

## **CARTOGRAPHIC TECHNICIAN**

### **Essential Competencies**

#### **ENTRY LEVEL**

**Description:** These competencies identify the Knowledge, Skills and Abilities required to prepare land status and special purpose maps, various exhibits, and legal descriptions. Also the performance of office and field work necessary to assist in the review contract surveys. Work is closely supervised and reviewed for accuracy.

#### **I. MAPPING**

- A. Drafting including basic computer aided design (CAD) to prepare and update land status and special purpose maps.
- B. Interprets, compiles and plots data from deeds, maps, aerial photography and surveys
- C. Calculates simple areas, lengths and direction of lines and elements of curves

#### **II. LEGAL DESCRIPTIONS**

- A. Prepares simple legal descriptions. Reviews and verifies accuracy of legal descriptions from other sources
- B. Understanding of Public Land Survey System as well as metes and bounds descriptions

#### **III. LAND TITLE/LAND RECORDS**

- A. Assists in research of public records to determine ownership and boundaries

#### **IV. LAND SURVEYS**

- A. Performs field assignments on a survey crew
- B. Participates in inspecting and reviewing contract surveys and has understanding of contract specifications

#### **KNOWLEDGE, SKILLS AND ABILITIES**

Basic knowledge of cadastral mapping and cartographic drafting procedures and equipment

Knowledge of trigonometry and geometry

Ability to use computers and associated software with guidance

Knowledge of Land Acquisition Procedures, Part VIII, Mapping Standards and other guidelines

Basic knowledge of surveying principles and procedures

**DEVELOPMENTAL LEVEL**

Description: These competencies identify the Knowledge, Skills and Abilities required to prepare land status and special purpose maps, various exhibits, and difficult legal descriptions. Also the performance of office and field work necessary to independently review contract surveys. Work is performed under normal supervision.

**I. MAPPING**

- A. Drafting including computer aided design (CAD) to prepare and update land status and special purpose maps
- B. Interprets, compiles and plots complex data from deeds, maps, aerial photography and surveys
- C. Calculate areas, lengths and direction of lines and elements of curves

**II. LEGAL DESCRIPTIONS**

- A. Prepares moderate to complex legal descriptions. Reviews and verifies accuracy of legal descriptions from other sources
- B. Knowledge of Public Land Survey System and metes and bounds descriptions

**III. LAND TITLE/LAND RECORDS**

- A. With little assistance performs research of public records to determine ownership and boundaries
- B. Understanding of title abstracts and polices in preparing legal descriptions and locating title exceptions

**IV. LAND SURVEYS**

- A. Performs field assignments on a survey crew

- B. Independently inspects and reviews contract surveys and has working knowledge of contract specifications

**KNOWLEDGE, SKILLS AND ABILITIES**

Working knowledge of cadastral mapping and cartographic drafting procedures and equipment

Ability to independently use computers and associated software to prepare mapping assignments

Comprehensive knowledge of Land Acquisition Procedures, Part VIII, Mapping Standards and other guidelines

Working knowledge of surveying principles and procedures

Knowledge of Contracting Officer's Technical Representative (COTR) responsibilities and Architectural and Engineering (A/E) contract requirements

**FULL PERFORMANCE LEVEL**

Description: These competencies identify the Knowledge, Skills and Abilities required to prepare land status and special purpose maps, various exhibits, and legal descriptions that are of a very complex nature. Individual is responsible for all cartographic work in some Land Resource offices. In other areas is the lead technician and is responsible for scheduling and reviewing work of other lower grade cartographic technicians. Ability to perform field assignments on a survey crew and independently inspects contract land surveys. Work is performed at an advanced level with little direct supervision.

**I. MAPPING**

- A. Drafting including advanced computer aided design (CAD) techniques to prepare and update land status and special purpose maps of a complex nature
- B. Interprets, compiles and plots conflicting or inconclusive data from deeds, maps, aerials and surveys
- C. Calculates complex areas, lengths and direction of lines and elements of curves

**II. LEGAL DESCRIPTIONS**

- A. Prepares complex legal descriptions often from inadequate or conflicting information which necessitates the use of sound judgement
- B. Advanced knowledge of Public Land Survey System and metes and bounds descriptions

**III. LAND TITLE/LAND RECORDS**

- A. Independently performs research of public records to determine ownership and boundaries in situations with conflicting or inconclusive information
- B. Knowledge of complex title abstracts and policies in preparing legal descriptions and locating title exceptions

**IV. LAND SURVEYS**

- A. Performs field assignments on a survey crew and may act as chief of a survey crew
- B. Independently inspects, reviews and approves payment for contract surveys and has comprehensive knowledge of COTR responsibilities and A/E contract requirements

**KNOWLEDGE, SKILLS AND ABILITIES**

All Knowledge, Skills and Abilities at the Entry and Developmental Level Plus:

Knowledge of and understanding of Federal land acquisition procedures.

Ability to use sound judgement when situations arise that are not covered by existing guidelines to resolve problems.

Ability to lead and instruct subordinates in the performance of cartographic tasks and completion of assigned projects.