State of Michigan
Civil Service Commission

Capitol Commons Center, P.O. Box 30002
Lansing, MI 48909

Position Code
1. LANSRVYAA01R

POSITION DESCRIPTION

This position description serves as the official classification document of record for this position. Please complete the information as accurately as you can as the position description is used to determine the proper classification of the position.

2. Employee's Name (Last, First, M.I.)	**8. Department/Agency** TRANSPORTATION CENTRAL OFFICE
3. Employee Identification Number	**9. Bureau (Institution, Board, or Commission)** Bureau of Development
4. Civil Service Position Code Description LAND SURVEYOR-A	**10. Division** Design Division
5. Working Title (What the agency calls the position) Remote Sensing Specialist	**11. Section** Survey Support Section
6. Name and Position Code Description of Direct Supervisor MARTIN, LISA N; LAND SURVEYOR MANAGER-3	**12. Unit** Survey Support Unit
7. Name and Position Code Description of Second Level Supervisor FISH, BRIAN D; LAND SURVEYOR MANAGER-4	**13. Work Location (City and Address)/Hours of Work** 425 W. Ottawa Street, Lansing, MI 48933 / M-F, 7:30 a.m.–4:30 p.m. (or as approved)

14. General Summary of Function/Purpose of Position

This position serves as the recognized resource for coordinating the Survey Support Section's remote sensing activities including conducting and directing the processing and quality control of aerial photogrammetric and Light Detection and Ranging (LiDAR) surveys to produce high-resolution images and data for a variety of road, bridge, construction, environmental, and geotechnical projects. Research, test, and develop methods and workflows for technical applications of static and Unmanned Aircraft System (UAS) equipment.

This position requires possession of a valid driver's license to perform UAS surveys, research and test for workflow development and to perform equipment maintenance.

15. Please describe the assigned duties, percent of time spent performing each duty, and what is done to complete each duty.

List the duties from most important to least important. The total percentage of all duties performed must equal 100 percent.

Duty 1

General Summary: **Percentage: 50**

Serve as the recognized resource for coordinating remote sensing activities including acquiring, processing, and providing design survey deliverables for UAS photogrammetric and LiDAR mapping. Review survey requests and determine most effective methods and procedures for mapping projects. Ensure a safe working environment in field operations.

This duty requires possession of a valid driver's license to perform UAS surveys.

Individual tasks related to the duty:

- Serve as the resource to MDOT staff regarding UAS survey processes, questions, etc.
- Plan UAS flights and control layout to meet Federal Aviation Administration (FAA) Part 107 rules and provide adequate control for design survey projects.
- Review Survey Action Requests and determine necessary procedures and staff required to complete the UAS LiDAR surveys.
- Determine project specifications to achieve spatial accuracy requirements.
- Determine necessary survey activities required by site evaluation from record data and site visit.
- Serve as Pilot in Command (PIC) to conduct or oversee drone flights for requested aerial surveys. Ensure flights are conducted according to Michigan Department of Transportation (MDOT) Safety & Security Administration policies and procedures, FAA and MDOT Office of Aeronautics rules and regulations.
- Establish horizontal and vertical control on Ground Control Points (GCPs) utilized in aerial mapping utilizing Real-Time Kinematic (RTK) Global Navigation Satellite System (GNSS).
- Establish horizontal and vertical control on GCPs by processing Rinex files from the Michigan Spatial Reference Network (MSRN) or conducting Static GNSS observations when existing horizontal and vertical control is unavailable.
- Set targets at the GCP locations to register control to photogrammetric and scanned datasets.
- Process photogrammetric and classify raw LiDAR data to be incorporated into OpenRoads Designer (ORD).
- Analyze data to determine anomalies and extract mapping features in TopoDOT software.
- Manage project tracking and report status to Survey Support Unit manager to determine prioritization of project work.
- Provide project deliverables to customers including, but not limited to, photogrammetric ortho mosaic, point cloud, digital terrain model, etc.

Duty 2

General Summary: **Percentage: 40**

Research, test, and develop methods and workflows for technical applications of static and UAS equipment. Review, interpret, and disseminate FAA rules and regulations and MDOT Office of Aeronautics policies and procedures. Maintain UAS hardware and software updates.

This duty requires possession of a valid driver's license to perform research and testing for workflow development and to perform equipment maintenance.

Individual tasks related to the duty:

- Develop and update UAS standards for MDOT projects and coordinate with Survey Support Section personnel, Survey Consultants, and MDOT Office of Aeronautics to incorporate into the Survey Standards of Practice.
- Test and evaluate new Static and UAS LiDAR hardware and software to implement technology upgrades with the Survey Automation Specialist.
- Provide input and advice to Central and Region Survey Support staff for best practices and document optimal workflows, firmware, software versions, and settings regarding survey hardware and processing software for accuracy and consistency in statewide workflows.
- Attend seminars, webinars, department conferences and training to maintain currency with industry standards for hardware and software.
- Train and provide support to department personnel with equipment and software.
- Configure UAS LiDAR hardware, firmware and software to ensure equipment functionality.
- Act as a liaison between hardware and software vendors and Survey Automation Specialist.
- Collaborate with Survey Automation Specialist to recommend and procure UAS hardware and software.
- Perform routine maintenance of UAS equipment by following manufacturer's recommendations and complying with MDOT Safety and Office of Aeronautics policies and procedures.
- Update Survey Action Request form for requested ortho photography and LiDAR data deliverables.
- Arrange repairs of equipment or vehicles by coordinating with the Survey Automation Specialist and Vehicle and Travel Services (VTS) to maintain compliance with safety regulations.

Duty 3

General Summary: **Percentage: 5**

Perform ongoing remote sensing activities which include promoting, improving, and implementing remote sensing technology in the department. Serve as the Bureau of Development's liaison to MDOT's Office of Aeronautics and Department of Technology, Management, and Budget (DTMB)'s Center for Shared Solutions (CSS).

Individual tasks related to the duty:

- Promote remote sensing activities by providing outreach to various business areas of the department including Regions and Transportation Service Centers (TSCs) to develop efficiencies in design projects and educate designers on the utilization of UAS technology.
- Participate and present in various geospatial activities through attendance at professional user groups and committees to promote MDOT's UAS work and evaluate the work of other agencies to identify efficiencies that could benefit MDOT.
- Attend and provide feedback to Office of Aeronautics periodic UAS Task Force meetings as Survey Support Section's representative.
- Assist Bureau staff with accessing and utilizing aerial and LiDAR products from the Michigan Statewide Authoritative Imagery (MiSAIL), LiDAR Program and the Michigan Imagery Solution (MIS) for importing into design projects.
- Serve as an MDOT administrator for the CSS LiDAR Storage Solution to provide permissions to department employees for access and download of LiDAR datasets from the statewide authoritative repository.
- Present UAS best practices, workflows, and showcase innovations at internal department and external conferences (e.g., Michigan Transportation Technology User Group (MTTUG), TranspoCon, Development Conference, Michigan Society of Professional Surveyors (MSPS), etc.).

Duty 4

General Summary: **Percentage:** **5**

Perform other professional activities in support of unit, section, bureau, and department operations.

Individual tasks related to the duty:

- Work, as assigned, to help complete strategic plans and goals of the bureau and department.
- Maintain assigned vehicle travel log in ProjectWise and report utilization hours in SIGMA.
- Assist the unit manager and other specialists within the section as needed.
- Serve as a Subject Matter Expert for MDOT's Research Program for projects incorporating UAS activities.
- Other duties as assigned.

16. Describe the types of decisions made independently in this position and tell who or what is affected by those decisions.

Independently develop workflows to support Central Office and Region Survey Remote Pilots. Determine individual project procedures and establishment of horizontal and vertical control. Research and recommendation of UAS hardware and software equipment technology. Decisions made affect Central and Region Survey offices as well as MDOT Design and Construction.

17. Describe the types of decisions that require the supervisor's review.

When encountering unique or highly complex surveying functions, supervisory review is required. Coordinate with Survey Section Manager and Survey Support Unit Manager to prioritize survey projects. Resource allocation in support of users, training, or systems. New guidelines, standards, or policy that affect external stakeholders (e.g., Michigan Infrastructure & Transportation Association (MITA), American Council of Engineering Companies (ACEC), etc.). Report equipment and software problems to the Survey Support Unit Manager. Program goals and objectives. Department policy matters when unclear.

18. What kind of physical effort is used to perform this job? What environmental conditions in this position physically exposed to on the job? Indicate the amount of time and intensity of each activity and condition. Refer to instructions.

Work involves performing site visits to complete surveys which includes traversing rough or irregular terrain, exposure to dirt, fumes, heavy and high-speed traffic, bending, stooping, and reaching for plans, carrying heavy or bulky loads, transporting survey equipment occasionally weighing up to 60 pounds over irregular terrain in all weather conditions. Overnight and long-distance travel is required for statewide field work, meetings, and training. Extensive use of a computer. Position may require availability outside normal working hours based on operational needs. Frequent remote sensing tasks in support of proposed or active road/bridge survey projects require possession of a valid driver's license.

19. List the names and position code descriptions of each classified employee whom this position immediately supervises or oversees on a full-time, on-going basis.

Additional Subordinates

20. This position's responsibilities for the above-listed employees includes the following (check as many as apply):

N	Complete and sign service ratings.	N	Assign work.
N	Provide formal written counseling.	N	Approve work.
N	Approve leave requests.	N	Review work.
N	Approve time and attendance.	N	Provide guidance on work methods.
N	Orally reprimand.	N	Train employees in the work.

22. Do you agree with the responses for items 1 through 20? If not, which items do you disagree with and why?

Yes.

23. What are the essential functions of this position?

This position serves as the recognized resource for coordinating the Survey Support Section's remote sensing activities including conducting and directing the processing and quality control of aerial photogrammetric and LiDAR surveys to produce high-resolution images and data for a variety of road, bridge, construction, environmental, and geotechnical projects. Research, test, and develop methods and workflows for technical applications of static and UAS equipment.

This position requires possession of a valid driver's license to perform UAS surveys, research and test for workflow development and to perform equipment maintenance.

24. Indicate specifically how the position's duties and responsibilities have changed since the position was last reviewed.

25. What is the function of the work area and how does this position fit into that function?

The function of the Survey Support Section is to support the creation of property surveys, control surveys, and engineering design surveys for the purpose of gathering data required for road and bridge design and to provide resource data to the department and other public and private agencies. The Survey Support Section also supports construction surveying activities and is involved in automated support for surveying functions. Additionally, the Survey Support Section maintains oversight of survey data submitted by consultant survey firms. This position provides support for the section's functionality through photogrammetric and LiDAR data processing, maintaining competency with hands on application of current technology, technology testing, providing training, and providing other support related duties.

26. What are the minimum education and experience qualifications needed to perform the essential functions of this position.

EDUCATION:

Possession of a bachelor's degree with a major in surveying.

EXPERIENCE:

Land Surveyor 12
Three years of professional experience conducting land surveys equivalent to a Land Surveyor, including one year equivalent to a Land Surveyor P11.

KNOWLEDGE, SKILLS, AND ABILITIES:

Knowledge of:

- The principles and practices of land surveying.
- Surveying instruments and equipment and their use and care.
- Experience with Bentley, DJI and Riegl hardware and software is preferred.

Skill in:

- Remote sensing experience using photogrammetry and LiDAR.
- Processing LiDAR point cloud data.

Ability to:

- Communicate effectively.
- Maintain favorable public relations.
- Read and interpret design and construction plans and specifications.
- Maintain records and prepare reports and correspondence related to the work.

CERTIFICATES, LICENSES, REGISTRATIONS:

Possession of a valid driver's license is required.

Possession of current FAA Part 107 Remote Pilot certificate or possession within 6 months of appointment to position and must maintain throughout employment in the position.

NOTE: Civil Service approval does not constitute agreement with or acceptance of the desired qualifications of this position.

I certify that the information presented in this position description provides a complete and accurate depiction of the duties and responsibilities assigned to this position.

Supervisor **Date**

TO BE FILLED OUT BY APPOINTING AUTHORITY

Indicate any exceptions or additions to the statements of employee or supervisors.

None

I certify that the entries on these pages are accurate and complete.

ASHLEY PARSONS 8/18/2025

Appointing Authority **Date**

I certify that the information presented in this position description provides a complete and accurate depiction of the duties and responsibilities assigned to this position.

Employee **Date**