

CITY OF HAYWARD

ENGINEERING TECHNICIAN

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Description

DEFINITION:

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To perform a variety of paraprofessional office and field engineering work including drafting, minor design work, engineering records preparation and maintenance and operation of equipment and instruments; may work as survey crew member in support of surveying and other civil and traffic engineering functions.

DISTINGUISHING CHARACTERISTICS

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This is an entry level classification that assists higher level technical and professional engineers..... in all activities of the Engineering & Transportation Division. The Engineering Technician is responsible for conducting traffic, engineering and similar studies for public works projects, and for assigned technical engineering tasks, preparing plans and estimating for various permits design and other construction activities. This position is also responsible for assisting the Director in the overall planning, administration, management of the Engineering & Transportation Division's functions, as well as select projects in the Public Works and Maintenance Services. It is distinguished from the Assistant Civil / Survey Engineer -which is the journey level classification with responsibility of the more complicated technical tasks.

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SUPERVISION RECEIVED:

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General supervision is provided by higher level technical and professional engineers, depending on the assigned area of responsibility. Lead direction may be provided by other classification in the division.

SUPERVISION EXERCISED

None.

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EXAMPLES OF DUTIES: Essential Duties
ESSENTIAL DUTIES

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1. — Performs non-routine drafting assignments which require application of standardized drawing techniques.

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Gathers field data for planning, design and construction.

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2. Prepares accurate drawings from design notes, sketches and field survey notes.

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3. Makes traffic counts and prepares simple diagrams of intersections showing sight distances and traffic flow.

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4. Makes speed surveys, polls motorists and pedestrians, and prepares diagrams of accident frequencies.

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ESSENTIAL DUTIES (continued):

5. Makes computations to determine quantities and costs.

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6. Performs complex mathematical calculations by using accepted formulas, manuals and equipment.

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7. Reads and interprets maps and other engineering records and prepares legal descriptions of property.

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8. Corrects and re-designs construction plans for street improvements, utility installations, drainage and material quantities by using appropriate calculations, computations and engineering data and by consulting with engineers.

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9. Performs survey office work using drafting tools while employing mathematical and engineering data to prepare information for use by survey field crews, construction crews and construction inspectors.

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EXAMPLES OF DUTIES (continued):

10. Interprets information from survey field work for use in mapping, designing construction plans, analyzing earthquake fault monitoring data and updating survey records.

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11. Performs various duties associated with land surveying including using measuring tapes and level rods to assist in determining lines, angles, points, elevations and distances.

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12. Performs various record keeping and file maintenance duties such as recording instrument readings in field survey notes, maintaining office files of notes, control data, monument records, surveyors maps, and construction drawings.

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Prepares and maintains accurate "as-built" plans from notes from contractors of completed projects.

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Engineering Technician (continued)

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13. Computes horizontal and vertical curves.

14. Calculates distances, earth work quantities, fees and charges.

15. Performs plan checking by comparing drawings of proposed improvements against drawings which illustrates established engineering standards applicable to various projects.

QUALIFICATIONS- JOB RELATED AND ESSENTIAL QUALIFICATIONS:

Knowledge of: Abilities and Skills:

A. Knowledge of Algebra, geometry, and trigonometry.

JOB RELATED AND ESSENTIAL QUALIFICATIONS (continued):

Knowledge of (continued):

B. Proficient in AutoCAD Civil 3D drafting including working with raw topographic survey points to build surfaces, produce maps, renderings, view graphs, cross-sections and plan and profiles.

Ability to:

C. Ability to perform basic engineering and surveying calculations.

D. Ability to interpret construction drawings, field survey notes, deeds, maps and other legal descriptions and to extract pertinent information.

E. Ability to maintain neat and accurate records.

F. Ability to understand and carry out oral and written instructions.

G. Ability to communicate effectively orally and in writing.

Knowledge, Abilities and Skills (continued):

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H. Ability to Establish and maintain cooperative and effective relationships with those contacted in the course of work.

I. Ability to Visualize the practical application of designs.

J. Ability to Ceope with extensive public contact.

K. Ability to Draft engineering plans from rough layouts.

Prepare exhibits using a variety of software applications.

Minimum Qualifications

EXPERIENCE AND EDUCATION:

Any combination equivalent to experience and education that could likely provide the required knowledge and abilities would be qualifying. A typical way to obtain the knowledge and abilities would be:

Experience: -

Two years of experience in engineering drafting and calculations. Two (2) years of experience in engineering drafting and calculations, performing responsibilities related to engineering design, construction, inspection and or traffic.

EXPERIENCE AND EDUCATION (continued):

Education:

Equivalent to completion of the twelfth grade including or supplemented by courses in algebra, geometry, trigonometry and drafting. Equivalent to graduation from high school supplemented by courses in algebra, geometry, trigonometry land surveying, engineering design, construction inspection, and or traffic engineering. An Associate degree in a related field is desirable.

Training:

Any recent training such as academic courses, and certification programs which are relevant to this job classification.

License and Certificates:

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— Possession of a valid Class C California Driver's License and satisfactory driving record as determined by the City. —

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Other Requirements:

Willingness and ability to work overtime as required; respond to emergencies, attend meetings, classes, and seminars as required during work and non-work hours; work under adverse conditions such as in inclement weather, in awkward spaces, and in and around construction areas.

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Special Requirements SPECIAL REQUIREMENTS:

Essential duties require the mental and /or physical ability to work in a standard office environment; drive a motor vehicle; read fine print on drawings and computer monitors; converse in person, over the telephone, two-way radio, and around the noise of heavy construction equipment and be heard and clearly understood; move across rough terrain and bridge scaffolding; climb into and out of sewer holes and trenches, up to 25 foot ladders, and several flight of stairs; use drafting and survey instruments , calculators, and personal computers; and strength to safely lift and maneuver materials weighing up to 30 pounds.

PROBATIONARY PERIOD: ~~Six Months~~ One (1) year.
668CS88.T200 Engineering Technician

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Revised January 27, 2022

August 1988

AAP GROUP: 5

FPPC STATUS: Non-Designated

FLSA STATUS: Non-Exempt