

IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES ▼
HUMAN RESOURCES ENTERPRISE
CONSTRUCTION TECHNICIAN

DEFINITION

Performs technical engineering support and construction trades related work including responsibility for inspection of small to moderately complex construction projects or construction survey projects as defined in the classification guidelines; may serve as a lead worker and provide guidance to other staff designated to assist with construction inspection; performs related work 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

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

Inspects small to moderately complex construction projects such as grading and paving, bridge culverts, erosion control, fencing, guardrail, and/or weatherization projects for compliance which includes reviewing field construction reports and material certifications, verifying quantities and materials, ensuring compliance with specifications and the use of certified materials, and preparing authorizations for vouchers and progress reports.

Documents construction progress and activities in computerized record keeping programs by maintaining detailed project records and preparing periodic reports on project progress and expenditures including item progress, materials used, and test results; performs technical duties in a resident construction office such as compiling and analyzing project reports and assisting the resident construction engineer.

Monitors ready mix and Portland cement concrete paving plants to verify material testing and check record keeping progress and plant compliance; performs a variety of standard tests to ensure quality control such air and slump tests on concrete and density and thickness on asphalt; records test results.

Reviews traffic control set-ups on highway construction projects in low traffic areas (i.e., rural rather than urban) for safety and compliance.

Updates as-built plans to reflect any changes or alterations to the Department of Transportation plans by going through diaries, computer records, item progress and other documentation to update plans.

Assists with surveying of highway construction projects including survey work for bridges and asphalt work.

Answers questions and provides explanations to the public regarding duration and progress of projects which includes checking contracts between state and property owners regarding access, drive locations, right of way locations, etc.

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 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 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 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 record project notes accurately.

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

Ability to train other staff.

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 hand tools, power tools, and 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 drive equipment with a manual transmission and clutch.

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

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 three 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 experience equal to eighteen months of full-time work as a Construction Technician Assistant.

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 Operators 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 certifications 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

All of 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 designated positions in this class. Employees must arrange transportation to and from assigned work areas.