

Memorandum

To: E-Distribution

From: David Holien, P.E. *DTH*
Highways Engineer

Date: January 5, 2026

Subject: Culvert End Sections within the Clear Zone

This memo establishes a general rule based on culvert size to clarify when unshielded culvert end sections are allowable within the clear zone. This guidance applies to cross drain culverts; it does not apply to approach pipes that are longitudinal to the mainline roadway.

Best practice in road design is to optimize safety by removing all obstacles within the clear zone when feasible. Therefore, culvert end sections should be located outside of the clear zone, however, there are times when this is impractical for various reasons. In these cases, the following guidance should be used.

The end section of a 36" culvert cross drain and smaller is allowed unshielded within the clear zone when it cannot be reasonably located outside of the clear zone. End sections for any culvert cross drain larger than 36" that are located within the clear zone are considered obstacles and should either be removed from the clear zone or shielded.

Reasoning for this guidance is that 36" cross drain end sections (and smaller) are considered minor obstacles that an errant vehicle can likely traverse. They are also point obstacles that are typically placed near the edge of the clear zone and have a low probability of being a hazard to an errant vehicle.

Engineering judgement should always be used and if the 36" or smaller culvert cross drain end section is placed near the edge the roadway, on the outside of a curve, or generally in an unsafe location, the designer may choose to remove it or shield it. If there is a way to move the end section outside of the clear zone, that is always the preferred option.

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