

## **Appendix A**

### **Entrance Installation Standards**

### **Warren County Secondary Roads**

The Warren County Code of Ordinances, Chapter 19 – Driveway Entrances, outlines the procedure and requirements to obtain an entrance permit.

Per Iowa Code Section 318, no entrance shall be permitted in the secondary road right of way without the approval of the county engineer or his authorized representative.

The applicant must mark the location of the requested entrance with lath supplied by the engineer's office.

Sight distance will be checked by engineering staff. A new entrance must have a minimum sight distance of 500 feet each direction on unpaved roads and 600 feet each direction on paved roads. The approval of a driveway location does not indicate that it is safe for a school bus, garbage truck, or other vehicles to stop in the traveled portion of the road. Existing farm entrances being converted to residential entrances must adhere to current standards, otherwise the entrance will need to be relocated.

Warren County will determine if the entrance will be dry fill or require a culvert. If a culvert is necessary, Warren County will determine the minimum diameter size for the culvert. All culverts must be new corrugated metal pipe or reinforced concrete pipe and the diameter Warren County specifies. Use the formula on the entrance details provided to calculate minimum pipe length required for the entrance.

Entrance foreslopes shall meet the following requirements:

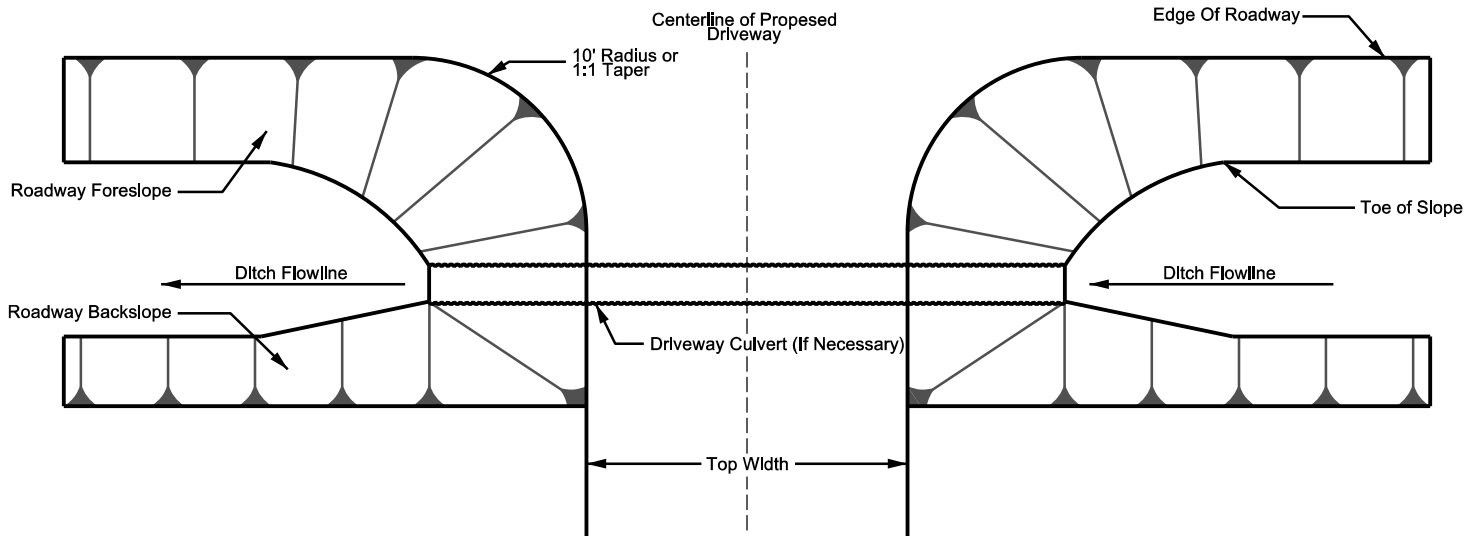
- 6:1 foreslopes on paved roads with pipe
- 8:1 foreslopes on paved roads with dry fill
- 3:1 foreslopes on gravel roads

Granular surfacing or paving is the responsibility of the property owner. All paved entrances on gravel roads must be offset at least 15 feet from the edge of the road. Paved entrances abutting county paved roads must adhere to SUDAS Figure 7030.101 with a 1" expansion or "E" joint, and private lanes must follow Iowa DOT Standard Road Plan EW-501. (details available upon request)

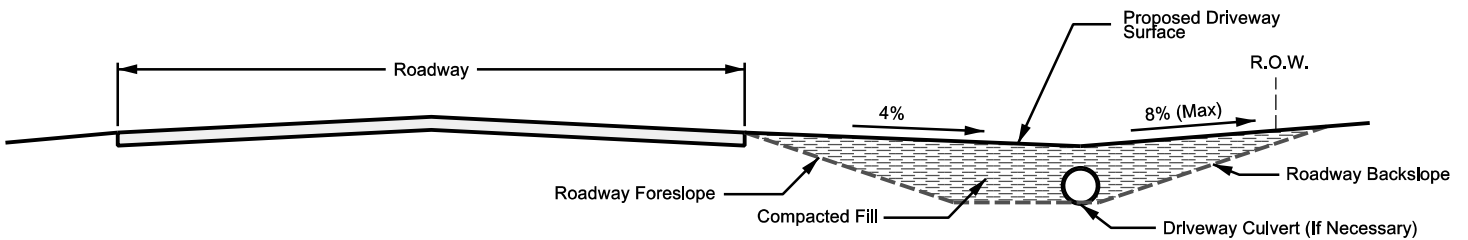
See the back of this sheet for the entrance details. You must notify the Warren County Engineer's office once the entrance is installed for final inspection.

(See Entrance Details on Back)

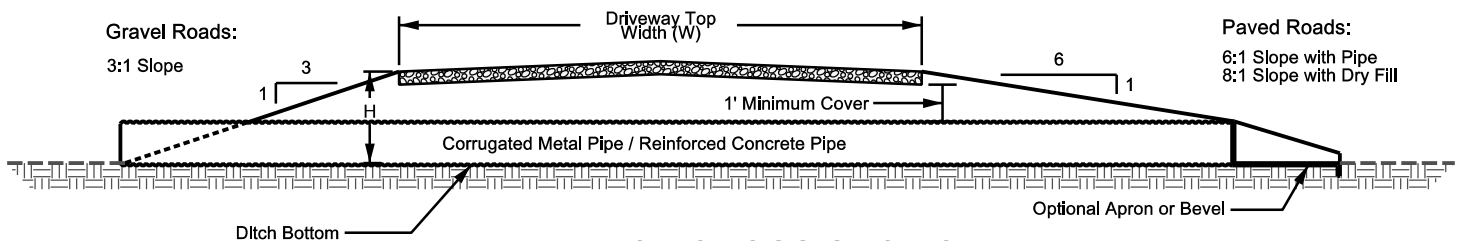
# ENTRANCE DETAILS



**ENTRANCE PLAN VIEW**



**ROADWAY CROSS SECTION**



**ENTRANCE CROSS SECTION**

$$\text{Pipe Length} = H \times R \times 2 + W$$

H = Distance from driveway top to ditch bottom  
 R = Horizontal factor of slope requirement (R:1 slope)  
 W = Driveway top width

Example:

H = 5 feet from top of proposed driveway to bottom of ditch  
 R = 3:1 slope requirement for gravel roads = 3  
 W = Driveway top width = 20 feet

$$\text{Minimum Pipe Length} = 5 \times 3 \times 2 + 20 = 50 \text{ feet}$$

## PIPE LENGTH CALCULATION



WARREN COUNTY  
 SECONDARY ROADS DEPARTMENT  
 ENGINEERING OFFICE