



**DEVELOPMENTAL SPECIFICATIONS
FOR
PAVEMENT MARKING INSTALLATION RECORD**

**Effective Date
February 18, 2025**

THE STANDARD SPECIFICATIONS, SERIES 2023, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE DEVELOPMENTAL SPECIFICATIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

23070.01 DESCRIPTION.

It is the intent of this specification to gather data on the various pavement markings placed and use this data to make decisions on future pavement marking projects. It is further intended to help Contractors understand what processes and or operations need to be adjusted to assure minimum specification requirements are being met for the various pavement marking types being placed. As marking operations proceed and as quality control of the marking is being checked, the Contractor shall make any adjustments and any tweaks to operations as they deem necessary to assure every reasonable effort is made to meet all minimum specification requirements including retro-reflective values, paint mil thickness, bead application rates and so on for each marking type placed.

23070.02 CONSTRUCTION.

A. General.

1. Under this specification, the Contractor shall provide a record of the pavement marking installation. A Striper Computerized Data Logging System (DLS) for liquid pavement marking material (such as paint or multi component) on projects with at least 1 centerline mile in length shall be utilized to provide the Engineer with a record of the pavement markings placed and pertinent information on material quantities utilized and conditions during placement of the markings. The DLS shall have an onboard monitoring system for the purpose of monitoring the amounts of striping materials being applied to the pavement surface. Collect data for any pavement marking application of 300 feet (driven length) or greater.
2. For all preformed materials (tape and thermoplastic) and liquid pavement markings on projects with less than 1 centerline mile of length, provide data to the Engineer in the format of the Contractors choosing.

B. Equipment.

The DLS Equipment shall be operational, calibrated, and in use during pavement marking operations. Prior to commencing work, provide to the Engineer the DLS manufacturer's recommendations for equipment calibration frequency and provide certification that the equipment meets manufacturer's recommended calibration. Verify that the physical and electronic measurement of distance travelled is consistent by travelling a minimum 100 foot distance prior to

the start of pavement marking operations and submit proof to the Engineer as well.

C. Reporting.

1. DLS files shall provide the following minimum information.
 - a. Iowa DOT project number.
 - b. The Highway class (Interstate, US, or IA) and number with the beginning and ending reference points of data collection rounded to the nearest 0.01 mile and the beginning and ending coordinates determined by a GPS receiver with nominal 3 meter accuracy, including the direction of travel in terms of increasing or decreasing reference points.
 - c. Date and beginning and ending time of application.
 - d. Product being placed for both marking and retroreflective materials (paint and beads).
 - e. Lot numbers for products used (paint/multi-component and reflective material).
 - f. Striping contractor information.
 - g. The code for the line being read:
 - 1) LEL – Left edge line
 - 2) REL – Right edge line
 - 3) CL – Centerline (yellow line separating traffic flowing in different directions)
 - 4) XCL – Centerline for a roadway that has two centerlines due to a bidirectional center turn lane or painted median; LCL shall be used for the left centerline and RCL shall be used for the right centerline when facing in the direction of increasing reference points.
 - 5) LL – Lane line skip
 - 6) XLL – Lane line skip where X is the lane number for the lane on the left side of the measured line on a section with three or more mainline lanes in the same direction. Lane 1 shall be the left-most lane; the right-most mainline lane will not be used (auxiliary lanes, if present, will be identified as noted below).
 - 7) AL – Auxiliary lane markings where there is only one auxiliary lane and the line on the left side of the auxiliary lane is the line being measured.
 - 8) XAL - Auxiliary lane markings where X is the auxiliary lane number for the lane on the right side of the measured line on a section with two or more auxiliary lanes. Lane 1 shall be the left-most auxiliary lane; the right-most auxiliary lane number will not be used as the right line will be read as the right edge line for that segment of roadway.
 - h. Width of marking applied.
 - i. Indication of presence of rumble strip or contrast marking (report if majority of line is installed with each characteristic within the segment).
 - j. Summary of total stations of each marking type placed.
2. The following data shall be reported as an average for each driven mile (or other Engineer approved segment) installed:
 - a. Application vehicle speed to the nearest 0.1 mph.
 - b. Weight (pounds) and / or volume (gallons) as measured through a positive displacement pump (mechanism or flow meter) of liquid materials used by color.
 - c. Weight (pounds) of reflective material used.
 - d. Ratio of reflective material used (weight) per liquid material used (volume) reported as pounds per gallon.
 - e. Ambient air temperature (in °F).
 - f. Road surface temperature (in °F).
 - g. Humidity (%).
 - h. Dew point (in °F).
 - i. The system shall record the average material application rates and film thickness calculated over the section striped.
3. Provide a sample format of the electronic data and summary for Engineer approval at least 2 weeks prior to beginning work on the project.

4. Provide the measurement report in the form of an electronic database file, or delimited text file, containing all raw data collected. Submit the data to the Maintenance Bureau: Benjamin.hucker@iowadot.us and copy the Engineer. Submit a summary of the report to the Engineer.

23070.03 METHOD OF MEASUREMENT.

None.

23070.04 BASIS OF PAYMENT.

Providing the pavement marking installation record is incidental to the pavement marking being placed and no separate payment will be made.