



# Land & Geospatial Surveying Services

The Bacara team consists of licensed surveyors to efficiently interpret and record the characteristics of a land area designated for construction. Using a variety of surveying techniques and state-of-the-art equipment, clients receive data they can trust with a quick turnaround and a high degree of accuracy.



## Our Services

- Terrestrial surveying
- RTK fixed-wing mapping drone
- UAV LiDAR
- Range mapping
- 3D mapping
- In-house data processing
- Before and after site images

## Our Technology

Bacara uses several different UAVs (Unmanned Aerial Vehicles), each with a specific capability depending on the client's needs.

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Our fixed-wing drones can cover vast areas quickly and efficiently. They use photogrammetry to create highly accurate, high-resolution aerial photos and surface models.

2

We also use industry-leading LiDAR (Light Detection and Ranging) sensors on heavy-lift UAVs when clients need to see beneath tree canopies and vegetation with high degrees of accuracy.

Both of our technologies utilize RTK (real-time kinematic) or PPK (post-processed kinematic) GNSS (Global Navigation Satellite System) corrections to ensure exceptionally high levels of survey-grade accuracy.

Having the option to use the right tool for the right job is a vital piece of the project. Bacara is one of the few companies with UAV photogrammetry and LiDAR capabilities housed under one roof, operated by one team. We can do it all.

At Bacara, we challenge the status quo. We've built powerful computers to handle the massive amounts of data we capture with our UAV systems. All of our data processing is completed in-house by our data technicians. Because of this, we have total autonomy of the data from capture to final deliverable. It will not be shared with anyone else unless you ask us to. No one can match this. Take advantage now, or you'll be left behind.

## Survey Types



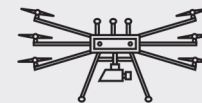
### TERRESTRIAL

This is the traditional method, done on foot with a survey crew. It's the ideal choice for when you need to have the property dug up before it can be shot, or if construction staking is needed.



### RTK FIXED-WING MAPPING DRONE

This is an excellent option for large, open areas without many visual obstructions of the ground. With this drone we use photogrammetry to stitch the hundreds and sometimes thousands of individual, RTK corrected photos from the drone together to create a high-resolution aerial image. From this process we also get extremely accurate topography data.



### UAV LiDAR

Often flown at the same time as the fixed-wing, this LiDAR sensor uses active data collection to see between obstructions such as power lines and trees. It is essentially the Cadillac of UAV survey and mapping technology, and very few firms in the United States are able to say that they can offer UAV LiDAR services along with licensed land surveyors and professional engineers to oversee the data collection and the final delivered product.

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# Our Approach

Before construction on a project begins, it's important to have accurate land surveying services to protect your investment. Bacara's innovative approach matches your project with the most appropriate method for your schedule and budget. Whether that is conventional time-proven surveying methods, or deploying cutting-edge scanning and LiDAR technology, we'll make sure you get the precision data that you need to move your project forward.

Working with our sister companies, RP Constructors, and CEC, we can also engage a team of licensed surveyors, engineers, and FAA Part 107 remote pilots for specialized survey work. Having the ability to provide surveying, engineering, and constructing exclusively in-house gives our clients a critical advantage by reducing communication delays between contractors and subcontractors. Our surveyors know what our engineers need, and our engineers understand what our constructors need. The result is a streamlined process that accelerates schedules and reduces costs.

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# DRONE SURVEYING

## Bacara LLC

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2510 Lakewood Dr.  
Sioux City, IA 51105

**Phone:** (712) 435-4560  
**Email:** info@bacara.us  
**Website:** bacara.us

Follow us on Social: @bacarallc

