

IOWA DEPARTMENT OF TRANSPORTATION

To Office Bridges and Structures Date October 1, 2007
Attention All Employees Ref No. 521.1
From Gary Novey
Office Bridges and Structures
Subject Method's Memo No. 163 (Revision MM No. 17 Lighting on Bridges)
Methods Memo No. 17 (Lighting on Bridges) has been revised as shown:

The current policy for lighting on bridges has been for the design engineer to evaluate whether the bridge is located near an urban area. For these projects determined to be in an urban area, the Engineer shall make a request (send a copy of the TS&L) to the Office of Traffic and Safety to determine the lighting and conduit requirements. Traffic and Safety, determines the conduit size, locates the conduit and light pole bases (if needed) on a TS&L sheet for the bridges submitted and returns the information back to our office. This policy has been revised as follows

Conduit will be provided in at least one rail on all bridges in accordance with the ~~Traffic and Safety Manual, Chapter 6E-1, "Bridge Lighting."~~ ~~Design Manual (Road), Chapter 11B-3, "Lighting Information for Bridge Design"~~. If the bridge is near an urban area or interchange, then the bridge may require light pole blisters. In this case the TS&L should be submitted to the Traffic Engineering section of the Office of Traffic and Safety for review. Traffic and Safety will review the site to determine if existing lighting is present or if a lighting project is planned in the near future. If it is determined that continuous lighting will be present at this location, light pole blisters and possibly underdeck lighting will be located and noted on a TS&L sheet and returned to the Engineer.

Where possible, light pole blisters should be centered above substructure elements. Consult the Office of Traffic and Safety regarding adjustments of light locations to coincide with pier centerlines. Junction boxes will be placed at both ends of a bridge as a minimum. Additional junction boxes may be required to keep the maximum distance between them less than 500 feet. The maximum junction box spacing depends on the equipment used by the contractor. Most contractors can handle pulls under 500 feet and some contractors can handle pulls of 1000 feet and more. Conduits should be placed to line up with the junction boxes provided when possible to limit the number of bends required in the conduit. The sum of the conduit bends between junction boxes shall not be more than 360 degrees as specified in the "National Electric Code".

~~This change in policy will require, as a minimum, that conduit be provided in at least one rail on all bridges.~~ In discussions with our lighting crews, it was found that conduit could be cleaned out and used even if the bridges have been in service for a number of years. CADD standard 1030A, 2 of 2, "Rigid Steel Conduit and Junction Box Details" has been added to the standard directory and 1030A 1 of 2, "Lighting" has been updated.

~~Metric standards have not been released at this time, but the English standards can be used as a guide until the metric standards are available.~~

GAN:dgb:bj