

IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES ▼
HUMAN RESOURCES ENTERPRISE
CONSTRUCTION TECHNICIAN SENIOR

DEFINITION

Serves as a lead worker and performs work overseeing the inspection of large, complex highway construction projects as defined in the class guidelines and ensuring that work is done according to specification, proper inspection staff is in place and records are being kept, and a safe working environment is maintained; solves on-site problems and situations regarding construction of project and design modifications; performs related duties as required.

The Work Examples and Competencies listed are for illustrative purposes only and not intended to be the primary basis for position classification decisions.

WORK EXAMPLES

Assists the supervisor by instructing employees, answering questions and, distributing, balancing and checking work; may make suggestions on appointments, promotions, performance and reassignments; directs the operations of the crew in the absence of the supervisor.

Oversees the inspection of large, complex construction projects (i.e., highway corridor work) ensuring the work is completed according to specification which includes sampling and testing materials to be used, ensuring proper certification of materials, coordinating and reviewing the activities of inspectors, maintaining records, preparing authorization for vouchers and project progress reports, and informing supervisor of problems.

Oversees the surveying for large, complex construction projects including right-of-way, grade stakes, slope stakes, vertical and horizontal alignment for bridge culverts, etc.; ensures plans and specifications are adhered to; performs mathematical calculations in the field to compute horizontal and vertical curves and to calculate quantities, slope stakes, paving grades, etc.

Solves on-site problems and situations regarding construction of project and design modifications.

Maintains detailed records of all project activities including item progress, change orders, material certifications, and contractor pay vouchers.

Reads, understands, and interprets contracts, plans, specifications, and standards involved in the construction of projects.

Provides training to employees and reviews the work of lower level Construction Technicians for accuracy and adequacy and advises accordingly.

Performs technical duties in a resident construction office such as compiling and analyzing project reports and assisting the resident construction engineer.

Answers questions and provides explanation to property owners and the public regarding the duration of projects, progress on projects, etc.

Finalizes projects which includes ensuring quantities are correct, as-built plans are complete, and contractor evaluation reports are finalized.

Designated positions perform duties related to snow and ice removal, which include: accessing the Roadway Weather Information System (RWIS), weather reports, and other related computer software applications to record and receive data and make decisions regarding times, temperatures, weather conditions, and material usage to operate snow and ice removal equipment such as, but not limited to single or tandem axle dump trucks that may be equipped with tailgate or hopper spreader, straight blades or V-plows, wing plows, and underside ice blades; includes preparing and spreading abrasives and de-icing chemicals on the roadway by using a loader for mixing abrasives and chemicals; may perform other maintenance duties as assigned.

COMPETENCIES REQUIRED

Knowledge of all phases of construction inspection, plant inspection, engineering survey, and project monitoring related to civil engineering or architectural/facility repair or modification.

Knowledge of basic mathematic principles, algebra, geometry, and trigonometry.

Knowledge of standards, specifications, and special provisions of the employing agency.

Knowledge of elementary physical, mechanical and earth science principles.

Knowledge of various types of engineering survey equipment.

Knowledge of basic engineering drawing and drafting techniques.

Knowledge of methods and techniques used in the construction and building trades fields.

Knowledge of the occupational hazards and safety precautions applicable to the work.

Ability to occasionally (1-33% of the time) lift/lower, carry and push/pull various amounts of force within the "heavy work" as defined by the US Department of Labor; team lift or mechanical assist recommended for weights over 75 pounds. Related work examples: sampling materials, including 70 pound bag of aggregate, 60 pound asphalt hot box, 118 pound beam breaker, and 80 pound concrete beam in mold, etc.

Ability to climb, kneel, crouch, crawl, stoop and twist and perform duties using appropriate tools and equipment within safety standards.

Ability to walk over uneven ground.

Ability to drive vehicles in a safe and conscientious manner.

Ability to operate computers and/or other electronic devices and use programs/applications to conduct Department of Transportation business.

Ability to read and write English.

Ability to understand and follow verbal and written directions/instructions given in English.

Ability to accurately perform mathematic calculations.

Ability to oversee projects and coordinate the work of others.

Ability to deal tactfully and courteously with the public and contractors.

Ability to work outdoors in all types of weather conditions, day or night, in normal and emergency situations.

Ability to record project notes accurately.

Ability to train other personnel.

Ability to read and interpret plans, specifications, and blueprints.

Ability to communicate ideas and observations both orally and in writing.

Skill in the operation of specialized equipment related to civil engineering, engineering survey, or the building trades.

Designated Department of Transportation positions will also require the:

Knowledge of effects of weather on road surfaces.

Knowledge of winter maintenance operations, such as anti-icing and de-icing principles.

Ability to appropriately use anti-icing or de-icing materials.

Ability to drive equipment with a manual transmission and clutch.

Skill in use of Roadway Weather Information System (RWIS), weather reports and other related computer software applications.

Displays high standards of ethical conduct. Refrains from dishonest behavior.

Works and communicates with all clients and customers providing polite, quality professional service.

Displays a high level of initiative, effort, attention to detail and commitment by completing assignments efficiently with minimal supervision.

Follows policy, cooperates with supervisors and aligns behavior with the goals of the organization.

Fosters and facilitates cooperation, pride, trust, group identity and team spirit throughout the organization.

Exchanges information with individuals or groups effectively by listening and responding appropriately.

EDUCATION, EXPERIENCE, AND SPECIAL REQUIREMENTS

Graduation from high school, or G.E.D. and experience equal to five years of full-time work in engineering survey, construction inspection, materials inspection, materials testing, or the building construction trades;

OR

qualifying experience may be substituted on a year for year basis for the required education;

OR

employees with current continuous experience in the state executive branch that includes the equivalent of experience equal to eighteen months of full-time work as a Construction Technician

NECESSARY SPECIAL REQUIREMENTS

All of the following apply to Department of Transportation positions only:

Designated positions in this class require possession of a valid Commercial Learner's Permit upon hire. Within a timeframe determined by the appointing authority, a valid Class A Commercial Driver's License with the required endorsements and applicable restrictions must be obtained and subsequently maintained in order to continue employment.

If a CDL is not designated, all positions are required to have and maintain a minimum of a valid Class C Non-Commercial Operator's License.

In conjunction with Title 49 of the Code of Federal Regulations (parts 40 and 382), designated positions in this job class require a pre-employment drug screen and will require ongoing participation in the employer's random drug and alcohol testing program and will be subject to the regulations regarding the Federal drug and alcohol testing program.

Prior to starting employment, all persons are required to have a post offer pre-employment physical verifying the physical ability to perform the duties described.

Positions require certification for testing materials and operating specialized equipment as required by the Iowa Department of Transportation's Technical Training and Certification Program for Highway Materials and Construction; and/or other certifications as required.

NOTES

The following apply to Department of Transportation positions only:

Employees must be able to travel and may be required to stay away from home overnight during assignments. Employees in designated positions must be able to work up to 16 consecutive hours.

Travel may be required for positions in this class. Employees must arrange transportation to and from assigned work areas.

Effective Date: 11/17 SA