

# Appendix J – Road Connections and Driveways

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# Design Guidelines for Typical Rural Driveways in State Right of Way.

## REFERENCES:

Please always refer to the latest Highway Design Manual (HDM) for most up to date guidelines. The HDM indexes referenced in the guidelines below can be accessed online from the following link:

<https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm>

## Initial Driveway Design Considerations:

1. **Location of the driveway shall be designed to maximize corner sight distance.** For corner sight distance, see HDM Index 405.1 (2) (c). Driveway proposals that do not meet sight distance requirements will not be permitted. The minimum corner sight distance shall be equal to the stopping sight distance as given in HDM Table 201.1. HDM Table 101.2 shows appropriate ranges of design speeds that shall be used for the various types of facilities, place types, and conditions listed. (See HDM Table 101.2 Vehicular Design Speed; Table 201.1 Sight Distance Standards; Index 205.4 Driveways on Frontage roads and in Rural Areas; Index 405.1 (2) Corner Sight Distance)
2. **Driveways connecting to State highways shall be paved a minimum of 20 feet from the edge of shoulder** or to the edge of State right of way, whichever is less to minimize or eliminate gravel from being scattered on the highway and to provide a paved surface for vehicles and bicycles to accelerate and merge. Where larger design vehicles are using the driveway (e.g., dump trucks, flatbed trucks, moving vans, etc.), extend paving so the drive wheels will be on a paved surface when accelerating onto the roadway (See HDM Index 205.4 Driveways on Frontage roads and in Rural Areas).

**Driveway Design Details:** Once considerations 1 and 2 above are met, driveway shall be designed per the following requirements:

3. Where County or City Regulations differ from the State's, it may be desirable to follow their regulations (See HDM Index 205.4 Driveways on Frontage roads and in Rural Areas).

OR

4. Design details are shown on HDM Figure 205.1. This detail, without the recess, may be used on conventional highways (See HDM Figure 205.1 Access Openings on Expressways, Note 2).
5. Approach and departure tapers should be 50 feet longitudinal and 8 feet from edge of traveled way at the end of the taper. Approach and departure tapers are not required where the existing paved shoulder is at least 8 feet wide (See HDM Figure 205.1 Access Openings on Expressways).

**Structural Section Design Details:** Driveways structural section has to meet the following requirements:

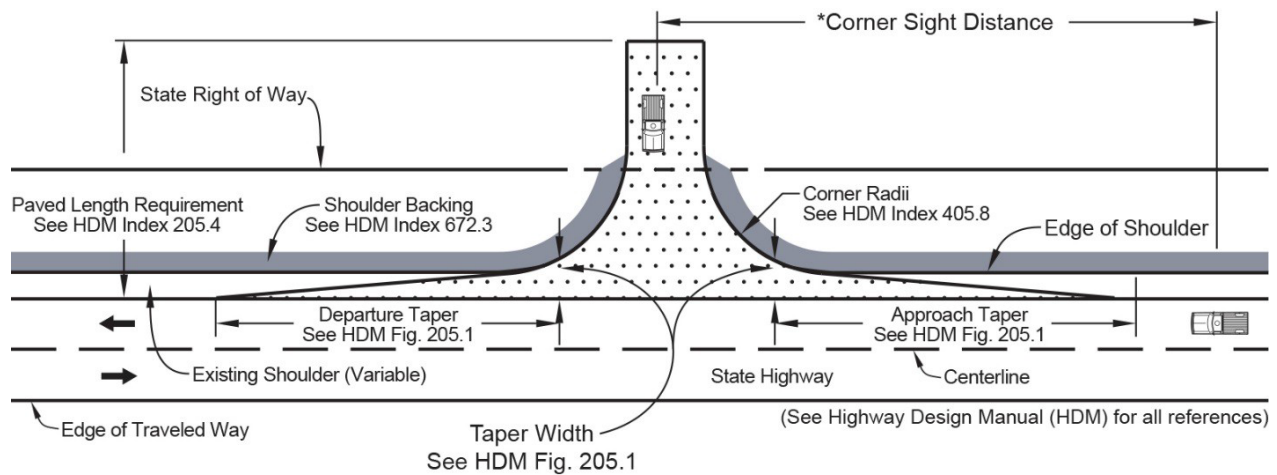
6. Approach and departure tapers should have structural sections matching the existing State highway shoulders. An alternate shoulder design is allowed. See HDM Figure 613.4B for details. For asphalt driveway the structural section should be equal to or greater than edge of shoulder or approach and departure tapers. Minimum thickness of surface course is 0.35 foot. Aggregate base depth should match State highway shoulders. Details (cross section, etc.) for concrete driveways are shown on Standard Plan A87A. Minimum thickness at driveway shall be 4 inches for residential and 6 inches for commercial. (See HDM 613. 4 (2) Shoulders; Standard Plan A87A Curb and Driveways; Standard Plans are available at:

<https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications>

7. Place shoulder backing from the edge of pavement (EP) to the hinge point (HP). Shoulder backing should be placed on a width of at least 2 feet from EP. For placement of shoulder backing thickness greater than 0.5 foot for slope repair; shoulder backing behind dikes; and where longitudinal drainage are present; see HDM for details. (see HDM Index 672 Shoulder Backing and HDM Figures 672.3 A through E)

The Figure below is provided to assist driveway design for rural areas and to clarify terminologies used in the above guidance. This figure is provided for general illustration purposes and is not used for design details. It should not be used as a drawing in the encroachment permit application for the driveway.

## Driveway Design Requirements for Rural Areas with Unimproved Frontage on Conventional State Highways



\*Corner Sight Distance shall be calculated from all directions of approach. See HDM Index 405.1(2) & Figure 405.7 for set back and sight distance calculations.

Purpose: The above excerpts from the Department's HDM are shown for reference. The design standards used for any project should equal or exceed the minimum given in the manual to the maximum extent feasible. They do not replace engineering knowledge, experience, and judgment in the design of driveways.

8. Special situations may call for variation from policies and procedures, subject to the appropriate approval. This is not intended to, nor does it establish a legal standard or any other standard of conduct or duty toward the public.