

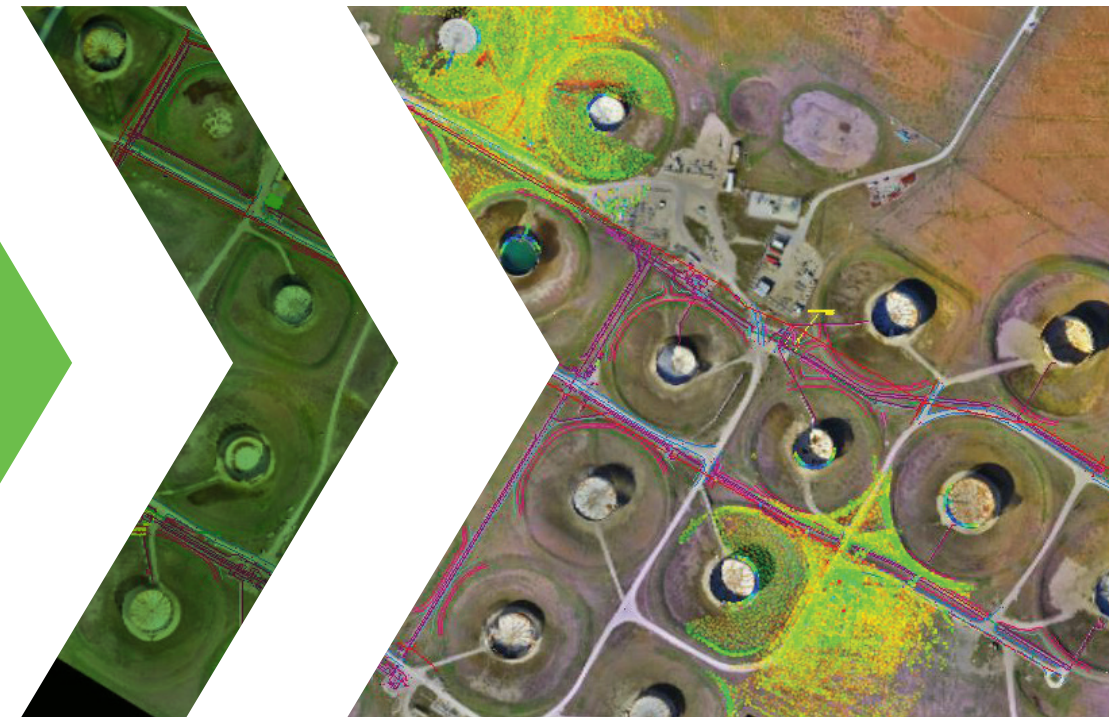
# Surveying

## LJA Surveying

713.953.5200  
LJASURVEY.com

TBPLS No. 10194382

Midland  
Houston  
Dallas  
Corpus Christi  
Deer Park  
Beaumont







# Surveying

Putting excellence on the line, every time. Every project begins and ends with surveying, so where you start and how you finish – and who you hire – matters. We are committed to providing the highest quality professional surveying and mapping services to all of our clients. LJA Surveying utilizes a management system that provides all project team members with guidelines aimed to assist them in performing their work and delivering a quality product. These plans ensure compliance with our client’s standards and processes and that the final product meets or exceeds the required technical and performance requirements. We maintain a level of quality in services and products to achieve excellence. LJA Surveying meets the challenges of tomorrow - today.



## Land Development

Individual and corporate land development clients utilize vast surveying resources to perform a variety of surveys for tracts of land ranging in size from less than one acre to over a thousand acres, as well as topographic surveys for environmental impact assessments, drainage studies, highway design and construction, airport runway layouts, telecommunication sites, and other industrial and commercial projects. Our survey experience also includes cemetery platting, environmental surveys, and construction layout and staking.

## Transportation

Location of utility rights-of-way and easements, and location and acquisition of highway rights-of-way, as well as topographic design and construction surveying, are key points of this division. Topographic surveys for engineering design, digital terrain modeling of bridges and overpasses, and establishing precise vertical/horizontal control for aerial mapping are handled under this division. With the addition of laser scanning technology, crews can safely collect data of busy roadways and intersections, and clearances for bridges and roadways can be accurately mapped. We offer many alternative options for large scale projects to help reduce project cost and scheduling including aerial photogrammetry, aerial LiDAR mapping, mobile 3D laser mapping, and terrestrial 3D laser scanning.

## Energy

Our specialties include energy-related fields - upstream, midstream, and downstream sectors of the oil and gas markets - along with wind and solar energy sectors. Clients benefit through our expertise in determining preliminary route feasibility and environmental impact surveys, establishment of project primary and secondary vertical/horizontal control, and boundary and topographic surveys supporting design, construction staking, and post-construction as-builts. Our utilization of Global Positioning System (GPS) equipment provides the highest accuracy to enable field crews to work more efficiently, lowering the cost of surveys even in remote areas for our upstream clientele, and providing high accuracy locations and elevations for midstream and downstream needs.

## Aerial Photogrammetric Mapping

Aerial mapping and remote sensing services such as digital orthophotos are used by engineers, designers, developers, and environmental scientists on a wide variety of projects. Orthophotos can be delivered in color or black and white depending upon specific needs, and with our state-of-the-art digital equipment, the quality and detail is greater than ever before. Airborne remote sensing is an equally valuable tool that can provide overall forest health assessment, as well as hyperspectral imaging and mapping of features not visible to the human eye such as vegetation delineation, mapping of invasive species, aquatic vegetation, coastal sea life, saltwater vs. freshwater, oil spill, and toxic contamination.

## Hydrographic & Bathymetry Surveys

We have mastered the highly specialized mapping of lakes, rivers, and waterways utilizing cutting edge technology by highly trained professionals who are skilled at extracting viable data into a variety of formats for the end-user. With great precision, we can employ the latest state-of-the-art technology including side scan sonar, single and multi-beam echo sounders, magnetometers and gradiometers, along with Real Time Kinematic GPS. We can quickly cross section and profile bodies of water for the development of bathymetry maps, permitting plans, and dredge reports plus a multitude of other applications. Our information can also help locate underwater obstructions, pipelines, and utilities.

## 3D

LJA Surveying utilizes the latest in advanced geospatial technology to deliver premium remote sensing solutions. Our core technology includes Global Positioning Systems (GPS), Geographic Information Systems (GIS), Light Detection and Ranging (LiDAR), Hydrographic Acoustic Imaging, Remote Sensing, and High Definition Laser Scanning (HDLS). This division utilizes its in-house Leica ScanStation C10 and P40 terrestrial high definition laser scanners to collect complete spatial information. This information is used to develop digital terrain models (DTM's) and 3D models of buildings, roadways, rail yards, material stockpiles, industrial facilities, and natural ground watersheds. We provide these services across an expansive geographical area for projects that vary in size, scope, and complexity.

### High Definition Laser Scanning

HDLS is utilized in a wide range of industries and projects, and offers an increased level of detail and accuracy over traditional surveying, and saves time due to faster data collection and reduced site visits. It is also safer in areas where it is too dangerous to collect data using traditional survey methods. HDLS also improves visualization of complex structures and their models, and has an overall lower cost than traditional methods.

