

**MICHIGAN CIVIL SERVICE COMMISSION
JOB SPECIFICATION**

SURVEYING TECHNICIAN

JOB DESCRIPTION

Employees in this job participate and oversee the performance of a variety of technician-level surveying activities that provide assistance in the surveying of roads, building sites, recreation areas, bridges, environmental sites, and determinations of land boundaries under the guidance of a professional surveyor.

There are four classifications in this job.

Position Code Title – Surveying Technician-E

Surveying Technician 8

This is the beginning level. The employee, in a learning capacity, performs a range of surveying technician assignments under close supervision.

Surveying Technician 9

This is the intermediate level. The employee works in a developing capacity with increased responsibility for performing a range of surveying technician assignments.

Surveying Technician E10

This is the experienced level. The employee performs a full range of surveying technician assignments and uses considerable independent judgment in making decisions requiring the interpretation and application of guidelines with considerable latitude to specific work situations.

Position Title – Surveying Technician-A

Surveying Technician 11

This is the advanced level. The employee serves as either a lead worker overseeing the work of lower-level Surveying Technicians or as a senior worker performing the most complex surveying technician assignments. Senior-level employees perform complex assignments beyond those expected at the experienced level which have been approved by Civil Service.

NOTE: Employees generally progress through this series to the experienced level based on satisfactory performance and possession of the required experience.

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JOB DUTIES

NOTE: The job duties listed are typical examples of the work performed by positions in this job classification. Not all duties assigned to every position are included, nor is it expected that all positions will be assigned every duty.

Performs a variety of survey work assignments including stacking rods, setting prisms for measurements, running rods for benches and cross section elevations, searching for section corners, property irons and survey points, and cutting brush for lines.

Records measurements and descriptive data in various forms and formats.

Performs calculations and computations to determine earth curvature corrections, atmospheric impacts on electronic measurements, traverse closures and adjustments, azimuths, bearing determinations, level runs (elevation) and placements of government corner and boundary markers.

Participates in laying out grids and determining horizontal and vertical controls.

Analyzes and compares computations with standards set forth by state law or department policy.

Documents survey findings and delineation of lines and boundaries as found and set, using drawings, sketches, and inked tracings.

Uses engineering plans to compile information necessary to stake projects for construction; or, from a plat of survey, develops all information pertinent to carry out a new survey.

Prepares topographic and contour maps of land surveyed.

Measures distances in both metric and English units.

Performs related work as assigned.

Additional Job Duties

Surveying Technician 11 (Lead Worker)

Oversees and schedules the work of lower-level Surveying Technicians.

Explains work instructions and adapts pertinent general methods and procedures in order to meet the required needs of a specific surveying program area.

Trains new employees.

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Surveying Technician 11 (Senior Worker)

Performs on a regular basis surveying technician assignments that are recognized as the most complex.

JOB QUALIFICATIONS

Knowledge, Skills, and Abilities

NOTE: Some knowledge in the area listed is required at the entry level, developing knowledge is required at the intermediate level, considerable knowledge is required at the experienced level, and thorough knowledge is required at the advanced level.

Knowledge of the use, care, and adjustment of a range of surveying instruments and peripheral equipment, including computers, calculators and plotters.

Knowledge of the U.S. Public Land Survey system and appropriate Michigan statutes.

Knowledge of research methods to obtain previous survey records.

Knowledge of field survey procedures as they relate to location and efficient use of the instruments.

Knowledge of land surveying formats, language, and accepted methods for recording measurements and data.

Knowledge of accuracy specification for different classes of surveying measurements, both horizontal and vertical.

Knowledge of college-level algebra, plane and solid geometry, and trigonometry.

Knowledge in interpreting legal descriptions.

Knowledge of computer input forms and proper formatting of data.

Knowledge of English and metric conversion factors and their application to various units of angular, linear and aerial measurements.

Ability to apply required surveying knowledge to specific situations.

Ability to print and draw neatly while obtaining both speed and accuracy.

Ability to write descriptive text using proper grammar, spelling, and report writing techniques.

Ability to analyze field measurement for conformance with accuracy standards and determine when a measure needs to be repeated.

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Ability to interpret plats, plans, maps, and drawings.

Ability to maintain records, prepare reports, and conduct correspondence related to the work.

Ability to maintain survey equipment and tools.

Ability to communicate effectively.

Ability to maintain favorable public relations.

Additional Knowledge, Skills, and Abilities

Surveying Technician 11 (Lead Worker)

Ability to explain instructions and guidelines effectively.

Ability to organize and coordinate the work of a unit.

Ability to determine work priorities and assign work to employees.

Surveying Technician 11 (Senior Worker)

Ability to perform the most complex surveying technician assignments.

Working Conditions

Depending on seasonal workloads and/or agency need, employees of the Department of Transportation may be temporarily assigned some duties typical of other construction-related technician classifications. In such instances, credit for examination and applicant pool qualification purposes will be granted.

Employee is frequently exposed to dirt and dust, as well as hazardous working conditions.

Some jobs require an employee to work outdoors, and be exposed to unpleasant weather conditions, as well as in an office.

Some jobs require an employee to work where there is a significant chance of injury.

Some jobs require an employee to stand for long periods.

Physical Requirements

The job duties require an employee to move heavy objects.

The job duties require an employee to traverse rough terrain.

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Education

Possession of an associate's degree in civil technology or surveying technology.

Experience

Surveying Technician 8

No specific type or amount is required.

Surveying Technician 9

One year of experience equivalent to a Surveying Technician 8.

Surveying Technician E10

Two years of experience equivalent to a Surveying Technician, including one year equivalent to a Surveying Technician 9.

Surveying Technician 11

Three years of experience equivalent to a Surveying Technician, including one year equivalent to a Surveying Technician E10.

Alternate Education and Experience

Surveying Technician 10

Possession of a bachelor's degree or higher with 16 semester (24 term) credits in job specific or related course work may be substituted for the education and experience requirements.

Special Requirements, Licenses, and Certifications

Some positions may require possession of a Commercial Diver's License (CDL) issued by the Secretary of State as required by Public Act 346 of 1988 to operate a designated state vehicle.

NOTE: Equivalent combinations of education and experience that provide the required knowledge, skills, and abilities will be evaluated on an individual basis.

JOB CODE, POSITION TITLES AND CODES, AND COMPENSATION INFORMATION

Job Code

SURVEYTCH

Job Code Description

Surveying Technician

Position Title

Surveying Technician-E

Surveying Technician-A

Position Code

SRVYTCHE

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Pay Schedule

L32-006

L32-012