

## ASSISTANT STRUCTURAL ENGINEER

### DEFINITION

Prepares designs, analysis, specifications, and estimates for buildings and related structures and assists in reviewing work performed by commissioned architects and consulting structural engineers for conformance with District structural standards and policies.

### TYPICAL DUTIES

Analyzes, designs and makes computations and calculations for the structural elements of all types of buildings for various load combinations.

Prepares structural design and construction drawings for buildings, retaining walls, foundations, supports, and components, involving the use of structural steel, timber, masonry, reinforced concrete, and other materials.

Assists with the technical review of structural designs, computations, plans, and specifications submitted by commissioned architects and engineers, for accuracy and conformance to standards required by State and local ordinances for school building construction, and refers special problems to a Structural Engineer.

Coordinates work on structural plans and details with personnel in other engineering units.

Assists with studies of dimensional spacing and location of structural elements and the review of structural shop drawings.

Makes cost comparisons of alternate methods of construction.

Assists in making investigations and preparing reports on the structural features of existing buildings.

Confers with architects, engineers, contractors, and inspectors on structural features.

Performs related duties as assigned.

### DISTINGUISHING CHARACTERISTICS AMONG RELATED CLASSES

An Assistant Structural Engineer performs moderately difficult structural engineering and assists in the review of the work of commissioned architects and engineers for errors and for conflict with District structural engineering design standards and policies.

A Structural Engineer performs difficult structural engineering work; provides technical direction to District engineering personnel, commissioned architects, and consulting engineers; and signs plans and specifications as a registered engineer.

An Engineering Aide performs routine tracing, drafting, and lettering; makes algebraic, geometric, and trigonometric computations; and assists technical personnel by performing routine, non-technical duties related to engineering work. Employees in the (Restricted) class are employed in accordance with Education Code Section 45259.

## SUPERVISION

General supervision is received from the Supervising Structural Engineer. Technical supervision is received from the Associate Structural Engineer and/or Structural Engineer. Work direction may be exercised over Engineering Aides as assigned.

## CLASS QUALIFICATIONS

### Knowledge of:

- Terminology, symbols, and sources of structural engineering analysis, drafting and design information pertaining to building construction
- Structural engineering practices for the expression of ideas, designs, and data in drawings
- State and local codes pertaining to structural engineering features of building construction
- Design principles, computational software, mathematics, and construction industry practices for solution of structural engineering problems
- AutoCAD or other recognized major computer-aided design software system
- District structural engineering design standards
- Engineering tests and reports

### Ability to:

- Interpret architectural and engineering plans and specifications
- Analyze structural engineering problems and formulate solutions
- Use drawing instruments and do free-hand lettering proficiently
- Make accurate calculations using commonly used software and by hand calculations
- Write clear, concise reports and technical descriptions
- Utilize AutoCAD software to create and update plans and designs
- Work effectively with engineers, architects, and school personnel
- Identify problems in analysis work and designs prepared by others
- Communicate effectively

### Special Physical Requirement:

Agility to climb ladders and scaffolds, walk on roofs, and move safely in partially completed buildings and crawl spaces

## ENTRANCE QUALIFICATIONS

### Education:

Graduation from a recognized college or university with a bachelor's degree in structural engineering or civil engineering with a focus in structural engineering, or possession of an Engineer-in-Training certificate.

### Experience:

Two years of civil engineering experience of which one must be within the field of structural engineering.

Special:

A valid California Driver License.  
Use of an automobile.

This class description is not a complete statement of essential functions, responsibilities or requirements. Entrance requirements are representative of the minimum level of knowledge, skill and/or abilities. To the extent permitted by law, management retains the discretion to add or to change typical duties of a position at any time, as long as such addition or change is reasonably related to existing duties.

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