

## **BRIDGE ENGINEER**

**DISTINGUISHING FEATURES OF THE CLASS:** This position involves the performance of technical engineering functions in the design, construction, and repair of bridge structures. Duties will include the functions of program management, bridge design, preparation of construction documents, construction management/inspection, bridge inspections, load ratings and contract/consultant management. Work is performed under general direction of Engineering Supervision and in accordance with established policies. Supervision will be exercised over the work of several assistants.

### **TYPICAL WORK ACTIVITIES:**

Recommends multi-year construction program for bridge replacement and rehabilitation;

Manages bridge inspection program;

Manages information and data filing systems for assessment of bridge condition and revision of construction program;

Provides effective interaction with NYS Department of Transportation and other agencies as required;

Supervises and performs structural load rating analysis and design calculations;

Supervises and performs preparation of contract specifications and drawings for contract and in-house construction;

Provides project and contract construction management;

Provides technical assistance to in-house construction forces;

Reviews qualifications and proposals from consultants and contractors and recommends selection;

Provides consultant management;

Supervises and provides design of steel, reinforced concrete and timber highway bridges;

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Recommends suitable sites and types of structure for bridges;

Supervises and provides analysis of soil and water conditions for bridge foundation/design;

Prepares basis of design documents which clearly and concisely summarize all facets of design for each detail to be constructed;

Supervises and provides hydrologic and hydraulic analysis for bridge design;

Recommends the posting of maximum load for bridges;

Supervises and performs design of all structures, retaining walls and culverts;

Estimates costs of bridge construction and repair;

Utilizes computer aided design and computer programs/software for highways, bridges structures, surveying, hydraulics, drainage and other civil engineering applications, needed for analysis of civil engineering problems;

Signs and affixed his/her Licensed Professional Engineering seal to load ratings and engineering documents;

Performs other civil engineering duties as required.

### **FULL PERFORMANCE KNOWLEDGES, SKILLS, ABILITIES, AND PERSONAL**

**CHARAC-TERISTICS:** Thorough knowledge of the principles of engineering as related to highway bridge design and construction; good knowledge of soils, structures, materials, code requirements, or similar factors which impact upon bridge engineering decisions; a high degree of skill in the application of scientific and mathematical principles to practical highway bridge engineering problems; good written and oral communication skills; ability to learn and be proficient in computers, including but not limited to, engineering and office software and computer aided

design

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and drafting; ability to work effectively and cooperatively with others; initiative; resourcefulness; accuracy; keen observation; physical condition commensurate with the demands of the position.

### **MINIMUM QUALIFICATIONS:**

- (A) Possession of a Professional Engineering License issued by the New York State Education Department with current certification and four years of acceptable civil engineering experience, two years of which shall be in highway bridge design and one year shall be in a supervisory capacity.

*Appropriate experience shall be in engineering dealing with design and construction of buildings, highways, bridges, waterworks, harbors, or other infrastructure projects.*

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Jurisdictional Class: Competitive  
Public Hearing: N/A  
NYS Civil Service Commission Approval: N/A