Who we are:

Transportation is so basic that many of us overlook its overwhelming importance in our daily lives. Practically everything used in our homes, offices, or schools across Tennessee – from furniture to food items to clothing – requires a large and complex transportation network. The Tennessee Department of Transportation provides citizens of Tennessee and travelers with one of the best transportation systems in the country. TDOT is a multimodal agency with responsibilities in building and maintaining roads, aviation, public transit, waterways, railroads, cycling and walking. Our involvement ranges from airport improvements to funding transit buses to planning for river ports. The Department of Transportation has approximately 3,500 employees with four statewide region facilities in Knoxville, Chattanooga, Nashville, and Jackson.

Region Geodetics Engineering Technician
Region Preconstruction – Geodetics
$43,572 - $53,628 annually

Job Overview

The Region Geodetics Engineering Technician is a vital position to successfully conduct geodetic surveying operations in the field by performing data collection. This position requires experience in field and office-based data collection, staking, and other technical geodetics tasks. This position assists with identifying potential geodetic project challenges and minimizing variability in geodetic deliverables and contributing to the Department's Work Program.

The Region Geodetics Engineering Technician assists the Region Geodetics Foreman in ensuring Department policies, technical guidance, and geodetic policies and procedures are followed when conducting field work, data analysis, creating geodetic datasets, and staked locations. This position must effectively articulate geodetic technical concepts through training, mentoring, and collaboration as part of a matrix organization.

Essential Job Responsibilities of the TDOT Engineering Technician 1, 2, and 3 include:

Perform data collection tasks with survey equipment and conduct operator-level preventive maintenance and repairs on survey equipment. Operate computer hardware and software, data collectors, and other equipment to generate and/or complete reports, documents, and present collected data, and communicate with others to capture and maintain project information.

Read and interpret legal documents and project design plans as part of survey activities. Maintain records and prepare daily reports.

Assist with supporting Project Teams and the efficient delivery of TDOT's Work Program by collecting geodetic data and assisting with analysis and technical drawings. Assist with the development of workflows for all geodetics equipment and software and provide troubleshooting assistance with equipment and software being utilized in the Region. Monitor the effectiveness and calibration of equipment and software and provide feedback to the Region Geodetics Foreman.

Assist in the production and creation of geodetic data in conformance with the TDOT Survey Standards Manual and utilize Open Roads Designer (ORD) and/or other relevant software when assigned for technical drawings for projects having a low degree of risk to the Department. Understand data collection and staking techniques that comply with the TDOT Survey Standards Manual.

Assist in the collection of survey data with LiDAR and conventional surveys in accordance with the TDOT Survey Standards Manual. Understand the application and use of appropriate software for geodetic-specific processing of complex data sets that produce the required deliverables.

Remain current on geodetic best practices. Guide in collecting, analyzing, and reporting on various types of geodetic data collection, staking, and processing techniques. Provide input on relevant geodetics technology and techniques that contribute to delivering the Department's Work Program.

Assist in ensuring the Geodetics deliverables are consistent, predictable, and repeatable to provide consistently high levels of achievement, mitigation of risk, and an established track record of success. Assist in analyzing and tracking all data sets to ensure conformance to maximum error limits. Monitor, maintain, and track physical assets and inventory.

Provide exceptional customer service to project stakeholders, property owners, and the public when surveying by collecting geodetic data, staking, and sharing acquired knowledge with Project Teams. Ensure geodetic data is easily accessible and organized, exercise effective listening skills, and communicate effectively. Communicate with internal and external customers, including local businesses, local governments, contractors, and consultants. Assist with conducting public outreach with letters and mailings.

Additional Job Responsibilities of the TDOT Engineering Technician 2 and 3 include:

Assist with maintaining and monitoring training schedules and generating reports on training activity and progress. Use OpenRoads Designer (ORD) or other relevant software to draft out legal descriptions and run a map check report when required.

Guide survey field crews in conducting land surveys, engineering surveys, and control surveys. Estimate time and equipment needed to accomplish survey projects and make decisions in the field required to accomplish survey projects and keep on schedule.

Additional Job Responsibilities of the TDOT Engineering Technician 3 include:

Assist with integrating Quality Management into all deliverables to ensure geodetic products comply with TDOT Geodetics standards to obtain data and provide uniform outputs to eliminate rework. Independently produce data, reports, and technical drawings, ensuring consistency, quality, and desired accuracy.

Perform post-processing of data derived from Unmanned Aircraft Systems (UAS) and terrestrial/mobile LiDAR collections, including the production of classified point clouds. Guide and/or perform the UAS flights for data collection that meet the survey deliverable requirements. Maintain certification for Part 107 remote pilot and guide the data collection and flight skills of incoming remote pilots.

Assist in the training of employees by providing on-the-job training and guidance as needed to facilitate learning and development.

Assist in the extraction of survey data from a point cloud, identifying the point and adding descriptions. Guide the collection of survey data with LiDAR and conventional surveys in accordance with the TDOT Survey Standards Manual.

Qualifications

TDOT Engineering Technician 1:

- High School Education or equivalent
- Part 107 UAS Pilot Preferred

TDOT Engineering Technician 2:

- High School Education or equivalent
- Completion of the Proficiency Requirements for the Engineering Technician 1 level.
- Part 107 UAS Pilot Preferred

TDOT Engineering Technician 3:

- High School Education or equivalent
- Completion of the Proficiency Requirements for the Engineering Technician 1 and 2 levels.
- Part 107 UAS Pilot Preferred

The Tennessee Department of Transportation reserves the sole right in determining the level of position based on the applicant's work experience, education, skill level, and all other appropriate factors, and based on business need. Within 6 months of hire, employees must demonstrate successful mastery of corresponding work competencies and skill blocks of the Technician Proficiency Program for the level of technician to which they were hired. If skills and competencies are not met during that period, the employee can be demoted to the level of technician for which he/she is qualified.

Ideal Candidate

The Region Geodetics Engineering Technician is proficient in all matters related to participating in and guiding data collection and delivery of quality survey data. They assist with creating an open environment that encourages communication and collaboration with their team and is a reliable resource for field crews assisting with achieving accountability. The Region Geodetics Engineering Technician 3 is collaborative and works closely with and assists with survey crew tasks to ensure that all geospatial data collected and managed by the Department is of the highest quality, and they are passionate advocates for the importance of geodetics within TDOT.