

## SENIOR ENGINEERING TECHNICIAN

### JOB DESCRIPTION

**Classification Responsibilities:** Under general direction, a Senior Engineering Technician supervises and performs technical and complex civil engineering work not requiring formal registration as a civil engineer. Responsibilities include the oversight of drafting and design in street improvements and utility projects. A significant element of the work involves more complex design tasks, including; the design of public work improvements or installation of facilities such as: sanitary sewers, storm drains, street improvements, retention basins, site improvements, public water, underground utility lines, pump stations, water storage tank sites, building remodels, and new buildings. Additionally, this class will be responsible for Civil 3D modeling design which may include; establishing alignments, surface modeling and development, pipe network modeling, profile and style template creation, grading tools with feature lines, and illustration of Civil 3D corridors and sections. This class performs related duties as required.

**Distinguishing Features:** Incumbents of this advanced technician class perform complex civil engineering work using Autodesk related software, supervises technicians in functional areas such as drafting, plan production, printing, and as-built preparation. This position is distinguished from the Engineering Technician IV position by its more complex design tasks, and direct supervisory responsibilities. This class reports to the GIS Supervisor. This class is FLSA nonexempt.

### QUALIFICATIONS

**Employee Values:** All employees of the City of Mesa are expected to uphold and exhibit the City's shared employee values of Knowledge, Respect, and Integrity.

**Minimum Qualifications Required.** Any combination of training, education or experience equivalent to an Associate's Degree or certification in CAD drafting with extensive (5+ years) experience performing technical civil engineering work involving CAD or Civil3D drafting. Good (1-3 years) supervisory or lead experience.

**Special Requirements.** Must possess a valid Arizona Driver's License by hire or promotion date.

**Substance Abuse Testing.** None.

**Preferred/Desirable Qualifications.** Autodesk Software (Civil3D (2014 or newer) and AutoCAD (2014 or newer)) experience as well as LISP (Locator /Identifier Separation Protocol) routine programming are preferred. Experience integrating CAD and GIS Esri Desktop (10.3 or newer) is preferred. Familiarity in working with survey data in preparation of construction documents. Proficiency in Microsoft Office Product Suite. Experience in managing workload and performance of staff is highly preferred.

### ESSENTIAL FUNCTIONS

**Communication:** Communicates with the general public, other City employees, management, contractors, public officials, consultants, and other professional staff to facilitate the production of

projects. Prepares updates in the CAD standards manual and assigns tasks to staff for completion. Responsible for following up with staff on project status and needs. Instructs and trains staff in a classroom setting regarding design and drafting of City projects. Prepares letters, memos, and specifications with clearly organized thoughts and using proper sentence structure, punctuation, and grammar.

**Manual/Physical:** Reviews the work products of others to ensure compliance with standard operating procedures and federal regulations. Inspects, monitors, and evaluates information to determine compliance with standards, regulations, and guidelines according to City of Mesa standards. Operates a personal computer (PC), copier, and other office equipment as needed. Prepares and updates maps related to projects. Distinguishes color, texture, and patterns in order to perform activities such as; differentiating styles, color palates, thickness and patterns utilized in drafting activities with CAD software, and in reviewing redline and markup drawings. Operates a City vehicle requiring a standard Arizona Driver's License in order to observe and measure field conditions at project locations during the design and construction phases, as well as to attend off-site meetings. Meets scheduling and attendance requirements.

**Mental:** Plans, organizes, distributes and directs the activities of technical CAD staff. Supervises, prioritizes, and evaluates the work of subordinate personnel. Resolves work-related problems. Coordinates work activities with other City departments, other cities, or other agencies as required to complete assigned projects. Conducts research and analyzes data. Performs mathematical calculations and financial analysis. Comprehends and makes inferences from written material to facilitate project completion. Understands and interprets construction documents and layouts to assess project needs. Supports the technicians and ensures progress during periods of high demand. Monitors and coordinates software upgrades and compatibility with both internal and external clients, teaming consultants, and sub-consultants to facilitate consistent and reliable transfer of information. Estimates quantities of items included in project design from construction documents to assist with project costs.

**Knowledge and Abilities:**

Knowledge of:

the principles and practices of civil engineering and the methods and techniques used in the design of public water, sanitary sewer, storm sewer underground utility lines, retention basins, pump stations, water storage tank sites, and public street improvements;  
symbols, features and terminology used in engineering drawings;  
federal, state, and local regulations and codes, and the engineering standards (MAG and City of Mesa) pertaining to the design of the project assigned;  
CAD design and civil engineering programs (AutoCAD and Civil3D);  
Microsoft Office Product Suite (Word, Excel, Outlook, Powerpoint);  
engineering drafting principles required to formulate and prepare drawings and construction documents;  
engineering design, exhibits, as-builts and records;

Ability to:

interpret specifications;  
supervise CAD technicians in the production and completion of civil design drawings by setting priorities, resolving problems, and coordinating schedules;  
work effectively and at times independently with limited supervision;  
prepare analytical reports;  
read and interpret construction drawings and specifications;  
resolve work procedures' problems and questions presented by subordinate level employees;  
plan and manage the work of others through planning, organizing, motivating, and evaluating performance objectively;  
assess and assign priorities to problems and work assignments when confronted with several pressing demands at one time;  
maintain concentration on detailed information over an extended (six hours or more) period of time when accuracy and efficiency are important;  
communicate with and respond tactfully to a demanding and diverse public in answering questions, handling complaints, and explaining work related City policies;  
follow general instructions received from engineers regarding drafting and/or printing work to be performed;  
provide advice and assistance on engineering matters to engineers, architects, contractors, developers, real estate staff, and/or the general public;  
assign CAD work to subordinate staff, indicating layer control, appropriate annotation, and sizing for drawings to be used and final results desired;  
review drafting work in progress and resolve the more difficult problems;  
interpret field notes and engineering sketches;  
confer with engineers regarding the scheduling and prioritization of work;  
maintain Mesa Standard Details and Specifications, including continuous additions, refinement, and distribution annually;  
assist staff in the completion of as-built work, including determining best methods for resolving problems;  
supervise support staff including setting priorities, resolving problems, and coordinating schedules;  
evaluate and make recommendations on equipment, procedures, and methods to improve production and efficiency;  
supervise engineering records management staff who handle the Document Management System, involving data entry, scanning drawings, and the distribution of all engineering drawings;  
prepare budget projections and estimates for equipment, furniture, supplies, and tools for the drafting and engineering records management section;  
maintain engineering records management equipment and supplies; and  
assess and make recommendations regarding hiring, disciplinary actions, merit increases, and other personnel actions.

The duties listed above are intended only as general illustrations of the various types of work that may be performed. Specific statements of duties not included does not exclude them from the position if the work is similar, related, or a logical assignment to the position. Job descriptions are subject to change by the City as the needs of the City and requirements of the job change.

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Revised to Change Job Title 8/17

MJ/co/kc

CS4614.DOCX

EEO-Tech

JOB FCTN-ENG

INCREMENTS 55-200

PAY GRADE: 51

IND-9410

SWORN-No