

STATE OF SOUTH DAKOTA CLASS SPECIFICATION

Class Title: Transportation Utilities Coordinator

Class Code: 11463

Pay Grade: GJ

A. Purpose:

Reviews proposed projects during development of project scope and design and determines whether projects have an impact on utilities; compiles information on utilities and the extent of impact; compiles costs of moving utilities or altering project proposals; recommends solutions for conflicts; and serves as a liaison among utilities, engineers and department managers to promote mutual understanding and negotiation of solutions.

B. Distinguishing Feature:

The Transportation Utilities Coordinator is a department planner who works to identify utility conflicts in proposed projects and coordinate solutions to facilitate design and development of project construction plans.

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. Identifies projects' impact on utilities in the early stages of project development to provide planning and designing engineers and utilities' representatives with information and recommendations for conflict resolution prior to design.
 - a. Reviews parameters of potential projects assigned to planning engineers and determines which projects need further investigation to verify impact to utilities.
 - b. Identifies, evaluates and collects information on utilities within each project's parameters using American Society of Civil Engineers (ASCE) standards for collection and depiction of existing subsurface utility data.
 - i. Accesses historical data about utilities in the area including previously developed GIS and other maps.
 - ii. Contacts the one-call system to mark utilities.
 - iii. Conducts on-site inspections to locate utility markers, and measures and documents utility layouts.
 - iv. Determines the need for subsurface exploration to verify utility locations.
 - c. Prepares estimates of the costs of relocating utilities or altering proposed designs by conducting research into costs of similar work previously done and working directly with utility companies and project designers to determine costs.
 - d. Prepares reports of findings and recommendations for planning engineers and managers who use the data to determine whether to change the scope of projects or move the utilities.
2. Initiates, performs and authorizes subsurface utility engineering (SUE), an engineering practice involving management of risks associated with utility coordination; utility mapping at appropriate levels; utility conflict analysis; utility relocation design and coordination; utility condition assessment; communication of utility data to stakeholders; etc., to ensure adequate utility information is collected to effectively design a project.
 - a. Identifies utility owners that have facilities affected by the project, contacts them and provides information about the project.

- b. Reviews existing utility information from various sources and creates a utility composite drawing or a report – Quality Level D (QL-D).
 - c. Makes field observations to identify visible, above-ground utility features and surveys and plots resulting information – Quality Level C (QL-C); correlates with QL-D and resolves discrepancies.
 - d. Uses geophysical methods, i.e., pipe and cable locators, terrain conductivity methods, resistivity measurements, metal detectors, ground-penetrating radar, etc., to designate existing subsurface utilities or to trace a specific utility system – Quality Level B (QL-B).
 - i. Identifies and surveys utilities on the ground.
 - ii. Depicts resulting information in computer-aided design and drafting (CADD), geographic information system (GIS), or manually plotted plan sheets.
 - iii. Surveys and depicts information about aerial utilities.
 - e. Resolves differences among QL-B, QL-C and QL-D information.
 - f. Authorizes use of vacuum excavation to expose selected utilities for three-dimensional information – Quality Level A (QL-A).
 - i. Develops the scope of work and selects the consultant.
 - ii. Ensures the contract outlines requirements and timelines.
 - iii. Reviews the consultant's plans and reports.
 - iv. Uses the data to support recommendations for altering project design vs. utility relocation.
 - g. Interprets reports from the consultant and makes recommendations to department personnel who require the information.
3. Maintains up-to-date knowledge of utility industries' technology, laws and rules, standards and codes in order to be able to provide interpretations to planning and designing engineers, managers, local governments and other stakeholders that are part of potential projects; and on the reverse side maintains knowledge of department laws and rules, standards and procedures in order to provide interpretations to utilities.
4. Performs other work as assigned.

D. Reporting Relationships:

Reports to an Engineering Supervisor. Does not supervise.

E. Challenges and Problems:

Challenged to identify impacts to utilities in projects that are in the proposal stage in order to minimize changes in the final stages of design. This is difficult because there is not yet a real design, only a preliminary alignment and cross-sections, so project parameters are ambiguous; project schedules routinely change making it difficult to organize work into a permanent order of completion; historic data on utilities in the areas may be incomplete and/or incorrect so must be evaluated for its veracity; and all available data must be compiled and charted over the geographical area of the project proposal; and if subsurface exploration is required it is costly and time-consuming, consultants are few, and extensive data is generated which must be reviewed and verified. Further challenged to recognize and recommend resolutions to alleviate the impacts. This is challenging because all impacts must be considered as a whole so that resolving one problem does not exacerbate other problems; it requires estimating costs of relocating utilities versus altering design proposals based on information that can be gathered from previous work and input from utilities and engineering staff; and any changes must be made in compliance with department standards.

Problems encountered include serving as a liaison between department and utilities, first explaining one's point of view and how they do business and then the other's and helping them understand each other; knowing when enough information is enough and making a choice based on the preponderance of evidence; and prioritizing work that includes multiple projects spread out over several years into the future.

F. Decision-making Authority:

Decisions include review and selection of eligible projects and the extent of work for each; priority of self-assigned work; the quality level that provides sufficient utility information for each project; whether or not to authorize use of subsurface utility exploration; the scope of work for projects that involve consultants; review and approval of consultants' reports; and recommendations for resolution of conflicts including utility relocation and design alternatives.

Decisions referred include whether or not the scope of a project will be changed because of unavoidable conflicts with utilities; approval of SUE contracts over \$50,000; and final approval of conflict resolutions and whether to relocate utilities or change the design.

G. Contact with Others:

Daily contact with planning and designing engineers to discuss utility impacts and potential revisions to projects' scopes and designs; with region and area personnel to acquire information about utilities involved in project parameters; and with utility companies' staff to provide information about projects in which their utilities are involved and to gather information about extent of impacts and costs; and weekly contact with department managers, other state agencies, federal and local government agencies to exchange information.

H. Working Conditions:

Works in a typical office environment; also works on site to measure and document utilities and may be exposed to traffic or equipment in operation.

I. Knowledge, Skills, and Abilities:

Knowledge of:

- civil engineering technology;
- Geographical Information Systems and peripheral software;
- planning;
- research methodology.

Ability to:

- interpret and understand transportation design standards;
- interpret and understand utility industry laws, rules, standards, specifications, codes and procedures;
- interpret and explain construction plans, specifications and special provisions;
- read topographical, geographical and geological maps;
- understand the inexactness of measurement and make decisions on available evidence;
- interpret and implement department policies and procedures and standards;
- negotiate;
- establish and maintain external and internal relationships with a wide variety of individuals, organizations, government entities, etc.;
- communicate information clearly and concisely.