

Survey

STATE OF ALASKA

COMPETENCY SPECIFICATION

Occupational Group: LABOR, TRADES AND CRAFTS

<u>Career Area:</u>	<i>SURVEY</i>	9591
		9591-58
		9591-56
		9591-54
		9591-53

Definition: Determines, delineates and positions facility, land and construction areas by measuring distances, elevations, areas, angles and boundaries

Levels:

Competencies are the required knowledge, skills, abilities and work behavior demonstrated and required for the on-going essential functions of the job. Possession of competencies alone *will not automatically* advance an incumbent; rather, the incumbent must utilize and demonstrate the competency in the on-going performance of *assigned* duties.

SUB-JOURNEY ENTRY/TRAINEE: Worker is under close supervision and review. The work is designed to provide orientation, training and familiarization with the processes of the occupational field; reinforces and supplements previous experience and education; and allows the trainee to carry out progressively more difficult and responsible tasks.

9591-58 **I** as the entry level, assists in brush cutting and general labor and operation of vehicles to reach the survey site, and operation of survey equipment in which trained in the field.

SUB-JOURNEY: Worker provides assistance to others by performing the more routine, non-specialized and repetitive tasks that do not require the more specialized skills. Basic tasks are performed independently and those of progressive difficulty are performed under direct supervision until proficiency is demonstrated... The designation of Sub-journey does not infer that the work must be always in the company of another and/or higher level employee.

9591-56 **II** Applies learned and field skills to be chain on field survey crew.

JOURNEY: Worker is fully proficient. Work is performed independently, using standard methods and techniques, and consists of assignments that are typical of the occupational field. Journey workers can use a variety of interrelated skills to independently complete work that conforms to industry standards. The work may require proof of competence, training or certification.

9591-54 Operates survey instruments with full degree of proficiency.

LEAD: Worker performs the work and leads a group of other workers as defined by the collective bargaining unit contract, by directing and reviewing tasks. Lead worker assigns work; sets schedules and priorities; determines methods; provides training and instruction; evaluates and approves completed tasks.

9591- 53 as specialist or lead, is the party chief in charge of survey projects.

Essential Core Competencies: “Common or typical” to the career area and required for all levels as appropriate to the specific position. *These are included in the position description and performance evaluation review process.*

Survey **core**

Knowledge of:

- oral and written communication in order to communicate effectively with a variety of people
- mathematics to calculate, record and interpret computations
 - traffic safety rules to provide traffic control assistance on-site
 - terminology, definitions in common use in the physical sciences
 - personal and site safety practices and procedures encountered in the work

Ability to:

- follow oral and written technical direction
- read, understand and interpret technical material in the use of formulas, plans, specifications and topographic maps

- learn nomenclature and use of standard equipment in basic surveying
- perform repetitive tasks to obtain consistent results
- work cooperatively with those encountered
- prepare accurate and legible notes, messages, reports or summaries
- care for the tools and equipment in safe manner
 - use standard calculators and office equipment
 - learn and apply principles, techniques and processes applicable to the job

Skill in:

- safety awareness and correct safety protocols at all times and in response to emergencies
- appropriate and efficient use of time and equipment
- appropriate selection of equipment, clothing, and safety tools applicable to the task
 - working cooperatively as a team member in a variety of settings

Essential Technical Competencies:

SUB-JOURNEY level workers will be required to meet the following

TO:

- have the aptitude to develop, practice and use needed skills and work behaviors
- apply verbal and written instructions to individual and grouped tasks
- perform routine tasks with consistent results
 - recognize situations requiring additional supervision or instruction in order to request assistance
 - apply acquired skills, knowledge and abilities to new tasks
 - learn proper usage and care of tools and equipment of the trade or craft

Survey Sub-journey I 9591-58

in addition

Knowledge of:

- use and maintenance of brush clearing equipment
- operation of motorized vehicles and small boats

Ability to:

- demonstrate horizontal and vertical orientation
- walk long distances carrying heavy loads
 - perform physically demanding work

- drive, operate and maintain assigned equipment, motors and vehicles
- use basic math to count stations
- the survey to the location

EXAMPLES OF DUTIES:

Clears brush along line of sight or following instructions. Carries and holds rod during survey when needed.

Operates and maintains motorized vehicles and boats to transport materials and equipment.

Places traffic signs and cones and assists in traffic control by flagging when in traffic.

Survey Sub-journey II 9591-56

in addition

Knowledge of:

- basic geometry and trigonometry
- aerial panel point placement
 - topographical controls and codes

Ability to:

- visualize design criteria in reference to topography
- interpret and use data collector codes
- set and or locate traverse points, temporary bench marks
- recognize breaks in topography to take correct shots to tie topographic location to the survey
- set pace of crew operation
- check survey calculations
- set up traffic control pattern following plan specifications
- use hand held radio

EXAMPLES OF DUTIES:

Surveys level loops, traverses and cross sections.

Performs basic survey computations; checks survey calculations; keeps notes and enters data using collector codes.

Sets up traffic control pattern.

JOURNEY level workers will be required to meet the following

TO:

- have the required skills to handle difficult problems encountered
- have comprehensive knowledge of the subject or occupational area
- use judgment in determining actions
- exercise independence in determining actions
- plan and lay out work (i.e. determine how to do one's own work)
- make appropriate choice among alternatives
 - complete work with only limited instruction and/or little or no advice
 - proceed with work without having results or products generally reviewed in progress

SURVEY Journey 9591-54

in addition

Knowledge of:

- project plans and specifications
- survey instrument adjustment techniques
- cleaning and care of equipment
- documentation methods and procedures
 - land and survey practices , procedures

Ability to:

- use and operate all survey instruments
- close a horizontal traverse or vertical level loop commensurate with survey project requirements or established tolerances
- read, interpret plans, deeds, plats and maps
- make appropriate use of equipment and personnel on-site

Skill in:

- calculations with hand or programmable calculator
- setting traverse or control points to define the topography
- adequacy of field notes

EXAMPLES OF DUTIES:

Surveys horizontal traverses and vertical loops with survey calculations, notes and data reduction.

Double checks party chief's calculations.

Operates and maintains all survey equipment.

Interprets plans, plats, maps and drawings of the project to the assignment at hand.

LEAD worker will be required

TO:

- assign, monitor, train and evaluate daily tasks
- make decisions and set and balance priorities
 - coordinate tasks of others and work efficiently
 - ensure adherence to work schedules, quality standards, safety and security rules
 - give clear instructions
 - recommend appropriate solutions to difficult situations
 - motivate others

SURVEY Lead 9591- 53

in addition

Knowledge of:

- deed and legal descriptions
- team management coordination

Ability to:

- assess problems and make appropriate accommodations and resolutions
- direct a crew and make on-site decisions regarding personnel issues
- read and interpret plats, plans, and survey descriptions
- perform field calculations
 - determine appropriate method to use for cross sections, digital terrain model, soundings and bridge sites

Skill in:

- consistency of data checks and audits
- accuracy and appropriateness of documentation of field notes and graphs

EXAMPLES OF DUTIES:

Checks crew data and documentation.

Coordinates crew activities; plans approach to assignment and assigns tasks.

Interprets legal descriptions, plats and plans in assigning and reviewing project assignment.

Competencies and Certifications:

CORE:

Alaska Driver's license

TECHNICAL:

First aid/ CPR certificate

American Traffic Safety Services Association (ATSSA) certificate

American Traffic Safety Services Association (ATSSA) Traffic Supervisor certificate

Environmental Conditions and Physical Requirements:

Exposure to

bodies of water, docks and piers

dirt, dust and fumes

heights, trenches, steep slopes

inclement and seasonal weather conditions

insects and wildlife

moving vehicles, equipment, machinery and tools

noise

remote areas for long periods

traveling public

Physical stamina to

stand or walk for long periods

lift 100 pounds regularly

walk and carry loads over rough terrain for long periods

Equipment:

[] Brushing tools

brush ax

brush hook

chain saw

digging bar

ice auger

machete

maul

post-hole digger

scythe

shovel

sledge hammer

[] Office:

hand radio

PC computer using designated software i.e. Dbase, SuperCalc, Lotus 1, 2, 3, WordPerfect

plotter

printer

scanner

programmable hand calculator

video camera

[] Safety:

hard hat

vests

[] Survey:

cloth measurement tape

field calculator

hand level

level

plumb bob

prism pole

rod

steel measurement tape

theodolite

total stations

[] Vehicles:

all terrain vehicle

pick up truck

small boats

snow machine