



TD2
engineering
& surveying

GETTING STARTED

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Mark Twain said, **The secret of getting ahead is getting started.** There is more to the quote, but we'll pick that up again later.

WE DIDN'T HAVE ANYTHING LIKE THIS...

TD2 was invited in March 2022 to be part of the Millard North Skilled Career Expo. We don't usually hit the high school career fairs. Still, with the current labor shortage and our need for field interns, we showed up with three surveyors and lots of technical show and tell.

As throngs of students wound through the hall of 50+ organizations, each surveyor at some time said something to the effect, "We didn't have anything like this when I was in school."

Not every student is best suited for a 4-year college degree. The Expo's intent was to showcase career training programs/schools opportunities for 2-year training and vocational careers.

We are glad we went.



The 50+ organizations ranged from community colleges, manufacturers, military branches, health professions, the beauty industry, and many trade organizations/construction-related companies.

DEBRIEF

It got us thinking about how we got started. Our surveyors, Mike Smith, Brian Morgan, and Jon Carrell, talked at length during and after the Expo about their own on ramps to land survey and paths to TD2. So we thought we would share some of those backstories with you.

It also got us thinking about what advice we would give to students, how we talk about what we do, and survey opportunities at TD2.



Lozier, a long-time TD2 client, was our neighbor.

ONRAMPS

Mike, Brian, and Jon have come to surveying through follow-through, friends, and family.

Mike Smith, R.L.S. - FOLLOW-THROUGH

If Mike could be anything, it may be a farmer, but that wasn't in the cards. He may not be a farmer, but he is closely connected to the land. As part of an assignment, while completing his Associate of Applied Science in Civil Engineering/Construction Technology at Iowa Western Community College, he applied to TD2. TD2 had come into his awareness from working with TD2 inspectors on construction and excavating jobs. But some time passed, and crickets. After completing his degree and working in Lincoln, he applied again. His persistence paid off, his resume hit the mark in the Survey Department, and he has now been with TD2 for 28 years. He started just like everyone else in the field as a Rodman, became a Crew Chief, and moved inside as a Field Supervisor. He now devotes his time and energy to Project Management and Quality Control. A Licensed Surveyor in Nebraska and Iowa, Mike currently serves as Secretary/Treasurer of SENSLA, the Southeast Nebraska Land Surveyors Association, and is a member of the PSAN Professional Surveyors Association of Nebraska.

Mike loves the art and science of measurement, the feeling of confidence in the outcome developed over time and practice, and the camaraderie of working on a team. He is also big on taking personal responsibility, and his advice to students is **don't give up. Instead, think about your interests and what you are good at, and gravitate in that direction. It is challenging at first, but give it a chance. Learn the job, then learn the rest.**



Brian Morgan, S.I.T. - FRIENDS

Brian had no clue what he wanted to do, even with some college, but he had a friend working at TD2. Brian started grass green as a Rodman, progressed to an Instrument Man, became a Crew Chief, and now manages Field Crew Scheduling. Today he has 20 years at TD2 that has come about from learning by doing. Brian earned his S.I.T. Surveyor In Training in 2020 and is on the path to taking his exam for registration in Nebraska.

Brian likes that TD2 is big but small. You won't be a cog in a big machine, and there is room to grow. His advice to students is to **pay attention and be patient.**

Jon Carrell, R.L.S. - FAMILY

Jon's family connection comes from his dad, Roger's firm Carrell & Associates, Inc., a surveying and consulting firm. He worked summers in high school and college but took the civil engineering route in college, earning his B.S. Jon loved working in the field with an internship with Union Pacific and traveling with Kiewit Construction Midwest. Still, he didn't think of himself as an engineer. Jon began thinking of himself as a surveyor after returning to his dad's company as a Crew Chief and in management, earning his R.L.S. in 2009. He moved to another civil engineering firm as a Crew Chief and is now a TD2 Project Manager as of January 2022.

Jon is personally and professionally invested in surveying's future as a past president of SENSLA and a PSAN member. Jon is involved with the PSAN Pre-Exam Workshops and encouraging individuals to study and get their professional registrations. As the number of Registered Land Surveyors dwindles, both organizations are interested in sharing the merits of the surveying profession.

Jon's advice is **there are so many opportunities out there to learn. You don't need to rush into anything or know precisely what you want to be right this minute. Surveying is a place where you can begin and make a difference.**

WHAT DO YOU GUYS DO?

The Art & Science of Measurement 101

Land Surveying is a proud profession with deep historical roots. TD2 surveyors are following in the footsteps of their predecessors. George Washington, Thomas Jefferson, and Abraham Lincoln are a few notable historical figures who practiced land surveying.

We measure, mark, and map the relative positions or location of terrain features and real property boundaries. We are usually the first professionals on the scene when a site is proposed, built, or sold.

Our clients are home builders, attorneys, banks, mortgage companies, title companies, insurance companies, construction companies, architects, government agencies, and the public.

THE IMPORTANCE OF PRECISION

Tools of the Trade

Like any communication tool, surveys convey critical information. When information is poorly gathered and/or presented, the survey may cause design problems and costly delays. To measure accurately. TD2 surveyors have the right tools and training for the job. Our tools of the trade include the most basic measuring tapes to the latest in Leica G.P.S. equipment and robotic Total Stations, drones, cameras, and software.

Leica G.P.S. Base Units and Rovers
Leica Robotic Total Stations
AutoCAD Civil 3D
CG Survey 19
Leica Infinity
Topcon Falcon 8
MAVinci Sirius Pro 2

It is easy to take for granted, but only in the last 35 years have instruments and software emerged to automate some processes. TD2 invests in keeping our field equipment and software the most current in the marketplace to produce efficient and accurate measurements as the pace of technology changes.

This technology makes all the difference, but it doesn't run itself. It takes grounded, well-prepared problem solvers who recognize their essential role in gathering, analyzing, and disseminating data.

MADE 2 MEASURE

Services

- **ALTA/USPS Land Title Surveys** – A comprehensive survey showing physical features relative to easements and property lines on the site. It is used by lenders and title insurance companies to identify issues that may affect clear title not evidenced by public records.
- **Surveyor's Certificate** – Establishes the property corners and property lines on the ground based on legal descriptions and other evidence.
- **Topographic Survey** – Used to design improvements, a "topo" shows the location and elevation of the site's physical features.
- **Construction Staking** – The layout of the location and elevation of improvements such as buildings, paving, sewers, etc. We put the plan on the ground, so the contractor knows where to begin
- **Elevation Certificate** – The elevations of an existing or proposed building relative to the base flood elevation established by the Federal Emergency Management Agency (FEMA). This Certificate ensures compliance with community floodplain management ordinances, determines flood insurance premium rates, and supports a request for a Letter of Map Amendment (LOMA) or a Letter of Map Revision Based on Fill (LOMR-F).
- **Letter of Map Amendment (LOMA) Letter of Map Revision Based on Fill (LOMR-F)** – Documentation provided to FEMA to allow a structure or property to be released from a special flood hazard area.
- **Preliminary Plat** – A drawing submitted for approval to city or county boards showing a development concept for a parcel of land. The final plat and construction plans can be prepared when the development concept is approved.
- **Final Plat** – A drawing submitted for approval to city or county boards showing the exact location and dimensions of the lots, outlots, streets, and easements. After the final plat is approved and recorded with the Register of Deeds Office, individual lots can be sold.
- **Administrative Subdivision** – A process used by cities and counties to create additional building lots, consolidate lots, or adjust lines between lots where no public improvements are involved.

GETTING STARTED

Mark Twain's quote starts, **The secret of getting ahead is getting started.** It finishes with, **The secret of getting started is breaking your complex overwhelming tasks into small manageable tasks, and starting on the first one.** This is what we do every day. So we invite you to get started and take the first step.

IS THIS THE JOB FOR YOU?

Small manageable tasks, and starting on the first one.

We are always on the lookout for excellent employees. Full-time job seekers and student interns don't need experience to apply for the Field Support Technician and Student Intern positions listed below. Take that first step and email your resume to Ken Tracy, or fill out our online application on www.td2co.com.

FIELD SUPPORT TECHNICIAN

Full-timers

We are seeking individuals to work in our construction staking, topographic, and legal surveying department to work as survey technicians. Some G.P.S. operation experience and Leica equipment experience would be a plus but are not required. The job requires a valid driver's license, a good driving record, and the ability to pass a background check.

Student Interns

Experience in the field offers firsthand exposure to the industry. This is a perfect place to start if you love the outdoors and are good at math. It is an opportunity to earn while you learn.

Our Land Survey Department hires one or two interns for the summer months. The student has a full-time, immersion experience holding instruments for the Surveyor on a 2- or 3-man crew, getting familiar with the equipment (Leica Total Station, Leica G.P.S.), and learning the importance of site layout and elevations to setting grade.

TD2 is also a firm with many opportunities for those with experience. Take a look at the TD2 Career Page, and see what is available on CareerLink.



ATTRACTIVE BENEFITS

- Competitive Salaries
- Health, Dental and Vision Insurance
- Life and Disability Insurance
- Vacation Pay, Sick Pay, and Paid Holidays
- 401(k) and Profit Sharing Plan
- Tuition Assistance

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