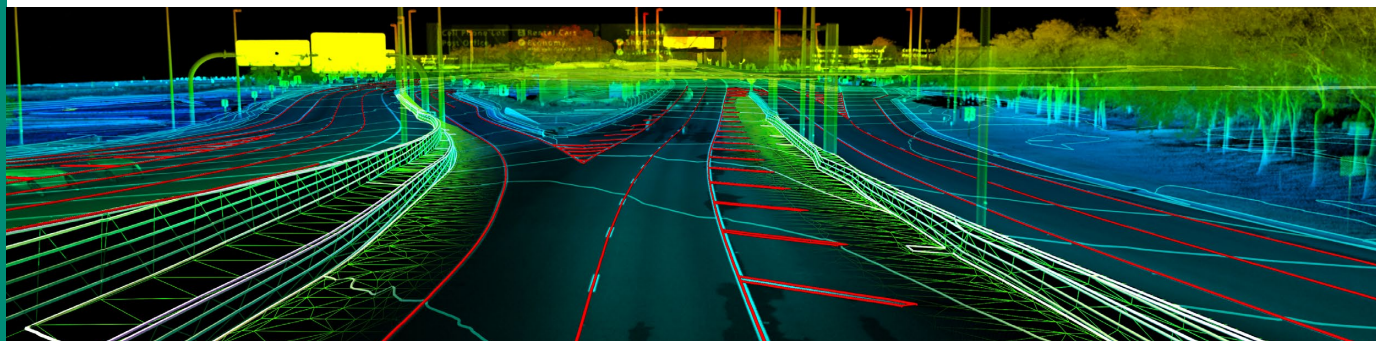


# Survey/Geospatial

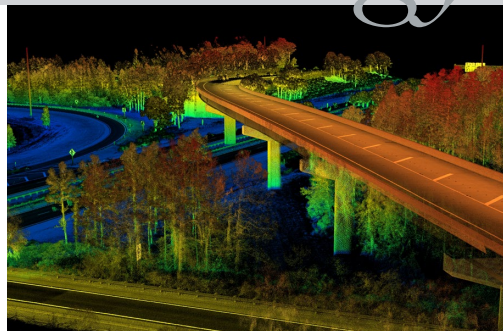
**Land Survey & Measurement • Geospatial Scanning & Remote Sensing  
Mobile LiDAR • UAS • GIS • Rail & Tunnel • Subsurface Utility Engineering**





**From the days of compass and transit systems to the geospatial technologies used today, the essence of surveying remains the same; successful survey projects are defined by using experienced professionals, choosing the right equipment for the job and producing highly accurate deliverables. Our licensed surveyors and field crews have comprehensive hands-on field experience employing the latest technologies required for any terrestrial, aerial or mobile mapping survey project. This expertise has enabled our survey professionals to develop innovative approaches and practical solutions to everyday projects of any size, making us leaders within the industry.**

## Advanced Technology



### Land Survey & Measurement

Our professionals use a wide variety of instruments and methods to collect data from a multitude of project types including commercial and residential properties; complex facilities; building assets; bridges and structures; roadways, railways and runways; tunnel corridors and clearances, all of which require specialized measurement equipment and experienced operators.

While the surveying method employed is defined by the characteristics of a project, the approach to projects is now more customized than ever before due to the variety of instrumentation at our disposal and their unique capabilities. Whether the project calls for administering conventional methods, cutting-edge geospatial scanning techniques or a combination of both, our success is defined by the accuracy of the data collected, quality control from field to office and the precision of the final deliverable.

- Topographic & Boundary Surveys
- ALTA/NSPS Land Title Surveys
- Environmental Surveys
- Hydrographic, Riparian & Wetlands Surveys
- Construction Stake-Outs
- Pipeline & Utility ROW Surveying
- Aerial Photo Control for Mapping
- Deformation Monitoring Surveys
- Tax Map Updates
- As-Built Surveys

### Geospatial Scanning & Remote Sensing

Maser Consulting employs a variety of powerful 3D hi-definition and LiDAR laser scanning technologies capable of collecting over a million data points per second with extreme precision and clarity. Our geospatial specialists have embraced this technology to create innovative approaches to surveying and mapping, applying it to a wide range of project types. Data can be collected using static terrestrial, mobile or aerial platforms individually or by integrating one or more of these methods into one comprehensive, hi-accuracy deliverable.

Our field data is processed using prudent quality control procedures. Once analyzed by our geospatial specialists, customized digital and visual deliverables are created to fulfill even the most unique project requirements. This wide range of applications includes standard planimetric CADD files, detailed Digital Terrain Models (DTMs), as-built 3D models, asset databases, georeferenced photography and project site animations.

### Mobile LiDAR Mapping

Mobile LiDAR is a proven remote sensing technology that combines scanning and imaging sensors with specialized geo-positioning equipment, mountable on a variety of vehicle types. This system enables us to collect data from long corridors and complex project sites to produce highly accurate 3D spatial models in a safe and cost-effective manner.

Mobile LiDAR data can be collected in a fraction of the time required by more conventional means, increasing worker safety and lowering the impact on the traveling public, while reducing overall project costs.

- Route, Railway & Utility Corridor Mapping
- Highway & Bridge Corridor Clearance Analysis
- Full 3D Digital Terrain Models
- Topographic Surveys
- Tunnel Mapping
- Asset Management & Geodatabase Development

### Unmanned Aerial Systems (UAS)

Maser Consulting offers Unmanned Aerial Systems that utilize professional-grade UAS flight platforms combined with advanced sensors and data processing to deliver high-value client solutions. Our UAS teams are FAA Part 107 certified and trained to maximize the application of aircraft and sensors for each specific project type.

Having multiple UAS aircraft platforms enables our teams to access a wide variety of projects that might be difficult to access with an emphasis on safety due to the remote operational nature UAS offers. The unique mobility of UAS enables the rapid deployment of our operational teams to a site especially when a direct response is required, in a safe and cost-effective manner.

- 3D Hi-Definition Aerial LiDAR
- Photogrammetric Mapping
- Hi-Resolution Imagery, Photo & Video Inspection
- Environmental Sensing Technologies
- Construction Monitoring & Volumetric Analysis
- Change Detection
- Asset Mapping & As-Built
- UAS Program Development & Training
- Emergency Response



## Geographical Information Systems (GIS)

Our certified Geographical Information Systems professionals utilize cutting edge GIS/GPS methods for mapping, data collection, asset condition inspection and project planning for enterprise asset management. This secure, web-based technology is highly configurable and can assist clients in improving operations, facility management, service requests, document management and work orders. Our specialists provide a full range of services that help reduce operating costs while extending asset life.

- GIS Needs Assessments & Program Implementation
- GPS Data Collection
- Mobile Field Applications
- Land Base Mapping
- Utility Mapping
- Property Record Mapping
- Web-based Application Development

## Rail & Tunnel

Our level of expertise enables us to employ safe and creative solutions for capturing comprehensive track geometry and corridor data in the unique rail and tunnel environment. This includes implementing robotic instruments and high-precision geometry trolleys to meet precise transit authority specifications; mobile LiDAR systems to quickly collect miles of rail corridor and tunnel data; GPS/GIS equipment for asset location mapping services and conventional instruments for topographic and right-of-way surveys.

- e-RAILSAFE & RWT compliant
- Horizontal & Vertical Track Alignment
- LiDAR Corridor Mapping
- Tunnel Surface & Clearance Scanning
- Direct Fixated Track Construction Support
- Topographic Base Mapping & Existing Rail Survey
- Right-of-Way Boundary Survey
- Positive Train Control/Asset Mapping

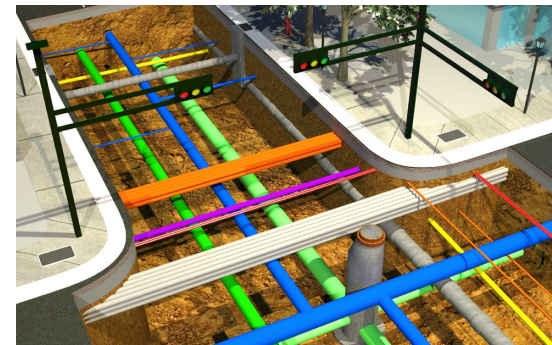


## Subsurface Utility Engineering (SUE)

Subsurface Utility Engineering is an effective means of locating and designating existing underground utilities which is a critical part of the design process for new and existing infrastructure projects. SUE saves clients time and cost by helping to eliminate unexpected utility conflicts and unnecessary relocations while enhancing safety during construction.

Our professionals collect data in accordance with national ASCE-38-02 Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data. These guidelines include quality levels that employ a combination of research, geophysical methods, civil engineering, survey mapping, electromagnetic devices including ground penetrating radar (GPR) and nondestructive excavation technologies. We work with DOTs, airports, railroads and transit authorities, developers, government authorities, utility owners and clients throughout the utility coordination process to develop an approach for each unique project type.

- Record Research & Compilation
- Utility Coordination
- Utility Designation & Location
- Vacuum Excavation
- Integrated Existing Utility Survey Deliverables
- 3D Utility Modeling
- GIS Utility Data Management
- Risk Envelope for Utilities
- Overall Utilities Management
- Excavation/Drilling Clearances
- Concrete Reinforcement/Conduit Mapping





*Civil/Site • Traffic/Transportation • Public • **Survey/Geospatial**  
Infrastructure • Geotechnical/Environmental • Telecommunications • Energy*

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Maser Consulting is a multi-discipline consulting and engineering design firm providing customized solutions for public and private clients through a network of offices nationwide.

For a full listing of our office locations, please visit our website  
[www.maserconsulting.com](http://www.maserconsulting.com)



**Engineers • Planners • Surveyors • Landscape Architects • Environmental Scientists**