



# Illinois Department of Transportation

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To: Studies and Plans Squad Leaders PPM 70-07  
 From: James M. Sullivan Revised: Scott Neihart  
 Subject: Pavement Marking Materials, RRPM's and Delineation  
 Date: November 8, 2001 Revised Date: April 1, 2016

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## PLAN PREPARATION MEMORANDUM 70-07

This memorandum supplements Departmental Policy TRA-14 by providing the District preference concerning application of Pavement Marking Materials, Raised Reflective pavement markers and Delineation

### For bituminous surfaces:

Type of Facility	Edge Lines	Skip Dash Lines	Letters and Symbols
Full Access Control	Thermoplastic*	Preformed Plastic**	Thermoplastic*
Rural Multilane; Partial Access Control	Thermoplastic*	Preformed Plastic**	Thermoplastic*
Urban	Thermoplastic*	Thermoplastic*	Thermoplastic*
Interchange Crossroad	Thermoplastic*	Thermoplastic*	Thermoplastic*
Rural Two Lane	Paint	Paint	Thermoplastic*

\*Pavement Markings are to be recessed.

\*\*Preformed Plastic Pavement Marking, Type B shall be installed in accordance with Article 780.07(a) of the Standard Specifications. District Special Provision "PREFORMED PLASTIC PAVEMENT MARKING, TYPE B" should be included in the contract Special Provisions when applicable.

**For pc concrete surfaces:**

Type of Facility	Edge Lines	Skip Dash Lines	Letters and Symbols
Full Access Control	Polyurea, Type II*	Polyurea, Type II*	Polyurea, Type II*
Rural Multilane; Partial Access Control	Polyurea, Type II*	Polyurea, Type II*	Polyurea, Type II*
Urban	Polyurea, Type II*	Polyurea, Type II*	Polyurea, Type II*
Interchange Crossroad	Polyurea, Type II*	Polyurea, Type II*	Polyurea, Type II*
Rural Two Lane	Polyurea, Type II*	Polyurea, Type II*	Polyurea, Type II*

- Pavement Markings are to be recessed.

Bridge Decks should normally match the above for roadway surfaces (bituminous or pcc as the case may be) if they are included in a larger roadway segment. For bridge-only jobs, the pavement markings for the decks should be selected on a case-by-case basis. Considerations for this decision include age and type of markings on the adjacent roadway, anticipated time until the next roadway project adjacent to the bridge, and whether or not the need for high type markings on the bridge is critical, such as near a major intersection.

When we have job omissions of one-half mile or less, include quantities for striping the centerline and edge lines. Include a note on the plans that “QUANTITIES OUTSIDE THE LIMITS OF THE SECTION ARE INCLUDED IN THE QUANTITIES LISTED.”

Pavement striping and raised reflective pavement markers shall be placed according to:

- District Detail 7800AAAA “Pavement Marking and Markers (Rural & Urban Typical Applications)”
- District Detail 7800BBBB “Pavement Marking (Interstate & Multi-Lane Applications)”
- District Detail 7800CCCC “Pavement Marking (McLean County “Spot” Improvements Only)”
- Highway Standards 780001 “Typical Pavement Markings” and 781001 “Typical Applications Raised Reflective Pavement Markers”

When the striping to be placed is not fully defined by District details and Highway Standards, the plans should include job-specific striping details. The legend to show the markings shall be the same as shown on the District Details.

The spacing of turn arrows is not exactly defined in the MUTCD. The District has adopted the following practice, which is reflected in the District Details: (See 7800AAAA)

“The base of the last arrow should be 18’ in advance of the stop line. Additional arrows should be spaced at a maximum of 10 times the 8’ arrow height (80’ maximum spacing base to base). If the distance from the first arrow to the beginning of the full width of the auxiliary lane is more than half of the maximum spacing or 40’, one additional arrow should be added (base at the beginning of the full width), and the spaces between all arrows adjusted for uniformity.”

### RAISED REFLECTIVE PAVEMENT MARKERS

RRPM’s shall be placed according to District Detail 7800AAAA and Highway Standard 781001. The following information will give guidance on when to include a pay item for markers in our contracts. Also, it will give District exception(s) to Standard 781001.

#### **For All Sections Built to Interstate Standards**

Raised reflective pavement markers shall be included in the contract.

Dual markers should be included on all interstates with an ADT greater than 20,000. For application in District 5, we will apply this to install dual markers, according to Standard 781001, on all locations of Interstate 55, Interstate 57, and Interstate 74. Other Interstate or Freeway locations will be evaluated on a case-by-case basis.

#### **For Routes not built to Interstate Standards**

Include reflective pavement markers on all projects. If it is unclear whether or not to include them due to the nature of the work, consult the project engineer for guidance.

Placement of marker should be in accordance with Standard 781001. For any job including raised reflective pavement makers, electronically submit a copy of the CA/PS sheet in Adobe Acrobat format to the Planning & Design Engineer in Operations.

### DELINEATORS

Highway Standard 635001 indicates typical placement of delineators on curves of two-way roadways and on mainline and ramps of dual highways. District Detail 63500105 shows typical placement of delineators for roadside hazards on two-way roadways and placement of delineators at crossovers for dual highways.

The MUTCD says that delineators are optional and it was the consensus of the Operation Field Engineer’s that they were not needed on tangent sections and many times were being removed by the team sections. Our current standard shows delineators on tangent sections of two and four lane highways.

#### On freeways:

- Include removal of existing delineators and replacement with new delineators when the roadway work will disturb the existing delineators, or when the existing delineators are in such poor condition that the scoping meeting determines they should be replaced.
- If no continuous lighting exists or no RRPMS are on the lane lines – delineators shall be provided. This case does not typically occur because we have RRPMS on all freeways.
- If continuous lighting without RRPMS on the lane lines – delineators shall not be placed.
- If no continuous lighting and there are RRPMS – Delineators shall be omitted on tangent sections. Delineators shall be placed on curved sections. Delineators shall be placed on ramps and acceleration/deceleration lanes regardless of whether or not lighting or RRPMS are in place according to Highway Standard 635001.

#### On non-freeways and two lane roads:

- Our Operations forces will generally install and maintain delineators. When the scope of work is basically resurfacing (3P & SMART), quantities for delineators will not be included in our project. Contracts that involve extensive earthwork and culvert replacements (3R) will require pay items for delineators.
- Delineators may be used as necessary on tangents or curved sections. Generally, delineators are not installed on tangents unless there is an unusual case, such as a ditch with a steep foreslope or an object that is not protected by guardrail. Operations' forces will install and maintain these delineators. Contracts that are 3R project will remove and replace existing delineators.
- If delineators are placed on curves and at other roadside hazards, placement shall be according to Highway Standard 635001 and District Detail 63500105.

## GUARDRAIL AND BARRIER WALL DELINEATION

### **Design**

Guardrail and Barrier Wall Reflectors should be placed in accordance with Standard 782006

### **Application**

- For Interstate and Freeway resurfacing, 3R, or higher level jobs, all guardrail, barrier wall, and terminal markers shall be installed or upgraded.
- For all other State-let 3R or higher type improvements, all guardrail, barrier wall, and terminal markers shall be installed or upgraded.
- For 3P or SMART type jobs, the guardrail, barrier wall, and terminal markers shall be replaced or installed when guardrail, barrier wall, or terminals are included as work items. Generally, if these markers are included in a contract, all markers within the limits of the contract should be addressed.

Any exceptions to the above should be coordinated with the Project Engineer.

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