

**CONTRACT FOR  
PHOTOGRAMMETRIC SERVICES**

**BETWEEN**

**VERMILION COUNTY, ILLINOIS**

**AND**

**Bruce Harris**



**BRUCE HARRIS & ASSOCIATES, INC.**  
21 N. River Street  
Batavia, IL 60510

## CONTRACT

THIS AGREEMENT entered into this \_\_\_\_\_ day of \_\_\_\_\_ 2012, between Bruce Harris & Associates, Inc., hereinafter called "Contractor", party of the first part, and Vermilion County, Illinois, hereinafter called "Vermilion County", party of the second part, WITNESSETH:

THAT WHEREAS, the Contractor is in the business of preparing and providing photogrammetric services, computerized property mapping and parcel numbering programs for various governmental agencies in the United States, and

WHEREAS, Vermilion County is desirous of having the Contractor prepare and provide oblique and orthogonal imagery covering Vermilion County.

NOW, THEREFORE, in consideration of the covenants and conditions of the Contract, IT IS AGREED between the parties as follows:

## **PROJECT OVERVIEW**

The purpose of this project is to produce high resolution color, digital orthorectified and oblique imagery for Vermilion County. The Contractor will subcontract this work to Pictometry International Corporation and will manage the project on behalf of Vermilion County.

The Contractor and Pictometry International Corporation will provide Licensed Images procured with a high resolution digital camera and nominal GSD as indicated on the attached Sector Map. The products shall contain ortho images and oblique images taken from both opposite and perpendicular directions. Pictometry images (individual frames) will be delivered in Pictometry .PSI and .PMI format (JPG combined with a metadata trailer). For each sector that includes ortho imagery, Pictometry will include a separate trailer, minimal overlap, projected in State Plane, NAD 83 feet, captured with less than 30% leaf cover (off).

## **OBLIQUE AND ORTHOGONAL IMAGERY**

### **Imagery Parameters**

Community: 4-way with 9 inch mosaic tiles per sector. Product includes 9-inch GSD oblique frame images (4-way), 9-inch GSD orthogonal frame images, 9-inch GSD ortho mosaic tiles, 1-meter GSD ortho mosaic sector tiles and one area-wide 1-meter GSD mosaic.

- Orthogonal GSD: 0.75 feet/pixel
- Nominal Oblique GSD (all values +5/-10%):
  - Front Line: 0.74 feet/pixel
  - Middle Line: 0.85 feet/pixel
  - Back Line: 1.00 feet/pixel

Neighborhood: 4-way with 4 inch mosaic tiles per sector. Product includes 4-inch GSD oblique frame images (4-way), 4-inch GSD orthogonal frame images, 1-meter GSD ortho mosaic sector tiles and one area-wide 1-meter GSD mosaic.

- Orthogonal GSD: 0.32 feet/pixel
- Nominal Oblique GSD (all values +/-10%):
  - Front Line: 0.33 feet/pixel
  - Middle Line: 0.36 feet/pixel
  - Back Line: 0.44 feet/pixel

## **DIGITAL IMAGERY SPECIFICATIONS**

### **Dimensions and Resolution**

All values are approximates based on target height-over-ground. The actual values vary due to conditions outside of Pictometry's control, including, but not limited to, air traffic control restrictions, weather, and elevation changes in the underlying ground surface.

## Sector Tiles

### **9 Inch Sector Tiles**

*Footprint:* 5,280 x 5,280 feet (1,609 x 1,609 meters)  
*Pixel Size:* 0.75 feet/pixel (0.2286 meters/pixel)  
*Source Imagery:* Community Orthogonal (9 inch /22.5 cm GSD) and/or Neighborhood Orthogonal  
*Radiometry:* Not radiometrically balanced, may have observable cut lines and could consist of imagery taken over a period of several days.  
*File Size (Approx.):* 12,500 KB (JPG format)

### **4 Inch Quarter Sector Tiles**

*Footprint:* 2,640 x 2,640 feet (805 x 805 meters)  
*Pixel Size:* 0.333 feet/pixel (0.1016 meters/pixel)  
*Source Imagery:* Neighborhood Orthogonal and/or Neighborhood Orthogonal  
*Radiometry:* Not radiometrically balanced, may have observable cut lines and could consist of imagery taken over a period of several days.  
*File Size (Approx.):* 19,000 KB (JPG format)

## **GENERAL SPECIFICATIONS**

### Orthogonal Images

**Image Format:** Industry-standard image format with proprietary image trailer.

**Image Quality:** Images will have an unobstructed view of the ground and objects on the ground. In controlled airspace around airports, etc., and in areas of steep elevation changes, the image ground sample distance and resolutions may vary. There may be varying degrees of ground illumination and color variations due to lighting and cloud shadows.

**Measurement Accuracy:** <0.5% measurement error, excluding user pixel selection error.

**Pixel Placement Accuracy:** Pictometry provides a visualization system and therefore does not certify image accuracy.

**Sensor Orientation:** Pictometry utilizes an IMU (Inertial Measurement Unit), ground station post-corrected differential GPS, and Kalman filtering to achieve a high degree of positional and directional accuracy.

**Sensor Positional Accuracy:** Mean 15cm absolute.

**Sensor Directional Accuracy:** 0.015 degrees absolute (roll/pitch). 0.035 degrees absolute (heading).

**Ortho-Rectification:** The images are ortho-rectified to remove the variations due to elevation changes (utilizing the best DEM data available, including customer provided DEM data),

resulting in geographically square pixels aligned to a rectilinear grid. This grid can be specified by any number of coordinate systems, including Latitude/Longitude, State Plane, UTM, and more. If the desired coordinate system is not specified, a default coordinate system will be used.

**Image Export:** JFIF (JPEG), TIFF, or BMP. Pictometry software can be utilized to export the images into any of the above industry-standard formats. The orthogonal images can optionally be transformed to a different projection during this export process, and an associated location reference file can be created for use in importing the images into other GIS mapping software.

**Image Tiling:** Individual orthogonal images are edge-feathered and mosaicked to produce orthogonal image tiles with tile sizes selected to balance single image coverage as well as manageability of open images. These orthogonal tiles provide continuous coverage across the area of interest. While some color balancing is done, these orthogonal tiles are not fully radiometrically balanced or edge-matched.

### **Oblique Images**

**Image Format:** Industry-standard image format with proprietary image trailer.

**Image Quality:** Images will have an unobstructed view of the ground and objects on the ground. In controlled airspace around airports, etc., and in areas of steep elevation change, the image ground sample distance may vary. There may be varying degrees of ground illumination and color variations due to lighting and cloud shadows. Due to the nature of oblique aerial photography, there may also be artifacts such as haze, glint and glare caused by reflected light.

**Measurement Accuracy:** <0.75% measurement error, excluding user pixel selection error.

**Pixel Placement Accuracy:** Pictometry provides a visualization system and therefore does not certify image accuracy.

**Sensor Orientation:** Pictometry utilizes an IMU (Inertial Measurement Unit), ground station post-corrected differential GPS, and Kalman filtering to achieve a high degree of positional and directional accuracy.

**Sensor Positional Accuracy:** Mean 15cm absolute.

**Sensor Directional Accuracy:** 0.015 degrees absolute (roll/pitch). 0.035 degrees absolute (heading).

**Image Export:** JFIF (JPEG), TIFF, BMP. Pictometry software can be utilized to export the images into any of the above industry-standard formats.

## **ADDITIONAL DELIVERABLE ITEMS**

### **Electronic Field Study (EFS) Licensed Software**

Pictometry International Corporation shall supply one copy of the EFS software, latest version, on the Storage Media supplied as specified herein. Recommended minimum system requirements for EFS are as follows:

Pentium 4, 1.3 GHz or greater processor. 512 MB RAM (1 GB or more recommended for XP, 2G or more recommended for Vista and Windows 7). Windows 2000, XP, Vista (32- or 64-bit), or Windows 7 (32- or 64-bit). Video Card: 16MB graphics, 32bit color quality and 1024x768 screen resolution. 100 Mbps – NIC (network deployments). 250MB available hard disk space.

### **Telephone Support**

To the extent indicated, Pictometry shall provide telephone support to Licensee employees who have completed the Advanced User Technical Training and who are individually identified by Licensee to Pictometry.

### **License Term**

At the conclusion of the defined License Term on the order form, Pictometry shall automatically grant a Perpetual License to Licensees in good standing for the then current version of the Licensed Products. Maintenance and Support for the Perpetual License may be purchased at Licensee's request.

### **Licensee Storage Media**

Licensee will make available on Licensee Server sufficient disk storage space to accommodate the Licensed Products. Licensee will also provide a 100 mb/s network link to the server. On delivery, the Licensed Images and Licensed Software may be copied to the Licensee server via the network connection.

### **Delivery Schedule**

The image capture process and the delivery date may be affected by weather conditions or aircraft availability. Licensee will accept delivery within thirty (30) days of notification by Pictometry.

### **Training**

End User orientation session(s), is limited to 25 attendees per training session, for employee(s) of the Licensee, or Authorized Subdivision(s) thereof. Advanced User technical training is limited to 10 attendees using Licensee computers. Administration / IT training is designed to provide the administrators of the Pictometry image library with the knowledge they will need to manage and

distribute access to the Pictometry solution. Administration / IT training is provided remotely via online tools. Renewal Licensees will receive online training sessions, customized to address Licensee's needs. Pictometry Trainers shall contact Licensee to determine training needs.

### **Economic Alliance Partnership (EAP)**

Licensee shall be eligible for the EAP program for a period of three years from the date of execution of the Agreement.

- A. Imagery** – with Pictometry's EAP program the Licensee may retain its imagery, as the EFS Software and Image License becomes perpetual at the end of the term of the License Agreement.
- B. Disaster Coverage at No Additional Charge** – Pictometry will image up to 200 square miles of affected areas (as determined by Pictometry) of the events described below at no additional charge to the license fee:
  - **Tornado:** imagery of areas impacted by Tornados with ratings of EF4 and above. Coverage for tornados below EF4 or for areas exceeding 200 square miles will be available to active licensees at EAP rates, dependent upon resource availability.
  - **Terrorist:** damage due to terrorist attack for up to 200 square miles. Coverage beyond 200 square miles will be available to active licensees at EAP rates, dependent upon resource availability.
  - **Earthquake:** affected areas with damage to critical infrastructure resulting from an Earthquake at or exceeding 6.0 on the Richter magnitude scale. Coverage for Earthquakes below 6.0 or for areas exceeding 200 square miles will be available to active licensees at EAP rates, dependent upon resource availability.
- C. Software – Use of Pictometry Change Analysis™ or Web Deployment of Disaster Imagery** – Pictometry's Rapid Response Program includes the use of Change Analysis software for ninety days from the date of delivery of any EAP imagery. The Change Analysis software simultaneously compares pre and post disaster images to aid recovery and restoration efforts. Pictometry Web Deployment of disaster imagery may also be available at no charge for ninety days.

### **Media Drive**

External USB 2.0. Includes copying a complete image library onto media.

### **Mosaic Standard Tiles**

4-inch GSD mosaic tiles in TIFF format. Tiles are provided "as is".

### **Mosaic Tile Area-Wide in MrSID Format – 4in GSD Per Sector (Combined)**

New processing or re-processing of MrSID area-wide mosaics of 4-inch GSD imagery. Tiles are provided "as is".

### **Mosaic Tile Area-Wide in MrSID Format – 9in GSD Per Sector (Combined)**

New processing or re-processing of MrSID area-wide mosaics of 9-inch GSD imagery. Tiles are provided “as is”.

### **Oblique Imagery Bundle with 3 Years of EFS Maintenance & Support**

Includes 1 digital copy of the Licensed Documentation for the License Software, 2 end user training sessions, 1 advanced user technical training session, 1 administration/IT training session, 15 hours of telephone support, and 1 copy of Pictometry Electronic Field Study (EFS) software.

### **Pictometry Connect - PFW**

Public Facing Website account provides visualization to Pictometry-hosted imagery licensed to the County via a web application or server based integration. License Terms: 3 Years.

### **Pictometry for ArcGIS Desktop**

Active X extension compatible with ArcMap versions 9.3xx and 10.



**ADDITIONAL PROVISIONS**

1. It is agreed between Bruce Harris & Associates, hereinafter called "Contractor" and Vermilion County, hereinafter called "Vermilion County" that the Contractor will begin work immediately upon execution of this contract by Vermilion County and will continue diligently thereafter until all the work, services and materials as covered under this Contract are completed. The overall completion date for this project is 12 months. The photography is scheduled for the spring 2013 flying season, weather permitting. In the event the weather conditions do not permit spring 2013 photography, this Contract will be amended to reflect a revised completion date.
2. Vermilion County shall pay the Contractor the sum of One Hundred Six Thousand Nine Hundred Seventy Six Dollars (\$106,976) as compensation for the work, services, and materials as provided under this Contract. Payment terms are as follows:

Due at Signing	\$12,622
Due at Shipment of Imagery	\$37,866
Due at First Anniversary of Shipment of Imagery	\$50,488
Due upon activation of Connect	\$2,000
Due on First Anniversary of Activation of Connect	\$2,000
Due on Second Anniversary of Activation of Connect	\$2,000
 Total Payments	 \$106,976

**TERM OF CONTRACT**

This Contract shall be in force from the date of execution of this Contract and may be revised periodically subject to renegotiation concerning the services provided and the amount of the services, should the services differ from those outlined in the Contract.

This Contract, as heretofore described, made and entered on this \_\_\_\_\_ day of \_\_\_\_\_, 2012.

BRUCE HARRIS & ASSOCIATES, INC.  
Contractor

COUNTY OF VERMILION  
Danville, Illinois

By: \_\_\_\_\_  
Bruce C. Harris  
President

By: \_\_\_\_\_  
County Board Chairman

Bruce Harris personally appeared before me  
as an officer and agent of said corporation  
this \_\_\_\_\_ day of \_\_\_\_\_, 2012.

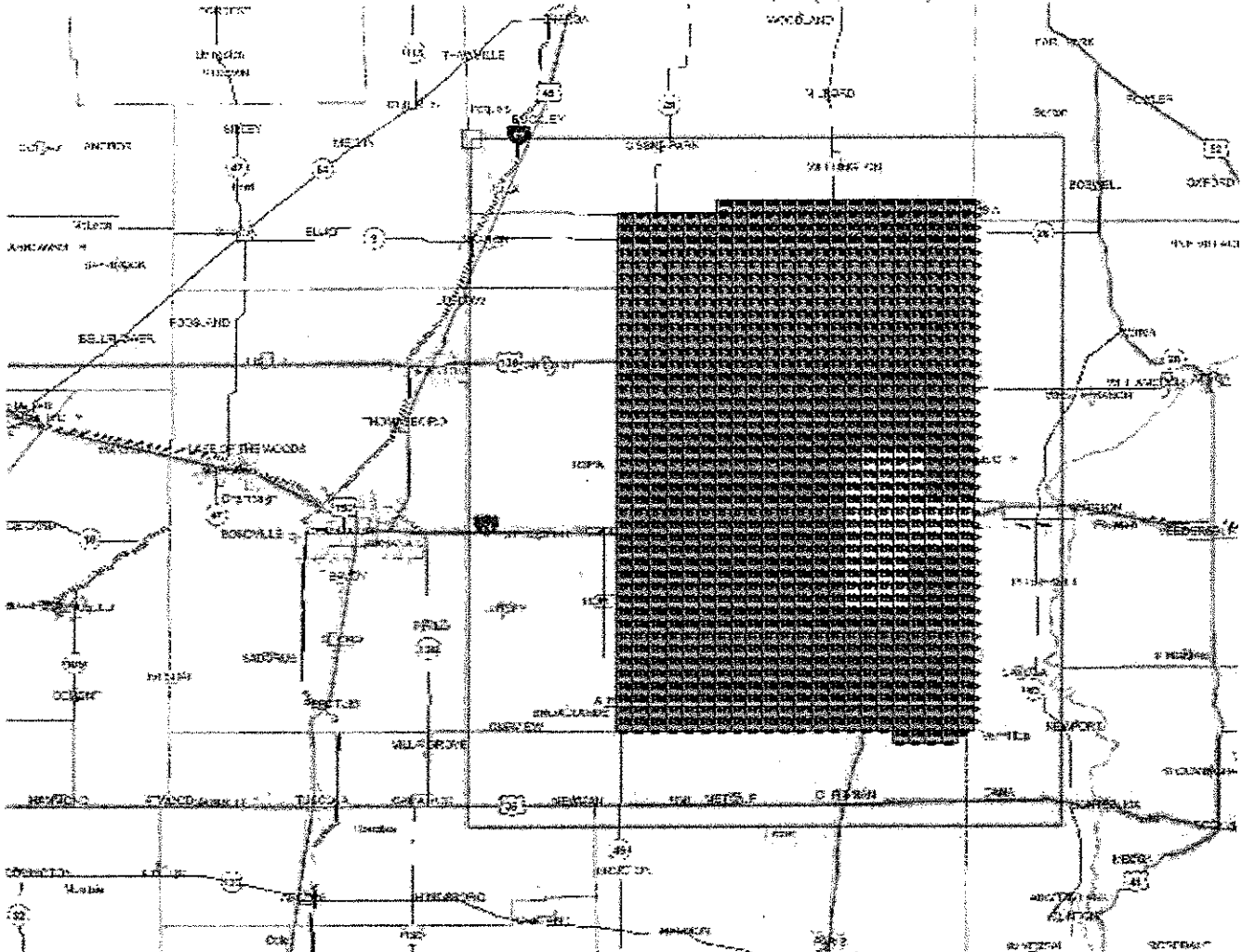
Attest:

By: \_\_\_\_\_  
County Clerk

\_\_\_\_\_  
Notary Public

SECTOR MAP

Vermilion, IL (ILVERM)



Community Sectors: 944 Neighborhood Sectors: 70