

**MICHIGAN CIVIL SERVICE COMMISSION
JOB SPECIFICATION**

DRAFTING TECHNICIAN

JOB DESCRIPTION

Employees in this job participate in and oversee a variety of manual and/or automated drafting activities in such specialized areas as engineering, electrical, right-of-way, cartography, or architecture for the purpose of laying out and preparing drawings of new or existing facilities, roadways, bridges, property, maps, equipment, and systems.

There are five classifications in this job.

Position Code Title – Drafting Technician-E

Drafting Technician 8

This is the beginning level. The employee works in a learning capacity performing a range of drafting technician assignments while receiving close supervision.

Drafting Technician 9

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

Drafting Technician E10

This is the experienced level. The employee performs a full range of drafting technician assignments, and uses considerable independent judgment to interpret and apply work guidelines with considerable latitude to specific situations.

Position Code Title – Drafting Technician-A

Drafting Technician 11

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

Position Code Title – Drafting Technician-SS

Drafting Technician 12

This is the staff specialist level. The employee utilizes specialized technical knowledge in performing highly complex drafting technician assignments involving authority for an assigned program. Staff Specialist positions have sole and full time responsibility for an assigned program area, and are recognized through approval by Civil Service.

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

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.

Prepares plans and sketches of roadways, right-of-ways, buildings, structures, airports, utilities, equipment and equipment adaptations and office layouts.

Draws architectural and engineering details of roadways, buildings, structures, topographical features, and more using conventional and computer generated techniques.

Details grades, geometrics, drainage, utilities and structures, and computes necessary dimensions.

Computes and verifies mathematical data, and plots same for surveys, construction centerlines, ties and alignment data.

Plots and displays physical, cultural and geographic features.

Delineates boundaries according to legal description, date, means of acquisition, restrictions, sales of excess, and other miscellaneous data.

Operates stereoplottting instruments in the process of compiling large-scale topographical maps from aerial photography.

Interprets and plots field and survey notes, checks general land office records and draws or traces maps to scale.

Does freehand sketching, lettering, pencil layouts, and ink work on engineering charts and graphs.

Lays out and plots horizontal control data on base manuscripts.

Analyzes spatial needs of departmental work areas and relates same to the design of interior layouts.

Plots, checks and interprets property descriptions to prepare maps, charts and graphs.

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Determines materials necessary to meet planning criteria, and coordinates the work and changes with the construction crew and others as necessary.

Checks plotted and computed data and updates and corrects drawings and computations.

Prepares charts and graphs for the presentation of statistical data.

Visits job sites to obtain additional data, measurements, and/or photographs.

Maintains sets of drawings, test reports, work changes, vouchers, and daily reports for projects.

Orders and maintains drafting supplies, and maintains files and vendor catalogs.

Performs related work as assigned.

Additional Job Duties

Drafting Technician 11 (Lead Worker)

Coordinates work by scheduling assignments and overseeing the work of other Drafting Technicians.

Oversees and assures the quantity and quality of the work by requiring strict adherence to established methods and procedures.

Explains work instructions and adapts, if necessary, pertinent general methods and procedures in order to meet required needs.

Trains lower-level Drafting Technicians.

Drafting Technician 11 (Senior Worker)

Performs the most complex drafting technician activities on a regular basis.

Drafting Technician 12 (Staff Specialist)

Exercises independent authority and responsibility for an assigned program area.

Serves as a recognized expert within program area, and provides technical assistance to other departmental staff.

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, thorough knowledge is

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required at the advanced level, and extensive knowledge is required at the staff specialist level.

Knowledge of the function and operation of automated drafting equipment and computer graphics equipment.

Knowledge of nomenclature and conventional symbols of mapping, architectural, and engineering drawings.

Knowledge of practices followed in the preparation of engineering and architectural plans.

Knowledge of design and commercial planning concepts and techniques, including design manuals, standard plans and specifications, construction manuals and engineering and drafting practices.

Knowledge of the techniques of lettering, spacing, arrangement, and margin requirements.

Knowledge of standard drafting instruments and materials and their use.

Knowledge of scale determination and conversion.

Knowledge of checking survey notes and computations.

Knowledge of legal and surveying terms used in property descriptions.

Knowledge of the use of general land office plots, field notes and other guide material in the development of maps.

Knowledge of trigonometry, geometry and general mathematics used in the work.

Ability to operate automated drafting and computer graphics equipment.

Ability to prepare maps, drawings, and tracings neatly, accurately, and legibly.

Ability to make accurate drawings to scale from field notes, design drawings, sketches, and verbal instructions.

Ability to reduce and plot field notes.

Ability to read and interpret plans required in the interpretation of maps, drawings, charts, etc.

Ability to develop charts, graphs, diagrams, and tables for the graphic presentation of factual data.

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Ability to do free-hand lettering neatly, accurately and legibly, and use drafting instruments.

Ability to prepare scale and full-size detailed working drawings.

Ability to assemble data and draft maps in accordance with prescribed objectives.

Ability to design, organize, and conduct planning for organizational layouts.

Ability to make mathematical calculations related to the work.

Ability to understand and carry out detailed, technical instructions.

Ability to maintain records and prepare reports relative to the work.

Ability to maintain effective working relationships with private, public, local, state, and federal personnel as well as other department personnel.

Ability to communicate effectively.

Ability to maintain favorable public relations.

Additional Knowledge, Skills, and Abilities

Drafting Technician 11 (Lead Worker)

Ability to explain instructions and guidelines to others effectively.

Ability to organize and coordinate the work of the unit.

Ability to determine work priorities and assign work to employees.

Drafting Technician 12 Staff Specialist

Knowledge of the programmatic and developmental aspects of assigned program area.

Ability to implement and carry out assigned program.

Ability to adapt new technology and methods to increase program effectiveness.

Working Conditions

Some jobs require travel.

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 qualification purposes will be granted.

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Physical Requirements

None.

Education

Possession of an associate's degree in civil technology, drafting technology, or architectural technology.

Experience

Drafting Technician 8

No specific type or amount is required.

Drafting Technician 9

One year of experience equivalent to a Drafting Technician 8.

Drafting Technician E10

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

Drafting Technician 11

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

Drafting Technician 12

Four years of experience equivalent to a Drafting Technician, including two years equivalent to a Drafting Technician E10 or one year equivalent to a Drafting Technician 11.

Alternate Education and Experience

Drafting Technician E10

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

None.

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

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JOB CODE, POSITION TITLES AND CODES, AND COMPENSATION INFORMATION

<u>Job Code</u>	<u>Job Code Description</u>
DRAFTTCH	Drafting Technician

<u>Position Title</u>	<u>Position Code</u>	<u>Pay Schedule</u>
Drafting Technician-E	DRAFTCHE	L32-006
Drafting Technician-A	DRAFTCHA	L32-012
Drafting Technician-SS	DRFTCHSS	L32-013

ECP Group 1
Revised 6/1/06
TeamLeaders