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Project Engineer / Construction Engineer

Nature of Work

The terms construction engineer and project engineer normally relate to the same person or job function. Construction engineering is the application of engineering, management, and business sciences to the processes of construction, through which designers' plans and specifications are converted into physical structures and facilities. The construction or project engineer engages in the design of temporary structures, site planning and layout, cost estimating, planning and scheduling, management, materials procurement, equipment selection, cost control, and quality management.

These processes involve the organization, administration, and coordination of all the elements involved in construction labor, temporary and permanent materials, equipment, supplies and utilities, money, technology and methods, and time in order to complete construction projects on schedule, within the budget, and according to specified standards of quality and performance. Depending upon the size and complexity of a project, the construction engineer may be responsible for one to several jobs. This means that travel to many different work sites is part of this occupation. Many project engineers work on-site in temporary offices and spend a good deal of time out of doors, planning and checking work.

Education and Training

Construction engineers must have a strong fundamental knowledge of engineering and management principles, and knowledge of business procedures, economics, and human behavior. Students who wish to pursue a career as a construction or project engineer should concentrate on math and science courses, and must earn above average grades in high school. A bachelor's degree is virtually required for this career, and students must be very careful in selecting an accredited academic engineering degree program with a major emphasis or concentration in construction. Those who do not concentrate in construction engineering at the undergraduate level may return to school for a master's degree in engineering management or business administration.

Advancement Potential

Construction engineers typically begin their careers in a training capacity as engineers-in training. They may begin as assistants to project superintendents, project managers, estimators, or field engineers. Advancement and responsibility are quickly earned for those who excel. It is not unusual for construction engineers to be in total charge of small projects within five years of employment. Construction/project engineers frequently become the chief operating officer of companies.

Wages (Average, State of Oregon, 2013)

- **Construction Manager** – Hourly: $40.53; Annual: $84,304
- **Supervisors and Managers of Construction Trades** – Hourly: $29.44; Annual: $61,219

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