

CITY OF SALINAS

ENGINEERING AIDE I/II

BARGAINING UNIT/CLASS CODE:

SMEA / G10 (I)/G09 (II)

DEFINITION

To perform a variety of paraprofessional office and field engineering work, including drafting using AutoDesk Land Desktop (AutoCAD), traffic and development engineering studies/surveys, land surveying, compiling engineers estimates, and the records handling, and/or to serve as an engineering design team member.

DISTINGUISHING CHARACTERISTICS

Engineering Aide I: This is the entry-level class in the paraprofessional engineering class series. Incumbents perform routine drafting, office and field engineering work that does not require previous specialized experience. Generally, work is observed and reviewed both during performance and upon completion, and changes in procedures or exceptions to rules are explained in detail as they arise. Under this training concept, positions assigned to the class of Engineering Aide I may reasonably expect to progress to the Engineering Aide II level with experience and satisfactory job performance.

Engineering Aide II: Positions in this class are normally filled by advancement from the lower class of Engineering Aide I, or when filled from the outside, require substantial prior paraprofessional level engineering work experience. Appointment to the higher class requires that the employee be performing the full range of duties in drafting, office and field engineering work, and meet the qualification standards for the class. Work in this class is distinguished from that of Engineering Aide I class by the greater complexity and variety of the assignments received, and by the greater independence with which an incumbent is expected to operate.

SUPERVISION RECEIVED AND EXERCISED

Receives general, technical and functional supervision from higher-level engineering personnel. Assignments of the Engineering Aide II may occasionally require technical supervision of the Engineering Aide I positions.

ESSENTIAL JOB FUNCTIONS OF THE POSITION Duties may include, but are not limited to the following:

Prepare minor to challenging engineering design layouts. Locate utilities, easements, property lines and other information on plans. Prepare topographical plan and profile maps of property and pertinent features from survey notes and legal descriptions. Check parcel maps, subdivisions and various other drawings. Maintain city maps utilizing AutoDesk Land Desktop (AutoCAD). Participate in the preparation, filing, and retrieval of a variety of engineering maps, documents and records. Read and interpret engineering plans. Assist traffic engineering staff in conducting traffic studies, preparing diagrams and reports, and other traffic related duties. Take field measurements, process transportation permits, monthly transportation billing and special curb markings. Maintain engineering base maps, reports, and drawing files. Enter addresses to all parcels in geo-base records. Ink, pencil, trace and letter charts, graphs, maps, plans and other drawings; prepare miscellaneous illustrative materials such as charts and graphs. Prepare final drawings of existing improvements, rights-of-way, and other utilities using field notes, maps and photographs; check calculations used in designs and estimates. May assist in performing other surveying activities. Assist in measuring accurate distances to be used in the determination of locations of boundaries, easements, improvements, structures and topographic features; keep notes on measurements made. Prepare traffic and transportation reports, council reports, turn movement counts, and screenline counts. Utilize a variety of software to prepare back up material for presentations. Answer routine questions and provide information to the public concerning engineering activities. Make and check mathematical calculations related to surveying and basic engineering. Handle citizen complaints and communicate with the public. Perform a variety of general office procedures including blue printing, filing, and ordering supplies. Promote and maintain safety in the work place. Perform related duties as assigned.

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ENGINEERING AIDE I/II (continued)**

PHYSICAL AND MENTAL CHARACTERISTICS

Physical, mental and emotional stamina to perform the duties and responsibilities of the position; manual dexterity sufficient to write, use telephone, computer, business machines and related equipment; vision sufficient to read fine printed materials, visual display terminals and distinguish between different colors; hearing sufficient to conduct in person and telephone conversations; speaking ability in an understandable voice with sufficient volume to be heard in a normal conversational distance, on the telephone and in addressing groups; physical agility to push/pull, squat, twist, turn, bend, stoop and reach overhead; physical mobility sufficient to move about the work environment, physical strength to lift up to 30 pounds and carry items of that weight up to 200 feet; able to hammer nails in pavement; physical stamina sufficient to sit for prolonged periods of time; mental acuity to collect and interpret data, evaluate, reason, define problems, establish facts, draw valid conclusions, make valid judgments and decisions.

WORKING CONDITIONS

Business office working environment subject to sitting at a desk, standing at a counter for long periods of time bending, crouching, or kneeling at files, pushing/pulling of file drawers and supplies, reaching in all directions and prolonged periods of time working at a computer terminal. Occasional out door work walking on uneven surfaces in all weather conditions, marking pavement with hammer and nails, marking pavement, sidewalk, curb and gutter with paint, field measurements, photography of project site and may work around potentially toxic chemicals.

QUALIFICATIONS

Knowledge of:

Engineering Aide I: Terminology, methods, practices and techniques of AutoDesk Land Desktop (AutoCAD) drafting; basic engineering mathematics, including algebra, geometry, and trigonometry as applied to the computation of angles, areas, distances and traverses; drafting practices; elementary surveying; traffic techniques and practices; drafting engineering maps and records on the computer; computer file management; modern office methods and practices. **Engineering Aide II:** Also, engineering policies and procedures; engineering construction, design, survey and land use regulations and ordinances.

Ability to:

Engineering Aide I: Perform engineering and mathematical calculations with speed and accuracy; understand and follow oral and written instructions; ability to produce minor engineering plans and profile cross sections using AutoDesk Land Desktop (AutoCAD); use and care for drafting, surveying, traffic and mathematical instruments, tools and computers; reduce, interpret, and apply basic field notes to prepare engineering plans; read and interpret engineering plans; lift up to 30 pounds; communicate clearly both orally and written and establish effective working relationships with others. **Engineering Aide II:** Also, make moderately complex engineering and field survey computations; perform moderately complex engineering plans/profile/cross sections using AutoDesk Land Desktop (AutoCAD); reduce, interpret, and apply field notes; compile rough data and prepare statistical and narrative reports from field studies; make accurate computations of material quantities, application rates and production measures; perform work with a minimum of supervision.

Skills to:

Engineering Aide I: Do minor engineering plans using AutoDesk Land Desktop (AutoCAD) software; compiling specifications and engineers estimate. **Engineering Aide II:** Also, prepare more challenging engineering plans. Operate surveying equipment; provide technical assistance to less experienced Engineering Aides.

License or Certificate:

Possession of a valid California Driver's License.

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ENGINEERING AIDE I/II (continued)**

Education and Experience:

Engineering Aide I: An example of the education and experience which most likely demonstrates the skills, knowledge and abilities required to perform the duties would be any combination equivalent to graduation from high school with courses in algebra, geometry, and trigonometry, basic drafting using AutoDesk Land Desktop (AutoCAD). Also, knowledge of computer programs such as spread sheet (MS Excel), work processing (MS Word), presentations (MS Powerpoint), and database management (MS Access). **Engineering Aide II:** Includes all of the Engineering Aide I education and experience. Examples of the experience which most likely demonstrates the skills and abilities required to perform the duties would be equivalent of two years of Engineering Aide I type and level work experience.

Reviewed _____
Department Director

Approved _____
Human Resources Officer

Approval Date _____

ORIG: 2-84, REV: 1-99, REV: 7-04, REV: 9-06