Surveying and mapping is a high-technical, multi-disciplined industry which continually advances. Cardno’s team provides practical experience, innovation and a comprehensive knowledge of ever-changing technological trends and jurisdictional requirements. Our reputation is built on providing incomparable service based on a high standard of technical ability and project understanding.

Cardno’s staff includes professional, registered surveyors, survey technicians and field crews. Each member is focused on maintaining cutting-edge, quality service. Our teams consider the views, needs and impacts of the development process on all members of the project.

**Our services include:**
- Right-of-Way Surveys and Mapping
- Design Surveys
- Boundary Surveys
- Topographic Surveys
- ALTA/ACSM and Land Title Surveys
- Cadastral Surveys
- Horizontal Control Surveys
- GPS Surveys (static, rapid static and RTK)
- Subsurface Utility Surveys and Mapping
- As-Built Surveys
- Utility Inventory Surveys
- Quantity Surveys
- Topographic Mapping
- GPS/Geodetic Control
- Subdivision and Condominium Maps
- Lot (or Property) Line Adjustments and Partitions
- Legal Description Writing
- Quality Control/Assurance
- Peer Review
- Utility As-Built Surveys
- Digital Imagery
- Construction Staking
- Foundation Verification
- Erosion Control Monitoring
- Settlement Deflection Monitoring
- Flood Zone (plain) and Elevation Certificates

**GIS:**
- Asset Management
- Municipal Planning and Engineering
- Transportation Planning and Engineering
- Site Development
- Subsurface Utility Engineering and Utility Coordination
- Environmental Planning and Engineering
- Water Resource Management
- Feasibility and Cost/Benefit Studies
- Website Design
- Hydraulic and Hydrologic Modeling
- Map Production
- Needs Assessment
- Right-of-Way Studies
- 3-D Modeling and Animation

Serving a variety of client disciplines throughout the country, Cardno sets the standard in survey and mapping services.
Utility Engineering and Surveying
Our UES group provides Subsurface Utility Engineering (SUE) services that meet and exceed the Civil Engineering industry’s ASCE Standards. This enables design engineers to manage risk for new underground utility designs and operations maintenance.

UES Service areas include:
> Utility Engineering Design
> Utility Coordination
> Utility Conflict Analyses and Resolutions
> Designating Utilities
> Underground Utilities
> Subsurface Utility 2D/3D mapping
> Survey & Mapping
> Utility Engineering Reports/Risk Management Reports

Reducing risk and delay claims
Our job is to help reduce uncertainties and keep your project moving forward. With decades of experience serving hundreds of clients, top notch equipment and processes, you can be confident that your project will be handled with the attention it deserves. Our SUE expertise regularly leads to identification and documentation of previously unrecorded subsurface utilities, reducing the risk of potential project impacts.

Staff and training
Cardno’s ongoing focus on staff training and advancement keep us at the forefront of the industry. Our UES field and office teams are highly-trained and specialized professionals qualified to meet a broad range of client needs. All staff are required to meet rigid safety and industry training requirements as well as complete training that Cardno has developed to provide our teams with additional skills and technical knowledge.

Leading with technology
A wide range of equipment is necessary to detect the variety of subsurface utilities that may be present. We use the most appropriate technology for the project to increase the accuracy of the data, including:
> Stream EM / C, a multi-channel ground penetrating radar solution dedicated to utility locating and mapping.
> LiDAR, or Light Detection and Ranging, to generate precise, three-dimensional information about the shape of the Earth and its surface characteristics.
> Geographic Information System (GIS), captures, manages, analyzes, and displays all forms of geographically referenced information, allowing one to analyze spatial information, edit data in maps, and create interactive queries.

Leading the Utility Engineering & Surveying (UES) industry
We are proud to be a founding and sustaining member of the American Society of Civil Engineers’ (ASCE) Utility Engineering and Surveying Institute (UESI), whose mission is to advance the UES practice. Our experts lead the profession through speaking at industry conferences; developing standards and manuals of practice. We lead the industry by example. We develop professional practices that set the bar regarding the expectations for any SUE or survey investigation.

Cardno is a global provider of integrated professional services which enrich the physical and social environment for the communities in which we live and work. Our team of multidisciplinary specialists around the world has more than 70 years’ experience in designing, developing and delivering sustainable projects and community advancement programs. Cardno is listed on the Australian Securities Exchange (ASX: CDD).

usinfo@cardno.com
www.cardno.com