



Request for Proposals and Qualifications:

Aerial Imagery Acquisition, Digital Orthoimagery Production, Oblique Imagery Production, Digital Oblique Image Viewing Software, Lidar Acquisition, Digital Terrain Dataset Production, and Photogrammetric Planimetric Updates

Prepared by the Department of Geographic Information System

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September 21, 2018

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1. Introduction

The Georgetown-Scott County Planning Commission, GSCPC, Kentucky, is seeking a qualified Contractor or team of Contractors to assist in updating the Geographic Information Systems (GIS) database using the implementation of various photogrammetric services in accordance with the subsequent specifications. This procurement is for the production of aerial photography, ground control, analytic triangulation, light detection and ranging (LIDAR) to produce the digital terrain model and contours, creation of digital orthophotography, oblique imagery, and digital planimetric files to be used in the GIS. In addition, GSCPC GIS is requesting supplemental software and training. These services will be of sufficient accuracy and utility to update and enhance an existing GIS database that supports current and proposed applications involving public access, land records management, planimetric mapping, infrastructure management, engineering, map production, topographic mapping, and various land data analyses.

The GSCPC GIS was founded in 1998 and continues to develop its program to accommodate all sectors of local government. The GIS supplies valuable information to all branches of emergency services, law enforcement, County Government, and three municipal governments contained within the County. It also provides data and map products to the general public including commercial and non-commercial uses.

The purpose of this Request For Proposals and Qualifications(RFP&Q) is to receive competitive bids based upon qualifications of the bidder and selection criteria outlined in this RFP&Q. The objective of the selected bidder will be to provide professional services as mentioned in the first paragraph. The selected firm will negotiate a contract with the Georgetown-Scott County Planning Commission and will, therefore, become the contractor. GSCPC is not automatically held to the lowest bid and reserves the right to reject any bids if it is determined the bid does not meet the requirements outlined herein (See Section 2.3).

The Commission will consider alternative methods for obtaining the desired products; however, it is requested that all proposals include responses to the specifications as described within this RFP&Q. Alternatives should be clearly labeled as such and shall be included as an attachment to the primary proposal.

1.1 County Statistics

The following statistics are provided as a guide for the preparation of proposals. They are based on County wide figures which were obtained from the best available information sources, but may not be absolutely current or correct.

<u>Item</u>	<u>Quantity</u>
Scott County Area	285 square miles (approx.)
Scott County Population	52,420 persons (2015 estimate)
Existing 100' Urban Area Map Tiles	283 map Tiles
Existing 200' Rural Area Map Tiles	190 map Tiles
Parcels (County-wide)	22,700 (approx.)

The Commission is proposing to expand the urban tile area by converting 34 existing rural tiles to urban tiles, ultimately adding 256 urban tiles and eliminating 34 rural tiles.

Scott County, including its seat, the City of Georgetown, is the fastest growing county in Kentucky. It has a population of 52,420 (2015 American Community Survey) within its 285 square miles and is located north of Fayette County (Lexington, KY) in central, Bluegrass region of the State. It is home to Toyota Motor Manufacturing of Kentucky. There are over 22,700 parcels and more than 711 centerline miles of roadway contained within its boundaries.

1.2 Definitions

- a.) The COMMISSION, as referred to herein, shall be The Georgetown-Scott County Planning Commission, Kentucky.
- b.) GIS, as referred to herein, shall be The Georgetown-Scott County Planning Commission Geographic Information System, Kentucky.
- c.) The term "URBAN AREA" as referred to herein, shall be the grid tiles encompassing the City of Georgetown, Sadieville, Stamping Ground, and other high-density residential areas currently in our 1:100 scale area (Appendix A).
- d.) The term "RURAL AREA" as referred to herein, shall be the grid tiles encompassing unincorporated areas in Scott County, currently in our 1:200 scale area (Appendix A).
- d.) The "CONTRACTOR" as referred to herein, shall be the firm, company, or organization to which Scott County's aerial imagery and planimetric mapping contract has been awarded. References to the CONTRACTOR in this Request for Proposal shall also apply in full to and SUB-CONTRACTOR working for the named CONTRACTOR.
- e.) The term "REQUEST FOR PROPOSAL and QUALIFICATIONS" or "RFP&Q" means a solicitation of a formal sealed proposal.
- f.) The term "PROPOSAL" will refer to any response to the RFP&Q.
- g.) The term "RESPONDENT" will refer to any entity that submits a proposal to this RFP&Q.

1.3 General Statement of Work

All Respondents to this RFP&Q should propose procedures, specifications, and costs needed to accomplish each of the following major tasks:

- A. Aerial Color Photography
- B. Digital Orthoimagery
- C. Digital Oblique Imagery
- D. Image viewing software for oblique imagery
- E. Light Detection and Ranging System (LIDAR) point collection and classification
- F. Digital terrain and/or elevation models derived from LIDAR
- G. Global Positioning System (GPS) survey control to support photography and LIDAR
- H. Full analytical aerotriangulation (if required)
- I. Update/creation of Planimetric data
- J. Change Detection Software
- K. Optional Disaster Recovery Flight

1.4 Project Overview

Scott County is requesting Proposals for services to create digital imagery and other photogrammetric products based on Spring 2019 aerial photography. The orthorectification of the photography will, in part, utilize LIDAR technology. These products will support the maintenance of planimetric and cadastral databases included in the Commission's Geographic Information System (GIS). It will also serve as the foundation for the County topographic map.

The last comprehensive aerial flight project producing imagery, Lidar, and planimetrics occurred in Spring 2005. Due to the rapid growth and change of Georgetown and Scott County, the Commission, in addition to external users such as the public sees a need to update these images and planimetric layers.

1.5 GIS Software

The Commission has adopted ArcGIS, a GIS software suite produced by Environmental Systems Research Institute, Inc. (ESRI), and all of its affiliated products including ArcGIS for Desktop, ArcGIS for Server, and ArcGIS Online, as its standard platform in the server, desktop, and Internet/Intranet environments. This ensures the efficiency of data transfer and its overall manipulation across all departments. Moreover, the effective coordination of GIS activities significantly enhances the safeguards on data integrity and quality control.

1.6 GIS Database

Currently the records of the GIS are stored on Windows Server 2012 R2 and managed in SQL Server 2014. ArcSDE feature class is currently the primary file format being used. The basic feature datasets currently utilized include cadastre (Parcel Valuation Assessment data), 11 planimetric layers (from 2005 aerials), administrative boundaries, census (blocks and tracts), and orthoimagery.

2. Respondent Requirements

2.1. General Conditions

Attached to this RFP&Q (Attachment A) are the Commission's General Conditions which will be used as the basis for the Contract between the Commission and Contractor. Respondent is cautioned to carefully review these General Conditions. If the Respondent desires to take any exceptions to these General Conditions or to suggest modifications or revisions to the General Conditions, the Respondent must expressly set forth all exceptions, modifications or revisions within its response to this RFP&Q. Failure to state such exceptions, modifications or revisions to the General Conditions within the Respondent's response shall preclude the Contractor from raising any such exceptions, modifications or revisions at the time of execution of a Contract between the Commission and Contractor. The Commission will not be required to accept any such exceptions, modifications or revisions to the General Conditions, and may reject a response if such exceptions, modifications or revisions are deemed unacceptable by the Commission. Further, the Commission reserves the right to include additional terms and conditions within the Agreement based upon the Commission's review of the responses to this RFP&Q.

2.2 Requests for RFP&Q Information

Respondents may obtain the Request for Proposal and Qualifications with a full set of specifications in Adobe Acrobat Reader PDF from www.gscplanning.com homepage. Respondents may also request email delivery. If Respondents request printed and mailed documents, the first copy is free of charge, each additional copy and delivery will cost \$5.00.

All questions and requests regarding the preparation of a qualified response to this RFP&Q prior to the submission deadline should be directed in writing to:

Whitley Keltner
wkeltner@gscplanning.com

Questions must be submitted in writing via email and must be received at the above email address by 4:00 p.m. Eastern Standard Time (EST) on Wednesday, October 10, 2018 to be considered. The Commission's written responses to these questions, as well as the questions themselves will become addenda to this document. All responses along with the original questions and any amendments to the RFP&Q will be transmitted via email to all those who are registered as potential Respondents before the close of business on Wednesday, October 10, 2018.

The Commission reserves the right to add or modify any items in this RFP&Q until Wednesday, October 10, 2018. If any modifications are made to this document by the Commission, they will become addenda to this document and will be emailed to the Respondent by Wednesday, October 10, 2018.

2.2.1 Digital GIS Data Requests

Digital data layers in ESRI Shapefile format that are available for request without charge include the following:

1. National Geodetic Survey Monuments
2. Scott County Monuments
3. Scott County Tile Index
4. Scott County Boundary

All digital data is in the Kentucky State Plane North, NAD83 coordinate system.

Additional digital spatial data layers may be requested and delivered, but may require a fee and a signed license agreement pertaining to ownership and usage of the data.

2.3 Right to Reject Proposals

This RFP&Q does not obligate the Commission to contract with any Respondent, to pay any Respondent's costs incurred in the preparation of its Proposal, or to proceed with the project in whole or in part. The Commission reserves the right to reject any and all Proposals, to negotiate with any Respondent or Respondents, and to award a Contract to none, one, or more than one Respondent(s). The Commission reserves the right to choose in its entirety, or in part, the requested deliverables outlined in Section 6.0 of this RFP&Q.

2.4 Proposal Submission Requirements

Proposals shall be delivered as a single Adobe Acrobat Reader PDF file via email to Whitley Keltner wkeltner@gscplanning.com. Proposals should be submitted by the deadline 4:00PM EST October 24, 2018. A confirmation email will be sent upon receipt. Any responses received after the deadline will be deemed unacceptable for further consideration.

2.5 Respondent Responsibilities

The Respondent shall be fully responsible for all Proposal development and submission costs. The Commission accepts no financial responsibility for costs incurred by any Respondent to this RFP&Q.

2.6 Ownership of Response Materials

All products, data, findings, and documents prepared, compiled, or obtained by the Respondent according to RFP&Q requirements, regardless of delivery to the Commission, shall become the exclusive property of the Commission.

Each Respondent shall clearly indicate any proprietary information that is submitted as part of their Proposal. Reasonable precautions will be taken to ensure the confidentiality of material clearly marked as proprietary.

2.7 Respondent's Exceptions to the RFP&Q

All exceptions to the RFP&Q as referred to in Section 3.2.5.a must be appropriately noted and clearly explained.

2.8 Joint Proposals and Subcontracting

Respondents must state their intention to use subcontractors in response to Section 3.2.2 of this RFP&Q. This will include specific company profile information about subcontractors. All subcontractors are subject to approval by the Commission.

2.9 Essential Personnel

For any change of essential personnel listed in the Proposal, the successful Respondent must notify the Commission in writing prior to making a change. Any substitution of staff must be approved by the Commission.

2.10 Procurement Schedule

The Commission has established a tentative schedule for Proposal review, Contractor selection, and project initiation. A tentative time line for the procurement and evaluation process is provided below:

Selection Time Line	
RFP&Q Available	Monday, September 24, 2018
Questions from Respondents	Until Wednesday, October 10
Final RFP&Q Submission Date	Wednesday, October 24
Response to Proposals	Friday, November 2
Tentative Interview Dates	Tuesday-Thursday, November 13-15
Submission of Recommendation to Georgetown-Scott County Planning Commissioners	Thursday, December 13, 2018
Contract Processing	December 2018-January 2019
Proposed Contract Start Date	February 1, 2019
Proposed Contract Finish Date	August 30, 2019

Registered Respondents will be notified of any changes to the above schedule, up to and including the date of final RFP&Q submission date.

2.11 Compensation to Contractor

2.11.1 Fee Definitions

The contract awarded pursuant to this RFP&Q Document will be based upon a fixed fee schedule, with two invoices based upon half the cost of the project. The contractor will be expected to complete the work as defined in this RFP&Q within the fee stated. The Commission will uphold the right to retain 15% of the complete cost of services until date of completion and/or acceptance by the Contractor to assure quality of the project and adherence to the time schedule.

2.11.2 Method of Payment

The payment of work performed shall be determined by the approval of delivered material by the GIS Analyst and Director of the Commission. The invoice submitted shall specify the date(s) of the work performed, type of work, cost of material/labor, and overall cost. Invoices should be submitted to the GIS Analyst. Upon approval of the GIS Analyst, the invoices will be forwarded to the Commission for payment.

3. Proposal Requirements

3.1 Procedure for selection of finalist

A review committee headed by the Planning Commission Director or designee shall review all proposals received. The committee shall select finalists as contractors that appear to be best qualified for this project from the proposals received. The submission will be initially evaluated by the following criteria:

- a. Conformance to the requirements of this solicitation
- b. Technical abilities of the respondent
- c. Personnel assigned to the project
- d. Ability to perform the task in a timely manner
- e. Proven track record in accomplishing similar projects
- f. Procedure proposed to accomplish tasks
- g. Past references
- h. Costs of project deliverables

3.2 Proposal Format

To ensure an orderly and fair review process, all Proposals must follow the format described below:

- a. Project summary
- b. Respondent profile
- c. Organization and résumés
- d. Organizational specifics
- e. Technical specifics
- f. Miscellany
- g. Cost worksheet

3.2.1 Project Summary

The Proposal will begin with a discussion of its major components, including assumptions, methodologies, equipment, conclusions, recommendations, and general philosophy of the project. Please keep this portion to no longer than three (3) pages.

3.2.2. Respondent Profile

Please provide the following information concerning your firm. If aspects of this project are to be subcontracted, then similar information should be given for each subcontractor. Keep each profile limited to one (1) page in length.

- a. Firm name, business address, telephone and facsimile numbers, and email address
- b. Year established (include any former names and years, if applicable)
- c. Type of ownership and, if applicable, name of parent company
- d. Proof of registration to do business in the State of Kentucky
- e. If production will be performed at a site(s) other than the address given in Section 3.2.2.a, provide project manager's name, address, and telephone and facsimile numbers, and email address.

3.2.3. Organization and Résumés

Describe your firm's organizational structure, including a full listing of all project team participants. A résumé, which should include project-specific working experience, will be provided for each team member. All proposed personnel are required to actually participate in the project. Any changes must be covered as provided in Section 2.9.

3.2.4. Organizational Specifics

Please respond to the following:

- a. Provide the name, title, address, telephone and facsimile number, and email address of the Respondent's authorized project manager. This person shall be empowered to make binding decisions for the firm and, if any, its subcontractor(s)
- b. Cite all major photogrammetric projects to which the firm and any of its subcontractors are currently committed from now until the final delivery date of this Proposal. Discuss how the assumption of this project would impact procedures, resources, and workflow, and the ability of the firm to complete this project as specified and scheduled
- c. Please note any exceptions to the General Conditions you may have. Also, please request any specific information needed from the Commission before commencing contract negotiations

3.2.5. Technical Specifics

Please respond to the following:

- a. Provide a brief outline of key tasks proposed to complete this project. Begin with the contract negotiation phase and continue through to the final acceptance of the deliverables. Include specific methodologies to address items referred in Section 5. Respondents should also note any procedures that are included or excluded which are to be construed as distinctive or superior alternatives to those found in other Proposals.
- b. Describe the equipment proposed for utilization in this project. All hardware and peripheral devices should be listed with the manufacturer's name and model number. All software products should be cited with version and upon which platform it is being operated. Provide the amount of devices or licenses to be used, as well as any other information that is indicative of the firm's production capacity.
- c. Describe the quality control process that will govern all aspects of this project
- d. Prepare a detailed schedule that outlines the tasks noted in Section 4.0. Also include periodic reporting points, incremental delivery dates, and other milestones
- e. Describe any anticipated technical difficulties and suggested solutions
- f. Describe tasks and other items that will require support from the Commission.

3.2.6. Miscellany

Any miscellaneous information (e.g. map samples) may be included here to support your Proposal.

3.2.7. Cost Worksheet

A complete cost quotation is provided. Cost quotations are to be broken down by each major deliverable. Submit firm, fixed prices for all of the required items of this project.

3.2.7.1. Aerial Photography Costs

Include all costs related to the operations and accessories of the flight, procurement and development of the photography, and deliverables as outlined in Section 6.2.

3.2.7.2. Control Survey Costs

Include all costs related to the design and establishment of the control to support the flight and LIDAR components of the project, in addition to the deliverables as outlined in Section 6.3.

3.2.7.3. Aerotriangulation Costs

Include all costs related to the procedures for the orthorectification of the photography and LIDAR, in addition to the deliverables as outlined in Section 6.4.

3.2.7.4. LIDAR Costs

Include all costs related to the procurement, processing and interpretation of LIDAR-derived data, including operational costs of the flight, if a separate one is required. In addition, include all deliverables as outlined in Sections 6.5, 6.6, and 6.7.

3.2.7.5. Digital Orthoimagery Costs

Include all costs related to the production of the orthoimagery including all deliverables as outlined in Section 6.8.

3.2.7.6. Planimetric Data Costs

Include all cost related to the production of the planimetrics including all deliverables outline in Section 6.9

3.2.7.7. Digital Oblique Imagery Costs

Include all costs related to the production of the oblique imagery including all deliverables as outlined in Section 6.10.

3.2.7.8. Image Viewing Software

Include all costs related to providing an oblique image viewing software including all deliverables as outlined in Section 6.11.

3.2.7.9 Change Detection Solution

Include all costs related to change detection solution including all deliverables as outlined in Section 6.12.

3.7.7.10 Training

Include all costs related to training Georgetown-Scott County staff on image viewing software including all deliverables as outlined in Section 6.13.

3.2.7.11 Optional Disaster Recovery Flight

Include all costs related to possible disaster recovery flight including all deliverables as outlined in Section 6.14.

3.3 Selection Process

All proposals will be evaluated by representatives composed of personnel from the Commission or personnel appointed by the Commission from related agencies. The review committee will use the criteria set forth in this RFP&Q to make a selection of the winning Contractor. Each criterion will be given full consideration.

Respondents shall carefully examine the specifications to become acquainted with obligations and responsibilities.

3.3.1. Selection Criteria

- a. Response characteristics
 1. Adherence to required format
 2. Completeness of submittal.
- b. Experience and qualifications
 1. Company background and history
 2. Relevant experience with other projects
 3. Client references
 4. Project samples.
- c. Strength of project team
 1. Suitability of management and technical personnel
 2. Approach to project management, including workflow, reporting, and quality assurance
 3. Relevant experience on other projects.
- d. Approach to the scope of the work
 1. Understanding and discussion of technical issues
 2. Methodology and technical plan
 3. Project management plan
 4. Quality control plan.

- e. Ability to complete project as scheduled
 - 1. Understanding of task sequence and major milestones
 - 2. Adequacy of resources
 - 3. Ability to complete work on a timely basis
 - 4. Ability to meet schedule completion dates.
- f. Proposal cost

3.3.2 Presentations & Interviews

Certain Respondents will be asked to present their Proposals and undergo an interview process with GSCPC, City, or County representatives. The costs of such presentations shall be the responsibility of the Respondent.

The presentations shall be no longer than ninety (90) minutes in length with thirty (30) minutes of a period of questions and answers.

During these interviews, the following issues will be discussed:

- a.) Desired end results of this project.

- b.) Review of information contained in the RFP&Q (qualifications and experience record, capability to complete the work within the time allotted, and specific key personnel to be assigned to the project).

At the conclusion of the interviews, the review committee will select the contractor it feels is best qualified. This firm will be invited to submit a contract for negotiation.

4. Project Responsibilities and Scheduling

4.1 Contractor Responsibilities

The major responsibilities of the Contractor are as follows:

- a. Development and documentation of procedures to meet Contract specifications
- b. Production of digital files and other products of all designated photogrammetric services as specified
- c. Maintenance of quality standards and metadata
- d. Delivery of preliminary and final products as per schedule

- e. Security of the Commission's source materials
- f. Correspondence with the Commission on all anomalous data situations prior to production
- g. Provision of all labor, materials, equipment, tools, and other incidentals (except that provided by the Commission) necessary to complete the project.

4.2 Commission Responsibilities

The major responsibilities of the Commission are as follows:

- a. Access to or provision of source materials for graphic and non-graphic data as specified by the caretakers of that data
- b. Review and approval of plan project manual, data design, tiling scheme, project schedule, quality control procedures, automated datasets, documentation, and all other deliverable products
- c. Resolution of data anomalies on a timely basis
- d. Execution and documentation of acceptance procedures on a timely basis
- e. Quality assurance inspection of deliverables on a timely basis.

4.3 Project Scheduling

The Contractor must organize and establish the phases of the project and provide a schedule of individual tasks and approximate times for completion.

4.4 Project Tracking

The Contractor must establish and maintain procedures for tracking progress for the duration of the project. It is the desire of the Commission for the Contractor to provide an online, web-based project tracking system that will be available to the Commission throughout the duration of the project. The Contractor shall make regular and frequent updates to the website indicating current progress for each phase of the project. Updates including, but not limited to, the following details should be provided:

- a. Any product or document that is delivered
- b. Meetings held, planned, or requested, including the minutes thereof
- c. Issues or problems that are encountered, need to be addressed or resolved
- d. Production goals for the next reporting period

If a web-based system cannot be provided, the Contractor will be required to submit written monthly status reports, or as frequently as the Commission determines, to the Commission via email. The reports must include the same details as indicated above for a web-based system.

5. Required Data Establishment

5.1 Aerial Photography

5.1.1 Aerial Photography Documentation

Aerial photography will require sufficient specifications to support all other photogrammetric procedures requested under this RFP&Q in addition to those planned beyond the scope of this RFP&Q. The Respondent will include detailed documentation of all methodologies, procedures, equipment, standards, and quality control measures utilized to create the required deliverables.

5.1.2 Aerial Photography Tile System

Scott County is presently divided into a tile system comprised of one-inch equals 100 feet block tiles corresponding to Georgetown Urban Area and one-inch equals 200 feet block tiles corresponding to Rural County Area (Appendix A). The Commission would like to expand the area that comprises the Urban Area to capture the growth that has occurred since the last base mapping project undertaken in 2005. The expansion areas are represented as “New Urban Tiles” in Appendix A. Respondents proposals should reflect expanding the urban areas.

5.1.3 Aerial Photography Scale

The photography will be produced in natural “true” color at a scale sufficient to produce six-inch pixel resolution orthoimagery for the Georgetown Urban Area and twelve-inch pixel resolution orthoimagery in the Rural Area (Appendix A). Photography will be produced in natural “true” color at a scale sufficient to produce six-inch pixel resolution oblique images for Georgetown Urban Area and twelve-inch pixel resolution oblique images in the Rural Area (Appendix A). Furthermore, the photography must meet American Society for Photogrammetry and Remote Sensing (ASPRS) Class 1 Accuracy Standards for Large Scale Maps to support general planimetric mapping at 1” = 100’ for urban areas and 1” = 200’ for rural areas.

5.1.4 Accuracy Standards for Flight

All photography will conform to the industry accuracy and quality standards established by the Federal Geographic Data Committee and the American Society of Photogrammetry and Remote Sensing (ASPRS) for Large Scale Class 1 Maps. Such standards include optimal climatic and atmospheric conditions; Federal Aviation Administration (FAA) and Civil Aeronautics Board (CAB) safety regulations; state-of-the-art film processing; current United States Geological Survey (USGS) camera calibration for specifications of focal length and aerial weighted average resolution (AWAR); front and side overlap specifications; flight line specifications; individual exposure specifications including tip, tilt, and crab standards.

5.1.5 Conditions During Photography Acquisition

Imagery should be acquired during “leaf-off” conditions when foliage is at a minimum. Imagery should not be obtained when the ground is obscured by haze, snow, dust, floodwaters, or environmental factors that may misrepresent ground features. All efforts should be taken to minimize the exposure to smoke plumes from fires. If any major fires are occurring during the flight mission, the aerial mission should be discontinued. Clouds and/or shadows of clouds shall not appear in the image. Additionally, there should not be any distortions in the photography caused by solar altitude during the time of the flight; therefore, the mission should be flown during desirable weather conditions and generally between the hours of 10AM and 2PM Eastern Standard Time.

5.1.6 Cameras and Associated Equipment

The aerial mapping camera and associated equipment such as the inertial measurement instrument (IMU) and airborne GPS used for the mission must have the ability to generate full frame digital photography in natural “true” color at the requested resolution. Image may not include any “false” color. Camera equipment used must meet current United States Geological Survey (USGS) camera calibration specifications of focal length and aerial weighted average resolution (AWAR). The camera should provide means by which the operator can monitor image exposure during collection, and make appropriate exposure adjustments to maximize the amount of useable imagery content available in the recorded imagery.

The Commission will accept proposals that detail the use of a digital aerial mapping camera with high pixel resolution and low distortion. Specifications and a USGS calibration report of the camera used during the aerial mission must be detailed in the Respondent’s written proposal. The camera must be able to generate aerial photography that meets the quality requirements set forth in this RFP&Q.

5.1.7 Flight Methodology Requirements

Respondent will submit the flight methodology necessary to obtain the deliverables at the scale and quality desired by the Commission. Methodology description should include, but not be limited to, the following details: negative scale, flying altitude, forward lap, and side lap. Forward overlap in the line of flight should not average less than 57% or more than 62% at the mean elevation of the terrain. Side overlap between adjacent parallel flight lines shall be 35% +/- 10% at the mean elevation of the terrain. Tilt of the camera from vertical must not exceed ± 3 degrees and average tilt for the entire project must not exceed ± 1 degrees. Crab should not exceed ± 3 . Any two or more consecutive photographs displaying crab in excess of five degrees (5°) shall be rejected.

5.2 Control Establishment

All horizontal and vertical values should be derived using GPS (airborne and otherwise) and verified by the existing ground control points that consist of NGS Monuments and Scott County Survey Monuments and control points used previous base mapping projects. Monument points will be available to the Contractor in ESRI shapefile format. A map of monuments is provided in Appendix B.

The horizontal data should be based upon the North American Datum of 1983 (NAD83) in the Kentucky North State Plane coordinate system (FIPS 1601) in units of U.S. Survey Feet. The vertical data should be based upon the North American Vertical Datum of 1988 (NAVD88). The Contractor will identify the points used to meet the accuracy standard of the photogrammetric products and data. The Contractor will determine land ownership where control points exist and, when required, obtain necessary site access permission.

The Contractor can establish additional ground controls if necessary to achieve the required accuracy for requested deliverables. These controls will be instituted under the supervision of a Kentucky Registered Land Surveyor.

The Commission will also accept proposals that detail the use of an integrated system that captures digital imagery, LIDAR data, and GPS data simultaneously in a manner that eliminates the need for fully analytical aerotriangulation using ground control points. The Commission realizes that this process is not commonly used; therefore, a Respondent proposing this method must provide detailed methodology of equipment and flight characteristics necessary to generate the imagery that meets the quality requirements set forth in this RFP&Q.

5.3 Aerotriangulation

5.3.1 FAAT

If fully analytical aerotriangulation (FAAT) is utilized, it should be performed over the entire project Study Area using the control establishment previously mentioned in Section 5.2 of this RFP&Q. The Digital Terrain Model created for the purposes of digital image orthorectification and contour generation should be produced using aerotriangulation bridging and post-processed LIDAR data representing bare earth (LIDAR data collection is discussed in Section 5.4).

The positional accuracy of horizontal and vertical photo control established by FAAT must meet the acceptable root mean square errors (RMSE) set forth by the FGDC. The Respondent must submit detailed methodology for all analytical stereoplottling procedures used, compilation and measurement procedures, and quality control procedures.

5.3.2 Digital Photography

If a Respondent should propose the simultaneous collection of digital photography, GPS data, and LIDAR data to eliminate the need for FAAT, detailed methodology describing quality control techniques for the orthorectification of digital aerial imagery should be submitted in lieu of fully analytical aerotriangulation.

5.3.3 Methodology

Regardless of the method used to generate a highly accurate Digital Terrain Model on which the orthorectification is based, complete methodology must be submitted with recommendations on what procedure would be the most effective to produce the requested deliverables.

5.4 LIDAR Data Collection

5.4.1 Methodology

The Respondent is responsible for providing recommended methodologies and specifications for the acquisition of Light Detection and Ranging data. The Respondent will be responsible for disclosing the details and specifications of the airborne GPS and attendant GPS base stations used, the inertial measurement unit (IMU) used, and the light-emitting scanning laser used. The Respondent's proposal should follow guidelines and standards set forth by the Federal Geographic Data Committee (FGDC), the National Standard for Spatial Data Accuracy (NSSDA), and American Society for Photogrammetry and Remote Sensing (ASPRS).

Detailed methodology must be proposed for the following:

- a. Specifications and methodology for the LIDAR flight should include documentation of mission date(s), time, flight altitude, overlap, and airspeed. The flight paths will cover the entire Project Study Area, including both parallel and cross flight lines to allow for proper quality control. There should be a discussion addressing how various environmental conditions will be handled and any special considerations for areas of dense coverage (e.g., locations containing dense foliage).
- b. If separate flights for aerial photography and LIDAR are proposed, the Respondent must outline a methodology that ensures coordination between them. Significant time between flights is not acceptable as growth in Scott County, particularly Georgetown, is rapidly changing the landscape.
- c. Specifications for the data collector should include scan angle, along-track, and cross-track pulse spacing, pulse width and density, and number of returns. LIDAR-derived data will have the accuracy required to produce topographic maps (i.e., two and five-foot contours in Urban and Rural Areas, respectively) and products that meet the National Standard for Spatial Data Accuracy (NSSDA).
- d. The Respondent will describe classification schema and process for the discrimination of first and last (and any additional) pulse returns. Describe the filtering process in order to determine bare earth representation. Additionally, describe methods used to classify and process separate datasets corresponding to vegetation and structures.
 - Furthermore, if the data allows, the Contractor should classify the LIDAR data into categories representing the following surface types:
 - Bare Earth
 - Low Vegetation
 - Medium Vegetation

- High Vegetation
 - Buildings
 - Low points (noise)
 - High points (noise)
 - Model Key Points
 - Water Surfaces
 - Road Surface
- e. Definition and resolution of data voids and data artifacts resulting from the mission.
 - f. Outline all quality control and quality assurance procedures to ensure the integrity of the LIDAR mission.
 - g. Provide descriptions, specifications, and calibration procedures of all equipment used in the mission.

5.4.2 Digital Terrain and Elevation Models

A Digital Terrain Model (DTM) derived from LIDAR data to produce a “cloud” of raw data points will be developed for the purpose of orthorectification of the digital photography and for the generation of two-foot and five-foot contours in the in the Urban and Rural Areas, respectively.

The models will utilize a triangulated irregular network (TIN) in their construction based on the Kentucky State Plane North coordinate system outlined in Section 5.2. The DTM and DEMs will conform to the NSSDA, and the Respondent will specify quality control procedures including the horizontal and vertical accuracy requirements in terms of a root mean square error (RMSE).

The generation of two-foot contours and five-foot contours in the Urban and Rural areas, respectively, will be produced from the DTM derived from the LIDAR data. The Respondent/Contractor will detail breakline features, requirements, and procedures. All water features will be breaklined in order to be defined as flat surfaces sharing a single elevation. Contours lines will not loop, repeat, contain gaps or broken segments, or intersect other contour lines. The attributes of the contour lines will contain a numeric number corresponding to the elevation value that is represented by the line.

The DTM shall be delivered in ArcGIS™ File Geodatabase (FGDB) format and all features should be referenced horizontally on Kentucky State Plane Coordinate System, North Zone, NAD 83 and vertically on North American Vertical Datum of 1988 (NAVD 88).

5.5 Digital Orthoimagery

5.5.1 Methodology

Digital Orthoimagery will be produced for all of Scott County in natural “true” color according to the tile block system discussed in Section 5.1.2 of this RFP&Q.

The Respondent will provide detailed specifications of proposed methods used to create digital orthophotography with six-inch pixel resolution (i.e., ground sample distance or GSD) in the Urban Area tiles and twelve-inch pixel resolution (i.e., GSD) in the Rural Area tiles. Methodology included will also describe the creation of a product sufficient to support photogrammetric and topographic mapping.

5.5.2 Scale

The six-inch pixel resolution orthophotography will be produced for normal use at a map scale of one-inch equals 100 feet. The twelve-inch pixel resolution orthoimagery will be captured at a scale sufficient for producing one-inch equals 200 feet. All digital orthoimagery will be produced to sufficient accuracy as set forth by the American Society for Photogrammetry and Remote Sensing (ASPRS) Accuracy Standards for Class One Large Scale Maps.

5.5.3 Source Documentation

Source materials for the generation of the digital orthoimagery will include the aerial photography, GPS and other associated control surveys, FAAT data, camera calibration data, and the DTM(s) and/or DEM(s) derived from the LIDAR data.

The Respondent will discuss the production procedures, equipment used and quality control measures undertaken in their Proposal. This should include any camera specifications and techniques, LIDAR DTM(s) and DEM(s) data collection and production, orthorectification and processing of imagery, ground resolution, integration of existing and newly created tiling scheme, image processing, and the generation of GEOTIFF files and SID imagery.

Metadata for all imagery produced must be in XML file format adhering to the Federal Geographic Data Committee (FGDC) standards for geospatial data (Appendix C).

5.6 Oblique Imagery

5.6.1 Methodology

Digital oblique imagery will be produced for all of Scott County in natural “true” color. Digital oblique imagery will be captured in the four cardinal directions (north, south, east, west) and have the ability to accurately measure bearings, distances, areas, depths, and heights. Contractor will specify the file format oblique imagery will be delivered.

The Respondent will provide detailed specifications of proposed methods used to create digital oblique imagery with six-inch pixel resolution in the Urban Area tiles and twelve-inch pixel resolution in the Rural Area tiles.

5.6.2 Source Documentation

Source materials for the generation of the digital oblique imagery will include the aerial photography, GPS and other associated control surveys, FAAT data, camera calibration data, and the DTM(s) and/or DEM(s) derived from the LIDAR data.

The Respondent will discuss the production procedures, equipment used and quality control measures undertaken in their Proposal. This should include any camera specifications and techniques, LIDAR DTM(s) and DEM(s) data collection and production, orthorectification and processing of imagery, ground resolution, integration of existing and newly created tiling scheme, image processing, and the generation of deliverable files.

Metadata for all imagery produced must be in XML file format adhering to the Federal Geographic Data Committee (FGDC) standards for geospatial data (Appendix C).

6. Deliverables

6.1 Coordinate System

All deliverables included in this project must be delivered in the Kentucky State Plane North Coordinate System referenced to the North American Datum 1983 (NAD83) and the North American Vertical Datum 1988 (NAVD88) with units expressed in U.S. survey feet.

6.2 Aerial Photography

- a. Flight line map and control plan diagram as a scanned digital image as a **pre-flight deliverable**
- b. Valid United States Geological Survey (USGS) Calibration Report for the aerial camera(s) in ASCII file format
- c. Navigation Report summarizing the quality of the photography in ASCII file format
- d. Geodatabase point feature class of the centers of each exposure with attributes for flight line, date, flight altitude, scale, and exposure number
- e. Geodatabase polygon feature class of the utilized portions of each exposure in the digital orthoimagery with attributes for flight line and exposure number
- f. FGDC-compliant metadata for each feature class in XML file format
- g. All geodatabases must have the same spatial domain and schema as all other geodatabase data requested in this RFP&Q

6.3 Control Survey

- a. A survey report containing information about sources, monuments, procedures, difficulties, and actual accuracies attained in ASCII file format
- b. The Commission will accept proposals for GPS data coordinates as a geodatabase point feature class in the Kentucky State Plane North (NAD83) coordinate system (U.S. Survey Feet as units)
- c. Final set of project control point coordinates as a geodatabase point feature class. Values will be provided in Kentucky State Plane North (NAD83) coordinates in U.S. Survey Feet units. Attributes will include location, accuracy, monument type (e.g., ground control point, GPS point, NGS monument, Scott County monument, etc), elevation in U.S. Survey Feet, x/y coordinates in Kentucky State Plane North NAD83
- d. All field notes in digital format
- e. A digital survey diagram illustrating the location of all horizontal and vertical positions used in the project
- f. FGDC-compliant metadata in XML file format for each geodatabase feature class
- g. All geodatabases must have the same spatial domain and schema as all other geodatabase data requested in this RFP&Q

6.4 Aerotriangulation

- a. A Fully Analytical Aerotriangulation (FAAT) report documenting the quality and accuracy of the analytical measurements, including a brief narrative explaining the solution as well as descriptions of equipment, procedures, and computer programs used delivered in ASCII file format. The report will also include root mean square error (RMSE) summaries for all analytical measurements. Additionally, include significant misfits encountered at control points, affine transformations, and the method to analyze and rectify the discrepancies.
- b. An ASCII file of coordinate values of all triangulation points including control, pass, drop, tie, and quality control. All points will be identified as to its type for all stereo models
- c. A report detailing the methodology used in lieu of FAAT (relevant if proposing an alternative data collection method that eliminates the need for FAAT)

6.5 LIDAR Data

- a. Flight line map and control plan diagram as scanned digital image as a **pre-flight deliverable**
- b. Mission report summarizing system calibration and validation of data collection procedures in ASCII file format
- c. The Commission will accept proposals that detail the delivery of LIDAR Point Cloud Data in LAS format that contain x, y, z coordinate values, a return signal intensity value, and a surface classification value.

- d. Lidar data should be classified according to categories defined in Section 5.4.1.d.
- e. Lidar data should be delivered as LAS files tiled according to the tiling scheme of the Study Area as shown in Appendix A.
- f. Tile index of scaled blocks (if new tile structure is required or is different from tile index of orthoimagery) as a geodatabase polygon feature class with attributes including tile name, scale, and delivery area.
 - a. The geodatabase will contain the same spatial domain and schema as all other geodatabase data requested in this RFP&Q
- g. Metadata in the FGDC format must be submitted in XML file format for all geodatabase feature classes

6.6 Digital Terrain Model(s) and Digital Elevation Model(s)

- a. Digital Terrain Model (DTM) of bare earth as a Geodatabase PointZ feature class with attributes containing State Plane coordinates and elevations in U.S. Survey Feet
- b. A Geodatabase PolylineZ feature class of supplemental breaklines
- c. All point feature classes can be housed within one geodatabase (must include same spatial domain and schema as all other geodatabases requested in this RFP&Q)
- d. All feature classes must include FGDC-complaint metadata in XML file format

6.7 Contours

- a. Contractor will create two-foot contours within the Urban Area tiles and five-foot contours within the Rural Area tiles generated from LIDAR Digital Terrain Models.
- b. One geodatabase polyline feature class displaying the two-foot contours within the Urban Area tiles. Attributes will distinguish the following contour types: index, intermediate, depression index, and depression intermediate. Vertical (z) values should be reference to NAVD 88.
- c. One geodatabase polyline feature class displaying the five-foot contours within in the Rural Area tiles. Attributes will distinguish the following contour types: index, intermediate, depression index, and depression intermediate. Attributes should contain the numeric elevation. Vertical (z) values should be reference to NAVD 88.
- d. Geodatabase will contain the same spatial reference qualities (e.g., same schema and spatial domain) as all other geodatabases requested in this RFP&Q
- e. Metadata for all feature classes will be FGDC-compliant in the XML file format

6.8 Natural “true” Color Digital Orthophotography

- a. Digital orthophotography as outlined in Section 5.5 of this RFP&Q.

- b. Digital orthophotography will be submitted as separate uncompressed GEOTIFF files corresponding to each tile block within the Study Area (Appendix A).
- c. There will also be the generation of two MrSID files. One SID file depicting imagery from the Urban Area tiles and one depicting imagery from the Rural Area tiles.
- d. Tile index of scaled blocks (if new tile structure is required) as a geodatabase polygon feature class with attributes including tile name, scale, and delivery area.
 - a. The geodatabase will contain the same spatial domain and schema as all other geodatabase data requested in this RFP&Q
- e. FGDC-complaint metadata in XML file format will be submitted for the polygon feature class
- f. Metadata corresponding to the TIFF files and the SID files will be created in compliance with FGDC standards in XML file format

6.9 Planimetric Data

- a. All planimetric data should be submitted as geodatabase feature classes. All geodatabases created will contain the same spatial reference qualities (e.g., same schema and spatial domain) so that they can easily be integrated into other geodatabases to be created in house. Classification of features required only to the feature class level.
- b. Building Footprints as polygons
 - a. Attributes shall contain building spot elevation, square footage, perimeter (feet)
- c. Edge of curb and road pavement, including driveways at least 100' in length as polygons
- d. Fences as polylines
- e. Lakes, ponds, and wetlands as polygons
- f. Edges of bank for natural streams/creeks as polygons
- g. Drainage ditches as polyline
- h. Forested areas/treelines as polygon
- i. Parking lots/areas as polygon
- j. Sidewalks as polygon
- k. Utility poles as points
- l. Bridges as polygon

6.10 Digital Oblique Imagery

- a. Digital Oblique Imagery as outlined in Section 5.6 of this RFP&Q.
- b. Digital oblique photography will be submitted as separate uncompressed image files corresponding to each tile block within the Study Area (Appendix A)

- c. FGDC-complaint metadata in XML file format will be submitted for the polygon feature class
- d. Metadata corresponding to the TIFF files will be created in compliance with FGDC standards in XML file format

6.11 Oblique Image Application Software

- a. Oblique Image Application Software must be specialized software that will allow user to browse, navigate, and allow the measurement of distance, height, elevation and area directly from the oblique imagery as well as integrate with GIS vector data and GIS applications. Software must be compatible with Windows 7, Windows 10, Windows Server 2008 Service Pack 2, Windows Server 2012 R2.
- b. Instructions for installation of imagery on Commission hardware.
- c. Instructions for installation of software on Commission hardware.

6.12 Change Detection

The Commission is interested in a change detection software that allows the comparison of land and property features between existing and new imagery and/or between existing and new planimetric data.

- a. Change detection software should provide the ability to identify additions or demolitions to structures, land use changes, and new construction.
- b. Change detection software should have the ability to use both existing orthogonal and oblique imagery regardless whether the existing imagery was captured by the Contractor.
- c. Change detection software should have the ability to use existing planimetric data regardless whether it was captured by the Contractor.

6.13 Training

- a. Selected Contractor should provide onsite end-user training for the oblique image viewing software and change detection software.
- b. End-user training should include, but not limited to overview of products and detailed instructions on how to use them, in addition, system administration training on how to configure the required hardware and software components and troubleshooting.

6.14 Optional Disaster Flight Coverage

- a. Provide options for the Commission to update either orthogonal, oblique, or both imagery types after emergency or natural disaster situations.
- b. Areas to be covered in such event will be specified by the Commission
- c. Capturing imagery after an emergency should be given priority over regularly scheduled assignments.
- d. Any special terms, conditions, or costs associated with disaster flight coverage should be included in the proposal.

6.15 Metadata Requirements

Each geodatabase feature classes and digital orthophotography will contain a unique metadata document in XML file format adhering to the Federal Geographic Data Committee Standards for digital geospatial metadata (Appendix C). A specific FGDC XML document style sheet should be recommended by the Respondent and will be chosen by the Commission.

Attachment A General Conditions

GC-01 Standards of Workmanship

The Contractor shall ensure that all work performed by the Contractor in connection with the performance of the services provided for in this Contract, shall meet or exceed the requirements set forth in this Contract. All work shall be performed in a good workmanlike manner with the highest skill, and all materials shall be free from defect.

The Contractor shall carry out and perform the duties and obligations required of it under this Contract, with that degree of skill, care and diligence normally shown by a Contractor experienced, knowledgeable and skilled in photogrammetric services. The Contractor is qualified to perform photogrammetric services provided for in this Contract. The Contractor shall at all times use its highest degree of skill and judgment on behalf of the County to assure timely and satisfactory performance of its obligations under the Contract. The Contractor shall at all times act consistent with the obligations assumed by it in entering into this Contract. The Contractor shall assure that all services which require the exercise of professional skills or judgment shall be accomplished by professionals qualified and competent in the applicable discipline and appropriately licensed, if required by law. The Contractor shall be responsible for the professional and technical performance of its obligations under the Contract, regardless of whether the obligations hereunder are performed by the Contractor, its subcontractors or others on its behalf.

GC-02 Personnel

The Contractor shall assign and maintain, at all times during the term of this Contract, a staff of competent personnel who are fully qualified to perform the services required by this Contract and have identified all Key Personnel on **Attachment _** of this Contract. Contractor's Key Personnel shall be assigned and dedicated to the performance of this Contract for the entire term of this Contract, except in the event of resignation, termination or illness which would prevent such key personnel from completing their assignment. Contractor shall not make any change or reassignment of Key Personnel without prior notice to and prior acceptance by the Commission. In the case that any of the Key Personnel shall not at any time be able to perform his or her assigned function as described in this Contract, Contractor shall promptly give written notice thereof to the Commission and furnish an alternate individual in replacement of any such Key Personnel, which alternate individual shall be subject to the written approval of the Commission. The Commission may, at any time, give written notice to the Contractor requesting the removal of any of the Key Personnel or any of the Contractor's other assigned personnel from the performance of this Contract; upon receipt of such notice, the Contractor shall forth with remove such Key Personnel or other assigned personnel and furnish to the Commission other acceptable personnel.

GC-03 Warranty

The Contractor warrants that it will perform all services under this Contract in a good and workmanlike manner following all standards now current in the industry.

GC-04 Prices Firm

Personnel hourly rates and the maximum fixed price for this Contract shall be firm and will not be subject to increase during the term of this Contract.

GC-05 Taxes

A Federal Excise Tax does not apply to materials purchased by Scott County. Sales, excise, and transportation taxes do not apply to purchases made by the County by virtue of Kentucky law. The price or prices herein provided for shall include any and all taxes from and against any assessment of taxes or penalties which may at any time be imposed upon the Commission resulting from the purchases made pursuant to this Contract. The indemnity herein provided for shall not be limited to the term of this Contract.

GC-06 Payment

All invoices submitted by the Contractor shall be in accordance with the cost provisions contained in this Contract. No payments shall be made without such invoices having been submitted.

All charges shall not exceed the amount of \$_____.

GC-07 Contractor Credits

To the extent the Contractor gives credits toward future purchases of goods or services, financial incentives, discounts, value points or other benefits based on the purchase of the materials or services provided for under this Contract, (the "credits") such credits belong to the Commission and not the Using Department or any other County department. Contractor shall report any such credits to the Commission.

GC-08 Audit; Examination of Records

The Contractor agrees that the Commission Auditor or any of its duly authorized representatives shall, until expiration of three (3) years after the final payment under the Contract, have access and the right to examine any books, documents, papers, payroll records, canceled checks, payroll records, bank statements, purveyor's and other invoices, and records of the Contractor related to the Contract, or to Contractor's compliance with any term, condition or provision thereof. The Contractor shall be responsible for establishing and maintaining records sufficient to document the costs associated with performance under the terms of this Contract.

The Contractor further agrees that it shall include in all of its subcontracts here under a provision that the subcontractor agrees that the Commission Auditor or any of its duly authorized representatives shall, until expiration of three (3) years after final payment under the subcontract, have access and the right to examine any books, documents, papers, payroll records, canceled checks, bank statements,

purveyor's and other invoices and records for such subcontractor involving transactions relating to the subcontract, or to such subcontractor's compliance with any term, condition or provision there under or under the Contract.

In the event the Contractor receives payment under the Contract, reimbursement for which is later disallowed by the Commission, the Contractor shall promptly refund the disallowed amount to the Commission on request, or at the Commission's option, the Commission may credit the amount disallowed from the next payment due or to become due to the Contractor under any contract with the Commission.

GC-09 Damages

The Contractor understands that time is of the essence for this project and agrees to perform and complete the services required in accordance with the schedules developed and agreed to by the parties for this project. The Commission and the Contractor agree that the Contractor shall be liable for the Commission's actual and consequential damages resulting from a failure of timely performance.

GC-10 Delay by County

The Contractor shall not be entitled to any damages from the Commission on account of any delay whether or not such delay is caused by the Commission or results in a permitted extension of time which is approved by the Commission in writing.

GC-11 Penalty

The Commission will uphold the right to retain 15% of the complete cost of services until date of completion and/or acceptance by the Contractor to assure quality of the project and adherence to the time schedule.

GC-12 Force Majeure

Neither Contractor nor Commission shall be liable for failing to fulfill any obligation under this Contract if such failure is caused by an event beyond such party's reasonable control and which is not caused by such party's fault or negligence. Such events shall be limited to acts of God, acts of war, fires, lightning, floods, epidemics, or riots.

The above notwithstanding, the Contractor agrees that no charges or claims for damages shall be made by Contractor for any delays or hindrances from any cause whatsoever during the progress of any portion of this Contract.

GC-12 Indemnification

The Contractor covenants and agrees to indemnify, hold harmless and defend the Commission and its commissioners, officials, employees, agents and representatives, and their respective heirs, successors and assigns, from and against any and all costs, expenses, attorney's fees, losses, damages and liabilities incurred or suffered directly or indirectly from or attributable to any claims arising out of or incident to the performance or nonperformance of this Contract by the Contractor, or the acts or omissions of the officers, agents, employers, Contractors, subcontractors, licenses or invitees of the Contractor. The Contractor expressly understands and agrees that any Performance Bond or

insurance protection required of the Contractor, or otherwise provided by the Contractor, shall in no way limit the responsibility to indemnify the Commission as hereinabove provided.

GC-13 Subrogation and Insurance Requirements

A Subrogation and Waiver

- 1 The Contractor shall require all policies of insurance that are in any way related to this Contract and are secured and maintained by Contractor and all tiers of subcontractors to include clauses providing that each underwriter shall waive all of its rights of recovery, under subrogation or otherwise, against the Commission.
- 2 The Contractor shall waive all rights of recovery against the Commission.
- 3 The Contractor shall require all tiers of subcontractors to waive their rights of recovery against the Commissioner.

B Insurance Requirements of the Contractor

- 1 Prior to the commencement of the work, the Contractor, at its cost, shall secure and thereafter, except as otherwise provided herein, maintain at all times during the performance of this Contract the insurance specified in this Contract.

Nothing contained in these insurance requirements is to be construed as limiting the extent of the Contractor's responsibility for payment of damages resulting from its operations under this Contract. The Contractor shall advise all insurance companies to familiarize themselves with the conditions and provisions of this Contract dealing with waivers of subrogation, insurance and indemnification. Failure of the Contractor to so notify these aforesaid insurance companies shall in no way relieve them from their obligations under this Contract.

- 2 The Contractor shall at all times during the period in which this Contract is in force and effect provide and maintain insurance of the type and in the limits as set forth below.

3 Workers Compensation Insurance

An affidavit pursuant to KRS 342.610 (5), either for Individual, Corporation or a Partnership will be required to show compliance with Kentucky's requirements for the Workers Compensation policy. It shall include the following provisions:

- (a) Employers' Liability coverage with a limit of
 - \$500,000 per person for bodily injury; and,
 - \$500,000 per occurrence for property damage; or
 - \$1,000,000 CSL (bodily injury & property damage combined)

(b) Contractor agrees to indemnify and save all members of the Commission harmless from suits or actions of every nature and description brought against it, for or on account of injuries or damage received or sustained by any party, by or from the acts of the Contractor, his servants or agents.

C Contractor Obligations

1. Contractor will not be permitted to start any work until the business entity has submitted the necessary certificate of insurances as outlined in this contract.

2. All requirements imposed by the policies referred to above upon and to be performed by Contractor shall likewise be imposed upon, assumed and performed by each of the subcontractors. Contractor and each subcontractor shall execute with their subcontractors a written agreement which shall include all such requirements. Any "hold harmless" and "indemnity" clause must benefit and not be detrimental in any way to the Commission, and others so specifically identified in this Contract.

3. Contractor and all subcontractors shall not violate or knowingly permit to be violated any condition of the policies of insurance provided by the terms of this Contract and shall at all times satisfy the requirements of the insurance companies issuing them.

GC-14 Compliance with Laws

The Contractor shall observe and comply with the laws, ordinances, regulations and codes of the federal, state, county and other local government agencies, which may in any manner affect the performance of this Contract. Assurance of compliance with this requirement by the Contractor's employees, agents or subcontractors shall be the responsibility of the Contractor. Contractor shall obtain any and all necessary permits, licenses and other authorizations necessary for Contractor's performance under this Contract.

GC-15 Conflict of Interest

No member of the governing body of the Commission and no other employee or agent of the Commission who exercises any functions or responsibilities in connection with the carrying out of the project to which this agreement pertains shall have any personal interest, direct or indirect, in this Contract.

The Contractor agrees to inform the Commission on a timely basis of all of the Contractor's interests, if any, which are or which the Contractor reasonably believes may be incompatible with any interest of the Commission.

The Contractor covenants that it presently has no interest and shall not acquire any interest, direct or indirect, in the project to which this Contract pertains which would conflict in any manner or degree with the performance of its service hereunder. The Contractor further covenants that in the performance of this Contract no person having any such interest shall be employed.

GC-16 Nondiscrimination and Affirmative Action

The Contractor, in performing under this Contract, shall not discriminate against any worker, employee or applicant, or any member of the public, because of race, creed, color, religion, age, sex, marital status, sexual orientation, handicap, national origin, or status of discharge from military, nor shall Contractor otherwise commit an unfair employment practice. The Contractor further agrees that this General Condition will be incorporated in all contracts entered into with suppliers of materials or services, Contractors and subcontractors and all labor organizations furnishing skilled, unskilled and craft union skilled labor, or who may perform any such labor or services in connection with this Contract.

GC-17 Independent Contractor Status

The Contractor and its employees, subcontractors, suppliers, agents and representatives are independent contractors and not employees or agents of the Commission. It is expressly understood and agreed that the Contractor and its employees, subcontractors, suppliers, agents and representatives shall in no event as a result of this Contract, be entitled to any benefit to which Commission's employees are entitled including, but not limited to, overtime, retirement benefits, worker's compensation benefits and injury leave or other leave benefits from Commission.

GC-18 Subcontracting or Assignment

The Contractor will be chosen for its unique ability and expertise and no right or interest in this Contract shall be assigned by Contractor to any third party, or any part of the Contract subcontracted, without the advance written consent of the Planning Commission. The Commission reserves the right to impose reasonable conditions precedent to giving such consent, including, but not limited to, insurance and surety bond coverage. Notwithstanding Commission consent to assign or subcontract, the Contractor shall not be relieved from its obligation or change the terms of this Contract.

The Contractor shall not transfer or assign any Contract funds, or claims due or to become due, without the advance written approval of the Commission, which approval shall not unreasonably be withheld. The unauthorized transfer or assignment of any Contract funds either in whole or in part, or any interest therein, or the unauthorized assignment or subcontracting of the Contract, shall have no effect and are void so far as the Commission is concerned.

GC-19 Subcontractors for Services

No contract may be made by the Contractor with any other party for the furnishing of any services required by the agreement without the prior written approval of the Commission, but this provision shall not require the approval of employment contracts for the Contractor's employees.

The Contractor has identified in **Attachment** __ all subcontractors and material suppliers it intends to use in the performance of the Contract. All such persons shall be subject to the prior approval of the Commission.

GC-20 Changes and Modifications

The Commission and Contractor may, from time to time during the term of the Contract, make changes and extensions of time, or other modifications, to the Contract. Such changes, extensions, or modifications shall only be made by mutual agreement in writing. No such

changes, extensions or modifications which individually or cumulatively result in additional cost over \$10,000.00 or which extends the term of the agreement by thirty (30) days or more shall be deemed as authorized without the advance approval of the Georgetown-Scott County Planning Commission. Changes which increase the term of the Contract by less than thirty (30) days or increase the cost by less than \$10,000.00 may only be made with the advance approval of the Planning Commission.

GC-21 Disputes

Except as otherwise provided in this Contract, any dispute between Contractor and Commission concerning a question of fact arising under this Contract and not resolved will be decided by the Georgetown-Scott County Planning Commission Attorney or person appointed by the GSCPC Attorney. The complaining party shall submit a written statement detailing the dispute and specifying the specific relevant contract provision(s) to the Georgetown-Scott County Planning Commission Attorney or person appointed by the GSCPC Attorney. Upon request of the attorney, the party complained against shall respond to the complaint in writing within five (5) days of such request. The attorney will reduce his decision to writing and mail or otherwise furnish a copy thereof to the Contractor and the Commission. Dispute resolution as provided herein shall be a condition precedent to any other action or law or in equity.

Notwithstanding a dispute, the Contractor shall continue to discharge all its obligations, duties and responsibilities set forth in this Contract during any dispute resolution proceeding unless otherwise agreed to by the County in writing.

GC-22 Default

Contractor shall be in default hereunder in the event of a material breach by Contractor of any term or condition of this Contract where Contractor has failed to cure such breach within ten (10) days after written notice is given to Contractor by Commission, setting forth the nature of such breach.

County shall be in default hereunder if any material breach of this agreement by Commission occurs which is not cured by Commission within ninety (90) days after written notice has been given by Contractor to Commission, setting forth the nature of such breach.

GC-23 County's Remedies

Following notice of material breach or notice of default to Contractor, the Commission reserves the right to withhold payments owed to Contractor until such time as Contractor has cured the breach or noncompliance which is the subject matter of the notice.

If the Contractor fails to remedy a material breach during the ten (10) day cure period pursuant to General Condition GC-29, Default, the Commission shall have the right to terminate this Contract provided, however, that Commission shall give Contractor five (5) days prior written notice of termination.

In the event of termination, the County reserves the right to elect to continue using the Contractor's services in whole or in part for the period of time necessary to allow the Commission to obtain an implement replacement services. During such transition period all terms and conditions of the Contract shall be in full force and effect. The Commission may elect to continue using Contractor's existing services in full; increase monitoring and oversight of Contractor's operations; or substitute County's designees for the Contractor's personnel utilizing Contractor's facilities pending the implementation of replacement services. Any payments due Contractor will be prorated based on services the Contractor is then providing. The Contractor will agree to cooperate with the implementation of the replacement service should the Commission so request.

After the Commission has secured replacement services and such services are operational, the Contractor shall promptly remove any and all of Contractor's personnel, products and equipment, unless such items remain with the Commission pursuant to the terms of this Contract. In addition, the Commission shall have the right to pursue all remedies in law or in equity.

GC-24 Contractor's Remedies

If the Commission has been notified of default and fails to remedy a material breach during the ninety (90) day cure period pursuant to General Condition GC-29, Default, the Contractor shall have the right to terminate this Contract, providing, however, that Contractor shall give the Commission thirty (30) days prior written notice of termination. In the event of termination the Commission shall be given the right to continue using the Contractor's services in full for a reasonable period of time until Commission shall have replaced such services. Contractor will agree to cooperate with the implementation of the replacement service should the Commission so request. During such transition period all terms and condition of the contract shall remain in full force and effect.

After replacement services have been secured and are operational the Contractor shall promptly remove any and all of Contractor's personnel, products, and equipment, unless such items remain with the Commission pursuant to the terms of this Contract. The Contractor shall have the right to pursue all remedies available in law or in equity. In all cases the Contractor's damages shall be those provable damages not to exceed the value of the Contract as awarded by the Commission.

GC-25 Termination for Convenience

The Commission may terminate this Contract, or any portion, at any time by notice in writing from the Commission to the Contractor. If the Contract is terminated by the Commission, the Contractor shall deliver to the Commission all finished or unfinished documents, data, studies and reports prepared by the Contractor under this Contract and these shall be and become the property of the Commission. Payment for the work performed before the effective date of such termination shall be based upon an estimate of the services actually performed by the Contractor to the date of termination. Such payment so made to the Contractor shall not exceed the value of the Contract as awarded by the Commission and shall be in full settlement for services rendered under this Contract.

GC-26 Confidentiality and Ownership of Documents

Contractor acknowledges and agrees that information regarding this Contract is confidential and shall not be disclosed, directly, indirectly or by implication, or be used by Contractor in any way, whether during the term of this Contract or any time thereafter, except solely as required in the course of Contractor's performance of services hereunder. Contractor shall comply with the applicable privacy laws and regulations affecting the Commission and will not disclose any of the Commission's records, materials, or other data to any third party. Contractor shall not have the right to compile and distribute statistical analyses and reports that are beyond the scope of the Contract, utilizing data derived from information or data obtained from the Commission without the prior written approval of the Commission. In the event such approval is given, any such reports published and distributed by Contractor shall be furnished to the Commission without charge.

All documents, data, studies, reports, work product or product created as a result of the performance of services under this Contract (the "Documents") shall be the property of the Commission. It shall be a breach of this Contract for the Contractor to reproduce or use, any Documents, or product obtained from the Commission, for its own purposes or for that of any third party. During the performance of the services herein provided for, the Contractor shall be responsible of any loss or damage to the Documents while they are in his possession, and any such Document loss or damaged shall be restored at the expense of the Contractor. Full access to the Contractor's work during the preparation of the Documents shall be available to the Commission and other interested public agencies. In the event Contractor utilizes any of his own proprietary or confidential information in whatever form, in the performance of duties under this Contract, it must be clearly marked as such.

The parties hereto intend and agree that, to the extent permitted by law, all documents, data, studies, reports, work product, or other product to be produced by Contractor at the Commission's instance and expense pursuant to this Contract (the "Project Documents") shall conclusively be deemed "works made for hire" within the meaning and purview of Section 101 of the United States Copyright Act, 17 U.S.C. '101 et seq., and that the Commission will be the copyright owner thereof and of all aspects, elements and components thereof in which copyright can subsist. The reproduction, use or sale of any Project Documents, or product obtained from the Commission, by the Contractor for its own use or for the use of any third party will constitute a breach of this Contract.

To the extent that any portion of the Project Documents does not qualify as a "work made for hire," the Contractor hereby irrevocably grants, conveys, bargains, sells, assigns, transfers and delivers to the Commission, its successors and assigns, all right, title and interest in and to the copyrights and all U.S. and foreign copyright registrations, copyright applications and copyright renewals therefore, and other intangible, intellectual property embodied in or pertaining to such Project Documents, free and clear of any liens, claims or other encumbrances, to the fullest extent permitted by law. The Contractor warrants to the Commission, its successors and its assigns, that on the effective date of this Contract the Contractor is the lawful owner of good and marketable title in and to the copyrights for the Project Documents (including the copyrights on designs and plans relating to the Project Documents) and has the legal rights to fully assign the same. The Contractor further warrants that it has not assigned any copyrights nor granted any licenses, exclusive or nonexclusive, to any other party, and that it is not a party to any other agreements or subject to any other restrictions with respect to the Project Documents. The Contractor further warrants that it will not restrict or otherwise interfere with the Commission's future actions of changing, modifying, destroying, or moving the Project Documents. The Contractor warrants and represents that the Project Documents constitute works of original authorship.

GC-27 Contractor Representations and Warranties

A. Organization and Standing

The Contractor is a duly organized, validly existing and is in good standing under the laws of the State of its principal place of business. The Contractor is also duly qualified to transact business and is in good standing under the laws of the State of Kentucky.

B. Corporate Power

The Contractor has the requisite legal and corporate power and authority to enter into this Contract and to carry out and perform its duties and obligations under the terms of this Contract.

C. Authorization

All corporate action on the part of the Contractor, its directors and stockholders, necessary for the authorization, execution, delivery and performance by the Contractor of this Contract and the duties and obligations contemplated hereby, has been taken.

D. Solvency and Competency

The Contractor represents that it is financially solvent. The financial information provided to the Commission by the Contractor is true and correct in all material respects. The Contractor and each of its employees, agents, and subcontractors, if any, are competent to perform their respective duties and obligations in performing their duties and obligations under this Contract.

E. Review of Requirements for Project

The Contractor has carefully examined and analyzed the provisions and requirements of this Contract and the Contractor understands the nature of the duties and obligations required under the terms thereof. From its own analysis, the Contractor has satisfied itself as to the nature of all things needed for the performance of this Contract, and all other matters which in any way may affect this Contract or the Contractor's performance under this Contract.

The Contractor was given ample opportunity and time and was requested by the Commission to review thoroughly all documents forming this Contract prior to execution of this Contract in order that it might request inclusion in this Contract of any statement, representation, promise or provision which it desired or on which it wished to place reliance. The Contractor did so review such documents, and either every such statement, representation, promise or provision has been included in this Contract or else, if omitted, the Contractor expressly hereby relinquishes the benefit of any such omitted statement, representation, promise or provision and is ready, willing and able to perform this Contract in its entirety without claiming reliance thereon or making any other claim on account of such omission.

E. Contract Capable of Performance; Contractor's Expertise

The Contract is feasible of performance in accordance with all of its provisions and requirements and the Contractor can and shall perform, or cause to be performed, its duties and obligations in strict accordance with the provisions and requirements of this Contract. The Contractor represents that it has or will make investigations, inquiries and reviews of all available information and documents on the project as the Contractor deems necessary to proceed with the project. The Contractor remains solely responsible for the collection and verification of all information necessary for the Contractor to perform its duties under the Contract.

GC-28 General Notice

All notice required pursuant to this Contract shall be in writing and addressed to the parties at their respective addresses set forth below. All such notice shall be deemed duly given if personally delivered, or if deposited in the United States mail, registered or certified, return receipt requested. Notice as provided herein does not waive service of summons or process.

Joe Kane, AICP LEED AP
Director of Development Services
Georgetown-Scott County Planning Commission
230 East Main Street
Georgetown, Kentucky 40324

and

Whitley Keltner
GIS Analyst
Georgetown-Scott County Planning Commission GIS
230 East Main Street
Georgetown, Kentucky 40324

GC-29 Governing Laws

This Contract shall be interpreted under and governed by the laws of the State of Kentucky. Venue shall be proper in a court of competent jurisdiction located within the County of Scott, Kentucky.

GC-30 Severability

The parties agree that, to the extent that a court of competent jurisdiction shall determine that any part or provision of this Contract is unenforceable as a matter of law, the portion deemed unenforceable shall be severable and the remainder of the Contract shall survive.

GC-31 Entire Agreement

This Contract constitutes the entire agreement of Contractor and the Commission with respect to the subject matter hereof and supersedes all other prior and contemporary agreements, understanding, representations, negotiations, and commitments between Contractor and Commission with respect to the subject matter hereof. The headings of articles, paragraphs and sections in this Contract are included for convenience only and shall not be considered by either party in construing the meaning of this Contract.

GC-32 Approval Required

This Contract between the Contractor and Commission shall not become effective unless authorized and executed by the Georgetown-Scott County Planning Commissioners.

GC-33 Binding Effect

This Contract constitutes a legal, valid, and binding Contract, enforceable against the Contractor in accordance with its terms.

GC-34 Survival

The terms and conditions set forth in the following General Conditions shall survive termination or expiration of this Contract: GC-05 Taxes; GC-08 Audit; Examination of Records; GC-12 Indemnification; GC-13 Insurance; GC-17 Independent Contractor Status; and GC-26 Confidentiality and Ownership of Documents.

GC-35 Review and Acceptance of Project Documents

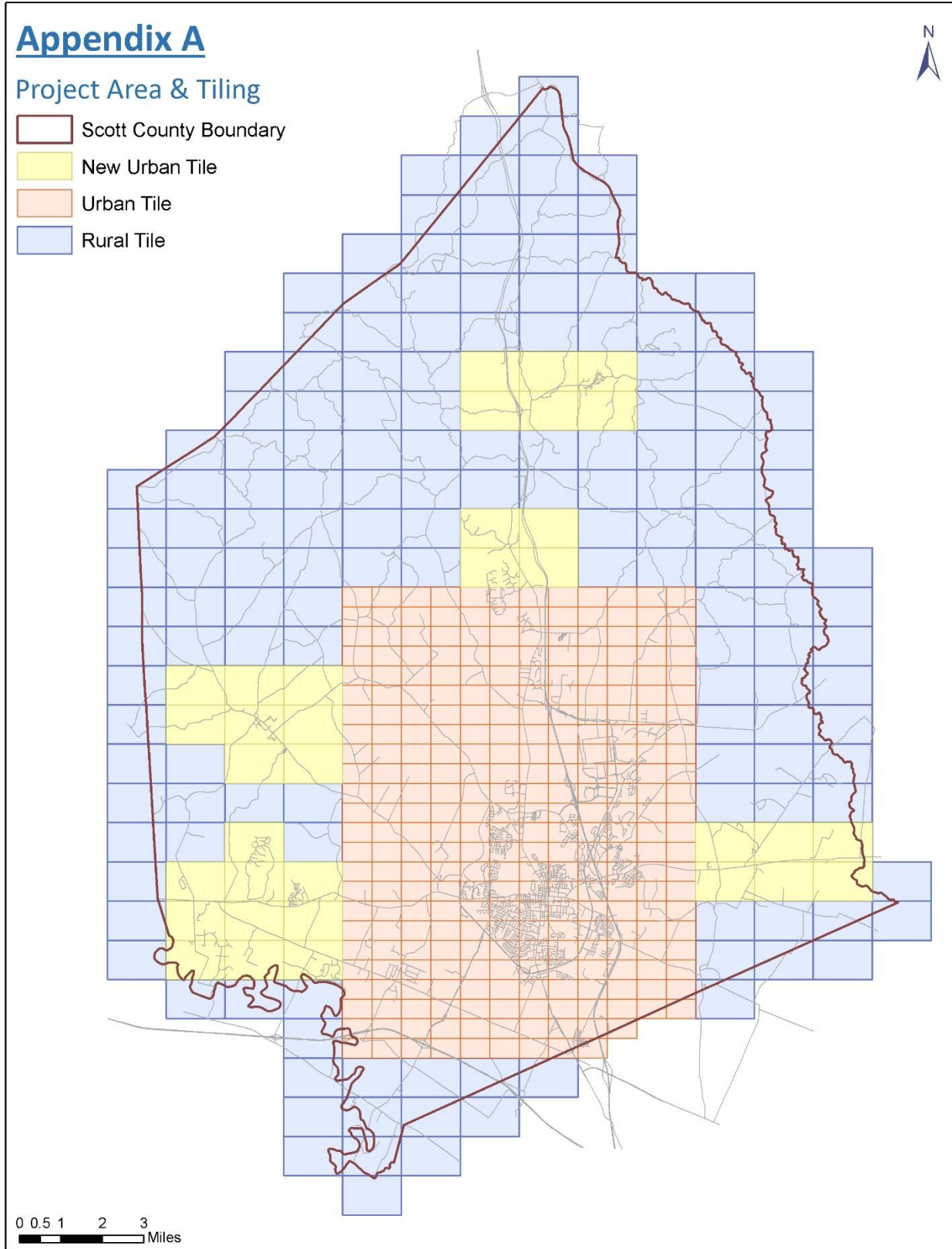
Project Documents required to be produced by the Contractor pursuant to this Contract shall be submitted to the GIS Analyst of the Commission for review and approval in accordance with the following procedures:

- A. The GIS Analyst will have Ten (10) Working Days to review the Project Document.

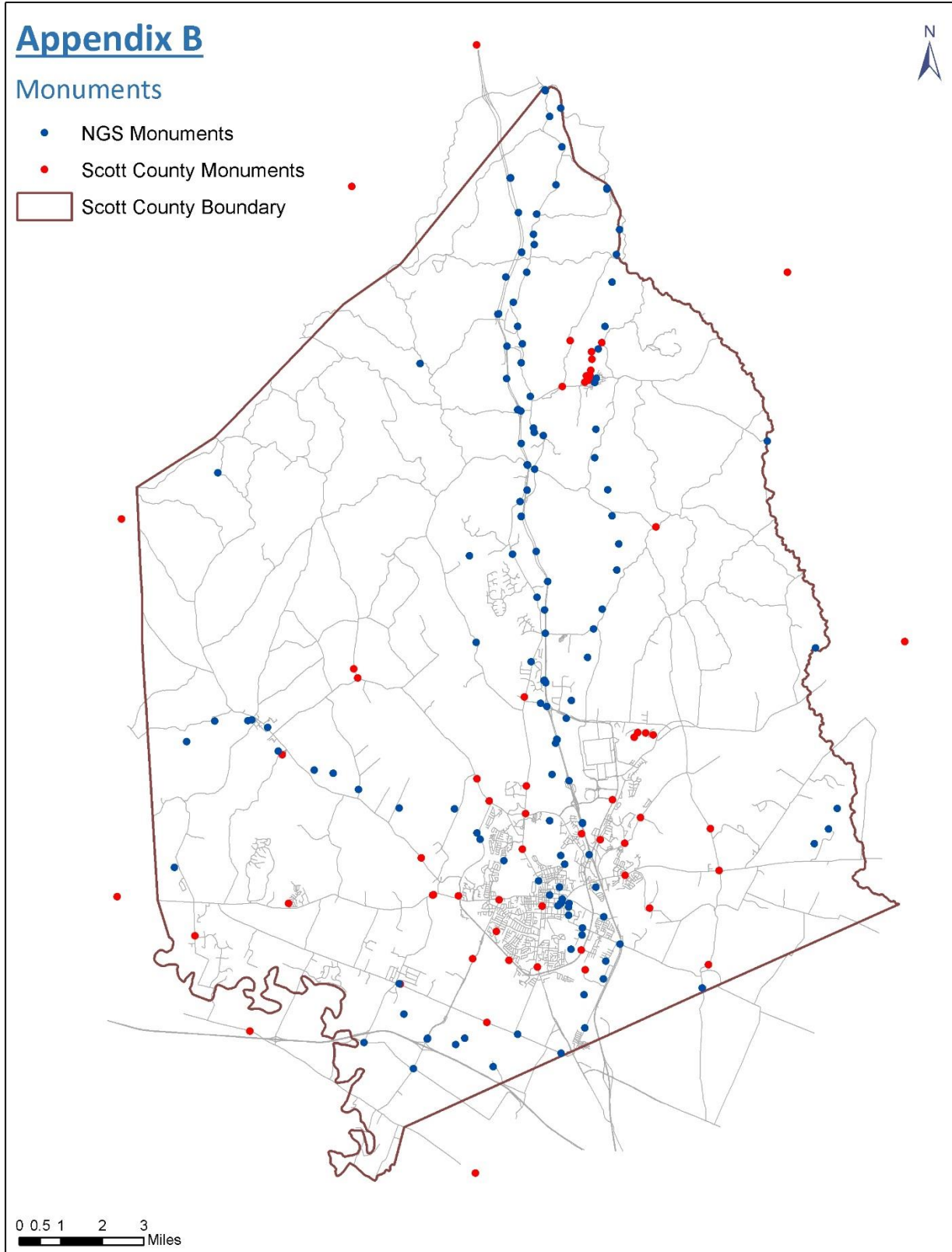
- B. The GIS Analyst will submit in writing to the Contractor a statement which either: (i) approves the Project Document as is; (ii) approves the Project Document in part and rejects it in part or (iii) rejects the Project Document as a whole.

- C. In the event the Project Document is rejected in whole or in part, the Contractor will have five (5) Working Days to revise the Project Document and resubmit the revised Project Document for the GIS Analyst's review and approval. The GIS Analyst shall be given three (3) Days to re-review and approve and/or reject the revised Project Document.

Appendix A Proposed Project Area



Appendix B Monumentation



Appendix C FGDC Standard for Metadata

The scope of the FGDC standard as stated in the *Content Standard for Digital Geospatial Metadata* (FGDC-STD-001-1998) is as follows:

This standard is intended to support the collection and processing of geospatial metadata. It is intended to be useable by all levels of government and the private sector. The standard is not intended to reflect an implementation design. An implementation design requires adapting the structure and form of the standard to meet application requirements.

The standard was developed from the perspective of defining the information required by a prospective user to determine the availability of a set of geospatial data; to determine the fitness and the set of geospatial data for an intended use; to determine the means of accessing the set of geospatial data; and to successfully transfer the set of geospatial data. As such, the standard establishes the names of data elements and compound elements to be used for these purposes, definitions of these data elements and compound elements, and information about the values that are to be provided for the data elements. The standard does not specify the means by which this information is organized in a computer system or in a data transfer, nor the means by which this information is transmitted, communicated, or presented to the user.

Mandatory metadata content is described below.

Content Standard for Digital Geospatial Metadata

- 1. Identification Information**
- 2. Data Quality Information**
- 3. Spatial Data Organization Information**
- 4. Spatial Reference Information**
- 5. Entity and Attribute Information**
- 6. Distribution Information**
- 7. Metadata Reference Information**

Appendix D Cost Worksheet

Respondent should complete the cost worksheet on the following pages.

Contractor's Name: _____

Authorized Signature: _____

Cost Worksheet	
Product/Service	Cost (\$)
Administrative Services	
The respondent shall indicate the cost for administration, internal production meetings, progress review meetings with the Commission, and any other administrative and project management costs associated with the project.	
Administrative Services Total Cost	
Aerial Photography (Section 6.2)	
Pre-Flight Line Map and Control Plan	
USGS Calibration Report for Aerial Camera	
Navigation Report	
Geodatabase PointZ feature classes with metadata	
Geodatabase polygon feature class with metadata	
Digital Aerial Photography	
Special Considerations as determined by Respondent and associated costs	
Aerial Photography Total Cost	
Survey Control (Section 6.3)	
Survey Report	
Geodatabase PointZ feature class of GPS data collected with metadata	
Geodatabase PointZ feature class of final set of project control Points with metadata	
Field notes in digital format	
Digital Survey Diagram	
Special Considerations as determined by Respondent and associated costs	
Survey Control Total Cost	
Aerotriangulation (Section 6.4)	
ASCII File of Triangulated Coordinate Points	
Special Considerations as determined by Respondent and associated costs	
Aerotriangulation Total Cost	
Lidar (Section 6.5)	
Pre-Flight Line Map and Control Plan	
Mission Report	
Delivery of Raw LIDAR data	
Special Considerations as determined by Respondent and associated costs	

Cost Worksheet	
Product/Service	Cost (\$)
Lidar Total Cost	
Digital Terrain Model (Section 6.6)	
Geodatabase PointZ feature class of DTM representing bare earth with metadata	
Geodatabase PolylineZ feature class of supplemental breaklines with metadata	
Special Considerations as determined by Respondent and associated costs	
DTM Total Cost	
Contour Mapping (Section 6.7)	
Geodatabase PolylineZ feature class of two foot contours in the Urban Area with metadata	
Geodatabase PointZ feature class of two foot contours in the Urban Area with metadata	
Geodatabase PolylineZ feature class of five foot contours in the Rural Area with metadata	
Geodatabase PointZ feature class of five foot contours in the Rural Area with metadata	
Special Considerations as determined by Respondent and associated costs	
Contour Mapping Total Cost	
Digital Orthoimagery (Section 6.8)	
Geo TIFF files for the Urban Area tiles (6"pixels)	
Geo TIFF files for the Rural Area tiles (1' pixels)	
One (1) MrSID file for Urban Areas tiles	
One (1) MrSID file for Rural Area tiles	
Tile Structure Geodatabase polygon feature class with metadata	
Special Considerations as determined by Respondent and associated costs	
Digital Orthoimagery Total Cost	
Planimetric Data (Section 6.9) Total	
Polygon Feature Class of building footprints with metadata	
Polygon Feature class of edge of curb and road pavement including driveways at least 100' in length with metadata	
Polyline Feature class of fence lines (any type) with metadata	
Polygon Feature class of lakes/ponds/wetlands with metadata	

Cost Worksheet	
Product/Service	Cost (\$)
Polygon Feature class of natural streams/creeks with metadata	
Polyline Feature class of drainage ditches with metadata	
Polygon Feature class of forested areas/treelines with metadata	
Polygon Feature class of parking lots/areas with metadata	
Polygon Feature class of Sidewalks with metadata	
Point Feature Class of Utility Poles with metadata	
Polygon Feature Class of Bridges with metadata	
Special Considerations as determined by Respondent and associated costs	
Planimetric Data Total Cost	
Digital Oblique Imagery (Section 6.10) Total	
Oblique Imagery for Urban Area (4")	
Oblique Imagery for Rural Area (12")	
Special Considerations as determined by Respondent and associated costs	
Digital Oblique Imagery Total Cost	
Oblique Imagery Application Software (Section 6.11)	
Image Application Software	
Special Considerations as determined by Respondent and associated costs	
Oblique Imagery Application Software Total Cost	
Change Detection (Section 6.12)	
Change Detection Software Solution	
Special Considerations as determined by Respondent and associated costs	
Change Detection Software Total Cost	
Training (Section 6.13)	
On-site Training for End-User Training	
Special Considerations as determined by Respondent and associated costs	
Training Total Cost	
Optional Disaster Recovery Flight (6.14)	
Disaster Recovery Flight	

Cost Worksheet	
Product/Service	Cost (\$)
Special Considerations as determined by Respondent and associated costs	
Disaster Recovery Flight Total Cost	
Performance Bond	
The Respondent shall indicate the cost for performance bond for the project.	
Performance Bond Total Cost	
Project Total	

*In accordance with Section 2.3 of this RFP&Q, the Commission reserves the right not to purchase any portion of the deliverables detailed in Section 6 and in Appendix D of this RFP&Q.