

**MONTGOMERY COUNTY GOVERNMENT
ROCKVILLE, MARYLAND
CLASS SPECIFICATION**

**Code No. 004036
Grade 17**

ENGINEER TECHNICIAN I

DEFINITION OF CLASS:

This is paraprofessional technical engineering work at the developmental level in one of the major engineering specialties, e.g., civil, traffic, parking, environmental, or fire protection. Contacts are with engineers, contractors, consultants, the general public, and related County personnel to exchange information, resolve problems, or explain procedures and requirements in order to facilitate the completion of a particular process such as plan review, data collection, design work, etc. An incumbent offers limited direct service or assistance to the public.

An employee in this class is responsible for performing various duties to support an engineering program such as: assisting in highway design by performing calculations and drawing plans, conducting limited traffic studies and preparing signal or sign and marking plans, reviewing plans, etc. Incumbents receive work objectives and deadlines for assignments from the supervisor and independently perform the work, referring all unusual or unprecedented situations to the supervisor for assistance. Work is reviewed to ensure accurate results and conformity to standard operating procedures, policies, and objectives. Guidelines include industry standards and State and County codes and regulations which are not completely applicable to the work. The employee uses ingenuity and resourcefulness to modify, adapt, or deviate from existing guides. The complexity of the work of this class is characterized by assignments which involve a variety of processes and methods and require analysis of factors and an understanding of their interrelationships, as in the application of established engineering principles, practices, and mathematics to perform engineering computations for profiles, hydraulics, property calculations, and highway geometrics and to prepare engineering designs for simple highway and storm drainage projects or portions of more complex projects or the review of plans and permit applications for grading, paving, storm drains, driveways, and temporary construction entrances to determine compliance with established standards, specifications, policies, criteria and applicable State and County codes, regulations and adopted design criteria. Efforts of employees in this class involve treating a variety of conventional situations or problems in conformance with established criteria on projects such as roadway design, traffic flow, and driveway and sidewalk construction. Work projects are generally less difficult than the projects assigned to the next-higher level class. The work is primarily sedentary and performed in an office setting; however, exposure to some risks is present when employees are involved in periodic field visits to construction sites and work zones.

EXAMPLES OF DUTIES: (Illustrative Only)

Common to All Engineering Specialties:

- Performs standard engineering computations in support of technical reports and specifications.
- Prepares correspondence for signature of senior personnel in response to citizen inquiries and complaints.
- May prepare cost estimates and letters of authorization for projects.

Civil Engineering:

- Reviews plans and permit applications for grading, paving, storm drains, and temporary construction entrances to determine compliance with established standards, specifications, policies, and criteria.
- Reviews commercial driveway plans and prepares utility permits and executive orders for street acceptance and bond release.
- Provides consultation to applicants regarding noncompliance with codes or standards and recommends methods to achieve compliance.
- Prepares a variety of engineering drawings such as plans and profiles, cross sections, and structure details for improvements or modifications to streets, highways, and drainage structures or for portions of more complex projects. Uses engineering design data, field engineering notes, and property descriptions; and performs technical engineering calculations using calculators, computer terminals, and computer aided drafting programs.
- Performs related duties as required.

Traffic Engineering:

- Reviews traffic counts and recommends new signal timings and phasings, routine signal layouts, traffic signs and pavement markings, traffic regulations, and other traffic control measures.
- Prepares engineering drawings for simple construction projects for parking facilities, landscaping, and rehabilitation projects. Uses standard engineering design data, field engineering notes, property descriptions, and layout drawings for operational improvements.
- Processes requests for temporary traffic/parking control devices and arranges for installation and removal of same.
- Maintains equipment inventory and submits maintenance and mileage reports on a regular basis. Prepares work orders as necessary.
- Performs related duties as required.

Parking Engineering:

- Prepares graphs, tables, and maps showing the results of parking surveys and studies. Designs and prepares traffic/parking control and informational sign layouts.
- Prepares layouts and specifications for parking lot gate equipment, cashier booths, and vehicle detection equipment; prepares functional layouts of proposed public parking facilities or redesign of existing facilities.
- Prepares and submits detailed reports of statistical usage data and parker characteristics.
- Performs related duties as required.

Environmental Engineering:

- Assists in the subdivision review process by reviewing engineering design plan submissions of stormwater management water quality structures for completeness according to applicable codes; reviews plats for stormwater and flood plain related matters.
- Collects fees required of developers for stormwater management facilities, and recommends approval of building permit applications based on payment of required fees.
- Researches public requests for floodplain information and answers inquiries related to stormwater management, floodplain, and drainage problems.
- Prepares and maintains a permanent record system of stormwater management installations, subdivision plats, onsite storm water management plans, drainage area maps, zoning maps, floodplain maps, etc.; prepares an inventory of all stormwater management facilities; and plots subdivision locations on watershed maps.
- Performs related duties as required.

Fire Protection Engineering:

- Reviews plans for standard fire protection systems such as sprinkler and alarm systems for renovations, office modifications, and new buildings under 5,000 square feet to determine compliance with established codes, standards, and design criteria.
- Maintains appropriate records of each assigned project and the code requirements cited; maintains status logs of all construction projects submitted for review.
- Meets with architects, engineers, and construction personnel to explain established Fire Code requirements.
- Infrequently participates in acceptance testing of various fire suppression systems such as sprinkler systems, gaseous suppression systems, or chemical systems; records and retains results of test concerning same.
- Provides field consultation to other Fire Service personnel to resolve Fire Code design and/or construction deficiencies.
- Reviews and comments on plans for installation of underground fuel storage facilities; witnesses and verifies conditions and results of testing of underground fuel storage facilities; initiates and maintains pertinent records concerning same.
- Performs related duties as required.

KNOWLEDGE, SKILLS AND ABILITIES:

- Knowledge of mathematics (including algebra and geometry), as well as methods and techniques relating to standard engineering computations, design and testing.
- Knowledge of the State and Federal laws, codes, and regulations pertaining to the applicable technical field.
- Skill in preparing engineering drawings utilizing sketching and drafting techniques, including computer-aided design.
- Ability to read and interpret engineering plans and specifications and to convey their meaning to others.
- Ability to access and manipulate data utilizing computers and engineering software.
- Ability to independently plan and coordinate work.
- Ability to work with coworkers, contractors, engineers, and County employees to obtain, clarify, and provide information.

MINIMUM QUALIFICATIONS:

Experience: Considerable (three (3) years) experience in an applicable technical field that has required the application of principles of physical science and mathematics to assist engineers in solving civil, traffic or environmental engineering problems.

Education: Completion of high school or High School Certificate of completion recognized in the State of Maryland.

Equivalency: An equivalent combination of education and experience may be substituted.

LICENSE:

- Possession and maintenance at all times of a valid Class "C" (or equivalent) driver's license from the applicant's state of residence when required for job-related duties.

PROBATIONARY PERIOD:

Individuals appointed to this class will be required to serve a probationary period of six (6) months, during

which time performance will be carefully evaluated. Continuation in this class will be contingent upon successful completion of the probationary period.

MEDICAL EXAM PROTOCOL: Medical History Review.

Class Established: December, 1973

Revised: July, 1980

August, 1987

August, 1992 (M)

May, 1997

April, 2010

August, 2013

Formerly Titled: "Engineer Technician II"