

# Surveying Services



During the construction phase is no time to find out that boundary lines have been improperly plotted, or that easements and rights-of-way have not been accounted for correctly. Apex's comprehensive services provide a single point of responsibility for everything from base mapping and topographic surveys, to earthwork volume computations, construction staking, and as-built surveys.

## Cutting-edge Expertise

At Apex, we provide land surveys for residential, commercial, and industrial properties and developments. Our expertise ranges from cutting-edge unmanned aerial vehicle (UAV)/drone surveying and 3D modeling to traditional property boundary, construction stake-out and general location surveys. Coupled with our expansive engineering offerings, our comprehensive services allow us to provide a single point of responsibility for everything from base mapping and topographic surveys to site design and construction monitoring.



## Surveying and Mapping

Our expertise ranges from cutting-edge UAV (drone) surveying and 3D modeling to traditional property boundary, construction stake-out, and general location surveys. We provide the following services:

- Commercial surveying
- American Land Title Association (ALTA)/American Congress on Surveying and Mapping (ACSM)/National Society of Professional Surveyors (NSPS) land title surveys
- Global Positioning System (GPS) surveying
- Unification plans
- Utility surveys
- Aerial mapping and control (UAV/drone)
- UAV/drone surveying
- 3D modeling and mapping
- Construction planning and development
- Construction stake-out and volumetric surveys
- Monitoring plans
- As-built site certifications
- Ground control surveys
- Topographic and property boundary surveys
- Property/easement descriptions
- Existing conditions surveys

- Facilities mapping
- Reserve estimates
- Expert testimony
- Accident scene mapping
- General location surveying
- Stockpile surveys and volume computations
- Subdivision plans for residential, commercial, and industrial land development
- Base mapping for land development
- Underground and surface mine surveys
- Flight control surveys

### UAV (Drone) Surveying

Apex offers topographic mapping and surveying services completed by a real-time kinematic (RTK)-GPS surveying drone. The UAV can complete surveying projects more efficiently and accurately compared to traditional methods.

#### Accurate

- Absolute horizontal/vertical accuracy down to 1.2 inches without need for ground control points
- Increase in points measured
- Improved map accuracy

#### Fast

- Quicker turnaround time for a deliverable product
- 3 acres per minute = average coverage rate for large area mapping
  - Efficiently planned flight routes decrease time in the air

#### Accommodating

- Less weather restrictions compared to manned aircraft
  - Drone often flies below cloud cover offering a greater window of opportunity
- Access to previously difficult areas
- Inventories and reclamation accounting can be more closely tied to a snapshot in time or liability date

#### Safe

- Risk to personnel minimized as they do not need to traverse the site
- Drone weighs less than two pounds and is constructed of shock absorbent foam

### Related Services

Apex's staff of site civil engineers are adept at working with survey information to optimize grading and drainage, stormwater controls and detention system design, utility coordination, and parking and site traffic management, and has the experience needed to assess the implication of site design early in the process. We provide the following services:

- Site investigation, evaluation, and land planning
- Site design and development
- Stormwater management
- Design of erosion and sedimentation control
- Environmental permitting
- Utility design and coordination
- Water and sewer system design
- Roadway design
- Hydrologic and hydraulic modeling
- Landscape planning and conservation design
- Structural concrete design
- Retaining wall design
- Building structure design
- Municipal zoning
- Liaison for regulatory officials and agencies

### Memberships

Staying current with the latest industry trends and business developments is vitally important to Apex. Connecting with our clients and working with policymakers, regulators, and other professionals in the industry is a key component in staying up-to-date with the ever changing landscape. We value the opportunities offered by professional organizations as exemplified by our active involvement in the following associations:

- American Society of Civil Engineers
- National Society of Professional Surveyors
- American Land Title Association