

City of San José
CLASS SPECIFICATION

Title: Engineering Technician I/II (3711/3712)

DEPARTMENT	ACCOUNTABLE TO	FLSA STATUS
Varies	Varies	Non-exempt

CLASS SUMMARY

Under immediate supervision, performs a variety of sub-professional engineering duties in support of assigned engineering program including drafting, construction inspection, traffic engineering, surveying, materials testing, and office engineering. Performs materials sampling and testing of construction materials. Performs measurements and rough sketches of specifics on job site. Investigates public complaints regarding traffic controls and signs; compiles and analyzes traffic accident data. Performs related work as required.

DISTINGUISHING CHARACTERISTICS

The Engineering Technician I/II is the flexibly staffed trainee/entry class in the Engineering Technician series, described as follows:

Engineering Technician I - This is the training-level class in the Engineering Technician classification series responsible for providing technical support to assigned engineering operations and/or programs by learning the operations, processes, policies and procedures of the department and program area to which the position is assigned. Work is highly supervised while in progress and fits an established structure or pattern. This class differs from Engineering Technician II in that incumbents of that class have learned department operations, procedures and standards and perform the more routine technical engineering tasks.

Engineering Technician II - This is the entry level class in the Engineering Technician classification series responsible for providing technical support to assigned engineering operations and/or programs. Positions at this level are not expected to function with the same amount of knowledge or skill level as positions allocated to the Associate Engineering Technician level and usually exercise less independent discretion and judgment in matters related to work procedures and methods. Work is usually supervised while in progress and fits an established structure or pattern. Exceptions or changes in procedures are explained in detail as they arise. As experience is gained, assignments become more varied and are performed with greater independence. This class differs from Associate Engineering Technician in that incumbents of the latter class are responsible for performing the full range of technical engineering tasks within the area to which the position is assigned.

QUALIFICATIONS

(These qualifications are typically required. An equivalent combination of education and experience sufficient to satisfactorily perform the duties of the job may be substituted.)

Minimum Qualifications

Education and Experience

Engineering Technician I

Completion of high school, trade school, or equivalent (General Education Development [GED] Test or California Proficiency Certificate).

Engineering Technician II

Completion of high school, trade school, or equivalent (General Education Development [GED] Test or California Proficiency Certificate) AND two (2) years of increasingly responsible sub-professional engineering work performing materials sampling and testing, reviewing plans and specifications, construction or infrastructure inspections, traffic engineering, or working on a field survey crew.

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Acceptable Substitution

Engineering Technician II - Successful completion of two (2) academic years or sixty (60) semester units of college level engineering technology courses or related field from an accredited college or university may be substituted for the required experience in sub-professional engineering work performing materials sampling and testing, reviewing plans and specifications, construction or infrastructure inspections, traffic engineering, or working on a field survey crew.

Required Licensing (such as driver's license, certifications, etc.)

- Possession of a valid State of California driver's license may be required.

Other Qualifications

(Incumbents may be required to have different combinations of the listed qualifications, or more specific job-related qualifications depending on the position.)

Basic Competencies

(Needed at entry into the job in order to perform the essential duties.)

- Job Expertise - Demonstrates knowledge of and experience with applicable professional/technical principles and practices, Citywide and departmental procedures/policies and federal and state rules and regulations.
- Communication Skills - Effectively conveys information and expresses thoughts and facts clearly, orally and in writing; demonstrates effective use of listening skills; displays openness to other people's ideas and thoughts.
- Computer Skills - Experienced with common business computer applications including but not limited to: MS Outlook, MS Word, MS PowerPoint, MS Access, and MS Excel.
- Teamwork & Interpersonal Skills - Develops effective relationships with co-workers and supervisors by helping others accomplish tasks and using collaboration and conflict resolution skills.
- Decision Making – Identifies and understands issues, problems, and opportunities; uses effective approaches for choosing a course of action or developing appropriate solutions.
- Multi-Tasking – Can handle multiple projects and responsibilities simultaneously; has handled a wide variety of assignments in past and/or current position(s).
- Reliability - Completes quality work assignments in a timely and efficient manner; fulfills responsibilities and maintains confidentiality as appropriate.
- Technology Use/Management - Uses efficient and cost-effective approaches to integrate technology into the workplace and improve program effectiveness.

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OFFICE AND FIELD ASSIGNMENT		
1.	Performs a variety of project and office support technical tasks such as scheduling work requests, routing test reports, and providing assistance to field inspection staff; prepares graphical documents for reports and presentations; responds to citizens requests and issues on project related activities; prepares and distributes plans and specifications to utilities, construction industry publications and other interested parties; compiles information to be used in Requests for Proposals and processes contractual documents; files correspondence.	Daily/Several Times
2.	Performs materials sampling and testing of construction materials such as soils, aggregate bases, hot mix asphalt, and Portland cement concrete, using established test methods; checks gradations, proportions, and quality of materials used; determines if materials tested are in compliance with City project specifications and quality standards; collects tags from asphalt trucks and reconciles same with scale sheets from asphalt plants; coordinates with contractors and suppliers for asphalt and/or aggregate sample splits.	Daily/Several Times
3.	Reviews prints and maps to check alignment and location of project area; performs a variety of onsite tasks including, but not limited to, photographing the site and surrounding locale conditions; taking measurements and developing rough sketches of specifics on job site; completing detailed and accurate test reports; and identifying, sorting and filing findings.	Daily/Several Times
4.	Utilizes technology to fulfill service requests to track and locate underground facilities, from initiation to completion.	Daily
5.	Operates and utilizes a variety of specialized software programs relevant to work performed.	Daily
6.	Participates in storage of data on computer tape of maps and engineering data; participates in use of computer for drafting operations and engineering computation solutions.	Weekly
7.	Inspects City sidewalks for defects, and construction work such as curbs, driveways, gutters, sewers, streets, alleys, storm drains, catch basins and culverts; investigates damaged or hazardous sidewalk conditions; assists in researching property owners and in contacting them; posts notices and updates maps.	Weekly
8.	Performs work in the development of plans and specifications by analyzing survey data from field books, performing title research, and preparing strip maps.	Weekly
9.	Prepares precision drawings of construction or preliminary plans from sketches or rough copy, draft profiles, cross-sections, road and storm drainage alignments, right-of-way maps, and topographical features. Performs limited design drafting on roadways, storm drainage, related structures, and architectural projects following established criteria;	Weekly

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	assists engineering staff with pavement designs by performing deflection testing and coring of existing pavements.	
10.	Participates in performing field work, geological and historical research into soil condition and type, seismic hazards, etc. to prepare environmental clearance and EIR's; participates and assists with log of borings for native soil explorations and classifications.	Intermittent
TRAFFIC AND TRANSPORTATION ASSIGNMENT		
11.	Investigates public complaints regarding traffic controls and signs; compiles and analyzes traffic accident data, conducts studies on speed volume origin and destination of traffic, prepares parking and traffic flow designs and plans.	Daily/Several Times
12.	Implements appropriate temporary traffic control using established safety practices including flagging vehicles and lane closures; ensures the safety of the drivers, the public and City staff.	Daily
13.	Reviews applications for permits to ascertain conformance to regulations; analyzes traffic data, makes vehicular counts, and recommends time cycles on signals; makes a variety of engineering calculations relating to areas, quantities, and costs; provides the general public with information on a variety of engineering subjects.	Daily
14.	Prepares Level of Service (LOS) reports, through data collection and elementary computer data storage and retrieval; develops programs to maintain, update and report on data files.	Weekly
15.	Updates inventory, and maintenance and repair records for traffic signals and street lights.	Weekly
16.	Reviews all development and redevelopment plans to determine if transit and transportation facilities are required.	Weekly
17.	Coordinates the employee car-pooling and preferential parking program.	Intermittent
SURVEY		
18.	Performs a variety of support activities related to survey task completion as assigned; ensures that survey vehicle has adequate stocks of supplies.	Daily/Several Times
19.	Assists survey crew to determine points, lines, angles, elevations, and distances for property, boundary, construction, photogrammetric, and topographic surveys; mark lines and grades for assigned projects.	Daily/Several Times
20.	Locates and sets the alignment of City monuments and elevation of City benchmarks; assists in mapping topographic features and in setting various survey stakes for City or contractor's use.	Daily/Several Times
21.	Sets up, cleans, adjusts, and performs routine maintenance on manual and electronic surveying instruments such as electronic total stations, digital levels, data collectors, global positioning units, and other survey related equipment as assigned.	Daily/Several Times

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22.	Participates as a junior member on a survey crew; pounds nails, iron pipe, rebar, survey stakes and hubs; measures distances with a tape measure; sets out traffic control; acts as a flagger; opens manholes for field investigation and uses a variety of survey target rods.	Daily/Several Times
23.	Performs other related duties as assigned.	As required

*Frequency defined as Daily/Several Times, Daily, Weekly, Intermittent, or As Required

PHYSICAL/ENVIRONMENTAL ELEMENTS

The following is a general statement for the classification. Individual positions may have additional or different physical/environmental elements.

Possess ability to:

- Move between/within work areas, including but not limited to sitting, walking, and standing on various surfaces, turning, bending, grasping, and making repetitive hand movements;
- Maintain professional demeanor during interactions with staff, customers, and the public.

When assigned to an office environment, possess ability to:

- Operate, access, enter, and retrieve data using standard office equipment, including but not limited to a computer or tablet;
- Read printed materials and a computer screen;
- Communicate in person and over the telephone;
- Be exposed to moderate noise levels and controlled temperature conditions.

When assigned to field inspection, possess ability to:

- Work in and inspect changing site conditions and work in progress;
- Perform light to medium physical work, including climbing/descending ladders;
- Operate a motor vehicle and visit various City sites;
- Be exposed to unpredictable working conditions including but not limited to loud noise levels, inclement weather conditions, road hazards, vibration, confined workspaces, toxic or caustic chemicals, hazardous physical substances, fumes, odors, gases, dust, and air contaminants;
- Lift, carry, push, and pull materials and objects averaging a weight of 40 pounds, or heavier weights, in all cases with the use of proper equipment.

CLASSIFICATION HISTORY *Created 5/88, Rev. 11/88, Rev. 08/18; s001*