



Anderson County, SC  
Job Description

Classification Title		PRINCIPAL ENGINEER	
Job Code	1870	Department #	5221
Pay Grade	113	Date Created	07/30/2018/cpp
FLSA Status	E	Date Revised	
Position			

**GENERAL SUMMARY**

Directs, coordinates and manages through staff the varied activities of the Engineering Section of the Roads and Bridges Department. Performs complex technical civil engineering related work for environmental, water, sewer, highway, and other Roads & Bridges projects and programs. Work consists of applying civil engineering principles, methods, and techniques to solve and/or create designs for project improvements.

**ESSENTIAL DUTIES & RESPONSIBILITIES**

*The intent of this job description is to provide a representative summary of the major duties and responsibilities performed by employees in this job. Employees may be requested to perform job-related tasks other than those specifically presented in this description.*

- Prepares and manages all roadway construction contracts and directs inspection of all construction contracts.
- Inspects subdivisions as required to determine acceptable field conditions, contractor progress and adherence to minimum County Land Use Ordinances. Performs new subdivision plan reviews to ensure compliance with County Land Use Ordinances. Prepares reports and/or correspondence for appropriate members of County Staff and/or the general public. Recommends design, changes or improvements as needed. Inspects Roads and Bridges and applicable private sector projects (ACTC or CDBG Grants) to ensure adherence to County and/or S.C.D.O.T. Standards. Conducts materials testing and analysis as required.
- Reviews commercial development plans to provide technical engineering input into the development of road and drainage programs and recommends engineering programs and courses of action.
- Reviews technical problems and complaints from the public.
- Responsible for organizing divisional work activities in the areas of field surveys, engineering design and drafting for road and land areas; inspections to assure that engineering standards and specifications are met; project cost estimating; and land acquisition.
- Interacts with County Planning, Environmental Services and Central Services Divisions, state and federal agencies, planning bodies, municipalities, utilities,

engineers, surveyors, developers, and contractors on a frequent basis to coordinate and accomplish Roads and Bridges Department work objectives.

- Must have the ability to consolidate and prepare the annual budget for area of responsibility as assigned.
- Investigates Roads and Bridges Department project requests and specifications, collect field data either by surveying or by visual measurement and/or observation to determine and analyze topographical details of the site, designs and prepares detailed construction plans and specifications for in-house and/or construction contract purposes. Makes recommendations based on scientific engineering principles/facts to remedy construction and/or hydrology problems that may arise.
- Requires frequent display of conflict resolution skills. Responsible for motivating, negotiating, convincing or compromising with parties which have different goals, uncooperative attitudes or diverse viewpoints to obtain desired results.
- Prepares reports detailing tests conducted and results. Drafts and calculates field notes to document quantities, alignment, grade and locations according to project plans or to document monthly and final progress estimates.
- Researches property records, maps, and other data to obtain such typical engineering data as the location of sewer stubs, water mains, hydrants, etc. and zoning district designations and/or special property assessments as required.
- Calculates dimensions, profile specifications, and quantities of materials such as pipe, concrete sidewalk, concrete curb and gutter, aggregate stone base, asphalt binder, asphalt black base, asphalt surface mixes and line painting.
- Reviews private project development plans for compliance with codes, regulations, and standards, adequacy of applications for permits and compliance with approved plans regarding County right-of-ways.
- Coordinates required advertising for bids with Purchasing Division reviews construction bids and makes necessary recommendations to Roads and Bridges Manager based on lowest and best bids, competency of vendors and consultants, and the selection criteria.
- Manages and provides technical assistance for the construction of County projects.
- Assists in the maintenance of engineering and infrastructure records. Prepares and drafts as-built plans for street/highway, water, drainage, sewer systems.
- Reviews complex applications for utility permits, street use permits, franchise utility permits, etc.
- Assumes responsibility, authority, and accountability for safety within an area of operation. Sets performance standards for various risk control areas to review accident reports and investigations.

- Evaluates the transportation and traffic impacts of development proposals, permits, rezones, plats, etc. Prepares traffic, utility, and other studies and reports. Performs intersection signal and channelization design.
- Performs a variety of office related functions, including preparing permits, correspondence, maps, presentation materials, brochures, reducing field notes, phone consultations involving customers of projects and responding to inquiries from contractors, developers, property owners, staff, and the general public.
- Reviews drafting of final proposed construction drawing, checking dimensions on plans, materials to be used, the relation of one phase to another, and the relation of various phases to whole structure or project; making any adjustments or changes as may be necessary to complete the design.
- Responsible for inking in lines and letters on pencil drawings as required; plotting/printing charts for representation of statistical data; drawing finished designs from sketches; using a computer-assisted drafting (CAD) and GIS equipment and software.

## **MINIMUM QUALIFICATIONS**

### ***Required Education and Experience***

- Bachelor's Degree
- 5 to 7 years' experience

### **Required Licenses, Skills or Certifications**

- Possess Professional Engineer's License in the State of South Carolina or ability to obtain one in 6 months or less.
- Requires manipulative skills and hand-eye coordination in the operation of a vehicle to conduct fieldwork and inspections.
- Must possess a valid SC driver's license or have the ability to obtain one before employment.

## **Competencies for Successful Performance of Job Duties**

### **Knowledge of:**

- Extensive knowledge of the principles and practices of engineering as applied to the requirements of a County Roads and Bridges Department. Ability to evaluate and analyze data and make recommendations based on sound judgment. Advanced civil engineering principles, concepts, and methodology of a professional occupation applicable to a County setting as obtained through a baccalaureate program; some knowledge of applicable County policies, laws, and regulations affecting Roads & Bridges Department activities.

- Skills in arriving at cost estimates on complex projects. Skills in operating the listed tools and equipment. Personal computer, including word processing, spreadsheet, database and CAD design software; standard drafting tools; pin locator; engineering calculator; motor vehicle; surveying Total Station; data collector; phone; mobile radio; iPad or comparable tablet.
- Skills used in developing CAD drawings and surveying.
- Ability to prepare, organize and maintain engineering field and office data, reports and systems. Ability to establish and maintain effective relationships with subordinates, other departments, outside agencies, and the public, and ability to effectively communicate complex technical information, orally and in writing, to contractors, developers, property owners, employees, consultants, other governmental agency representatives, County officials and the general public.

### **Management & Supervision**

#### **SUPERVISION RECEIVED:**

Works under the general guidance and direction of the Roads and Bridges Manager.

#### **SUPERVISION EXERCISED:**

Managing complex work

### **HUMAN COLLABORATION SKILLS**

Policy recommendations with moderate impact

### **FREEDOM TO ACT**

Limited direction with significant impact

### **TECHNICAL SKILLS**

Advanced skills and application

### **FISCAL RESPONSIBILITY**

Moderate fiscal responsibility; the physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to individuals with disabilities to perform the essential functions.

- The position involves physical demands, such as exerting up to 50lbs. of force occasionally, and/or up to 100lbs. of force frequently, and/or a negligible amount of Force constantly to move objects.

### **WORK ENVIRONMENT/CONDITIONS**

Good conditions with occasional physical effort; the work environment and exposures described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

The company has reviewed this job description to ensure that essential functions and basic duties have been included. It is intended to provide guidelines for job expectations and the employee's ability to perform the position described. It is not intended to be construed as an exhaustive list of all functions, responsibilities, skills, and abilities. Additional functions and requirements may be assigned by supervisors as deemed appropriate. This document does not represent an expressed or implied a contract of employment nor does it alter your at-will employment, and the company reserves the right to change this job description and/or assign tasks for the employee to perform, as Company may deem appropriate.

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Employee Name Printed

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Employee Signature

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Date Signed

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Manager/Supervisor Name Printed

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Manager/Supervisor Signature

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Date Signed