

TERRA

ENGINEERING LTD.



Leading Excellence

As business professionals in the design and construction industry, we face challenges every day. As engineering professionals, TERRA Engineering embraces challenges and works with our clients and fellow professionals to provide solutions for all projects. We benefit from new experiences and welcome the opportunity to incorporate innovative and environmentally conscientious solutions into our design.

We do this by recognizing our clients' immediate needs and opportunities for future growth. Our staff listens carefully and our project managers lead methodically. Our quality services allow us to remain within scope, budget and schedule on every project every time.

Our mission also includes being aware of the local and global communities in which we work. We have been leaders in the areas of environmental innovations and continue to improve our response to site needs, as well as our clients' expectations.

Our vision is to be a world-class engineering firm that assists our clients in achieving and exceeding their goals while continuing to be a community leader.

And we aim to do this every day for every client.

Sincerely,

Handwritten signature of Karen Steingraber in black ink.

Karen Steingraber, P.E., President
TERRA Engineering, Ltd.



Expertise you can count on to deliver tailored solutions.

Innovation, expertise and flexibility go hand-in-hand. Since 1992, these traits have driven TERRA Engineering, Ltd. (TERRA) to provide quality performance and render excellent services for all clients — locally, nationally and globally.

TERRA is a woman-owned, full-service engineering firm. Our mission is to provide quality services for client-specific solutions within scope, budget and schedule. TERRA endeavors to fully understand our clients' needs on each project to achieve desired goals.

Our experience. Your solution.

The engineering professionals at TERRA, with an average of more than 30 years of experience, bring not only knowledge and experience to our clients' projects but also sensitivity to our clients' needs. Working with architects, engineers, developers, and local and state governments, we are well versed in the code requirements for all aspects of the projects that we undertake.

The breadth of our services. Your success.

TERRA is dedicated to providing quality services from concept to completion. Our services include site development, municipal engineering, structural engineering, transportation engineering, geographic information systems (GIS), surveying, landscape architectural design, bridge inspection, construction engineering, traffic engineering and studies, and lighting. All these services, combined with our expertise, commitment and our partnership with clients, lead to meeting and exceeding our clients' goals.

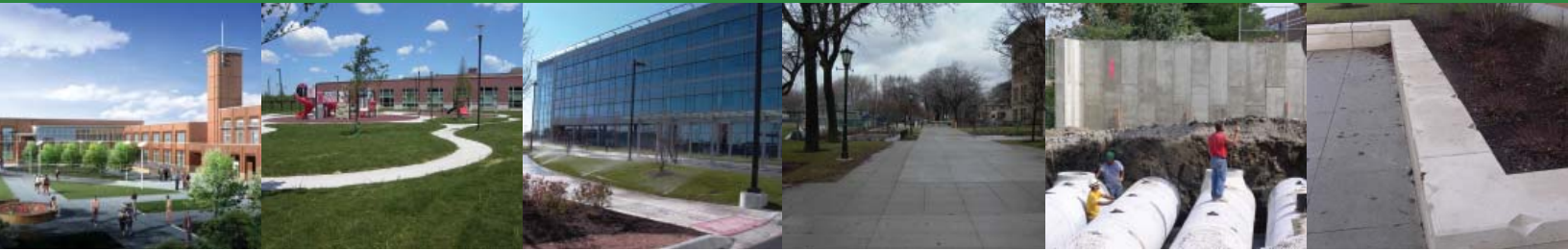
Global reach. National and international capabilities.

Working on projects throughout the United States, Middle East and Far East, TERRA is helping to construct the international landscape.

We offer the same outstanding services globally that we provide domestically. Our international experience has exposed us to engineering practices in various countries, including Egypt, England, Italy, Lebanon, Malaysia, Qatar, Saudi Arabia, Singapore, South Korea and United Arab Emirates.

We also work throughout the U.S. for private and public clients, including many municipalities throughout the Midwest.

Services That Ensure Our



Site Development

TERRA has a long history of developing both private and public facilities in the U.S. and overseas. Our diversified expertise covers all aspects of site development services. Our work includes master planning, civil design and structural design for:

- Commercial buildings
- Industrial sites
- Medical institutions
- Public buildings
- Religious facilities
- Recreational facilities/bike paths
- Residential developments
- Retail developments

Services include site grading, roadways and parking lot design, utility extensions and relocations, storm and sanitary sewers, onsite detention/retention and storm water management and permitting, site lighting, landscape development and construction services.

Municipal Engineering

TERRA serves as the city/village engineer for a number of municipalities, aiming to provide quality solutions that not only satisfy regulatory requirements but also meet and exceed our clients' other business objectives. Our work includes:

- Annexation plats
- Bridge inspections, as well as bridge and retaining wall design
- Construction administration/observation
- Parking lot development and studies
- Permitting
- Preparation of grant applications
- Preparation of studies and plans for roadways and water systems
- Streetscape beautification and landscaping
- Traffic signal and intersection improvements
- Water, wastewater and storm water engineering



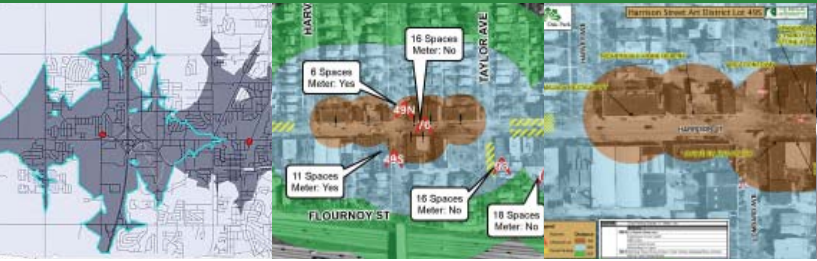
Structural Engineering

TERRA's qualified staff offers extensive knowledge and experience in bridge and earth-retaining structures. Our staff will provide solutions from planning and design through management and client services for both steel and concrete structures. Our services include:

- Bridge design
- Feasibility studies
- Geotechnical analysis
- Structure Geotechnical Reports (SGR)
- Hydraulic reports
- Preparation of contract documents
- Value engineering

TERRA has expert knowledge in highway and railroad structures, buildings, and pedestrian bridges. We provide innovative yet simple approaches to structural engineering projects for both the public and private sectors. For existing structures, we provide inspections, condition ratings and reports, and options for maintenance and rehabilitation.

Clients Achieve Success



Geographic Information Systems (GIS)

Combining knowledge of GIS with real-world field experience, TERRA's GIS team provides unique insight into how geospatial data can be leveraged to make environments more productive and information more accessible and usable. GIS services that TERRA offers for both the public and private sectors include:

- Enterprise Asset and Maintenance Management
- Application Development
- Database Design and Data Maintenance
- Internet GIS Services
- Installation and Training
- Mobile Field Collection and Routing Analysis

To ensure quality service in this rapidly evolving field, TERRA's staff stays current with emerging GIS technology through workshops and training. We are eager to share our knowledge with clients through discussions about specific project needs.

Surveying

At TERRA, we offer a wide array of surveying services to meet the needs of our clients. We provide:

- Boundary and ALTA surveys using the American Land Title Association/American Congress on Surveying and Mapping (ALTA/ACSM) standards
- Construction layout for projects of all sizes
- Hydraulic surveys
- Topographic and route surveys

We also provide professional land surveying services that include preparation of plats and legal descriptions for assorted right-of-way needs.

TERRA's staff is well versed in providing land acquisition services for public and private clients. TERRA offers appraisals, appraisal reviews, waivers and other land acquisition services.

Transportation Engineering

TERRA has experience with transportation engineering projects of all sizes, ranging from small, local projects to larger projects of regional importance. Highlights include work for federal, state, county and local governments in both rural and complex urban environments. Our staff has experience in a variety of transportation projects, including:

- Bridge design and pavement design
- Construction staging and traffic maintenance planning
- Cost estimates and value engineering
- Feasibility studies
- Geometric roadway and intersection design
- Preparation of Phase I and Phase II contract documents
- Roadside safety and barrier warrant analysis
- Roadway planning and design
- Signage
- Simple and complex interchange planning and design
- Storm water management
- Urban and rural interstate/freeway design

Attention to cost, historical significance, citizen input and aesthetics have been important factors in reducing environmental objections and obtaining public acceptance and approval. TERRA uses the nationally recognized Context Sensitive Solutions (CSS) process as implemented by the Illinois Department of Transportation (IDOT).



Services That Ensure Our



Landscape Architectural Design

TERRA helps shape spaces we inhabit by providing conceptual, schematic and design development services for a broad mixture of landscape design projects. Having landscape architectural design services to complement our engineering work enables our clients to obtain wise planning, thoughtful design and environmental stewardship, ensuring site work to be seamless between various project teams.

Our staff partners with clients to create or improve landscapes through innovation and engineering excellence. We create designs for:

- Economic feasibility studies and project budgeting
- Healthcare facility gardens and courtyards
- Public and private parks
- Recreational/athletic facilities
- Site development
- Site planning
- Streetscape

Bridge Inspection

The TERRA bridge inspection team averages more than 30 years of experience in designing and inspecting various types and sizes of bridges. We ensure that the inspections are carried out in accordance with current state and federal policies by using National Bridge Inspection Standard (NBIS) certified program managers and team leaders.

Having completed bridge inspections for IDOT, the Chicago Department of Transportation (CDOT) and the Village of Matteson, TERRA has garnered further knowledge to assist clients with bridge projects of all sizes. Bridge inspection reports, including Illinois Structure Information System (ISIS) reports, are prepared for every structure inspected to ensure all critical information is recorded.



Traffic Engineering and Studies

TERRA conducts a wide array of traffic engineering studies to assist our clients in determining the potential impact of a project on the surrounding roadway network. Our traffic engineering staff is well versed in the procedures, standards and technology required to determine the best solution for each project. Our traffic engineering services and comprehensive transportation studies typically include:

- Corridor studies
- Intersection and roadway capacity analysis
- Intersection design studies (IDS)
- Parking lot analysis and studies, including site circulation
- Traffic data collection and modeling
- Traffic impact analysis
- Traffic signal and stop sign warrant analysis
- Traffic signal design and interconnect
- Transit studies
- Vehicle and pedestrian inventories

Additionally, our transportation planning services utilize Context Sensitive Solutions (CSS) and sustainable transportation planning to help ensure our designs fit into their environments while providing maximum function to the users.

Clients Achieve Success



Construction Engineering

TERRA provides management, inspection and quality assurance/quality control (QA/QC) services on construction projects throughout the U.S. Our inspection services include:

- Municipal-related projects
- Site development
- State and federal projects
- Urban and private landscaping
- Utility extensions and relocations

Our team is responsible for the supervision, inspection, QA/QC testing, scheduling and documentation of civil works.

Lighting

At TERRA, we emphasize lighting solutions that are not only energy efficient but also cost effective. We have found that lighting can often be the key to visually connecting a building to its surroundings. This insight means we can work with unique situations and provide customized solutions for each structure.

With our extensive experience and in-depth knowledge, we can speak directly to the myriad of diverse issues surrounding the illumination of architectural and surrounding elements and provide effective solutions for all environments. This includes roadway and parking lot lighting.

Industries Served

Having worked within a variety of industries, TERRA has great familiarity with the specific needs of each client and their unique projects. This fundamental expertise makes TERRA well versed to serve the following industries:

Federal, State and Local Governments

- Airport authorities
- Capital Development Board (CDB)
- Chicago Department of Transportation (CDOT)
- Federal agencies
- Fire districts
- Illinois Department of Transportation (IDOT)
- Illinois State Toll Highway Authority (ISTHA)
- Sanitary districts
- Various municipalities/counties/park districts

Private Developments

- Commercial
- Industrial
- Residential
- Retail

Public Buildings

- Fire stations
- Hospitals and healthcare facilities
- Libraries
- Museums
- Police stations
- Public works facilities
- Schools and universities

Private Companies

- Architects
- Developers
- Engineers
- Landscape architects
- Planners
- Utilities





Contact us for additional information on our services and capabilities.

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