

# Engineer

**DESCRIPTION OF WORK:** Positions in this banded class are responsible for consultation, investigation, evaluation and planning, design, design review and approval, and/or determination of environmental and safety impacts of work processes and products (buildings, utilities, systems, sites, mapping, or infrastructures); provide project management oversight, which may include supervision of lower level staff; oversee or review environmental, infrastructure and geomatic projects; and manage implementation of projects/plans according to codes and regulations, which may include approval authority. Work assignments may involve unique factors and be lacking in precedence on which to base decisions and may be technically complex as evidenced by a high number of variables and inter-related considerations. Work is often performed independently requiring professional knowledge of complex and/or detailed technical procedures. Work may require considerable public contact to explain standards and regulations, or appearance before a regulatory/judicial body, provide consultation and technical assistance, and may require negotiation to determine the feasibility of project implementation or continuation. Work may require professional licensure or other certifications. Work performed includes exercising judgment and decision-making that directly impacts life, health, safety and/or the environment.

## **EXAMPLES OF COMPETENCIES: CONTRIBUTING**

**Knowledge-Professional:** Ability to understand and apply the basic engineering concepts, practices, and theories involved in the design/development/review/permitting, construction, maintenance, operations, or repair of, projects/sites and their potential environmental and safety impacts.

**Program/Project Management:** Ability to prepare/review small or less complex engineering/technical plans and/or data for completeness, compatibility, compliance with engineering principles, standards, codes and design needs; ability to make recommendations to higher level engineers or managers on project concerns/issues. Ability to ensure sufficient coverage/resources for proposed program/project, under the guidance of a higher-level engineer or manager.

**Engineering Review, Decision Making & Analysis:** Ability to make decisions on routine engineering matters or other areas requiring technical engineering knowledge. (Decisions are subject to review.) May require ability to make recommendations to approve routine engineering/technical designs and/or program/project specifications of other engineers to meet desired compliance with engineering principles, standards, codes, designs and statutes.

## **JOURNEY**

**Knowledge-Professional:** Thorough knowledge and understanding of concepts, practices, and theories used in the engineering specialty area and the ability to use it in practice. May require the general knowledge to oversee compliance regarding multiple specialties. Working level understanding of the organizational and business objectives of section/specialty.

**Program/Project Management:** Ability to evaluate and approve moderately complex program/project specifications for completeness, compatibility, compliance with engineering principles, standards, codes and design needs; ability to perform inspections/audits to ensure that proper procedures are followed. Ability to manage moderately complex programs/projects for completeness, compatibility, and

**Communication:** Ability to express basic engineering concepts and related facts in a clear, concise and organized manner. Ability to write clear, concise and organized documents and reports addressing basic engineering concepts and facts. Ability to present detailed technical information, guidelines and standards to seek compliance and/or approval. Ability to assist in consultation and gather information in response to an inquiry.

**Engineering Design and Analysis:** Ability to apply mathematical, physical, and engineering sciences to routine services or creative work as consultation, investigation, evaluation, planning, and design of engineering/geomatic projects. Ability to plan methods and resources.

**Leadership:** Serves as a member on a program/project team and helps develop project solutions. May serve as a team leader. Promotes program goals and objectives.

**Communication:** Ability to express moderately complex engineering concepts and related facts in a clear, concise and organized manner. Ability to modify delivery, language or content to account for the characteristics and needs of the audience. Ability to write clear, concise and organized documents and reports addressing moderately complex engineering concepts and facts. Ability to develop and negotiate positions in moderately complex engineering situations. May require ability to provide expert testimony. Ability to provide consultation to clients or others related to the specific program/project. Develop and/or create informational products.

**Engineering Design and Analysis:** Ability to develop and manage program/project plan. Ability to provide

compliance with engineering principles and design needs and standards. Ability to identify and resolve project/program changes.

**Engineering Review, Decision Making & Analysis:**

Ability to make recommendations and may require ability to make decisions on non-routine engineering and/or program matters or other areas requiring technical engineering expertise. May require ability to make final decisions. Ability to provide technical analysis. May require ability to serve as a mentor/resource to lower level employees in the area of assignment.

**ADVANCED**

**Knowledge-Professional:** Expert level of knowledge and understanding of engineering concepts, practices, and theories used in the engineering specialty area and the ability to use it in practice. Thorough knowledge of internal organizational structure, business needs/objectives, budget, planning, legal/public relations considerations, and/or other related factors.

**Program/Project Management:** Ability to make final approval for complex or a broad variety/scope of program/project specifications for completeness, compatibility, compliance with engineering principles, standards, codes, and design needs. Ability to research alternatives and designs or analyze special details for non-standard items of work for programs/projects. Ability to determine program/project priorities, processes and procedures. Ability to manage complex or broad variety/scope of programs/projects for completeness, compatibility, compliance with engineering principles and design needs and standards; ability to resolve/approve major project/program changes.

**Engineering Review, Decision Making & Analysis:** Ability to independently make final recommendations and may require ability to make decisions that require specialized engineering and/or program knowledge. (Decisions may not be technically reviewed.) Ability to collaborate with others in finding solutions to controversial or sensitive matters that establish precedents. Ability to serve as technical expert in the area of assignment and may require ability to represent the agency/university as an expert.

consultation on issues and requests from clients. Ability to consult with higher-level professionals to discuss alternative solutions. May require ability to supervise staff. Ability to develop and implement short-term strategies consistent with agency/university goals.

**Leadership:** Develops and manages program/project plan. Provides consultation on issues and requests from clients. Consults with higher-level professionals to discuss alternative solutions. May supervise staff. Develops and implements short-term strategies consistent with agency/university goals.

compliance with engineering principles, standards, codes, designs and statutes. Addresses conflicting design constraints.

**Communication:** Ability to explain novel or complex engineering concepts and related facts in a clear, concise and organized manner. Ability to modify delivery, language or content to account for the characteristics and needs of audience. Ability to write clear, concise and organized documents, and reports addressing novel or complex engineering concepts and facts such as standards/practices/codes/regulations.

**Engineering Design and Analysis:** Ability to provide program/project leadership in planning and organizing the work of others. Ability work collaboratively to manage issues. Ability to evaluate and recommend resource needs. Ability to consult with senior level decision-makers on an on-going basis. May require ability to supervise staff. Ability to participate in the development of long-range strategic goals. Ability to build client support of work group objectives.

**Leadership:** Provides program/project leadership in planning and organizing the work of others. Works collaboratively to manage issues. Evaluates and recommends resource needs. Consults with senior level decision-makers on an on-going basis. May supervise staff. Participates in the development of long-range strategic goals. Builds client support of work group objectives.

**MINIMUM TRAINING AND EXPERIENCE:** Bachelor's degree in the engineering discipline related to the area of assignment; or equivalent combination of training and experience Some positions may require licensure by the North Carolina Board of Examiners for Engineers and Surveyors. All degrees must be received from appropriately accredited institutions.

**Special Note:** This is a generalized representation of positions in this class and is not intended to reflect essential functions per ADA. Examples of competencies are typical of the majority of positions, but may not be applicable to all positions.