Plane Central Zone, NAD 83 (HARN)
Control Source	CSU FIMS NAVD88 (DEM Update)	NGS, Colorado State Plane Central Zone, NAD 83 (HARN) NAVD 88 (DEM UPDATE)	NGS, Colorado State Plane Central Zone, NAD 83 (HARN) NAVD 88 (DEM Update)	NGS, Colorado State Plane Central Zone, NAD 83 (HARN) NAVD 88 (DEM Update)
Tiled Delivery Format	TIFF/TFW	TIFF/TFW	TIFF/TFW	TIFF/TFW
Mosaic Delivery Format	JP2	JP2	JP2	JP2
Imagery Type	RGBNIR	RGBNIR	RGBNIR	RGBNIR
Tile Scheme	PPGA 4000 x 4000	PPGA 4000 x 4000	PPGA 4000 x 4000	PPGA 4000 x 4000
Target Flight Window	Mar 15 – Apr 30	Apr 15 – May 31	Jun 1 – Jul 31	Jun 1 – Jul 31

4.3 Sub-Areas 1

4.3.1 Image Resolution

Image pixel resolution for Sub-Area 1 shall be six (6) inch.

4.3.2 Ground Sampling Distance

CONTRACTOR is not to exceed flying heights for the 6" pixel acquisition. CONTRACTOR shall not deviate from these requirements unless prior approval is obtained by the PPGA. Statistical sampling (RMSE) must show that these GSD values are achieved. **Offsets from the required ground sampling distances should not exceed ten percent (10%).**

Sub-area 1: Resolution = 0.5' GSD MAXIMUM

4.3.3 Horizontal Accuracy

All final image products must meet the horizontal accuracy specifications listed below:

- ASPRS Class 1 accuracy standard for 1:1200 mapping. This specifies a point coordinate accuracy requirement in which the horizontal Root Mean Square Error (RMSE) for a minimum of 20 well defined points is less than 1.0 ‘

4.3.4 Digital Elevation Model (DEM)

The existing 2018 DEM ground surface, originally derived from the 2018 LiDAR data, shall be used as the rectification source for the 2022 flight. CONTRACTOR shall update any tile or tiles of DEM data for the surface to be adequate for accurate orthoimagery rectification.

Should the DEM for an orthophoto imagery tile need to be updated, the PPGA requires that the DEM be re-delivered in tile format (4000'x4000') containing all DEM data used for that tile. This updated data shall be delivered in an LAS format.

4.3.5 Coordinate System

The coordinate system for this project shall be Colorado State Plane Coordinate System, Central Zone, Datum of NAD83 (HARN), units of US Survey Feet. Although limited to the DEM delivery, the Vertical Datum shall be NAVD88.

4.3.6 Flight Dates

Imagery shall be flown when deciduous foliage is generally under leaf-off condition. Thus, the target flight window shall be from March 15, 2022 to April 30, 2022. The appropriate flight dates are listed below and may be adjusted due to ground or weather conditions upon prior approval of UTILITIES.

Area	Start Date	Finish Date
Area SA-1	March 15, 2022	April 30, 2022

4.4 Sub-Area 2

4.4.1 Image Resolution

Image pixel resolution for Sub-Area 2 shall be one (1) foot.

4.4.2 Ground Sampling Distance (GSD)

CONTRACTOR is not to exceed flying heights for the 1' pixel acquisition. CONTRACTOR shall not deviate from these requirements unless requested by CONTRACTOR and approved by UTILITIES. Statistical sampling (RMSE) must show that these GSD values are being achieved. **Offsets from the required ground sampling distances should not exceed ten percent (10%).**

Sub-area 2: Resolution = 1.0' GSD MAXIMUM

4.4.3 Horizontal Accuracy

All final image products must meet the horizontal accuracy specifications listed below:

- ASPRS Class 1 accuracy standard for 1:2400 mapping. This specifies a point coordinate accuracy requirement in which the horizontal Root Mean Square Error (RMSE) for a minimum of twenty (20) well defined points is less than 2.0'

4.4.4 Digital Elevation Model (DEM)

The existing 2018 DEM ground surface, originally derived from the 2018 LiDAR data, shall be used as the rectification source for the 2022 flight. CONTRACTOR shall update any tile or tiles of DEM data for the surface to be adequate for accurate orthoimagery rectification.

Should the DEM for an orthophoto imagery tile need to be updated, the PPGA requires that the DEM be re-delivered in tile format (4000'x4000') containing all DEM data used for that tile. This updated data shall be delivered in an LAS format.

4.4.5 Coordinate System

The coordinate system for this project shall be Colorado State Plane Coordinate System, Central Zone, Datum of NAD83 (HARN), units of US Survey Feet. Although limited to the DEM delivery, the Vertical Datum shall be NAVD88.

4.4.6 Flight Dates

Imagery shall be flown when deciduous foliage is generally under leaf-off condition. Thus, the target flight window shall be from April 15, 2022 to May 31, 2022. The appropriate flight dates are listed below and may be adjusted due to ground or weather conditions upon prior approval of UTILITIES.

Area	Start Date	Finish Date
Area SA-2	April 15, 2022	May 31, 2022

4.5 Sub Area 3

4.5.1. Image Resolution

Image pixel resolution for Sub-Area 3 shall be one (1) foot.

4.5.2. Ground Sampling Distance

CONTRACTOR is not to exceed flying heights for the 1' pixel acquisition. CONTRACTOR shall not deviate from these requirements unless approved by UTILITIES. Statistical sampling (RMSE) must show that these GSD values are being achieved. **Offsets from the required ground sampling distances should not exceed ten percent (10%).**

Sub-area 3: Resolution = 1.0' GSD MAXIMUM

4.5.3. Horizontal Accuracy

All final image products must meet the horizontal accuracy specifications listed below:

- ASPRS Class 1 accuracy standard for 1:2400 mapping. This specifies a point coordinate accuracy requirement in which the horizontal Root Mean Square Error (RMSE) for a minimum of 20 well defined points is less than 2.0 '

4.5.4. Digital Elevation Model

The existing 2018 DEM ground surface, originally derived from the 2018 LiDAR data, shall be used as the rectification source for the 2022 flight. CONTRACTOR shall update any tile or tiles of DEM data for the surface to be adequate for accurate orthoimagery rectification.

Should the DEM for an orthophoto imagery tile need to be updated, the PPGA requires that the DEM be re-delivered in tile format (4000'x4000') containing all DEM data used for that tile. This updated data shall be delivered in an LAS format.

4.5.5. Coordinate System

The coordinate system for this project shall be Colorado State Plane Coordinate System, Central Zone, Datum of NAD83 (HARN), units of US Survey Feet. Although limited to the DEM delivery, the Vertical Datum shall be NAVD88.

4.5.6. Flight Dates

Imagery shall be flown when deciduous foliage is under leaf-off condition yet early enough to minimize shadows and reduce the chance of snow. Thus, the target flight window shall be from June 1, 2022 to July 31, 2022. The appropriate flight dates are listed below and may be adjusted due to ground or weather conditions upon prior approval of UTILITIES.

Area	Start Date	Finish Date
Area SA-3	June 1, 2022	July 31, 2022

4.6 Sub Area 4

4.6.1 Image Resolution

Image pixel resolution for Sub-Area 4 shall be one (1) foot.

4.6.2 Ground Sampling Distance

CONTRACTOR is not to exceed flying heights for the 1' pixel acquisition. CONTRACTOR shall not deviate from these requirements unless approved by UTILITIES. Statistical sampling (RMSE) must show that these GSD values are being achieved. **Offsets from the required ground sampling distances should not exceed ten percent (10%).**

Sub-area 3: Resolution = 1.0' GSD MAXIMUM

4.6.3 Horizontal Accuracy

All final image products must meet the horizontal accuracy specifications listed below:

- ASPRS Class 2 accuracy standard for 1:2400 mapping. This specifies a point coordinate accuracy requirement in which the horizontal Root Mean Square Error (RMSE) for a minimum of 20 well defined points is less than 4.0 '

4.6.4 Digital Elevation Model

Existing DEM data available from the USGS shall be used as the DEM data source. National Elevation Dataset (NED) available data of 1/3 arc-second, or approximately 10 meters, can be downloaded for free from the USGS using the National Map viewer. CONTRACTOR is responsible for downloading this publically available data to cover Sub-Area 4. Note that available data may be in multiple files and based on different collection years. CONTRACTOR is expected to update or supplement this DEM data, if necessary, to insure that final orthophotos for the area meet specified horizontal accuracy tolerances.

4.6.5 Coordinate System

The coordinate system for this project shall be Colorado State Plane Coordinate System, Central Zone, Datum of NAD83 (HARN), units of US Survey Feet.

4.6.6 Flight Dates

Imagery shall be flown in late spring to early summer, under leaf-off conditions if conditions make that possible, and early enough to minimize shadows and reduce the chance of snow. The appropriate flight dates are listed below and may be adjusted due to ground or weather conditions upon prior approval of UTILITIES.

Area	Start Date	Finish Date
Area SA-4	June 1, 2022	July 31, 2022

5.0 Overall Aerial Photography Requirements

5.1. Digital Aerial Camera

The aerial camera used shall be a precision large-format digital aerial camera equipped with low distortion, high-resolution optics and high pixel count charge-coupled device (CCD) sensors. It must be capable of:

- Ground resolution equal to or better than 6"
- Generating four-band imagery from separate red, green, blue, and near infrared bands
- Supporting high geometric accuracy through forward motion compensation and image stabilization
- Producing images that are compatible with existing softcopy photogrammetric environments (Image station)

A digital camera calibration report shall be submitted. If not, any available results of camera tests completed by the USGS or other organizations independent of CONTRACTOR shall be submitted. In addition, to be submitted are 1) the results of testing done by the camera manufacturer and/or CONTRACTOR and 2) detailed camera specifications. CONTRACTOR shall own the digital aerial camera and that there are spare cameras of the same make and model available should issues occur with camera performance.

5.2. Multi-spectral Image Acquisition

For all project areas, the color (RGB) and near-infrared (NIR) bands are to be acquired simultaneously such that a four-band image (RGBNIR) can be created for delivery. Any attempt to use image compression during image acquisition must be approved by the PPGA prior to the start of the project.

5.3. Flight Conditions

To ensure product uniformity, it is imperative that CONTRACTOR addresses adherence to the specific flight conditions. Flight time schedules, quality assurance of color balancing processes, continuity between flights and continuity from one sub area to the next are all conditions that must be addressed in CONTRACTOR responses.

The sun angle for all flights shall not be less than thirty (30) degrees and orthophoto imagery shall be acquired generally between 10:00 am and 2:00 pm local time. In no case shall orthophoto imagery be undertaken when the ground is obscured by snow; in the presence of obscuring fog or dust; when streams are not within their normal banks; or when cloud shadows appear on more than two percent (2%) of the area in any one image. Photographs shall not contain objectionable shadows (e.g., obscuring roads and other important features) caused by relief or low solar altitude. CONTRACTOR shall use photographic targets for use in establishing horizontal control during aerial triangulation, targets should be of an appropriate size to be easily recognizable within the aerial imagery.

Note: UTILITIES and the PPGA strongly prefers flights to be under sunny conditions and encourages CONTRACTOR to not fly during overcast conditions. CONTRACTOR should contact UTILITIES before flying under overcast skies.

5.4. Flight Plans

All flight lines shall be submitted digitally in a standard ESRI shape file format and in the coordinate system specified for the given project area. Flight line features shall be attributed with appropriate identification information. Flight lines may be broken up into flight segments to accommodate terrain changes, atmospheric problems, or military flight approval. Ground sampling distances shall be maintained throughout the flight line, which would be flown at the

same altitude. Each segment of a flight line shall be flown continuously, without interruption. The principal points of the first two (2) and the last two (2) exposures of each flight line shall fall outside the boundaries of the area to be covered by the flight, and all side boundaries shall be covered by a minimum of 25% of the photo stereo image format. The principal points of the first two (2) and the last two (2) exposures of each flight segment shall overlap. These flight plans shall be submitted for approval by the PPGA prior to the aerial photography imagery phase. Upon completion of the photographic missions, all revised, final flight lines shall be submitted with photo centers.

Note: There are several military reservations within the project area. Authorization for over flights of these areas and for flights within Traffic Control Zones associated with both military and civil air operations may have to be secured and shall be the responsibility of CONTRACTOR to do so. The PPGA, if requested, can set up a meeting with Colorado Springs municipal airport and Ft Carson officials (Ft. Carson absolutely requires overflight authorization) to assist with flight coordination and other communication requirements. All final arrangements shall be the responsibility of CONTRACTOR and must be reported to UTILITIES. Any issues securing clearance in these areas must be reported to the PPGA within twenty-four (24) hours.

5.5. Re-flights

Unacceptable orthophoto imagery shall be corrected, at no additional cost to UTILITIES. The re-flight coverage shall overlap the accepted orthophoto imagery by at least two (2) stereo models. Re-flights fall under the same quality control standards and guidelines as all other imagery in this project. Upon completion of the re-flight(s), CONTRACTOR shall submit a detailed quality control report to the PPGA project manager for approval based upon stated specifications.

5.6. Aircraft

Any aircraft to be used on the project shall be equipped with all essential navigational and photographic instruments, including Airborne Global Positioning Satellite (ABGPS) enhanced navigational systems. All aircraft must be operated by a well-trained and experienced crew. Performance of the aircraft shall be adequate to complete the proposed project in accordance with the technical specifications. All operations shall be in conformity with the applicable official regulations and ordinances. Appropriate Federal Aviation Administration documentation indicating that the aircraft used is within current requirements and operating specifications shall be submitted by CONTRACTOR prior to the first flight in which the aircraft is used on the project. CONTRACTOR shall provide evidence that all aircraft used for this project are properly insured.

The aircraft shall have a proven service ceiling with an operating load of not less than five percent (5%) above the highest altitude requirements to secure the specified orthophoto imagery. It is not mandatory, but it is preferred, that CONTRACTOR own the aircraft used for the OP 2022 project and that CONTRACTOR has access to a backup aircraft.

5.7. Spacing of Images

Overlapping images in each flight line and between flight lines shall provide full stereoscopic coverage of the area to be mapped in accordance with the end lap and side lap specifications.

5.8. End lap

Images used as stereoscopic pairs shall have overlap of between fifty-five percent (55%) and sixty-five percent (65%) in the respective frames. Consecutive images in each flight line shall have an end lap of approximately sixty percent (60%) to ensure full stereoscopic coverage.

5.9. Side lap

Side lap between adjacent parallel flight lines shall be adequate to satisfy the requirement for stereoscopic coverage, and shall be approximately thirty percent (30%), plus or minus five percent (5%).

5.10. Crab

Any flight or portion thereof in which crab is more than three degrees (3°) shall be cause for rejection of orthophoto imagery. CONTRACTOR shall describe how the proper crab shall be maintained and documented throughout the flight.

5.11. Tilt

Tilt of the camera from vertical at the instant of exposure shall not exceed three degrees (3°), nor shall it exceed five degrees (5°) between successive exposure stations. Average tilt over the entire project shall not exceed one degree (1°). CONTRACTOR shall describe how the proper tilt shall be maintained and documented throughout the flight.

5.12. Flight Height

Proper flight heights must be maintained to meet the ground sampling distance requirements as outlined in section 4 of this document. The departure above or below the flying height required to maintain the specified photo scale must not exceed five percent (5%). CONTRACTOR shall be responsible for maintaining proper flying height throughout the project.

5.13. Flight Data Tagging

CONTRACTOR shall provide a digital photo flight line index containing the geographic centers of each flight line in an ESRI shape file format. The index shall be in the coordinate system specified for this project and must include the following information.

- Flight line number
- Exposure number/IDTime of day of exposure (in the format: hr:min:sec)
- Date of flight line flight (in the format: mm/dd/yyyy)
- Elevation in feet above sea level
- Scale of orthophoto imagery
- Ground Sampling Distance

5.14. Disposition of the Original Imagery

The original orthophoto imagery and products provided shall be the property of the PPGA. Delivery of the original imagery to UTILITIES in TIFF format is required. UTILITIES prefers deliveries using portable hard drives with USB connectors. Any other type of delivery method must be approved by UTILITIES prior to delivery. CONTRACTOR shall not make, sell, or loan copies of this data except as approved in writing by UTILITIES.

5.15. Photo Point Index

CONTRACTOR shall provide a digital photo point index containing the geographic centers of each original image in an ESRI shape file format. The index shall be in the coordinate system specified for this project and must include the following information:

- Flight line number
- Exposure number/ID
- Date of exposure (in the format: mm/dd/yyyy)
- Time of day of exposure (in the format: hr:min:sec)
- Elevation in feet above sea level
- X Location of Point
- Y Location of Point
- Scale of orthophoto imagery
- Ground Sampling Distance

6.0 Survey Control and Analytical Triangulation Requirements

6.1 Ground Control Points

CONTRACTOR shall need to select and use enough ground control points as necessary to facilitate both Airborne GPS data capture and sufficient ground referencing. CONTRACTOR should identify the desired location of the ground control points as part of their operational flight map.

These points shall be delivered to the PPGA in a standard ESRI shape file format, in the coordinate system specified for this project and must include the following information:

- Point Name
- X Location of Point
- Y Location of Point
- Z Location of Point

6.2 Survey Control

Survey control points currently exist across a portion of the project area, generally within the Colorado Springs city limits. The Colorado Springs Utilities Land Base Services group

shall be available to CONTRACTOR as available to help identify survey control points within the Colorado Springs city limits as needed for this project. In addition, the City of Fountain can help identify control in the Fountain area, but if additional control is needed in any area, CONTRACTOR is responsible for collection. CONTRACTOR is responsible for control in all other areas. Sub area delineations can be found in Appendix B-1. Note that delivery area order must be maintained. Delivery area order shall not be changed without the consent of the PPGA.

6.2.1 Sub-Area 1

Portions of Sub-Area 1 have been photographed and mapped under several previous projects and therefore most of the area has sufficient control to ensure proper adjustment of new imagery. The PPGA shall work with CONTRACTOR to provide existing control point information within this area.

If new control is required within sub-area 1, if available, the PPGA may be able to provide survey services within the city limits and will provide reports of any survey efforts indicating the accuracy attained in capturing new control points. All surveying shall be conducted under the direct supervision of a licensed Colorado Professional Land Surveyor. The accuracy of any new control surveys shall meet or exceed the accuracy requirements for this project.

CONTRACTOR shall be responsible for collecting new control outside of the city limits. CONTRACTOR must fully justify any requirement for additional control to the PPGA. Upon completion of new survey control, a digital survey report shall be produced by CONTRACTOR and delivered to the PPGA project manager for approval. The accuracy of any new control surveys shall meet or exceed the accuracy requirements for this project.

6.2.2 Sub-Area 2

Portions of Sub-Area 2 have been photographed and mapped under many previous projects and therefore most of the area has sufficient control to ensure proper adjustment of new imagery. UTILITIES shall work with CONTRACTOR to provide existing control point information and for any additional control that may be needed to cover any new areas within Sub-Area 2. It is doubtful that any new control is needed within this area.

However, should new control be required in this area, CONTRACTOR shall provide all survey services. CONTRACTOR must fully justify any requirement for additional control to the PPGA. Upon completion of new survey control, a digital survey report shall be produced by CONTRACTOR and delivered to the UTILITIES project manager for approval. All surveying shall be conducted under the direct supervision of a licensed Colorado Professional Land Surveyor. The accuracy of any new control surveys shall meet or exceed the accuracy requirements for this project.

6.2.3 Sub-Area 3

Sub-Area 3 is the smallest of the sub-areas but is also the most remote. Sub-Area 3 has been photographed and mapped under many previous projects and therefore most of the area has sufficient control to ensure proper adjustment of new imagery.

Should new control be required in this area, CONTRACTOR shall provide all survey services. CONTRACTOR must fully justify any requirement for additional control to UTILITIES. Upon

completion of new survey control, a digital survey report shall be produced by CONTRACTOR and delivered to UTILITIES project manager for approval. All surveying shall be conducted under the direct supervision of a licensed Colorado Professional Land Surveyor. The accuracy of any new control surveys shall meet or exceed the accuracy requirements for this project.

6.2.4 Sub-Area 4

Sub-Area 4 consists of the entirety of Teller County that is not already part of another sub-area.

Should new control be required in this area, CONTRACTOR shall provide all survey services. Upon completion of new survey control, a digital survey report shall be produced by CONTRACTOR and delivered to UTILITIES project manager for approval. All surveying shall be conducted under the direct supervision of a licensed Colorado Professional Land Surveyor. The accuracy of any new control surveys shall meet or exceed the accuracy requirements for this project.

6.3 Control Point Data

Data depicting the control points utilized for this project shall be delivered to UTILITIES in a standard ESRI shape file format and shall be in the coordinate system specified for this project. Note that all points must also include elevation (Z) coordinate information as an attribute.

6.4 Aerial Triangulation Standards

Fully analytic aerial triangulation shall be used during this project to obtain high accuracy solutions for all project areas. Second generation orientation techniques are not to be used on this project. CONTRACTOR shall ensure UTILITIES that all equipment, software, and procedures used during the Aerial Triangulation process are acceptable to meeting this requirement.

The aerial triangulation solution shall adequately control all aerial imagery to facilitate accurate ortho-rectification of the imagery. At a minimum, the positional accuracy of pass and tie points established through the aerial triangulation process shall meet or exceed each of the following conditions:

- Root mean square error (RMSE) of the final block adjustment at all control and check points shall not exceed $1/7500$ of the flight height.
- The maximum allowable error of any point shall not exceed $\pm 1/5000$ of the flight height.

CONTRACTOR should employ checkpoints to validate the accuracy of the aerial triangulated solution. CONTRACTOR should report the results of the check to UTILITIES before proceeding with any ortho-rectification. Should these results fail to meet project accuracy standards, UTILITIES reserves the right to halt project progress until corrective actions have been put in place to correct the situation.

6.5 Aerial Triangulation Check Points

Check points are horizontal/vertical control points that have been established by ground control procedures throughout the photo block for accuracy checking purposes. At the discretion of

CONTRACTOR, checkpoints may be used to improve the aerial triangulation results. CONTRACTOR shall notify UTILITIES of the locations of any check points used within the final solution. The positional values of these points may subsequently be used in the aerial triangulation adjustment once the checks have been evaluated and approved. Independent of these check points, UTILITIES shall use its own set of checkpoints to independently validate from the CONTRACTOR deliverable product.

6.6 Aerial Triangulation Report

Upon completion of all aerial triangulation work or for any required sub-block adjustments, CONTRACTOR shall deliver two separate reports for the PPGA to review. The first report shall be an overview report of flight, control, and exposure information, and shall include, but shall not be limited to, the following items:

- Control and flight line indexes
- Exposure stations
- Control points (properly labeled)

The second report shall be an Aerial Triangulation report outlining the results of the AT process.

This report shall include, but shall not be limited to, the following items:

- All geometric closure errors for survey control points
- Computed coordinates of all control, pass, and check point locations
- Identification of all points to include:
 - Points that were included in the AT solution
 - Points that were discarded from the AT solution
 - Explanation of why points were discarded
 - Weighting factors applied to all points used in the AT solution

Reports shall also include, at a minimum, a brief narrative that describes the overall AT process including equipment used, procedures, software, RMSE summaries, bundle adjustment solution results, and geometric closure errors. Also included should be significant issues (misfits) encountered at control points and the steps taken to analyze the problem and solutions to rectifying these discrepancies.

7.0 Digital Imagery Requirements

7.1. Delivery Areas

Orthophotos shall be delivered for each Sub-Area of this project, as described in Section 3 of this Statement of Work. Delivery areas are delineated in Appendix B-2. Delivery area order shall not be changed without the consent of UTILITIES.

7.2 Raw Imagery Review

UTILITIES expects the collection of Raw imagery to meet all specifications in this scope regarding clouds, shadows, snow, etc. However, as a simple check of the raw imagery, CONTRACTOR will

provide samples of raw imagery for each delivery area for UTILITIES to review. Parties will work out the details of data delivery prior to data collection.

7.3 Orthophotos

CONTRACTOR will process raw imagery at the highest bit depth possible to achieve optimum effectiveness. Orthophotos shall be delivered in the following formats listed below.

- 8-bit, 4 Band (Red, Green, Blue, Near-Infrared)
- GeoTiff, TFW

7.4 Image Quality

Orthophotos shall not contain defects such as missing pixels, pixel color anomalies, excessive color bleed, etc. CONTRACTOR is expected to correct any distortions caused by elevated or depressed structures such as bridges, railroad beds, overpasses, or steep terrain. Any images that are delivered to UTILITIES with these types of anomalies shall be rejected. In addition, visible image seams or sutures within a digital orthophoto shall also be rejected, including any with edge or feather effects. Furthermore, orthoimagery with evidence of imagery manipulation, such as copy/paste of pixels, shall be rejected by UTILITIES.

7.5 Image Mosaic Tiles

Creating image mosaic tiles is an essential part of producing a digital orthoimagery. The methods used to mosaic imagery are critical to the final product produced. Where digital mosaic orthoimages are created, it is essential that proper color, contrast and brightness be maintained across such areas so that visual effects are essentially eliminated. All radiometric correction processes must result in minimal radiometric seams within or between flight lines. Images must also be well edge matched such that tonal values are consistent across edges. Finally, CONTRACTOR should use advanced color balancing techniques to create an output dataset that has a seamless context across the entire project.

7.6 Data Structure

Digital orthoimagery data shall be delivered in a TIFF format with associated world (TFW) files. Files shall be named and sized (4000' x 4000') according to the tile layout provided by UTILITIES. Data should be transferred to UTILITIES using portable disk technology. If applicable, CONTRACTOR shall perform anti-virus software checking of all portable disks prior to any delivery to UTILITIES.

7.7 Quality Acceptance / Acceptance Standards

CONTRACTOR shall provide orientation to its employees assigned to this project so that all employees clearly understand the requirements and deliverable specifications of the project. CONTRACTOR shall also perform quality assurance checks of the data prior to delivery of the data to UTILITIES and shall provide evidence of such quality assurance checks by delivering feedback regarding each delivery. In addition to that undertaken by CONTRACTOR, UTILITIES shall perform its own quality acceptance check. Acceptability of deliveries of data shall occur when all digital files and digital orthophotos delivered meet all project requirements regarding file structure and conformity as per UTILITIES review. **UTILITIES shall provide feedback on all orthoimagery deliverables within 21 days of receipt of data.**

7.8 Project Wide Mosaic

Upon completion and acceptance of orthoimagery tiles and completion of sub-areas, CONTRACTOR is to produce project wide mosaic datasets for the areas and formats listed below.

- One JP2 file covering SA1 (City of Colorado Springs area)
- Twelve JP2 files splitting SA1 into 12 pieces (Layout will be provided)
- One JP2 file covering PD Area 4 (City of Fountain area)
- One JP2 file covering SA1-SA3 (El Paso County Area)
- One JP2 file covering SA Area 4 and extended areas comprising all of Teller County boundary (Teller County)
- One JP2 file covering SA Areas 1-4 (Entire Project Area)

Compression parameters shall be discussed and agreed upon prior to delivery.

7.9 Labor Resources

UTILITIES will allow the major production work of Orthophoto production to be performed by CONTRACTOR subcontractors. However, UTILITIES **requires** that all final quality control steps be completed by CONTRACTOR within the United States by CONTRACTOR employees located at that site. Should CONTRACTOR need additional production resources from outside vendors or other CONTRACTOR offices to adhere to the project schedule, the PPGA must be notified and approve such changes prior to implementation.

8.0 Optional Products

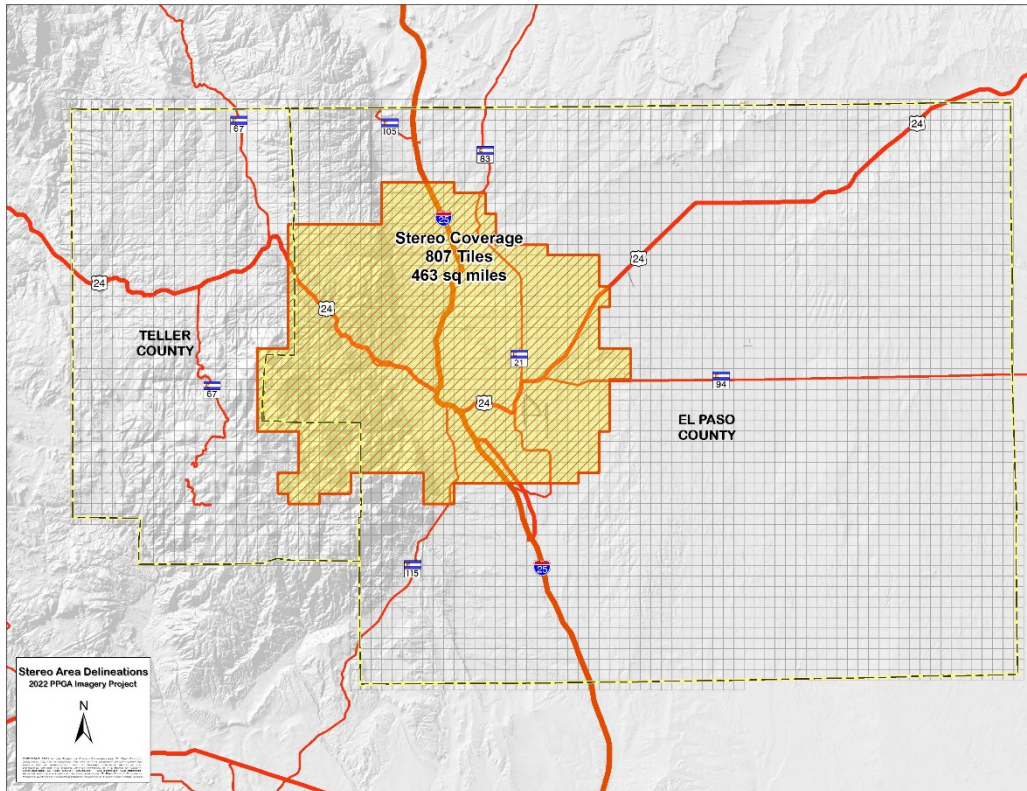
8.1 Digital Stereo Pair Requirements

This optional product was selected to be completed in the 2022 project.

Digital stereo pairs are a required deliverable for the area outlined below and covers approximately 463 square miles. Stereo pair delineations can be found in Appendix B-3. All digital stereo pairs for delivery shall be processed using DAT/EM Photogrammetry Suite.

As part of this delivery, the following information related to the stereo models shall also be included with the delivery to the UTILITIES:

- Photo Position – photo center x,y,z, with Z being the above ground average
- Omega, Phi, Kappa values
- Camera Calibration
- Photo Direction
- 6 Interior orientation coefficients
- 6 exterior orientation parameters



Deliverable Stereo Coverage Extents

8.2 LiDAR – General Requirements and Specifications

This optional product was NOT initially selected to be completed in the 2022 project. Verbiage is being left in the scope in case the PPGA partners decide to move forward with this option.

UTILITIES requests that the CONTRACTOR prepare a technical response for the creation of a LiDAR dataset for the areas within the PPGA mapping extent. The LiDAR data collected shall consist of elevation data sufficient to be used as input to support the rectification of imagery to 1" = 100' map scale accuracy (ASPRS Class I Specification). Furthermore, the mass point accuracy from the LiDAR data must be sufficient (when combined with breaklines) to support the generation of contours meeting 2 foot accuracy (ASPRS Class I Specification).

At a minimum the CONTRACTOR response must include a technical write up for the collection, processing, and quality control of full raw and classified LiDAR point clouds and associated raster digital elevation models. This response should also include, as deliverable options, a canopy classification, a building classification, a vegetation classification, and the benefit of utilizing Key Modal processing. UTILITIES is currently requesting a LAS v1.4 delivery format. It is requested that the contractor discuss alternative delivery formats as well as the pros and cons of each.

8.2.1 Project Area

The project area will potentially include all sub-areas but should be itemized separately for the review of all options.

8.2.2 Schedule

LiDAR should be flown prior to any orthoimagery missions. Preferably, the flight window should be in the March to May timeframe to minimize heavy canopy disruption by stress and inconsistent LiDAR returns caused by snow cover.

8.2.3 Coordinate System

The coordinate system for the LiDAR product shall be consistent with the orthoimagery as defined in section 4, "Colorado State Plane Coordinate System, Central Zone, Datum of NAD83 (HARN) using the vertical Datum of NAVD88. Measurements shall be given in units of US Survey Feet.

8.2.4 Data Collection

- The CONTRACTOR will clearly define planned flight procedures and control specifications in their work plan. The CONTRACTOR must demonstrate experience in performing LiDAR surveys covering terrain similar to that of the Pikes Peak Region.
- The CONTRACTOR will provide a proposed schedule plan for flight periods with detailed contingency plans for inclement weather conditions. The CONTRACTOR shall also provide an estimate of the number of collection days (flight days) needed to meet acquisition conditions.
- LiDAR acquisition should be completed when clouds and fog are absent between the aircraft and ground. During acquisition, no snow will be allowed on the ground unless prior approval is provided by the PPGA. No unusual flooding or water inundation will be allowed during the time of acquisition.
- Leaf-off acquisition is preferred, however as numerous factors will affect vegetative conditions at the time of any collection, the PPGA requires that penetration to the ground must be adequate to produce an accurate and reliable bare-earth surface suitable to produce digital elevation models.
- The CONTRACTOR will be required to gain the necessary aircraft clearances for flying over the project area (the Colorado Springs and El Paso County area have multiple military bases).
- Prior to data collection, the CONTRACTOR shall submit a written report that the total LiDAR system has been calibrated by the manufacturer, for the purpose of identifying and correcting system errors.
- The CONTRACTOR shall submit a quality control report that describes the methodology and processes for collecting and producing the delivered LiDAR data sets.
- The minimum deliverables for the LiDAR survey shall include, but not be restricted to the full data return in LAS format and a classified bare earth DEM in LAS or other selected format with the final structure to be determined by the PPGA.

8.2.5 Technical Specifications

8.2.5.1 Data Characteristics

- All processing on point products are required to be in a fully compliant LAS v1.4 format and shall meet the LAS v1.4 specification. Within each LAS file, points from a given swath shall be stored together and in their collected order.
- Vertical accuracy should exceed 15cm RMSE.
- Relative accuracy within a flight line should meet 7cm RMSE.
- Relative accuracy between each flight line should exceed 10cm RMSE.
- LiDAR should be collected to meet a 1.4 meter point density. Point data will be tested against first return data only and data void exceptions are excluded from these tests.

Data voids within each swath are unacceptable, except when caused by water bodies, low near infrared reflectivity, or where appropriately filled in by another swath. No Voids because of cloud cover or instrument failure are allowed.

8.2.5.2 Scan Angle and Swath Overlap Requirements

- 20 degrees of NADIR
- 40 degrees (total Field of View)
- Swath Overlap should exceed 30%. Any data with gaps between the geometrically usable portions of swaths will be rejected. A single non-overlapped, edge-matched tilting will be required for data delivery.

8.2.5.3 Point Classification

- All processing should be carried out with the understanding that all point deliverables are required to be in fully compliant LAS format v1.4. Data producers are encouraged to review the LAS specification in detail.

8.2.5.4 Classification Scheme (minimum):

- LAS Code Description (Processed but unclassified Bare-earth ground)
 - 3 – Low Vegetation
 - 4 – Medium Vegetation
 - 5 – High Vegetation
 - 7 – Noise (low or high manually identified, if needed)
 - 9 – Water
 - 10 – Ignored Ground
 - 11 – Withheld
- Note: Class 7 (Noise) is included as an adjunct to the “Withheld” bit. All “Noise” points are to be identified using one of these two methods.
- Note: Class 10 (Ignored Ground) is for points previously classified as bare earth but whose proximity to a subsequently added breakline requires that it be excluded during Digital Elevation Model (DEM) generation

8.2.5.5 Classification Accuracy

- 90% of artifacts removed
- 95% of all outliers removed
- 95% of all vegetation removed
- 98% of all buildings removed
- Point classification is to be consistent across the entire project. Noticeable variations in the character, texture, or quality of the classification between tiles, swaths, lifts, or other non-natural divisions will be cause for rejection of the entire deliverable.

8.2.6 Deliverables

8.2.6.1 Metadata

- Collection Report detailing mission planning and flight logs.
- Survey Report detailing the collection of control and reference points used for calibration and QA/QC.

- Processing Report detailing calibration, classification, and product generation procedures including methodology used for breakline collection and hydro-flattening.
- QA/QC Reports detailing the analysis, accuracy assessment, and validation of:
 - The point data (absolute, within swath, and between swath).
 - The bare-earth surface (absolute).
 - All breaklines
 - Other optional deliverables as appropriate.
- Control and Calibration points: All control and reference points used to calibrate, control, process, and validate the LiDAR point data or any derivative products are to be delivered.
- Geo-referenced, digital spatial representation of the precise extents of each delivered dataset. This should reflect the extents of the actual LiDAR source or derived product data, exclusive of Triangular Irregular Network (TIN) artifacts or raster NODATA areas. A union of tile boundaries or minimum bounding rectangle is not acceptable. ESRI polygon shapefile or feature class is preferred.
- Product metadata (FGDC compliant, XML format metadata). One file for each:
 - Project
 - Lift
- Tiled deliverable product group (classified point data, bare-earth DEM's, breaklines, etc.). Metadata files for individual tiles are not required.

8.2.6.2 Raw Point Cloud

- All returns, all collected points, fully calibrated, and adjusted to ground, by swath.
- Fully compliant LAS v1.4
- Geo-reference information included in all LAS file headers.
- GPS times are to be recorded as Adjusted GPS Time, at a precision sufficient to allow unique timestamps for each return.
- Intensity values (native radiometric resolution).
- 1 file per swath, 1 swath per file, file size not to exceed 2GB.

8.2.6.3 Classified Point Cloud

- Fully compliant LAS v1.4.
- Geo-reference information included in all LAS file headers.
- GPS times are to be recorded as Adjusted GPS Time, at a precision sufficient to allow unique timestamps for each return.
- Timestamps for each return.
- Intensity values (native radiometric resolution).
- Tiled delivery, without overlap based on tile scheme provided by the PPGA.

8.2.6.4 Bare Earth Surface (Raster DEM)

The CONTRACTOR shall be responsible for developing a professional, industry standard DEM for the entire study area. The CONTRACTOR shall perform the necessary Ground Survey and other steps necessary to meet the horizontal accuracy and quality of the delivered imagery. Deviations from industry standard procedures must be discussed with the UTILITIES and the PPGA Project Team in advance and the CONTRACTOR must receive written UTILITIES approval for such variations. The following outlines general requirements for this product.

- Deliverable shall be in accordance with the USGS LiDAR Base Specification V1.3, 2018.
- Cell Size no greater than 1 meter (3 feet).
- Product shall be in an industry standard, GIS-compatible, 32-bit floating point raster form.
- ERDAS .IMG preferred.
- Geo-reference information shall be included in raster file.
- Tiled product, without overlap based on tile scheme provided by UTILITIES.
- DEM tiles will show no edge artifacts or mismatch. A quilted appearance in the overall project DEM surface, whether caused by differences in processing quality or character between tiles, swaths, lifts, or other non-natural divisions will be cause for rejection of the entire DEM deliverable.
- Void areas (i.e., areas outside the project boundary but within the tiling scheme) shall be coded using a unique “NO DATA” value. This value shall be identified in the appropriate location within the file header.
- All QA/QC analysis materials and results are to be delivered.
- Depressions (sinks), natural or man-made, will NOT be filled. Water Bodies (ponds and lakes), wide streams and rivers (“double-line”), and other non-tidal water bodies will be flattened.

8.3 Building Representations – General Requirements

This optional product was selected to be completed in the 2022 project.

Building representations are planimetric features representing buildings that serve as a primary business government, residential function, and so forth. The following outlines general requirements for these features.

- Horizontal accuracy shall be consistent with Second Order, Class I, ninety-five percent (95%) confidence interval of 2cm base error and 20 parts per million linear errors.
- Data creation shall be constrained to American Society for Photogrammetry and Remote Sensing (ASPRS) accuracy standards for large scale class I maps for 1” = 100’ (Sub-Area 1) and 1” = 200’ (Sub-Areas 2 and 3).
- Vertical datum shall be NAVD88. All vertical stations set will be tied directly to NGS monuments shoes orthometric heights were determined by differential leveling and adjustment by the NGS on or after 1995.
- Each enclosed building representation will be a polygon and contain z-value (elevation) at the highest point of the building, but exclude flag poles, chimney, and other features smaller than 4-feet wide. These representations shall have unique ID’s and corresponding parcel numbers.
- Building representations shall be created for all buildings larger than either four-hundred square feet (400 sq. ft.).
- This dataset shall be in an ArcGIS Pro-compatible format and FGDC compliant with full metadata.
- All building representations shall conform to accuracy and quality established by the American Society for Photogrammetry and Remote Sensing (ASPRS) for large scale mapping 1” = 100’ (Sub-Area 1) and 1” = 200’ (Sub-Areas 2 and 3).
- There are approximately 250,000 parcels in the EL PASO COUNTY region.

9.0 Warranty

The PPGA requires that CONTRACTOR warrant the deliverable products and to repair, replace, or correct any deliverable product for a **two year period** following final acceptance of the data by the PPGA for any deliverable product that is defective, deviates from industry standards, or fails to meet all prescribed specifications set forth in this scope of work.

The PPGA retains the sole right to determine CONTRACTOR'S adherence to all specifications. If in the sole discretion of the PPGA, it determines that CONTRACTOR has seriously breached specifications, the PPGA may require CONTRACTOR to suspend production of additional work services until such time as CONTRACTOR can demonstrate that the problem has been remedied to the satisfaction of the PPGA. The PPGA may adjust the deliverable milestones of the project if necessary.

10.0 Deliverable Products and Acceptance

10.1. Deliverables

Deliverable products include information being exchanged from CONTRACTOR to the UTILITIES. ***A complete list of deliverable products can be found in Appendix A.***

10.2. Project Deliverable Acceptance

All products must meet the specifications agreed to in the resultant contract. All deliverable products shall be reviewed by UTILITIES to determine whether the products are acceptable.

An acceptance program shall be executed based on a thorough review of the prototype delivery and the proper completion of the above deliverables. The prototype calls for the early delivery of four (4) separate locations (representing each Sub-Area) that contain four (4) contiguous tiles each.

UTILITIES shall use all specification and requirement criteria outlined in this document and accompanying appendices to determine acceptance and rejection of all identified deliverables.

After acceptance checking, products shall be either:

1. **ACCEPTED** - Products that meet specifications and contain no errors, or so few errors as to be acceptable to UTILITIES, shall be formally indicated as ACCEPTED. UTILITIES shall notify CONTRACTOR of the products accepted. Payment for work completed shall not be made until the products are accepted by UTILITIES.

2. **REJECTED** - This means that the number and character of the errors detected by UTILITIES are such that the products are returned to CONTRACTOR. UTILITIES shall formally notify the CONTRACTOR of the REJECTED status of the products. CONTRACTOR must edit and correct the products for resubmittal to UTILITIES for its quality control edit. If, at the sole discretion of UTILITIES, there are an undue number of rejected products, the UTILITIES may require CONTRACTOR to suspend production until the problems contributing to the rejections are identified and corrected.

Execution of the correction procedure shall not affect the overall production schedule.

11.0 Schedule

UTILITIES expects the 2022 project to begin around March 15, 2022 and expects the project to be completed no later than March 15, 2023. UTILITIES understands that weather and seasonal conditions may influence the overall timing of the project and has attempted to build extra time into the schedule to accommodate for those possibilities. Should extensive delays occur during the project, UTILITIES shall review the schedule and make appropriate changes if necessary. ***The preliminary schedule for this project can be found in Appendix C.***

12.0 Performance Requirements

The UTILITIES and CONTRACTOR recognize that time is of the essence concerning this agreement and that the UTILITIES shall suffer financial loss if the services provided by CONTRACTOR are not completed within the times specified in the schedules outlined in this scope, including any extensions thereof. UTILITIES and CONTRACTOR also recognize the delays, expense, and difficulties involved in proving the actual loss suffered by the UTILITIES if the services of this scope of work are not completed on time.

The PPGA reserves the right to terminate the contract with CONTRACTOR if the following project milestones or specifications do not occur according to schedule or are not met, respectively:

- Target flight windows are missed by CONTRACTOR (as noted above for each section, flight dates)
- Non-compliance of mapping specifications by CONTRACTOR
- Non-usage of specified DTM/DEM by CONTRACTOR
- Orthoimagery has been excessive manipulated by CONTRACTOR through copy/paste methods

13.0 Project Completion

Upon delivery and final acceptance of all data deliveries, the project shall be deemed complete.

At that time, the PPGA shall provide CONTRACTOR with a formal letter indicating final acceptance of the data and overall completion of the project. At that point, the data shall be considered under warranty as specified in section 9 of this document.

Exhibit 3

November 30, 2021							
Product Description	Subtotal	Cost Estimates					
		Colorado Springs	CSU	E911	EPC	Teller County	Fountain
Base Aerial Product (Sub Areas 1-3 - El Paso County)							
Cost Share (%)	100%	23.75%	23.75%	23.75%	23.75%	0.00%	5.00%
8 Bit, 4 Band Ortho Imagery - 6 inch/1 Foot Resolution	\$115,198.95	\$27,359.75	\$27,359.75	\$27,359.75	\$27,359.75	\$0.00	\$5,759.95
Survey Control	\$6,600.00	\$1,567.50	\$1,567.50	\$1,567.50	\$1,567.50	\$0.00	\$330.00
	\$121,798.95	\$28,927.25	\$28,927.25	\$28,927.25	\$28,927.25	\$0.00	\$6,089.95
Base Aerial Product (Sub Area 4 - Teller County)							
Cost Share (%)	100%	0.00%	0.00%	50.00%	0.00%	50.00%	0.00%
8 bit, 4 Band Ortho Imagery - 1 Foot Resolution	\$25,121.01	\$0.00	\$0.00	\$12,560.51	\$0.00	\$12,560.51	\$0.00
Survey Control	\$1,500.00	\$0.00	\$0.00	\$750.00	\$0.00	\$750.00	\$0.00
	\$26,621.01	\$0.00	\$0.00	\$13,310.51	\$0.00	\$13,310.51	\$0.00
Secondary Product (Sub Areas 1-3 - El Paso County)							
Cost Share (%)	100%	23.75%	23.75%	23.75%	23.75%	0.00%	5.00%
Building Footprints - 100 Sq Ft	\$60,686.28	\$14,412.99	\$14,412.99	\$14,412.99	\$14,412.99	\$0.00	\$3,034.31
	\$60,686.28	\$14,412.99	\$14,412.99	\$14,412.99	\$14,412.99	\$0.00	\$3,034.31
Secondary Product (Sub Area 4 - Teller County)							
Cost Share (%)	100%	0.00%	0.00%	50.00%	0.00%	50.00%	0.00%
Building Footprints - 100 Sq Ft	\$9,777.69	\$0.00	\$0.00	\$4,888.85	\$0.00	\$4,888.85	\$0.00
	\$9,777.69	\$0.00	\$0.00	\$4,888.85	\$0.00	\$4,888.85	\$0.00
JPEG 2000 - PD Areas 1-13 (El Paso County)*	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	NA	NA
JPEG 2000 - PD Areas 1-3 (City of Colorado Springs)*	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	NA	NA
JPEG 2000 - PD Areas 14-15 (Teller County)*	\$0.00	NA	NA	\$0.00	NA	\$0.00	NA
JPEG 2000 - PD Area 4 (City of Fountain)*	\$0.00	NA	NA	NA	NA	NA	\$0.00
	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	\$218,883.93	\$43,340.24	\$43,340.24	\$61,539.59	\$43,340.24	\$18,199.35	\$9,124.26

* Mosaiscs included in the overall price

Cost Comparison to Satellite Imagery

2022 Imagery Comparison - Aerial Project Pricing vs Satellite Pricing

			Aerial Acquisition (PPGA 2022 Pricing)			High Res New Task Stereo Satellite Pricing			
Area	SQ Miles	SQ Kilometers	Resolution (in)	Resolution (cm)	Cost	Resolution (in)	Resolution (cm)	Cost/ km2	Satelite Cost
1	338	875	6	15	\$38,941	20	50	\$59.88	\$52,420
2	1661	4302	12	30	\$59,015	20	50	\$59.88	\$257,603
3	238	616	12	30	\$23,843	20	50	\$59.88	\$36,911
4	548	1419	12	30	\$26,621	20	50	\$59.88	\$84,989
		2785							
		7213							
Specifications									
< 2% Cloud/Snow			Include as Part of Product	\$0		50% Add'l Charge (<5% Cloud/Snow)			\$215,962
15/30cm resolution			Include as Part of Product	\$0		Not Available (50cm Resolution Only)			N/A
4 Band Pan-Sharpned			Include as Part of Product	\$0		Include as Part of Product			\$0
ASPRS Class 1 Horizontal Accuracy (1.0'/2.0' accuracy)			Include as Part of Product	\$0		Not Available (2m/4m accuracy)			N/A
No seamlines shown			Include as Part of Product	\$0		Not Available			N/A
No Smears due to terrain issues			Include as Part of Product	\$0		Not Available			N/A
Outright ownership of data/imagery			Include as Part of Product	\$0		Not Available (Licensed Product) one user only			N/A
Stereo information required			Include as Part of Product	\$0		Include as Part of Product			\$0
Project Mosaic			Include as Part of Product	\$0		Not Available			N/A
El Paso County Mosaic			Include as Part of Product	\$0		Not Available			N/A
City of COS Mosaic			Include as Part of Product	\$0		Not Available			N/A
City of Fountain Mosaic			Include as Part of Product	\$0		Not Available			N/A
Teller County Mosaic			Include as Part of Product	\$0		Not Available			N/A
			Total Cost		\$148,420	Total Cost			\$647,885

~\$500K in savings as opposed to purchasing standard commercial satellite Imagery