Town of Lyman

Select Board   11 South Waterboro Rd
Notice of Public Hearing   Lyman, ME 04002

PUBLIC NOTICE

Tuesday **February 20th, 2024 at 6:00pm** located at the Lyman Town Hall. *(Note: regular Select Board meeting will follow after the public hearing).*

The Select Board will hold a Public Hearing to provide information and allow public comment regarding the Request for Proposal (RFP) for Aerial Orthophotography & Oblique Imagery services.

Information of bids received, and RFP proposal form are attached.

Town Of Lyman
11 South Waterboro Rd
Lyman ME 04002
townmanager@lyman-me.gov
Tel. (207)-247-0642
Fax. (207-499-7563

RFP Aerial Imagery Services

Open Sealed Bids 2-5-2024

Awarded Bid - TBD

RFP's received

1. Eagle View
   Submitted 2-2-2024
   John Gannon
   25 Methodist Hill Dr.
   Rochester, NY 14623
   (607)-742-8159
   John.gannon@easgleview.com
   www.eagleview.com

Year **1** (2024 – 2025)	$12,804
Year **2** (2025 – 2026)	$12,804
Year **3** (2026 – 2027)	$12,804
Additional Fees/ Services	
Change Finder	$0.43/parcel
Sketch Inspect	$1.30/parcel

2. TCB Drones, LLC
   Submitted 2-2-2024
   Stephanie Rivers
   3824 Cedar Springs Rd #746
   Dallas, TX 75219
   (214)-702-2559
   info@TCBDrones.com
   tcbdrones.com

Year **1** (2024 – 2025)	$97,916.40
Year **2** (2025 – 2026)	$108.708.07
Year **3** (2026 – 2027)	$119,676.40
Additional Fees/ Services	
Disaster Response Program	$775 / hours/person (drone included)

02/07/2024

Crewed aircraft flights with onboard cameras (not drones) are what is being sought and proposed

Public notice would be posted of the fly date(s) – Current methods of posting include Town Website, E-Mail via MailChimp, Town Facebook Page, and Town Hall LED Roadside Message Board

It is <u>one</u> capture of aerial imagery for the entire town per calendar year - not a continuous surveillance/monitoring video – And the cameras capturing the imagery cannot look in windows – Be assured there is no intent to invade privacy or exercise control over people's lives – It's simply an aerial view that can prove to be a useful tool in the performance of certain job functions with various benefits to multiple town departments and personnel that includes enhanced safety and assistance for first responders/employees/volunteers

It would utilize modern day technology to acquire accuracy in an efficient manner – reducing man hours/time spent – and would be of significant aid in catching up with processing the backlog of sheds, garages, building additions, etc. that exist but are not yet captured on the assessment record

It would assist in future town projects (buildings/roads)

It would lesson travel time thereby reducing expenditures such as employee mileage reimbursements

It would expeditiously provide for missing building photos and sketches in the assessment records

It would help track status of buildings/additions/renovations/demos/gravel pits/forestry changes - And it would alert annually changes made at properties so verification can be made that nothing is missed

It would be less invasive than walking onto properties, up to houses and knocking on doors at ground/"window level when it is not really necessary because the answer could have been found via imagery

It would be especially helpful evaluating properties with unresponsive/uncooperative owners and with properties posted **"Private – No Trespassing"** – It would also help gain sights more easily on those parcels that require .5 mi or more travel into woods on one-lane unplowed/untreated private ways

It is not meant to replace certain job functions – It is only meant to assist when sensible – And it will prove to be particularly useful when Assessor and CEO positions go and remain unfilled for periods of time and the communication system for capturing changes made to properties is broken/disrupted

Lyman had and continues to have the challenges of staff vacancies, missing information, and back lot parcels. Utilizing aerial imagery if able, would be sensible - And although all town expenditures do not entirely recoup all dollars spent, this will at least recoup some by capturing annually any property changes that get missed prior to commitment, **and** the cost for the first year is already covered...How much is too much to spend on a professional tool for a department that brings in the most operating revenue for the town ?

* FAIR AND EQUITABLE DISTRIBUTION OF TAX BURDEN *

As changes to property are captured and accounted for in assessment records it results in the most equitable fair share (for all property taxpayers) of the tax amount burden that needs to be raised to fund the budget

Simplified Example

Perfect Town has 2 property owners each with a Land + Dwelling Value of $100,000 and a Garage Value of $50,000. **Property Owner A garage is captured. Property Owner B garage is not captured.**

Property Owner – A		Property Owner – B	
Dwelling	$100,000	Dwelling	$100,000
Garage	$ 50,000 (captured)	Garage	$ 50,000 (not captured)
	$150,000		**$100,000**

Grand Total of Assessed Values in Town (150,000+100,000) = $250,000

Amount to fund the budget (to be raised by taxes) = $3,000

$$\frac{3,000}{250,000} = .01200 \text{ mil rate}$$

Property Owner A	Property Owner B
150,000 x .01200 = **$1800 tax bill**	100,000 x .01200 = **$1200 tax bill**
Share of taxes with <u>garage captured</u> = $1800	Share of taxes with <u>garage not captured</u> = $1200

$1800 from Owner A + $1200 from Owner B = $3,000 to fund the budget
A is paying more than B for the same Land, Dwelling, and Garage.

B should be paying the same as A, computed as follows:

Both garages captured and properties valued at same = $150,000
Grand total of Assessed Values in Town Increases to = $300,000
3,000 ÷ 300,000 = .01000 (*note... mil rate goes down)
150,000 x .010 = $1500 tax bill each to total the $3,000 needed to be raised to fund the budget

TOWN OF LYMAN

11 South Waterboro Rd Lyman, ME 04002
Tel: (207)-499-7562 FAX: (207)-499-7563
Email: townmanager@lyman-me.gov

REQUEST FOR PROPOSALS
ACQUISITION OF AERIAL ORTHOPHOTOGRAPHY
AND OBLIQUE IMAGERY

The Town of Lyman, Maine ("Town") makes this Request for Proposal ("RFP") for the purpose of acquiring aerial orthophotography and oblique imagery for the entirety of Lyman, Maine. The Board of Selectmen requests the following additional qualifications and information:

1)   GENERAL

- The scope of work is as outlined in this request for proposal. This document does not commit the Town of Lyman to any contract for any service, supply, or subscription whatsoever. The Town of Lyman will not reimburse any information or administrative costs incurred as a result of participation in response to the RFP. All costs associated with response will solely reside at the responding party's expense.

- The Town will select the offer deemed most advantageous, appropriate, and beneficial to the Town - Evaluation based on qualifications, responsiveness, relevant experience, reputation, and cost

- **RIGHT OF REFUSAL.** The Town reserves the right to: a) Reject any or all proposals, or to make no award. b) Select certain applications from the proposals. c) Require modifications to initial proposals. d) to make partial or multiple awards. e) award based on initial proposals received, without discussion of such proposals. f) invite selected vendors to make oral presentations to the evaluations team. Failure of a vendor to comply with the request for meeting may be grounds for bid rejections. g) excuse technical defects in a proposal when, in its sole discretion, such as excuse is beneficial to the Town.

- The Town will be the sole judge as to whether any variance is material or immaterial to the proposal

- The bidder shall not assign or subcontract any agreement, sublet, or subcontract any portion of the work without the written consent of the Town and the bidder shall bind all subcontractors approved by the Town to all the terms and conditions of the contract

- The bidder is assumed to be familiar with and agrees to observe and comply with all Federal, State, and Local Laws, Statutes, Ordinances, and Regulations and shall fully indemnify, save harmless, and protect the Town, their successors, assigns, agents, customers, affiliates, agents, and employees against any loss, claim liability damage, and expense arising from the bidder's actual or alleged noncompliance with such laws and regulations

- Under Maine's Freedom of Access Act (FOAA) all records in possession of the Town are public, unless designated by law as confidential, privileged, or otherwise exempt -   Accordingly, any documents you submit may be available to the public - If you believe that documents you submit contain information that is exempt from disclosure under FOAA, you must mark those sections

you believe exempt as "confidential" - You may also request that the Town inform you of any FOAA requests for your submitted documents - The Town's legal representation shall make the final determination over what is and is not public

- In connection with any work/services performed, the bidders shall procure all necessary permits and licenses applicable to the performance of work contained in the solicitation
- The Town is exempt from paying sales or use tax by State of Maine Statute
- When bidder has not performed or has unsatisfactorily performed the work, the Town may terminate the contract for default and upon termination for default, payment may be withheld at the discretion of the Town - Failure on the part of the bidder to fulfill contractual obligations shall be considered just cause for termination
- Bidders shall use the enclosed bid form and submit additional information/credentials attached with bid form.

2) SCOPE OF SERVICES
- Provide periodic flyover oblique orthographic imagery services for the entire Town of Lyman in "leaf off" conditions, non-snow obscured, nor any ice, clouds, or fog, and when the atmosphere is free of haze, smoke, and dust
- Provide color ortho and oblique photography of images captured simultaneously – GSD 3" resolution – Georeferenced – Web-based with unlimited access to Lyman staff and associates
- Imagery must be viewable online for planers and first responders use – List any mobile options for viewing imagery
- Provide imagery from which measurements can be directly taken on a computer screen
- Image tools shall include: (a) Measuring tools – vertical, horizontal and area, height, bearing, pitch, elevation, location, and identity (to analyze information contained in uploaded GIS data); (b) Change analysis; (c) Cloud solutions; and (d) Overlaying GIS data
- Must be delivered with software tools that allow for cataloging, extracting, viewing, measuring, and analyzing said photography
- Imagery must be compatible with ArcGIS for any derived datasets or application extensions enabling images to be viewed in ArcGIS
- Must Integrate with ESRI, Harris Govern (CAMA), and First Due (Fire Dept records management system)
- Must offer Change Finder Program, Sketch Inspect Program, and Building Outlines
- May offer Disaster Response Program – Describe type of disaster coverage, applicable disaster types, maximum coverage area, and time period during and after that this service will be available
- Provide a complete explanation of training – Include estimated amount of time required for training for end users as well as IT and GIS employees
- Must provide Past Years Capture History going forward
- Start Year – Spring 2024 with Ortho, Oblique, and Building Outlines
- Second & Third Year – Spring 2025 & 2026 with Ortho
- Provide technical details critical to the successful acquisition and processing of imagery
- Provide a complete explanation of technical support you will provide

3)   COSTS & PAYMENT SCHEDULE
- Provide an outline of entire annual cost breakdown distributed over a 3-year payout configuration with option to renew subject to approval
- Advise if there will be any additional fees for licensing, upgrades to any software, or maintenance fees

4)   AVAILABILITY OF FUNDS
- Following the initial "Start Year" term, the subsequent 2-year terms will be subject to appropriation of funds in the Town's Fiscal Budgets voted annually
- Include Municipal Non-Appropriation Clause with detailed explanation of Town responsibilities for payment should vote to appropriate fail
- The Town shall be the sole judge and authority in determining the availability of funds

5)   BID FORMS
- Lyman Town Hall, Town Manager, 11 South Waterboro Rd, Lyman, ME 04002
  Lindsay Gagne, 207-247-0642, townmanager@lyman-me.gov

6)   **DEADLINE**
- **February 5, 2024, Lyman Town Hall, by 3:00 p.m.**

7)   BID OPENING
- February 5, 2024, Lyman Town Hall, 6:00 p.m.

8)   INSURANCE REQUIREMENTS
- Vendor, at its own expense, shall provide and maintain sufficient liability insurance against claims or lawsuits which result from the actions of service providers, its employees, and agents in accordance with what is required by the Town
- 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 performance or completion of work

9)   INFRINGEMENT
- Any interested party shall not infringe on patents, copyrights, trademarks, or intellectual property rights – The consequences of violation shall be borne by the selected party

10)   INDEMNIFICATION
- You agree to hold the Town harmless from any claim for death, injury, property damage, or other loss which may result from your performance of the contract – If such a claim is made against the Town, you will defend the Town and pay any amount (indemnify) for which the Town may be held liable in a legal action for such claims.

PROPOSAL FORM:

<center>Due: **February 5th, 2024 by 3:00PM EST.**</center>

To: Town of Lyman, Select
        Board RFP: Aerial Imagery
        11 South Waterboro Rd
        Lyman, ME 04002

<center>submit additional information/credentials attached with bid form.</center>

Annual cost per year

Year **1**(2024 – 2025): _____

Year **2**(2025 - 2026): _____

Year **3**(2026 – 2027): _____

Additional Fees/services, list out, if any

Additional Services   Fee

_____ $_____

_____ $_____

_____ $_____

_____ $_____

The undersigned individual/firm/business guarantees this price for sixty days (60) from the proposal due date. The undersigned submits this proposal without collusion with any other person, individual, firm or agency. The undersigned ensures the authority to act on behalf of the corporation, partnership or individual they represent; and has read and agreed to all of the terms, requests, or conditions written herein by the Town of Lyman.

By signing this form, the firm listed below hereby affirms that its bid meets the minimum specifications and standards as listed above.

Signature _____Company _____

Name (print) _____Telephone # _____

Title _____Fax # _____

Address _____

Email Address _____

Web Site _____

![eagleview]

Town of Lyman Request for Proposals: Acquisition of Aerial Orthophotography and Oblique Imagery

Eagleview Response

Submitted By
John Gannon
District Sales Manager
(607) 742-8159
john.gannon@eagleview.com

EagleView
25 Methodist Hill Dr.
Rochester, NY 14623
www.eagleview.com

February 1, 2024

Lindsay Gagne
Town of Lyman
Lyman Town Hall
11 South Waterboro Rd.
Lyman, ME 04002

Dear Lindsay,

On behalf of Pictometry International Corp. (a member of the EagleView family of companies and herein referred to as "EagleView"), thank you for the opportunity to present our response to the Town of Lyman (the Town) Request for Proposals: Acquisition of Aerial Orthophotography and Oblique Imagery. We have reviewed your requirements and believe they align with our strengths as the aerial imagery industry leader.

EagleView has been a trusted provider of digital mapping and high accuracy aerial imagery solutions since 2001. Having delivered products and services to similar clients for decades, we feel confident that EagleView has demonstrated the commitment to excellence expected of a trusted vendor.

Highlights of our proposal include:

Reliable source for all aerial data needs: Eagleview is a trusted vendor who can serve as your go-to source for all aerial data needs.

Superior image clarity and quality: EagleView will deploy its state-of-the-art, custom camera system to collect high-quality ortho and oblique imagery simultaneously at 3" GSD resolution. Because we use the highest quality sensors that are hand crafted, EagleView can capture resolutions with up to 1" GSD.

Industry-leading platform and unique integrations: Our web-based imagery viewing software, EagleView Cloud Explorer, provides licensed users with unlimited views and the ability to measure and analyze both ortho and oblique imagery in conjunction with other GIS data. CONNECT has established integrations with Esri ArcGIS products, Harris Govern, First Due, and many widely used software applications.

Hard copy delivery: EagleView will provide the Town with a hardcopy delivery of both ortho and oblique imagery. This brings value to our clients in the event of needing imagery when there is no internet access.

Unmatched experience: EagleView has experience providing aerial solutions across the State of Maine, including Lewiston and Portland counties. We've worked with over 2,000 government customers, many appraisal districts, and other entities for more than 20 years. All our clients can share imagery as well, enhancing collaboration between government agencies.

Local presence: EagleView is committed to having a local presence in the areas we serve. Our company has dedicated EagleView staff who live in the region and can provide in-person and remote Knowledge Transfer to staff.

EagleView has a unique, unrivaled combination of industry knowledge, top-notch analytics, next generation data management, technology innovation, and reliability that we believe the Town requires in a beneficial, cooperative supplier relationship. Our proposal is built on this belief.

We appreciate the opportunity to participate in this process and look forward to further discussion. Thank you for your consideration.

Regards,

John Gannon
District Sales Manager
(607) 742-8159
john.gannon@eagleview.com

Robert Locke
President
(585) 487-1538 x4238
bob.locke@eagleview.com

Table of Contents

Executive Summary

Founded in 2000, Pictometry International Corp. pioneered the acquisition of georeferenced, oblique aerial imagery. Pictometry's patented camera system, which captures oblique and orthogonal imagery simultaneously, is the only one to receive U.S. Geological Survey certification. In January 2013, Pictometry International Corp. merged with Eagle View Technologies, Inc., a provider of aerial roof measurements and property data reports.

EagleView combines imagery that reveals the finest and most crucial details with computer vision to help identify insights into any location from anywhere. By delivering timely, comprehensive answers to complex questions, we help professionals across various industries improve people's lives and make informed decisions.

At EagleView, we have become the unparalleled provider of aerial data and measurement and analytical tools through proprietary software and partner integrations. Our fleet of more than 130 aircraft, 500 cameras (plus spares), and a vast processing/production staff gives us the acquisition and processing capacity to meet aggressive timeframes and, since our inception, we have created several proprietary software programs that have streamlined our flight planning, image capture, and processing procedures.

As the inventor of georeferenced oblique imagery, EagleView has captured and produced aerial imagery data since 2001. Today, EagleView flies and captures roughly 500,000 sq. miles per year and has a library of over 1 billion images. This imagery meets positional accuracy requirements, provides maximum features clarity, and exposes details otherwise obscured by atmospheric degradation. Imagery captured using our patented small-format cameras features less building lean than imagery produced using traditional large-format systems and in-house quality control checks throughout the process will ensure imagery meets specs. Oblique imagery will be captured from our proprietary system that has been certified by the USGS.

EAGLEVIEW'S EXPERIENCE BY THE NUMBERS

Extensive track record delivering aerial imagery and tools that improve workflows across departments.

1 BILLION
Images in Eagleview's cloud-based image library

NEARLY 2,000
North American government customers served, including 1,500 U.S. counties

100+ AIRCRAFT
Outfitted with proprietary, high-resolution camera systems

94% PERCENT
coverage of the U.S. population

300+ PATENTS
domestic and international patents granted

www.eagleview.com

EagleView for Assessors

Better Images. Better Data. Better Decisions.

EagleView has worked with government customers across North America for two decades helping assessors and assessment organizations *see more*. EagleView's high-resolution aerial imagery, which meets IAAO standards, helps assessors be accurate and make confident decisions through:

- **Clear and Detailed Aerial Imagery.** Using sophisticated cameras and flying at low altitudes, we capture clear and detailed aerial images that make it easy to see important property features.

- **Oblique Images.** See properties from all four cardinal directions—north, south, east, and west—and gain a complete aerial perspective.
- **Accurate Property Data.** Our property data is generated from precise geographic information, so you can be confident in your data and measurements.
- **Easy-to-Use Software**. With built-in tools to measure distance, height and area, our software makes it easy to analyze properties using a computer.
- **CAMA System Integrations**. Our aerial imagery integrates with CAMA systems providing the convenience of working in one system

Learn more about how our solutions support assessment agencies at:
https://www.eagleview.com/casestudies/government/.

Your Solution

In response to this RFP, EagleView has built a custom solution designed to support Town of Lyman for the purpose of acquiring aerial orthophotography and oblique imagery for the entirety of Lyman, Maine. Our aim is to provide 3" ortho and oblique imagery captured in Spring 2024. Deliverables will include:

3" GSD Ortho Aerial Imagery

EagleView offers a Orthomosaic with increased acccuracy and clarity to support a wide range of government functions.

EagleView has developed and utilizes an innovative workflow encapsulating flight planning, capture, and final image enhancements to produce ultra high-resolution mosaics. This allows users to extract high accuracy measurements that can service as the foundation of various GIS and other applications, including 3-D modeling and change detection.

Confidence in detailed imagery. *GIS and Planning professionals have increased confidence when making decisions and extracting planimetric features.*

3" GSD Oblique Aerial Imagery

EagleView oblique aerial imagery is captured at an approximate 45° angle and shows properties from all four cardinal directions – north, south, east, and west. This enables visibility to the sides of homes and buildings, giving assessors a comprehensive view to conduct property analysis. This functionality allows assessors to determine home and building heights and see additional property features that are not visible with top-down, orthogonal imagery.

The full view. *Oblique imagery helps assessors conduct desktop appraisals and reduce the need for field visits and onsite inspections.*

EagleView Cloud

Through EagleView Cloud Explorer, users can view, measure, and analyze aerial imagery with precision. Thousands of government customers use EagleView imagery to make informed, accurate decisions every day, and EagleView Cloud Explorer is a dynamic and comprehensive browser-based solution for improved efficiency.

With no download required, EagleView Cloud Explorer is supported in the most recent versions of Mozilla Firefox, Safari, Microsoft Edge, and Google Chrome and is built for mobile optimization, providing a wide range of access options for users. For navigation, toolbar buttons provide fast access to application features and users can quickly locate a point of interest by panning or zooming your maps and images or by entering an address to search for. A single click lets users view a location from a different direction.

With EagleView Cloud Explorer, the Town's users can efficiently:

- Search for images and GIS data
- View images
- Analyze images with measurement tools
- Annotate images
- Overlay GIS layers

Dynamic feature lists. *EagleView Cloud Explorer includes a dynamic list of features, including Dual Pane view, so that users can make fast, informed decisions.*

Proposal Form

PROPOSAL FORM:

Due: **February 5th, 2024 by 3:00PM EST.**

To: Town of Lyman, Select
        Board RFP: Aerial Imagery
        11 South Waterboro Rd
        Lyman, ME 04002

        submit additional information/credentials attached with bid form.

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Additional Services	Fee
ChangeFinder	$ 0.43/parcel
Sketch Inspect	$ 1.30/parcel
	$
	$

The undersigned individual/firm/business guarantees this price for sixty days (60) from the proposal due date. The undersigned submits this proposal without collusion with any other person, individual, firm or agency. The undersigned ensures the authority to act on behalf of the corporation, partnership or individual they represent; and has read and agreed to all of the terms, requests, or conditions written herein by the Town of Lyman.

By signing this form, the firm listed below hereby affirms that its bid meets the minimum specifications and standards as listed above.

Signature _Robert Locke_   Company Pictometry International Corp. db.

Name (print) Robert Locke   Telephone # (585) 487-1538 x4238

Title President   Fax # (585) 486-0098

Address 25 Methodist Hill Drive, Rochester, NY 14623

Email Address bob.locke@eagleview.com

Web Site www.eagleview.com

Response to 2) Scope of Services

Flyover Oblique Imagery

EagleView captures oblique imagery at angles of 40° to 45° from the north, south, east, and west to offer a 360° view of every property and parcel. Every pixel in EagleView's oblique and ortho imagery is georeferenced, giving users the ability to interact with, measure, and extract data from these actionable images. Within EV Cloud, users can pan, zoom, and measure distance, angle, area, width, length, and height (for obliques only).

View Imagery from all angles. *With EagleView imagery, users can measure and analyze properties from north, south, east, and west, as well as nadir views. Image, above, from Waco, TX.*

Simultaneous Oblique and Ortho Photography

Oblique imagery is aerial imagery captured at an angle, providing a more natural perspective, and making objects easier to recognize and interpret. With orthoimagery captured simultaneously with images from four cardinal directions, we produce a 360° view of every property and parcel.

Product: GSD Ortho and Oblique Specification

3" Ortho Frame Delivery	Nominal 3" GSD ortho imagery, Imagery as good as 1.2" and no worse than 3"
	Orthomosaic Resolution: 3" GSD (Best Available Provided)
3" Oblique Imagery	Nominal 2.6" GSD oblique imagery ranging from 1.7" to 3.5" GSD oblique imagery.
	Where available fully automated photogrammetric mosaiced imagery. Imagery may contain seamlines.

Orthomosaic Content Specifications (AOI)	• Typical Positional Horizontal Accuracy: 1m at a 95% confidence level • Fully automated photogrammetric orthomosaic. Imagery may contain seamlines · • Project-wide color and contrast balancing
Metadata and Reporting	Metadata: • Metadata generated that meets FGDC Standards, upon request • Shapefile(s) with discrete deliverable boundaries and directional metadata
Orthomosaic Deliverable Format (Online)	Access Methods: • Available via web-based viewer (Cloud Explorer) • Also available via WMS/WMTS (Image Service)

Orthomosaic Deliverable Format (Physical)	Projection/Coordinate System: Customer Selectable
	
	Datum: Customer Selectable
	
	File Format:
	• Mosaic Tiles
	   o Available in JPEG, GeoTiff, JPEG2000, PNG, ECW, MrSID (All Versions) with world file
	   o Includes separate Pictometry Map Image (PMI) trailer file
	• Project-Wide Mosaic
	   o Available in ECW, MrSID (All versions) format

Oblique Imagery Deliverable Format	Access method: Available via web-based viewer (Cloud Explorer)
Delivery Timeline	Best efforts to make ortho imagery available online and/or ready for physical delivery within 30 days of capture completion

Privacy Management

As image resolution continues to improve, it is increasingly possible to view and extract personal data from those images. Given the range of state and local laws on privacy, there is a burden on the company capturing and storing the images to ensure they are complying with privacy regulations in the jurisdictions where they operate. The company must also take steps to protect the privacy of personally identifiable information, which may include masking, blurring, or removing that information from the image.

Online Viewer

EagleView Cloud Explorer provides easy access to EagleView imagery in an intuitive, easy-to-use web interface that allows users to efficiently view and analyze imagery.

Toolbar buttons provide fast access to application features and users can quickly locate any point of interest by panning, zooming, or with a quick search. A single click on the compass changes users to a view from an entirely different direction. Once users find their target location, they can measure, annotate, analyze, and export imagery and data as a file.

Supporting the entire organization. *EagleView Cloud Explorer has an extensive list of features, allowing users from varying departments with different responsibilities access to the information and imagery they need.*

EagleView Cloud Explorer includes a wide range of features for Town users, including:

View Aerial Imagery

- View overhead ortho and side-facing oblique images from a desired location.
- Access available historical imagery by selecting any previous flights on our timeline.
- Pan the current image to view the surrounding area or view a location from different directions with a single click. View more images captured from the same direction within our expansive thumbnail gallery.
- Zoom in or out to show a world view, a particular country, city, community, or neighborhood. Oblique images show neighborhoods and communities in great detail.
- Display images in two panes simultaneously (Dual Pane mode) and choose when to synchronize images in the two panes.
- Review Early Access imagery only a few days after image capture.

Search for Images and GIS Data

- Search unique criteria like address, landmark name, city, or country or search by geographic coordinates (latitude, longitude).
- Search for text and data within GIS layers.

Analyze Images with Measurement Tools

- Measure distance, height, area, elevation, slope, bearing and more.
- Save and edit measurements (for example: move points, add points, move an entire measurement, or change units of measure).

Annotate Images

- Annotate images with text, lines, circles, polygons, or markers (icons).
- Select annotation properties before or after creation.

Overlay GIS Layers

- Overlay images with available GIS data, including layers published through Esri REST map and feature services.
- Turn layers on or off (including contour lines and street names).
- Group, reorder, and rename layers in the list for easier access.
- Customize the density and colors of elevation contour lines.
- Perform a spatial search using the identify tool to highlight areas of important GIS data

Export Images

- Export the image shown in the image pane as a PDF or as a graphics file (in JPEG, PNG formats).

Set User Preferences

- Set application preferences on a per-user basis.

Mobile Option

Users can log in to EagleView Cloud Explorer via a web browser on both Android and iOS devices, no downloaded app is required.

The tool is designed to be optimized for mobile viewing as it considers reduced screen space and adjusts the user interface accordingly. Mobile access allows users to:

- Pan and zoom around the imagery
- View and query parcel data
- Overlay parcel boundaries and streets
- Use a comprehensive measurement toolset to gain valuable knowledge and detail about a property or parcel.
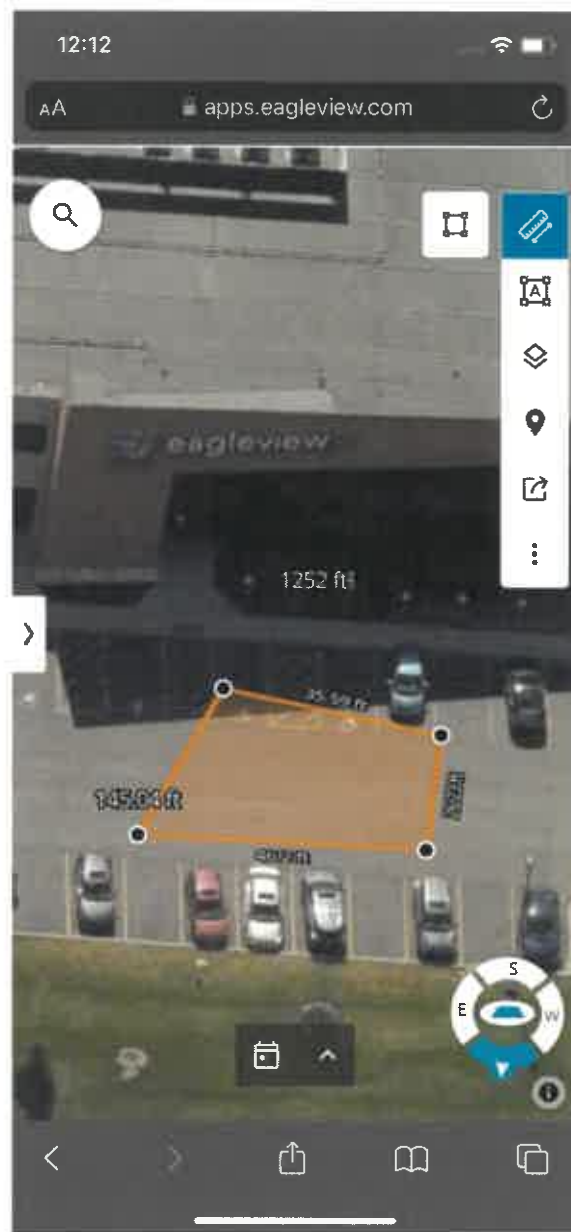
Cloud Explorer via web browser. *A sample screenshot of mobile use.*

On-Screen Measurements

EagleView's web-based application, EagleView Cloud Explorer, allows users to view, measure, and analyze aerial imagery with precision. It includes various measurement tools and features an intuitive graphical user interface that enables users to easily perform on-screen measurements. Individual measurements can always be removed or edited for improved accuracy.

Measurement tools include:

- Distance (in., ft., yd., mi., cm., mm., m., km., nmi.)
- Area
- Height

- Ruler

Gain insights from precise measurement tools. *Users can take various measurements of imagery to support a wide range of functions.*

Image Tools

EagleView's solution offers many tools to increase functionality.

(a) Measuring

View, measure, and analyze aerial imagery with precision using the powerful, lightweight stand-alone application. Thousands of counties, city, and town customers use the web-based application to make informed, accurate decisions daily. No software or installation required.

(b) Change Analysis

EagleView's solution consists of a change-detection service coupled with the intuitive change-detection software solution. These solutions allow users to compare structure and property changes from two different sets of imagery. With these tools, real property tax agencies, planning departments, and economic development users can reduce field visits with desktop analysis, which saves time, travel expenses, and labor costs.

(c) Cloud Solutions

EagleView Cloud is a cloud-based solution that will provide the Town with full functionality featuring imagery, measurements, and analysis tools.

(d) Overlay GIS Data

Our platform offers the ability to overlay the GIS data both on ortho and oblique imagery. It provides users with the ability to label, search, and identify features based on current GIS data.

Software Tools

EagleView has developed integrations with many software applications. Our cloud-based imagery viewing solution provides licensed users with unlimited views. This service has established integrations with Esri ArcGIS products, Harris Govern, First Due, and many widely used software applications.

ArcGIS Compatibility

ESRI

EagleView is a Gold Partner of good standing in the Esri Partner Network. EagleView orthophotography is fully compatible with Esri applications, and EagleView produces several integrations with Esri products to accommodate oblique imagery and tools. EagleView offers integration solutions for:

- ArcGIS Desktop
- ArcGIS Server
- ArcGIS Pro
- Web AppBuilder

These integrations support location synchronization with the Esri map window to provide oblique imagery viewing, navigation and analysis, as well as GIS vector layer overlays. EagleView also provides extensive CAMA and unique third-party integrations that can support various Town projects and teams.

Our integration options will benefit the Town users who regularly work inside other mapping platforms such as the Esri® ArcGIS® Solutions Suite. Building outline data will be delivered in an Esri-compatible Shapefile or Geodatabase.

Easily Integrate and Interpret Data. *Users can review and analyze change-detection data against the backdrop of high-resolution aerial imagery in existing mapping platforms, including ESRI ArcMap (shown above).*
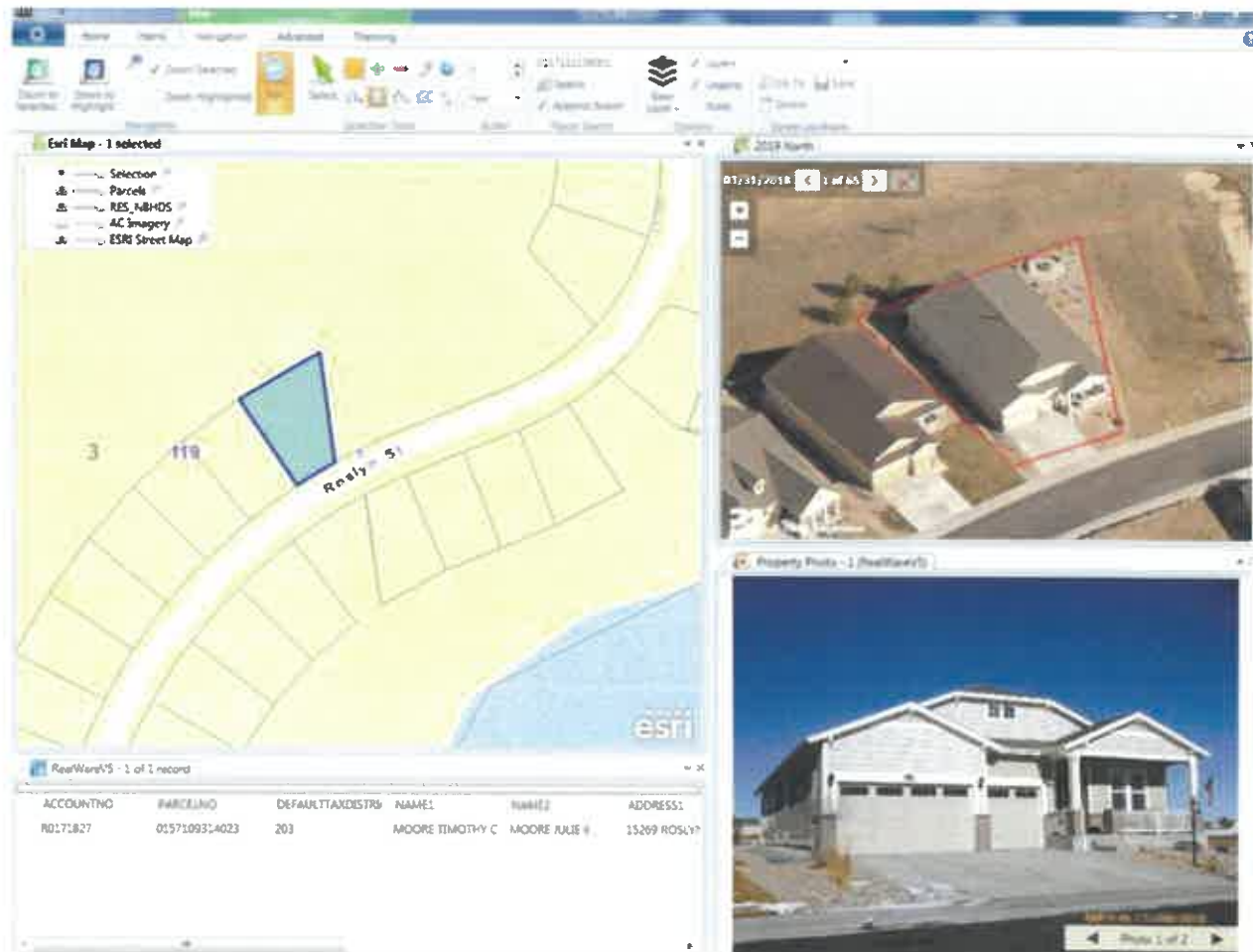
Integrations

EagleView has established integrations with major CAD, most major CAMA vendors, and is a Gold Partner of good standing in the Esri Partner Network. EagleView's Cloud Explorer platform keeps pace

with ESRI's developments, while offering backward compatibility to older applications, data bases, and operating systems. This is critical to ensure that you can quickly and easily access your imagery in a manner that fits your workflow. Further, our platform provides the public unlimited visualization-only access to EagleView-hosted custom imagery libraries via a web application or server-based integration, such as the Integrated Pictometry Application (IPA).

Harris Govern (CAMA)

EagleView has an established integration with the Town's CAMA software, Harris Govern, uniquely positioning EagleView to provide the most advantageous solution for the Town.

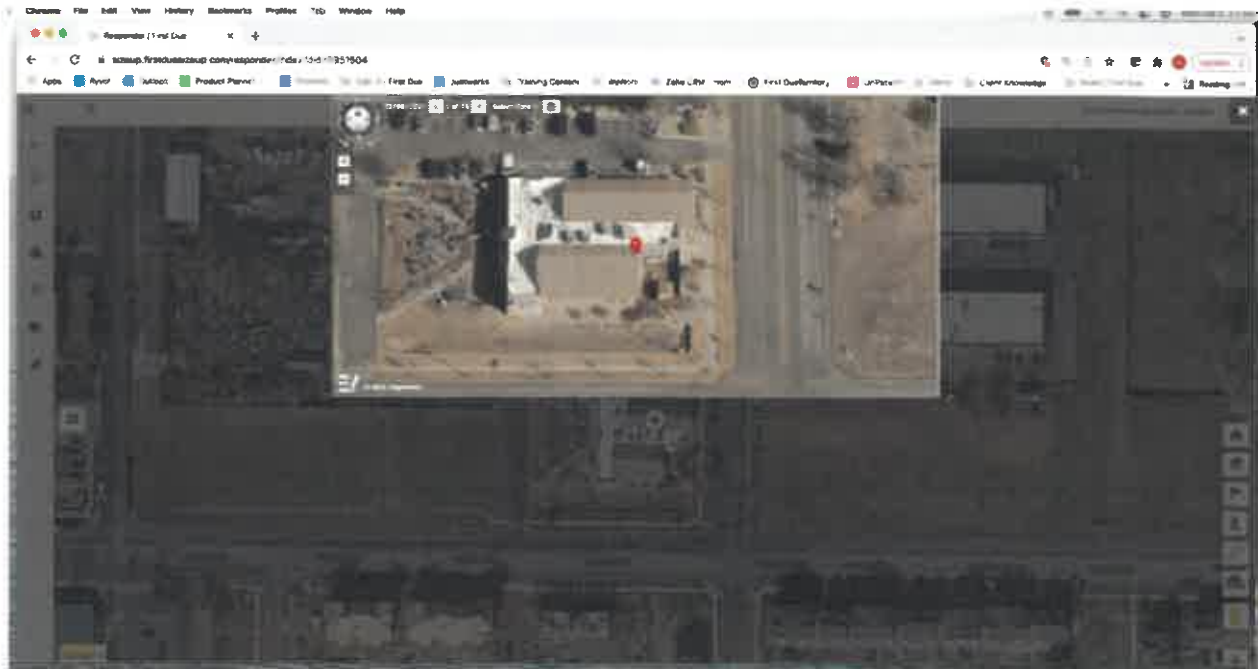See more detail on our integration with Harris Govern in *Appendix I – Harris Govern Integration Letter.*

Harris Govern. *Our software integration with Harris Govern provides the Town with streamlined efficiencies.*
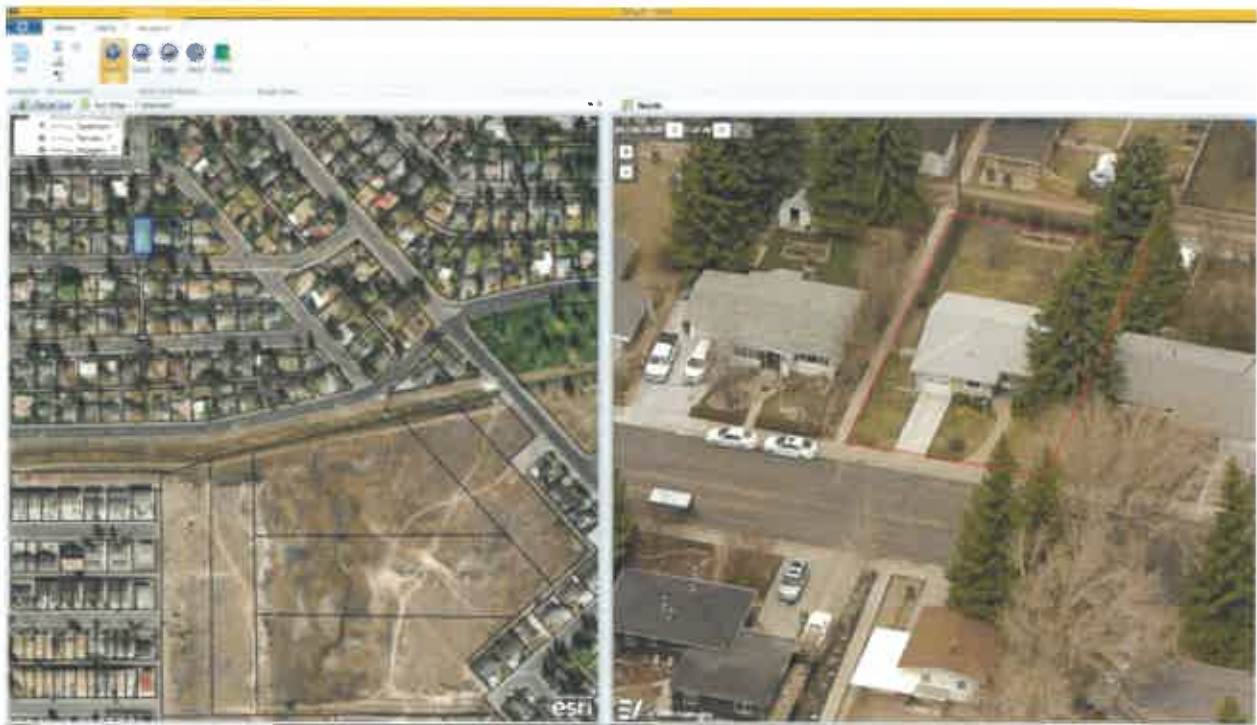
First Due

To assist and streamline public safety, EagleView has an established IPA integration with First Due.


First Due. *Our IPA integration with First Due allows for EagleView's imagery to be used by emergency services.*

Change Detection Program (Optional)

EagleView's ChangeFinder solution consists of a change-detection service coupled with the intuitive change-detection software solution, CONNECTAssessment. These solutions allow users to compare structure and property changes from two different sets of imagery. With these tools, GIS professionals, real property tax agencies, planning departments, and economic development users can reduce field visits with desktop analysis, saving time, travel expenses, and labor costs.

ChangeFinder detects additions to existing structures, demolitions, new construction, or other changes to property features. The process involves comparing existing building outline data with latest imagery to detect changes. A "candidate file" in file geodatabase format or shapefile, consisting of GIS polygon building outlines, is provided where possible changes, new buildings, and demolitions are categorized and associated with Tax Parcel IDs. These candidate shapefiles are then loaded into EagleView's CONNECTAssessment application, providing the ability to quickly analyze the new and old imagery in a side-by-side view. The candidate files can also be viewed in any GIS application that reads file geodatabase or shapefile formats.
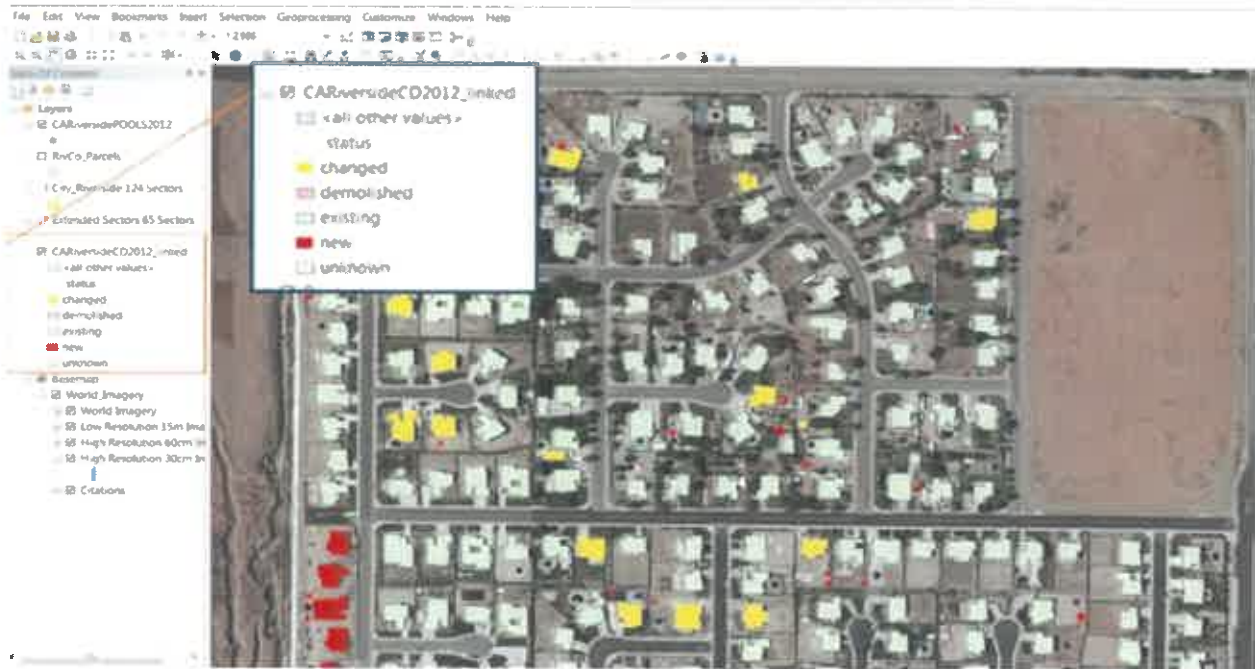
Analyzing Changes. *ChangeFinder identifies properties that need to be verified and analyzed. These properties are highlighted and classified as either New, Changed, Possibly Changed, Existing, Demolished, or Unknown. Above, ChangeFinder data and ortho imagery have been imported into ArcMap and layered on top of an ortho sector map.*

ChangeFinder Deliverables

the Town will receive the following with their ChangeFinder delivery:

- A "candidate" file provided in geodatabase and polygon shapefile formats containing the updated building outline shapes with attributes as a polygon feature class.
- A Length of Building Sides shapefile containing the lengths of each building side as a polyline feature class.
- An Excel spreadsheet listing each building's outline shape and the Change Detection results.

- Locations of swimming pools, categorized as "in-ground," "above-ground," or "undetermined." EagleView delivers digital point locations of visible pools and their attributes in shapefile and geodatabase formats.

Note: The coordinate system of these shapefiles matches that of the customer-provided Parcel File.

The associated attribute table for the Change Detection building outline polygon shapefiles will include, at a minimum, the following fields:

Status: Field Type – String; One of the following values will be listed:

- *Existing:* This is an unchanged building.
- *New:* This is a building that has recently been built (appears in latest imagery, but not in the older).
- *Changed:* This is a building that has some addition or modification to its shape based on existing outlines or between imagery.
- *Demolished:* This is a building that has been razed.
- *Unknown:* The condition of the building cannot be determined due to trees, shadows, or image quality.

Parcel File Key: The name of this field will match the associated field in the client's parcel file (as identified by the client) and will contain the associate record ID. This field will be blank for clients that do not provide an electronic parcel file for processing.

X, Y (two separate fields): Field type – Double. Identifies the geographic center of the outline polygon

Area: Field Type – Double. The area enclosed by the outline polygon in the unit of the map coordinate system.

Prev_Area: Field Type – Double. The area enclosed by the original polygon in the unit of the map coordinate system. The value is populated only when the status of the outline is changed.

Pct_Change: Field Type – Double. Percent Change in area = (Area minus Prev_Area) divided by Prev_Area. The value is populated only when the Status of the outline is changed.

Pct_Obscur: Field Type–String. Provides a subjective range for the percentage of the structure that was obscured by shadow or tree cover in the orthogonal frame used for processing.

Redrawn: Field Type – String. For projects that do not include the purchase of a building outline set, this field is populated with a value of true in the cases where the structure has been tagged as Existing and the provided outline for the project has been modified (to improve accuracy) beyond a predetermined threshold.

Comment: Field Type – String. This field is blank and is left for the client to populate as needed.

CONNECTAssessment™ – A Cloud-Based Solution Engineered to Find Changes

As part of its Change Detection offering, EagleView offers its cloud-based software package, CONNECTAssessment. A web-based solution, CONNECTAssessment allows users to view, search, and

filter change candidates resulting from the change detection process (displayed side-by-side) on new and old imagery. Users can perform these actions without closing windows or changing additional applications. The client can set the parameters for reviewing deliverables prior to starting analysis. The filterable fields by jurisdiction include Change Type (New, Changed, Demolished, etc.), Percentage of Change, and Status of Review (reviewed, reviewed accepted, on-site visit required, etc.). In addition, the Customer Administrator can configure filters using their preferred custom attributes and include that data within CONNECTAssessment.

Key CONNECTAssessment benefits include:

- Web accessibility with all data and imagery centralized and easily accessible
- Side-by-side, dual-screen comparison between different capture years
- Access to historical imagery from prior capture years
- Filtering tool that allows users to find largest changes for the biggest ROI
- Intuitive and useful image analysis tools to measure change candidates from the desktop
- Customizable filtering fields and searches
- Progress dashboard and tracking tools to analyze percentage complete on projects

The CONNECTAssessment workflow allows the user to quickly step from one change candidate to the next based on some or all the criteria populated in the filterable fields. As the end user marks a status for each change candidate, the assigned status is stored by CONNECTAssessment for later review and analysis.

Sketch Inspect (Optional)

EagleView's Sketch Inspect can be used by assessors to verify and maintain sketch data for taxing municipalities. Through the automated process, imagery-derived building outlines are compared with existing CAMA sketches, highlighting properties with any discrepancy. *With Sketch Inspect, users can leverage a single tool to ensure the accuracy of property sketches, track building dimensions for valuation purposes, and review, validate, and update data.*

View and manage sketches, find, and review inaccuracies, an identify structures that don't have sketches in one comprehensive platform.

Further benefits to Sketch Inspect include:

- **Saving time:** Reduce the need for field visits and support efficiency by identifying the biggest discrepancies that should be addressed first.
- **Convenience:** Sketch Inspect offers the ability to manage the process entirely in a single desktop workflow.
- **Ease of use:** Learn how to update sketches in the CAMA to reflect what is on the ground.
- **Future analytics:** Build on iterations in the initial delivery and keep track through future assessments.

Building Outline Creation

EagleView provides Building Outline Creation through our ChangeFinder products. The Building Outline Creation products provide a two-dimensional digital representation of the shape of a structure. Using EagleView imagery, a polygon shape corresponding to the visible edges of a structure's roof is created for each qualifying structure. The collection of polygon shapes is georeferenced and delivered in geodatabase and shapefile format. Note: Only permanent buildings qualify for building outlines. The following is a list of clarification on what structures can and cannot be identified.

Qualifying Structures

- Mobile Homes
- Residential Buildings (homes)
- Greenhouses
- Construction Field Offices
- Sheds
- Silos/Storage Tanks

Non-Qualifying Structures

- Docks
- Paved Areas with No Rooves
- Storage Containers
- Pools
- Utility Towers (Cell Towers)
- Vehicles and Boats

- Commercial and Industrial Buildings
- Attached Decks and Porches with Rooves
- Billboards
- Fenced-in Back Yards

Deliverables

Once complete, EagleView will provide the Town with the following deliverables.

- Building Outline files provided in geodatabase and shapefile formats containing the building outline shapes with attributes as a polygon feature class.
- A Deck Location file provided in geodatabase and shapefile formats containing the point locations of all deck as a point feature class.
- A Length of Building Sides shapefile containing the lengths of each building side as a polyline feature class.

Shapefile Attributes

Building Outline Shapefile

The associated attribute table includes the following fields:

- **Parcel File Key:** The name of this field matches the associated field in the customer's parcel file (as identified by the customer) and contains the associated record ID. The delivered feature is linked to the record within the parcel file that the centroid of the delivered feature shape falls within, provided that the centroid lands within the delivered feature. For delivered feature shapes where the centroid does not land inside the feature shape OR the centroid does not land within any shape in the parcel file, the delivered feature is linked to the parcel shape record that covers the largest percentage of the delivered feature shape. This field is blank for customers that do not provide a digital parcel file for processing.
- **X, Y (two separate fields):** Field type – Double; Identifies the geographic center (centroid) of the outline polygon.
- **Area:** Field Type – Double; The area enclosed by the outline polygon in the units of the map coordinate system.
- **Comment:** Field Type – String; This field is blank and is left for the customer to populate as needed.

Deck Location Shapefile

The associated attribute table includes the following fields:

- **Parcel File Key:** The name of this field matches the associated field in the customer's parcel file (as identified by the customer) and contains the associated record ID. This field is blank for customers that do not provide a digital parcel file for processing.
- **X, Y (two separate fields):** Identifies the coordinate location of the point.

- **Comment:** Field Type – String; This field is blank and is left for the customer to populate as needed.

Disaster Response Program

RapidAccess – Disaster Response Program ("DRP")

the Town is eligible for DRP described below from the effective date through the second anniversary of the initial project delivery. Following payment to EagleView of amounts due with respect to each subsequent project, Customer will be eligible for the then-current DRP for a period of two years from delivery of such subsequent project. Customer must be in good standing with EagleView to maintain eligibility for DRP.

A. Disaster coverage imagery at no additional charge – EagleView will, upon request of Customer and at no additional charge, provide standard quality imagery of up to 200 square miles of affected areas (as determined by EagleView) upon the occurrence of any of the following events during any period Customer is eligible for the DRP:

- **Hurricane:** areas affected by hurricanes of Category II and higher
- **Tornado:** areas affected by tornados rated EF4 and higher
- **Terrorist:** areas affected by damage from terrorist attack
- **Earthquake:** areas affected by damage to critical infrastructure resulting from earthquakes measured at 6.0 or higher on the Richter scale
- **Tsunami:** areas affected by damage to critical infrastructure resulting from tsunamis.

B. Discounted rate – Coverage for areas affected by the events set forth above exceeding 200 square miles will be, subject to EagleView resource availability, offered to Town of Lyman at the then current DRP rates. Also, coverage for areas affected by hurricanes below Category II, tornadoes below EF4 or earthquakes rated below 6.0 on the Richter scale, flooding meeting or exceeding the major flood stage, wildfires impacting population centers, or other disasters as agreed to between the Customer and EagleView will be, subject to EagleView resource availability, offered to Customer at the then current DRP rates.

C. Online services – Use of EagleView CONNECT Explorer™ – EagleView's DRP includes the use of CONNECT Explorer for a term of ninety days from the date of delivery of the DRP imagery. Customer shall have access to the DRP imagery for as long as they maintain an active CONNECT account. The CONNECT Explorer application simultaneously displays pre- and post-disaster images to aid recovery and restoration efforts.

Training

EagleView's practical training is designed to show Town users how their EagleView deliverables can significantly enhance the ease with which they do their jobs, while increasing the results they are charged with achieving. EagleView has found that its user-focused, onsite training increases the use of EagleView's imagery, software, and products exponentially throughout the customer's organization. Full, electronic documentation is included for the end-user and advanced training sessions including technical documentation. The complete training will be structured in increments noted below and is included as part of the Town's EagleView imagery contract at no additional cost.

During implementation, the Town may replace the training sessions below with customized online training of the same duration to suit its users' needs.

Administrator Training – One 2-3-hour session, via *GoToMeeting*.

This training is designed to teach the customers GIS and IT support staffs how to install, configure and support EagleView's Web Based CONNECT Environment as well as training on the EagleView Image Library and Electronic Field Study software, EagleView's desktop solution.

End User Orientation Training– Up to four 3-hour sessions with 25 people per session

These sessions (at a user site or web-based, as appropriate) will educate the end users about the myriad of possibilities now open to them through EagleView's images and their own GIS data. Depending on the users need, EagleView's trainers can train on either web based or desktop solutions.

Advanced User Training (Hands-on)– One 3-hour session for one group with up to 25 people

This training (onsite or web-based) provides hands-on interaction with EagleView's EFS software to end users chosen by the Town, enabling them to learn first-hand the functions covered in the Orientation Session.

Web-based Training– Town employees can also register at www.eagleview.com/training for additional, instructor-led, web-based training at any time for no additional cost.

Capture History

EagleView will provide past years capture history going forward. EagleView's historical imagery can be accessed via our cloud platform – including Cloud Explorer as well as our Esri add-ons for access within ArcGIS. Further, our solutions provide the ability to view historical and current imagery side by side for easy comparison.

Start Year

In Spring 2024, EagleView will provide the Town with Ortho, Oblique, and Building Outlines.

Second & Third Year

The second- and third-year capture (Spring 2025 and 2026) will be Ortho only, unless otherwise specified by the Town.

Technical Details

EagleView has a proven technical approach and methodology.

Image Acquisition and Processing

For the initial flight, EagleView will develop a custom flight plan that covers the project area at the requested imagery resolution, and the plan will include the following:

- Covers the area of interest (AOI) at the requested imagery resolution (GSD)
- Follows airspace rules
- Ensures safety

Flight plans consist of several flight lines, which tell pilots where to navigate, and each flight line contains waypoints that indicate when specific cameras will fire. Key components of the flight planning process include:

The Customer: The flight planning process begins with the Town and EagleView's District Manager and Project Manager, who will work together to develop a map based on your AOI that the Town provided in the RFQ process.

Airspace: A finalized map goes to Flight Planning, where the team reviews airspace classifications and possible restrictions in your AOI.

Elevation Data: Flight Planning reviews elevation data from the USGS National Elevation Dataset to generate an elevation grid and determine appropriate flight altitudes for the project. (If provided, custom elevation will be applied to images during processing).

Safety: Using elevation data, the Flight Planning team also determines whether the AOI is safe to fly. At all times, pilots must stay at least 2 miles from forward obstacles (i.e., mountains) and 0.5 miles from lateral obstacles. Aircraft must be at least 1,000 feet above ground level, and maximum altitudes must be at 12,500 and 16,000 feet above sea level, depending on the type of aircraft.

Tiering: Flight Planning groups sectors together based on airspace requirements, elevation data, and aircraft and camera system to be used. Flight Planning then generates flight lines in each of these tiers. Based on the tiers and flight parameters, Flight Planning uses EagleView software to assign a shot pattern that tells the cameras when to fire.

Special Considerations: If the Town decides to purchase oblique imagery as part of the ortho capture then Flight lines may extend beyond the AOI. These "look-in lines" are necessary to capture oblique imagery across the entire AOI. Additional flight lines may be flown between tiers to capture all oblique views.

Communication: Pilots load flight plans onto the aircraft computer prior to capture. Pilots or Flight Operations use these flight plans to coordinate with Air Traffic Control each day of capture.

EagleView follows industry-standard quality control and imagery acquisition procedures. Our internal teams ensure the final deliverables meet the Town accuracy and other required specifications. The following sections explain our processes in detail.

Step 1: Mission Planning

To ensure full coverage of the project area at the requested imagery resolution, EagleView's Project Manager will work with the Town to develop a flight plan that complies with airspace rules; and ensures safety.

Step 2: Image Acquisition Process

EagleView will capture imagery using its patented camera system during Spring 2024 with leaf-off conditions when sun angle is 30° or greater.

Cameras

Aircraft will be equipped with our state-of-the-art proprietary patented camera system. It also includes an Applanix Position and Orientation System (POS) with a Global Positioning System (GPS) antenna and an Inertial Measurement Unit (IMU).

Camera Calibration

Cameras undergo a rigorous calibration process, developed by EagleView, and licensed to the USGS, prior to image collection and as part of the manufacture. The calibration is performed through the capture of a series of images from prescribed locations and at varied orientations of a stationary target cage. Targets are identified in the images collected via a semi-automatic process, and a free-network bundle adjustment is performed to solve for camera interior orientation, including precise focal length, principal point location, and radial distortion coefficients. These parameters are then incorporated into the camera model used during subsequent image processing operations. EagleView also puts each camera through its color calibration process to ensure consistent representation of ground features.

In advance of capturing data, EagleView performs an additional aerial boresight calibration on each of the systems involved in a project. An adjustment is computed to solve for the alignment between the optical axis of the camera and the internal coordinate axes of the Inertial Measurement Unit (IMU). This adjustment is then applied to the imagery captured throughout each project. Each system completes a boresight flight at regular intervals to ensure sensors have stayed in alignment.

Capture Parameters

Throughout each capture mission, GPS/IMU data will be logged on the aircraft. The GPS data will be recorded at a minimum rate of 2Hz, and the IMU data will be logged at a minimum rate of 200Hz. Concurrently, multiple GPS reference stations will be logging data on the ground. These reference stations are typically part of the CAN-NET network. EagleView may set up and run a base station, as needed. The imagery will be nominally captured with a PDOP value of less than 8.0 and within 60 kilometers of an operating GPS reference station. EagleView limits its sensor to 6° of pitch and yaw. This limit can be used due to the narrow field of view of EagleView's cameras which, by design, limit the off-nadir distance of features at the edge of the frame.

Imagery will be captured at 24 bits per band with a planned forward overlap of 60% and a sidelap of 30%. Image collection will extend beyond the project area boundaries to produce full ortho imagery coverage. All ortho Images may provide an accurate top-down view that is rectified to align to a map grid and can be integrated into a GIS database. EagleView's systems use onboard IMU to control crab. These systems report errors above 15°. All errors are reviewed, and images may be rejected per scope of work and quality thresholds. Any areas that need to be addressed will be identified during our extensive coverage verification review. Areas will be re-flown accordingly.

Touch-up Flight

There are several levels of checks and balances at EagleView where the imagery is checked for anomalies and accepted or rejected for re-fly. The Geomatics team are the first level, scrutinizing the imagery immediately upon receipt from the pilot. While the planes are still in the area, they ascertain whether any re-flies are necessary and, if so, the re-flies are expedited back to EagleView's flight planning team for dispatch to the pilots. Initial imagery can be shared with the client to gain their acceptance of the quality and accuracy.

Sun Angle

EagleView may capture images when there are clouds above the altitude of the aircraft. In fact, the best lighting for the EagleView images is when there is a light, high cloud cover, as this provides the most consistent Lambertian lighting coverage. The preferred capture windows are when the leaf canopies are off, and the ground is not obscured by snow or ice.

Step 3: Post-Processing of Imagery

EagleView's Geomatics team will post-process the imagery, turning the raw data into georeferenced imagery and ensuring image quality.

Step 1: Upon receipt, the Geomatics team will copy data from the hard drive to the server, which will automatically back up the data. Once copy is complete, EagleView's software will develop the raw images, applying color, contrast, and sharpness to each image frame.

Step 2: Using Applanix POSPac software, the Geomatics team will refine positional data by combining Inertial Measurement Unit (IMU) data with the GPS receiver's raw observables. These include pseudorange and phase, which provide the distance between the satellite and the receiver. This process will produce the Smoothed Best Estimate of Trajectory (SBET) for the flight. POSPac software, the Geomatics team will refine positional data by combining Inertial Measurement Unit (IMU) data with the GPS receiver's raw observables. These include pseudorange and phase, which provide the distance between the satellite and the receiver. This process will produce the Smoothed Best Estimate of Trajectory (SBET) for the flight.

Step 3: The Geomatics team will use EagleView's proprietary software to apply the trajectory data (SBET) to the imagery based on the individual time stamps associated with each image frame. Once this process is complete, images will be georeferenced (or tied to specific geographic coordinates). The location (X, Y, Z) and orientation (Roll, Pitch, Yaw) values derived from the SBET and assigned to each

frame will serve as the initial exterior orientation (EO) values for the aerial triangulation phase of processing, if applicable to the project.

Step 4: The Geomatics team will review the quality of the images and inspect for potential issues related to color, camera defects, environmental conditions, capture platform anomalies, cloud cover, shadows, glare, and motion blur. If images do not meet quality standards, the team will mark imagery for recapture. EagleView reviews imagery while aircraft are still in the project area for efficient deployment should a re-fly be necessary.

EagleView's Geomatics team will post-process imagery, turning the raw data into georeferenced imagery. *With georeferenced imagery, users will have the power to perform measurements on imagery and view the location of individual pixels.*

Step 5: The Geomatics team will perform a verification process to determine image-to-image and camera-to-camera accuracy. Using EagleView's proprietary software, the team will compare common points in different images. The team will check calculated coordinates for a point in one image against the coordinates for the same point in other images that cover the same location. We will investigate inconsistencies. Imagery will be reprocessed if the team identifies points that do not meet EagleView's quality standards.

Step 6: We will orthorectify orthophotos to remove horizontal displacement caused by terrain height variation, earth curvature, and camera-based distortions. The Geomatics team will incorporate the best available digital elevation model (DEM), geo-referenced exterior orientation values, and calibrated camera model parameters into imagery during orthorectification. Images will be rotated to point true north. The Geomatics team will use EagleView's proprietary software to ensure image pixels are the same dimension. Once orthorectified, images will have a consistent scale, allowing for accurate measurements of distance and direction.

Preparing Initial Visualization-Grade

We will produce initial deliverables once all imagery from the area of interest has been post-processed and orthorectified. We use our proprietary software to mosaic ortho imagery and produce ortho sector tiles. Prior to production of area-wide mosaics, the Geomatics team will review tiles to verify proper coverage and identify any image issues.

We will copy all ortho data to a hard drive. A member of the Quality Control team will review all deliverables. We then upload final imagery, and the Customer Technical Support team ships a hard drive of imagery to you.

Quality Assurance

EagleView has relied on strict quality and project management controls to ensure projects meet customer specifications and are delivered on time and within budget. With these controls in place, we continue to grow our business and secure repeat customers. Our imagery library has grown from 229 million images in 2013 to more than 1 billion images today. We have served 2,000 government customers.

Cost Controls

EagleView offers a fixed cost-per-mile pricing structure for its aerial imagery.

Quality Control

Key quality assurance steps include, but are not limited to, the following:

Quality Checkpoint	Description
System Calibration	Sensors are calibrated for lens distortion, system geometry, color response, and accurate bore sighting.
Flight Altitude	With a digital elevation model, flight plans are tiered at different altitudes to allow for complete image overlaps and consistent resolution and ensure safety.
Image Acquisition	The flight management system performs several real-time quality checks during capture operations. The system immediately flags images captured when the aircraft experiences excessive roll, pitch, or yaw, and immediately recaptures frames with significant glare from solar reflection.
Receiving	Upon receipt of captured imagery, Geomatics inspects images algorithmically and physically for color, camera defects, environmental conditions, capture platform anomalies, cloud cover, shadows, glint, and motion blur. If images do not meet quality standards, the team marks imagery for recapture.
Re-fly	EagleView ships drives containing imagery and data to its processing facility while aircraft are still in the area. If a re-fly is needed, EagleView can dispatch pilots quickly.
GPS Post-Processing	Differential GPS and IMU post-processing are handled using Applanix POSPac suite of software. The resulting solution is held to strict accuracy standards.
Digital Elevation Model	EagleView compiles elevation data from multiple sources, including customer-provided data, EagleView LiDAR data, and best available public domain data. EagleView reviews the quality of the elevation data before orthorectification. When areas of poor quality or change are identified, EagleView derives data using internal methods to update and yield a more accurate elevation model.
Metadata	Each set of orthophoto deliverables includes XML metadata containing information about the processing, quality, and accuracy. The finalized metadata files are validated for compliance with the Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata (CSDGM), Version. 2 (FGDC-STD-001-1998).
Deliverables	EagleView performs a final QA/QC check on deliverables to ensure they meet the customer's desired specifications.

Technical Support

Our Technical Training team will work with you to customize a training plan that best fits your needs.

Maintenance

EagleView performs updates and upgrades to services and applications on an ongoing basis. Engineering, IT, and Customer Technical Services departments evaluate each update for potential customer impact. If there could be an unplanned impact to accessibility or performance, we schedule the update for a minimal-use period. If an update or upgrade will cause an interruption or degradation in services or access, we post a notification on the login page. We also schedule the update or upgrade for a minimal-use period. Customers do not need to make systems changes for updates or upgrades.

Support

Our customers can request support from Customer Technical Support (CTS) by sending an email to CustomerSupport@eagleview.com anytime or calling 1-855-337-1526 between 8:30 a.m. and 8:30 p.m. EST Monday through Friday. Customers can submit a support case via email 24/7. The first response will be less than six (6) business hours.

Costs & Payment Schedule

See pricing details on the following pages.

Please note that, upon award, EagleView reserves the right to negotiate mutually agreeable terms and conditions.

Proposal For: Town of Lyman, ME
Project Name: 3-inch w/ Frequent Ortho's & Building Outlines
Initial Term: 3 Years

EagleView Rep: John Gannon
Phone: 607-742-8159
Email: john.gannon@eagleview.com

Quote Date: 1/31/2024
Expiration Date: 5/30/2024

QTY	PRODUCT NAME	SALES PRICE
42	EagleView Cloud - Imagery	
	GSD: 3in	
	Refresh Frequency: 3-Year Refresh	
	Start Year: 2024	
	End Year: 2026	
42	EagleView Cloud - Imagery - Frequent Ortho	
	GSD: 3in	
	Refresh Frequency: Last 2 of 3 Years	
	Start Year: 2025	
	End Year: 2027	
1	EagleView Cloud - Software	
1	EagleView Cloud - Comprehensive Integration Bundle	
1	EagleView Cloud - Authorized Subdivisions	
1	EagleView Cloud - Early Access	
	EagleView Cloud - Disaster Response Program	
1	EagleView Cloud - FutureView Advanced Training (Full)	
3	EagleView Cloud - Years Capture History	
	Total Annual Price	**$12,804.00**

One Time Charges

QTY	PRODUCT NAME	SALES PRICE
2890	EagleView Cloud - Building Outlines	
	Year: 2023	
	Total One Time Charge(s)	**$2,705.04**

Appendix I – Harris Govern Integration Letter

HARRIS GOVERN

Harris Govern
760 North Watters Road, Suite 100
Allen, TX 75013
Sales Phone: (972) 881-1858
Support Phone: (972) 265-7300
Fax: 214.722.0019

June 28, 2022

Joe Oddi
Director, Partner Strategies - EagleView
25 Methodist Hill Drive
Rochester, NY 14623

Dear Joe,

Further to our conversation, I wanted to confirm that Harris Govern's Matix software solution, which is a module in our CAMA solutions (OpenForms, RealWare, and PACS), includes sample code to enable bidirectional navigation between the Matix viewer and the EagleView/Pictometry oblique imagery service.

EagleView/Pictometry is the only oblique imagery service for which sample code has been developed and installation instructions are available for its use in conjunction with our Matix software.

Sincerely,

Chang Kim
VP of Sales and Marketing
ckim@harriscomputer.com
(972) 265-7300 Extension 77303

Thanks for your email.
I apologize for that typo:
$108,708.07 is what should be listed for year 2 on our proposal for this contract.

Let me know if you want me to resubmit that page of the proposal with the correct numbers or if this email will service your purpose.

Regards,
Steffanie Rivers
TCB Drones, LLC
(214)702-2559

From: Town Manager <townmanager@lyman-me.gov>
Sent: Tuesday, February 13, 2024 11:06 AM
To: Steffanie Rivers <info@tcbdrones.com>
Subject: RE: RFP Questions

Good afternoon,

Could you clarify the pricing on the bid for Year 2? It say $198 I believe and we thought that might be a typo.

Thank you,

Lindsay Gagne
Town Manager
FOAA officer

11 So. Waterboro Rd Lyman, ME 04002

📞 207-247-0642

📠 207-499-7562

✉ selectboard@lyman-me.gov

⚑ lyman-me.gov

Town of Lyman
MAINE

REQUEST FOR PROPOSALS

ACQUISITION OF AERIAL ORTHO-PHOTOGRAPHY AND OBLIQUE IMAGERY

Due Date: February 5, 2024

Submitted By:

TCB Drones, LLC
3824 Cedar Springs Rd., #746
Dallas, TX 75219
(214)702-2559
https://tcbdrones.com
Steffanie Rivers, Authorized Representative
Email: info@TCBDrones.com

EXECUTIVE SUMMARY

TCB Drones, LLC is excited to submit our bid for aerial ortho-photography and oblique imagery. In accordance with this bid, TCB Drones, as contractor, is to assist the Town of Lyman by capturing the aforementioned visuals, complete with Global Positional (GPS) map coordinates and processing compatible with ArcGIS, First Due and other mapping software integration. Contractor staff training also is included. Our process will be completed over the course of three years, starting 2024 on a defined schedule to be determined at a later date.

Our data collection procedures will include unmanned aerial vehicles equipped with video, still photography, photogrammetry and LiDAR range detection.

COMPANY OVERVIEW

Our firm (a woman-owned minority business) is a fully insured, limited liability company. We maintain only FAA-Certified Pilots in Command (PICs) as on-site project managers. As a top provider of sUAS technology services in Texas, we seek out agencies such as the Town of Lyman to deliver our quality services. Our services also include topography mapping, photogrammetry 3-D models, infrared building inspections, and actionable reports.

Location

TCB Drones, LLC is an unmanned aircraft systems (sUAS) technology company based in Dallas, Texas.

Local Presence

Our Lyman satellite office (location TBD) will serve as the hub for team members assigned to this project. While the primary use of this location will be for team meetings and for administrative support needs, the project manager will be accessible via phone (800)810-4885 ext. 1 or via email info@TCBDrones.com 24 hours. This temporary location notwithstanding, our company dispatches qualified commercial drone pilots throughout Texas and the United States for aerial and thermal inspections for buildings, roofs, utility lines and other infrastructure.

Finally, TCB Drones provides great customer services. Our team is flexible, nimble, confidential and will adhere to all FAA, military and other air space regulations, obtain all waivers needed for this project's compliance and will work under prescribed deadlines.

Environmental Sustainability Practices

As it pertains to our firm's *Green Business Practices*, the use of drones to inspect solar panels, roofs and other infrastructure helps global efforts to generate renewable energy in general. Our specific practices at each of our work sites make for a safer, less labor intensive and more efficient way to capture needed data. Their use has proven to be a cleaner alternative for inspections, because our drones contribute to lowered gas emissions. Ultimately our services save valuable time and utilize taxpayer dollars more efficiently.

Experience and Qualifications

Since its inception in 2021, TCB Drones has worked to acquire contracts that serve our clients' needs and that build our level of performance and offerings. Our team of certified drone pilots is trained to use various models of drones. Each of our team members who will be assigned to this project has at least twelve consecutive months experience and has no less than 100 drone flight hours, according to flight log data.

Qualifications

TCB Drones is owned and operated by a FAA-certified drone pilot with more than 200 logged flight hours. As a small business owner, she participates in every aspect of the company, including serving as Pilot In Command (PIC) and as Visual Observer (VO) on worksites. Her team of drone pilots also is FAA-certified.

The company has a library of drones available from different manufacturers, different sizes and different capabilities. Their equipment includes Yuneec H520e (w/LiDar capabilities), Parrot Anafi w/Thermal capabilities, DJI Mavic 3E, Mavic Pro2 and Mavic Air2s. Our use of drones depends on contract specifications, size and needed agility.

Licensed Team Members

Steffanie Rivers, Proprietor, Thermal Specialist, FAA-Part 107 Certified
John Shaw, Lead Pilot, Safety Specialist, FAA-Part 107 Certified
Joseph Williams, FAA-Part 107 Certified
Michael Grabowski, FAA-Part 107 Certified
Sandro Mazzini, FAA-Part 107 Certified
Santosh Palmate, FAA-Part 107 Certified
Wayne Norton Jr., FAA-Part 107 Certified
Edward Rojas, FAA-Part 107 Certified

Information about licenses and certificates required for performance of the services will be shared upon request.

Key Personnel

TCB Drones will assign a core team of three sUAS pilots to perform services for Town of Lyman based on past experience and skill level. That core team will include (1) Steffanie Rivers; (2) John Shaw and (3) Joseph Williams. These three will serve and have served as team leads, as well as they have experience capturing visuals for municipalities.

Steffanie Rivers served as Pilot in Command and Team Lead for City of Coppell (Texas) water outfalls inspection services between June – July 2023. And she is skilled in thermal (Infra-Red) data collection.

John Shaw has the most experience of our team members capturing utility line inspection data in various states, including California, Kansas and Texas. His last utility line inspection assignment was in July 2023. He is FAA Part 61 and Part 107 certified. He is the Lead Pilot and Safety Advisor.

Joseph Williams is skilled in thermal (Infra-Red) data collection. He also is a certified electrician who resides in San Antonio full-time.

Additional personnel will be assigned based on need and availability.

References

THE CITY OF COPPELL

Frank Garza, Project Technician,
255 E. Parkway Blvd.,
Coppell TX 75019
(972)462-5166

Fgarza@Coppelltx.gov

www.coppelltx.gov

Aerial Inspection of approximately 225 water outfalls
along three creeks spanning a forty mile radius
Contract Awarded May 2023
Contract Completed July 2023

THE BURRELL GROUP, INC

Martin Burrell, Principal
1420 Prudential Drive, #200,
Dallas, Texas, 75235
(214) 575-7335

martin@theburrellgroup.net

www.theburrellgroup.net

Aerial Inspection of rental property infrastructure for periodic
maintenance inspections. Ongoing open contract

DRONEGENUITY, LLC

Bella Isnard, Projects Scheduler
7 Felton Street,
Hudson, MA 01749
(800) 214-4820

https://www.dronegenuity.com/

Captured aerial video and photos of
historic landmark for restoration preparation
Contract Awarded November 2022
Contract Completed November 2022

BLACK AND MISSING FOUNDATION

Derrica Wilson, CEO
7400 Buchanan Street, #2431
Hyattsville, MD., 20785
(877) 972-2634,

ceo@BlackandMissingInc.com

https://www.blackandmissinginc.com/

Performed aerial search and rescue missions for family members
of missing people throughout the United States. Ongoing contract

Quality Control

TCB Drones Quality Assurance Program and Quality Control Manual are revised and implemented for every contract to insure standard operating procedures and the same quality deliverables across the board. Our Quality Control Manual and Quality Assurance Program each follows guidelines set by ISO 9001.

TCB Drones Operations Manual

This manual is compiled to help our team capture better images. Better images lead to better analytical results. This manual is used in conjunction with every contract preparation video call. Please review before the start of each project to insure standards are followed on every worksite. This Operations Manual outlines TCB Drones Standard Operating Procedures (SOP) to get the most out of collected data and to walk you through the basics.

QUALITY ASSURANCE PROGRAM

Executive Summary

TCB Drones' Data Management Plan will define the quality and risk management procedures to be used throughout this project. These procedures will be applied to ensure consistent quality of all project outcomes and deliverables. The Data Management Plan portion of the deliverable is a living document that could be updated during the project's life cycle.

Procedures and Responsibilities

In drone operations both pre-flight and post-flight data must be generated. This includes strategic pre-flight steps: • Registration of Operator, Drone and Crew • E-Identification of means to localize drones and means to identify drones.

The following important tactical pre-flight steps shall be considered as well: • Specific Operations Risk Assessment • Mission Planning in coordination with the Client • Flight Planning and Approval with the respective Client, confirmed approval for flights • Sufficient legal recording shall in be in place • Recorded monitoring and test data to be used for Study reports and Client training need to be collected.

PROPOSED PROJECT APPROACH

Here is our firm's technical plan to manage and complete your required services:

We plan to complete the project with a team of three FAA-Certified drone pilots and possibly one field assistant. This project will require aerial scanning of no less than 60 square miles, including overlap. That can be accomplished in approximately five (5) days. Weather and safety protocol will be factors. Video processing and deliverables could take an additional five (5) days.

Our team could include LiDar and infrared-capable drones.

All data will be captured in "leaf off" conditions, non-snow obscured, nor any ice, clouds, or fog when the atmosphere is free of haze, smoke and dust using the latest drone technology software and hardware, including preflight mission planning specifically for Digital Terrain Modeling (DTM) mountain terrain and with ground control points. We also will plan for lost-link occurrences, and maximum use of drone battery efficiency for the 60% video overlap forward and 30% overlap side, bringing the total square mileage to more than 60 square miles. This will ensure coverage of all required areas, including, boundary overlap, possible return-to-home battery swaps and other mission needs. Technical support for this project will include a live, in-person, one-day training session (up to 8 hours) location and date (TBD) for end users, IT and GIS employees of Town of Lyman.

*Disaster Response Program Services

As an additional service TCB Drones will provide **Disaster Response Program services** for Town of Lyman between years 2024 -2027. Disaster response will include aerial drone services for no earlier than 72 hours before forecast of natural disaster and up to one week after a natural disaster (tornado, flood, forest fire) for search and rescue missions and emergency services. Coverage area is 40 square miles that includes all of Town of Lyman.

Quality Assurance Documentation

Our plan to achieve high-quality project documentation includes the following guidelines: • Use of specific types of documents that are fit for this purpose • Use of common convention for naming and versioning of documents • Use of document templates by all partners • Following a rigorous deliverable review process.

Several types of documents will be generated for this project to serve various purposes. All reports and text documents will be prepared in MS Word or programs comparable to MS Word, while presentations will be prepared in MS PowerPoint or programs comparable to MS PowerPoint. Deliverables will integrate with various mapping software.

 Presentations: presentations can be prepared both for internal and external audiences. The presentations that need to be shared with external parties should be in PDF format.

PROPOSAL FORM

Due: February 5th, 2024 by 3:00PM EST.

To: Town of Lyman, Select
Board RFP: Aerial Imagery
11 South Waterboro Rd
Lyman, ME 04002   Submit additional information/credentials attached with bid form.

Annual cost per year
Year 1(2024 – 2025): __$97,916.4_____
Year 2(2025 - 2026): __$108.97_____
Year 3(2026 – 2027): __$119,676.4_____

Additional Fees/services, list out, if any

Additional Services   Fee

*Disaster Response Program_____ $_$775/hour/person (drone included)___
_____ $_____
_____ $_____
_____ $_____

The undersigned individual/firm/business guarantees this price for sixty days (60) from the proposal due date. The undersigned submits this proposal without collusion with any other person, individual, firm or agency. The undersigned ensures the authority to act on behalf of the corporation, partnership or individual they represent; and has read and agreed to all of the terms, requests, or conditions written herein by the Town of Lyman. By signing this form, the firm listed below hereby affirms that its bid meets the minimum specifications and standards as listed above.

Signature __*Steffanie-V. Rivers*_____ Company ____TCB Drones, LLC_____

Name (print) ____Steffanie-V. Rivers_____ Telephone # __(214)702-2559_____

Title _____Proprietor_____ Fax # __(888)219-8578_____

Address ___3824 Cedar Springs Road #746, Dallas, TX 75219_____

Email Address ___info@TCBDrones.com_____

Web Site _____TCBDrones.com_____

Appendix

Certifications

July 13, 2022

Steffanie Rivers
TCB Drones, LLC
3824 Cedar Springs Rd.,
#746
Dallas, TX 75219

RE: DBE Certification Affidavit No. 25670

Dear Ms. Rivers:

Congratulations! Your firm has been certified by the North Central Texas Regional Certification Agency ("NCTRCA") and with the

State of Texas Unified Certification Program ("TUCP") as a Disadvantaged Business Enterprise (DBE). Your Certification Identification Number is BFDB27063Y0723. In accordance with U.S. Department of Transportation ("USDOT") DBE certification eligibility requirements promulgated at 49 C.F.R Part 26 ("the Regulations") your firm is certified as a DBE in the following areas listed on page 2.

This certification shall remain valid, unless and until it has been removed in accordance with procedures set forth in 49 C.F.R.

§26.87. In order to remain certified, you must submit annually, on the anniversary of your DBE certification, a "No Change Affidavit".

A No Change Affidavit is a sworn affidavit affirming that there have been no changes in the firm's circumstances affecting its size, disadvantaged status, ownership or the control requirements of the regulation, or any material change in the information provided in its application for DBE certification,

including the support documentation. Any changes to contact information, ownership, and/or expansion of services must be communicated to the NCTRCA within thirty (30) days of the change. Failure to provide these changes could result in your firm being removed from the certified vendor database. The NCTRCA and/or the TUCP reserve the right to re-evaluate a firm's certification status at anytime that they determine such re-evaluation is warranted.

Thank you for your participation in the NCTRCA DBE Certification Program. Please contact me at 817-640-0606 if you have any questions or if I can be of assistance to you.

Sincerely,

Sherman Powers

This firm is Certified under the following commodity codes/area(s) of specialty:

NAICS 541370: AERIAL SURVEYING (EXCEPT GEOPHYSICAL) SERVICES

NAICS 541690: MOTION PICTURE CONSULTING SERVICES

NAICS 541922: COMMERCIAL PHOTOGRAPHY SERVICES

NAICS 541922: PHOTOGRAPHERS SPECIALIZING IN AERIAL PHOTOGRAPHY

North Central Texas Regional Certification Agency

October 19, 2021

Steffanie Rivers
TCB Drones, LLC
4837 Cedar Springs Rd
#218
Dallas, TX 75219

RE: Small Business Enterprise (SBE) Certification Affidavit No. 25670

Dear Rivers:

Congratulations! Your firm has been certified by the North Central Texas Regional Certification Agency ("NCTRCA") as a Small

Business Enterprise (SBE) in accordance with NCTRCA MBE/WBE/SBE certification eligibility program requirements. Your Certification Identification Number is BFSB07769N1023. Your firm is certified as a MBE/WBE/SBE in the following areas listed on page 2.

This certification is valid for two years from the date of this letter or, unless and until it has been removed in accordance with NCTRCA MBE/WBE/SBE certification eligibility procedures. In order to remain certified, you must submit every two years, on the anniversary of your certification, a "No Change Affidavit".

A No Change Affidavit is a sworn affidavit affirming that there have been no changes in the firm's circumstances affecting its ownership or control, or any material change in the information provided in its application for MBE/WBE/SBE certification, including the support documentation. Any changes to contact information, ownership, and/or expansion of services must be communicated to the NCTRCA within thirty (30) days of the change. Failure to provide these changes could result in your firm being

removed from the certified vendor database. The NCTRCA reserves the right to re-evaluate a firm's certification status at anytime that it determines such re-evaluation is warranted.

Thank you for your participation in the NCTRCA MBE/WBE/SBE Certification Program. Please contact me at 817-640-0606 if you have any questions or if I can be of assistance to you.

Sincerely,

Elicia Mitchell

Elicia Mitchell, MPA, MCA, ADR
Director of Operations

Page 2
HUB Approval goes here!

October 19, 2021

Steffanie Rivers

TCB Drones, LLC

This firm is Certified under the following commodity codes/area(s) of specialty:

NAICS 541370: AERIAL SURVEYING (EXCEPT GEOPHYSICAL) SERVICES

NAICS 541922: COMMERCIAL PHOTOGRAPHY SERVICES