

FIELD SURVEY

For Transmission &
Distribution Utilities and
Renewable Energy Projects

Field surveying is critical for the planning, design, construction, and maintenance of transmission, distribution, and renewable energy projects. Our specialized survey services ensure accuracy, compliance, and efficiency across all project phases.



TRANSMISSION & DISTRIBUTION UTILITY FIELD SURVEY SERVICES

For electrical transmission and distribution infrastructure, precise surveying is essential for route planning, ROW acquisition, engineering, and construction.

Route & Alignment Surveys

- Determining optimal transmission and distribution line corridors
- Evaluating terrain conditions to minimize environmental impact
- Providing detailed route mapping for engineering and permitting

Boundary & ROW Surveys

- Identifying and verifying property lines along proposed routes
- Defining and documenting existing or new ROW corridors
- Resolving land boundary disputes with precise survey data

Easement & Encumbrance Surveys

- Mapping and validating utility easements
- Identifying existing encumbrances affecting transmission and distribution routes
- Surveying for lease and ownership verification

An aerial photograph of a tall, lattice-structured transmission tower situated in a dense forest. The tower is the central focus, with power lines extending from it. The surrounding landscape is a mix of green and yellow trees, suggesting an autumn setting. In the background, a few houses are visible on a hillside. The entire image is framed by a blue border.

TRANSMISSION & DISTRIBUTION UTILITY FIELD SURVEY SERVICES

continued

Topographic & Terrain Mapping

- Detailed elevation and contour mapping for engineering designs
- Identifying ground conditions, slopes, and drainage patterns
- Supporting substation siting and infrastructure placement

Utility Location Surveys

- Locating and mapping underground and overhead utilities
- Coordinating with utility companies to prevent conflicts
- Supporting excavation planning and safety measures

As-Built & Post-Construction Surveys

- Verifying final placement of transmission lines, poles, and substations
- Ensuring compliance with engineering plans and regulatory requirements
- Documenting infrastructure for future expansion or maintenance

LiDAR & Aerial Surveys

- High-resolution LiDAR scanning for precise ROW and terrain modeling
- Aerial photogrammetry to capture large-scale transmission line routes
- Remote sensing for vegetation management and encroachment detection

Substation Site Surveys

- Site selection analysis based on elevation, drainage, and land stability
- Grading and construction staking for substation development
- Boundary and easement verification for secure land control

Floodplain & Hydrology Surveys

- Assessing flood risks for substations, transmission lines, and ROW corridors
- Mapping water flow patterns to mitigate erosion or flood impacts
- Ensuring compliance with local and federal floodplain regulations

RENEWABLE ENERGY FIELD SURVEY SERVICES

For electrical transmission and distribution infrastructure, precise surveying is essential for route planning, ROW acquisition, engineering, and construction.

Solar Farm Surveying Services

- Site Suitability Assessments – Identifying optimal terrain for solar arrays
- Boundary & Ownership Surveys – Confirming legal land boundaries for site control
- Topographic Surveys – Mapping elevation for solar panel placement and drainage planning
- Foundation Staking & Construction Surveys – Ensuring precise placement of racking systems
- Transmission Interconnect Surveys – Mapping routes for power evacuation infrastructure
- ALTA/NSPS Land Title Surveys – Meeting financial and legal requirements for project development

Wind Farm Surveying Services

- Wind Turbine Siting Surveys – Identifying optimal turbine locations
- Boundary & ROW Surveys – Defining leased and owned land parcels
- Underground Cable Routing Surveys – Mapping paths for electrical collection systems
- Access Road & Crane Path Surveys – Ensuring stable terrain for construction equipment
- Tower Foundation Staking & Grading Surveys – Preparing turbine pad locations
- FAA Compliance & Obstruction Surveys – Assessing aerial obstruction clearances

Battery Storage & Grid Interconnection Surveying

- Site Selection & Feasibility Surveys – Identifying ideal locations for storage facilities
- Boundary & ROW Surveys – Securing legal land control for battery storage infrastructure
- Transmission Corridor Surveys – Mapping routes for interconnections to the grid
- Substation Expansion Surveys – Supporting substation modifications for energy storage integration





ADVANCED SURVEYING & TECHNOLOGY SOLUTIONS

Modern technology enhances accuracy and efficiency in transmission, distribution, and renewable energy surveys.

LiDAR Mapping & 3D Modeling

- High-resolution digital terrain models for large-scale infrastructure projects
- LiDAR-equipped drone surveys for ROW mapping and encroachment monitoring
- 3D visualization for planning, permitting, and design optimization

GIS & Data Management

- Comprehensive geospatial mapping for land ownership and ROW tracking
- Digital asset management for transmission, distribution, and renewable projects
- Integration with utility GIS systems for ongoing infrastructure monitoring

CONSTRUCTION & POST-DEVELOPMENT SURVEYING

Supporting utility and renewable projects from construction planning through long-term operation.

Pre-Construction Staking & Layout Surveys

- Transmission Line Staking – Defining exact pole and tower locations
- Solar & Wind Foundation Staking – Marking turbine pads, solar panel rows, and battery storage foundations
- Grading & Earthwork Verification – Ensuring proper site preparation for stable infrastructure

As-Built & Compliance Surveys

- Post-Construction ROW Surveys – Verifying final infrastructure placement
- Substation As-Built Surveys – Ensuring substations meet design specifications
- Utility & Collector System Mapping – Documenting underground cabling and interconnect routes

PLS services are not performed directly by Magnolia River Services but are provided through one of our affiliated companies.

Contact us today to learn more about our comprehensive field survey services.

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