



# INDIANA DEPARTMENT OF TRANSPORTATION

*Driving Indiana's Economic Growth*

## Design Memorandum No. 11-09 Technical Advisory

April 5, 2011

**TO:** All Design, Operations, and District Personnel, and Consultants

**FROM:** /s/ Richard L. VanCleave  
Richard L. VanCleave  
Manager, Office of Roadway Engineering Standards  
Highway Design and Technical Support Division

**SUBJECT:** High-Tension Cable-Barrier System (CBS)

**REVISES:** *Indiana Design Manual Section 49-5.01(04)*

**EFFECTIVE:** May 11, 2011, Letting

The portions of the subject Section which have been revised are shown below. Revised recurring Special Provision 627-R-546 is also attached herewith.

**Transverse Location in Median.** The post offset from the edge of a median flat-ditch bottom should desirably be at least 8 ft or minimally within 1 ft of the ditch line as shown on revised Recurring Plan Detail 627-R-546d, attached herewith.

**CBS Run Length.** The recommended minimum run length is 1000 ft. For the desirable longest-run length, see Opening in CBS Run for Law-Enforcement or Emergency-Response Vehicle, below.

**Clearance to Rigid Obstacle.** The minimum lateral clearance to a rigid obstacle such as a bridge pier, sign support, utility pole, tree, etc., should be 10 ft.

**Placing CBS in Vicinity of Another Barrier.** If the side slopes are not steeper than 6:1 and another barrier is parallel to the roadway, the CBS run can be horizontally tapered at a 50:1 or flatter rate.

**Placing CBS in Vicinity of Inlet or Dike.** The horizontal transition should be at a taper rate of 50:1 or flatter.

**CBS at Official Median Crossover.** For a CBS run termination at such a crossover, the CBS end terminal (end anchor) should be located preferably 3 to 5 ft beyond the points where the crossover radii are tangent with the edges of the adjacent travel lanes.

**Changing Offset of CBS Run in a Median from Being Closer to One Roadway to Being Closer to the Opposing-Traffic Roadway.** If a CBS run requires a change of lateral offset, the end anchors of the CBS run should be overlapped for the minimum distance between the anchors in each direction as described below. The minimum overlap distance for the anchor located at the incoming end should be at least the runout length,  $L_R$ , used for calculating the guardrail length of need.

**Opening in CBS Run for Law-Enforcement or Emergency-Response Vehicle.** The desirable longest run should be 6,000 ft to allow for a vehicle crossover, although an ultimate maximum of 10,000 ft is allowed under certain site conditions.

The locations of such openings should be shown on the plans. The soil-stabilization method, if required, should be specified. Delineator posts with reflectors should be placed in a row to indicate that a crossover is available at the opening. See Recurring Plan Detail 627-R-546d for details.

ys:alu  
Attachments