

CLASS TITLE: CIVIL ENGINEERING ASSOCIATE

Class Code: 02968050
Pay Grade: 25
EO: B

CLASS DEFINITION:

GENERAL STATEMENT OF DUTIES: To perform civil engineering work at the beginning professional level in connection with state transportation projects; and to do related work as required.

SUPERVISION RECEIVED: Works under the direct supervision of a superior with some latitude for the exercise of initiative and independent professional judgment; work assignments are received in specific outline form as to objectives and the utilization of appropriate methods and processes; work is reviewed in progress and upon completion for results attained, professional and technical adequacy to desired objectives and goals.

SUPERVISION EXERCISED: May supervise and review the activities of technical and clerical personnel assigned to assist.

ILLUSTRATIVE EXAMPLES OF WORK PERFORMED:

To assist a superior in the design of bridges and bridge structures; to determine the moment of inertia of special beam sections; to check the designer's solutions of similar problems; to make stress analyses and proposed designs of simple span bridges; to lay out topographical plans from field notes; and to solve problems relating to simple and compound curves and spirals.

To assist a superior in the design of roads, road structures, and associated traffic management systems; to establish grades from original profiles, cross sections or topographical plans of the proposed road location; to determine center line for bridge approaches and to determine center line changes in road location; to compute corrected road or approach lengths; to calculate super elevation for curves; to design drainage systems, retaining walls and cut and fill slopes; and to assist in the preparation of detailed estimates for use in contract proposals and for federal reports.

To assist a superior in the construction and/or maintenance of highway and bridge projects; to oversee the inspection of all materials going into such projects; to be responsible for the inspection of the workmanship and practices of contractors and/or state personnel engaged in these projects; to assist a superior in the review of plans, specifications and designs submitted by contractors, architects or engineers; to interpret provisions of contracts, plans, specifications and designs; to oversee that construction work schedules are maintained; to supervise the continuous inspection of workmanship, materials and methods on projects.

To assist a superior in the planning, supervision and review of the materials testing activities on bridge, highway construction or maintenance projects; to assist in the preparation of materials specifications; to be responsible for the review of personnel assigned to materials plants and construction projects; and to assist in materials research and evaluation.

To assist a superior in the preparation of contract specifications for the design, construction, and/or maintenance of roads and bridges; to review contracts and specifications prepared by consultant firms for use on specific projects to ensure that all items are covered and are in agreement with the appropriate requirements; to review requests by contractors for changes in the plans in accordance with delegated authority; to prepare computations and cost estimates for contract proposals; and to participate in the negotiation with consulting engineers on fees covering numerous studies and design reports; for design contracts; to prepare such consultant agreements, or to exercise supervision for monitoring and evaluating contracts; to ensure compliance with all federal and state regulations; to participate in reviewing and evaluating final quantities used in various construction projects; to ensure that all work accomplished and

materials utilized conform with appropriate federal and state specifications and regulations; to check plans, cross sections, diagrams, sketch computation sheets and all mathematical formulas; and to supervise methods and procedure reviews that are conducted on contracts.

To do related work as required.

REQUIRED QUALIFICATIONS FOR APPOINTMENT:

KNOWLEDGES, SKILLS AND CAPACITIES: A working knowledge of civil engineering principles and practices as applied in location, design and construction of roads and bridges; a working knowledge of computer software programs necessary to complete job assignments; a working knowledge of project management methods and techniques; the ability to operate some standard engineering and surveying instruments; the ability to prepare plans for highways and bridges under supervision; the ability to perform all the computations applied to standard engineering operations; the ability to plan and supervise the work of assigned personnel; the ability to read and interpret the assigned types of civil engineering plans, maps and specifications; the ability to prepare accurate engineering proposals, papers, plans, and technical correspondence; the ability to understand and carry out complex oral and written instructions; the ability to establish and maintain effective working relationships; the ability to write effectively and to make oral presentations; and related capacities and abilities.

EDUCATION AND EXPERIENCE:

Education: Such as may have been gained through: graduation from a college of recognized standing with specialization in Civil Engineering.

Class Created: November 12, 2005

Class Revised: July 1, 2012