

STATE OF SOUTH DAKOTA CLASS SPECIFICATION

Class Title: Project Technician

Class Code: 40410

Pay Grade: GH

A. Purpose:

Project Technicians are assigned to construction projects and duties include inspecting construction procedures and conducting material tests; interpreting department specifications, special provisions, and other project-specific guidelines for contractors and resolving conflicts at project sites; documenting work progress, materials used, test results, issues resolved, and other data pertinent to assigned work in daily diaries; and recording work accomplished, quantities of materials applied, and test results in applicable computerized systems to complete assigned work and facilitate consistent contractor payments and timely completion of construction projects.

B. Distinguishing Feature:

The Project Technician is a lead inspector on formally let projects or a project manager on informally let projects or selected formally let projects; or may perform a combination of both options. examples of duties include being the point of contact to answer questions from other personnel on the project when the project engineer is unavailable; interpreting plans and specifications for contractors; providing project information to external partners; inspection, testing and surveying; providing field training to new and seasonal employees when called upon; data entry into applicable computer systems; keeping a diary; and assisting with, or completing, the finaling process. The Journey Transportation Technician performs assigned functions within established procedures; and the impact of decisions they make on duties they perform contributes to services used by others in making decisions.

C. Functions:

(These are examples only; any one position may not include all of the listed examples nor do the listed examples include all functions which may be found in positions of this class.)

1. Receives project assignments and prepares ahead to ensure readiness for construction.
 - a. Reviews plans, specifications, materials manuals, the project management book, applicable policies, and environmental requirements.
 - b. Studies project details, work being done, and quantities of materials involved.
 - c. Prepares file folders for testing requirements which will include all the tests, certificates, notes, elevations, and any site adjustments as they occur.
 - d. Attends or conducts preconstruction meetings to meet contractors, ask and answer questions, resolve potential problems, discuss department policies and procedures, and acquire information about schedules and construction starting dates.
 - e. Works with contractors' superintendents to learn more about their work practices, and to discuss preconstruction activities.
2. Performs detailed inspections of construction processes, construction materials, and construction work in progress, and ensures that contractors' equipment and operations conform to specifications; and keeps records, notes, and a daily diary of work observed and pertinent construction activities.
 - a. Interprets department specifications and answers questions for contractors and other staff on assigned projects.
 - b. Resolves issues that are contrary to department specifications on the project site.

- c. Makes minor plan changes to accommodate needed site-specific adjustments.
 - d. Provides training and assistance in inspection processes, testing and record keeping as needed to other employees on the project, and answers their questions.
 - e. Is often the only inspector on a project, and decides whether to request assistance.
 - f. Provides documentation for, or prepares, work progress reports and construction change orders.
 - g. Calculates quantities for pay items used and installs them into the Construction Management and Payment system (CMP); may prepare pay estimates.
 - h. Records construction activities in a daily/project diary, noting deviations from plans and specifications, recording daily progress, and other pertinent construction activities and information.
3. Performs material tests to determine if quality, placement, and amounts meet specifications.
- a. Performs tests on construction materials to determine whether materials meet the specifications designated in the project plans by taking samples and preparing them for testing, performing required tests, documenting test results on-site, and then transferring test results into the Materials Sampling and Testing system (MS&T).
 - b. Collects, tests, and records representative samples of construction materials from gravel pits, windrows, stockpiles, roadways, conveyor belts, and storage containers.
 - c. Calibrates and repairs testing and other laboratory equipment.
 - d. May train other employees on how to conduct and record tests.
4. Uses the combination of technical skills, department course work and certification, practical application, and work experience to provide a diverse array of support functions on construction project sites.
- a. Sets priorities for assigned work daily for self and others if assigned, and makes sure completed work meets specifications and timelines.
 - b. Checks the project site first thing each day, checks traffic control devices, and talks to the superintendent to find out the plan for the day and to exchange information on any issues.
 - c. May be assigned inspection or testing functions on multiple projects at once, or may take over construction activities already under way, or may be the only person on the project doing both management and technical functions.
 - d. Is adept at advising contractors of acceptance limits without telling them what to do, and does not hesitate to recommend penalties for suggestions ignored that create unnecessary work or rework.
 - e. Informs contractors immediately of noncompliance and works with them proactively to correct problems, interprets plans and specifications to assist them, and knows when to refer issues to supervisory engineers.
 - f. Adopts new technology, methods, and processes as a matter of fact; is routinely known as the *go-to person* for advice and direction; and often is assigned to a pilot project where something new is being introduced or where research products and processes are being evaluated.
 - g. Keeps a daily diary that includes weather, conflicts, work done, quantities used, and anything else of significance that has bearing on project credibility and integrity.
 - h. Enters field data into the Construction Management System (CMS), and follows up to make sure system data has transferred properly.
 - i. Does a final, visual inspection of the constructed project to make sure everything is complete, signs are right, debris has been removed, and work has been done according to the plans.
 - j. Assists in closing, or closes, the project by double-checking quantities, making sure certifications for preapproved materials have been collected, making sure certification cover letters are done and in MS&T, making sure all the tests have been done in the

- proper order and process and in the right format, and making sure visual inspections of preapproved products have been done and filled in on CMP; compiles final documentation; and prepares the final construction change order for assigned projects.
- k. Assists in teaching classes in construction activities and material testing, e.g., reads the manual and reviews the Power Point presentation; prepares the room, sets up visual aids, gets handouts ready; lectures about inspection or testing techniques; proctors and corrects tests. Uses existing design files and Microstation engineering software to assist with design projects in the regions including drafting plan sheets, calculating bid items, determining traffic control needs, and compiling quantities.
5. Performs other work as assigned.

D. Reporting Relationships:

Reports to a project engineer. Does not supervise but routinely directs the work of other technicians, seasonal staff, and engineers in training.

E. Challenges and Problems:

Challenged to monitor and enforce contractors' compliance with department specifications. This is difficult because it requires making suggestions rather than taking control, it takes a lot of explanation of the plans and specifications to make them understand, and occasionally a contractor will refuse to stop work and technicians must decide to get managers involved to enforce compliance. Further challenged to complete inspection and testing while overseeing others who are doing the same work. This is difficult because both activities involve extensive amounts of time; they have to be done by designated timelines and on contractors' demand; others' work has to be checked; official paper work and data entry have to be set aside until time is freed up to complete them, but interim notes have to be kept on everything to ensure correctness and integrity of data for work progress reports, pay estimates and testing results.

Problems include having time to complete one inspection properly before another's ready elsewhere; working with a contractor who is not up to par and requires more time, more explanations, more examination; directing inexperienced technicians and seasonal employees; accurately measuring and compiling contract bid item quantities while ensuring field work is being done in compliance with specifications; completing inspection and testing requirements on time in fast-moving construction projects; retaining information and expertise on a specific process or test through long intervals of non-use and catching up on ever-changing procedures; and getting contractors to furnish quantities needed to complete paper work daily.

F. Decision-making Authority:

Decisions include whether or not materials and procedures meet specifications, special provisions, and plan notes; when and where sampling and testing is to take place; the necessary steps to correct out-of-spec material; whether or not quantities received from contractors are accurate and justified; recommendations to pay or not for overruns on quantities; whether to make an adjustment to the plans based on implementation at the project site; and when to shut a process down for being out of spec or for failing tests and recommendations for needed changes

Decisions referred include whether overruns on quantities are justified and whether to pay or not, significant plan changes, and what to do with out-of-spec material that would impact the outcome of the project or which involves a large sum of money.

G. Contact with Others:

Daily contact with coworkers to provide information on tasks to be accomplished and what their responsibilities are, and to monitor their work; with contractors' superintendents to exchange information on the work for the day, and to discuss issues or problems; with engineers to receive direction for the day's work and to provide information for work progress reports; and with landowners and the public to provide information about project activities and purpose; and occasional contact with engineering supervisors to request additional assistance for inspections and testing; and to resolve contractor issues.

H. Working Conditions:

Works on construction sites and is exposed to heavy equipment in operation, traffic, various weather and environmental conditions, heavy lifting, long stretches of standing, walking in rough conditions and on slopes and inclines, occasional negative confrontations with contractors and the public, and long work days.

I. Knowledge, Skills, and Abilities:

Knowledge of:

- construction methods, materials, processes, sequences, equipment, and technology;
- field testing equipment, procedures, forms, and final material summaries;
- department construction inspection and testing procedures, materials manual, specifications, contractor payment processes, and record keeping requirements;
- quality assurance requirements and processes.

Ability to:

- understand, interpret, and implement construction plans, specifications, and special provisions;
- perform civil engineering technical tasks;
- work independently with minimal supervision;
- communicate information clearly and concisely with coworkers, managers, contractors' staff, landowners, and the public;
- use a computer and relevant software proficiently;
- attain and maintain certification in several aspects of construction inspection and testing.