Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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INSTRUCTIONS FOR SUPERELEVATION DIAGRAMS

1. Always look "up-station" (direction of increasing stations).
2. The lines above or below the axis of rotation represent the cross slope (plane) of the traveled way or shoulders.
3. The axis of rotation is located at the point defined as the "Profile Grade" (PG), as shown on the Typical Cross Sections. As a best practice, the PG should be the highest elevation point when the roadbed is tangent.
4. For an undivided highway, the PG is usually the crown of the roadbed, see Example 1 on these generic sheets.
5. General rule for tangent sections; ES or ETW should be at or below the PG. An exception would be if the inside shoulder continued the same cross slope of the traveled way. This may occur with on-ramps and off-ramps, approaches to bridges and future inside widening on PCC pavement.
6. For a divided highway, the PG can be located at one of two locations:

   In the median, along with the alignment line, see Example 3 on these generic sheets. The inside shoulders are usually projected to a common point that can be used as the Axis of Rotation by both roadbeds. As a best practice, the PG should be above the highest point of either roadbed in a tangent section. This PG location is used when the entire roadbed supers in the same plane.

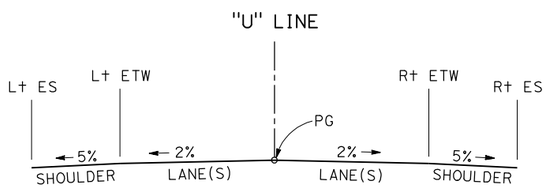
   At both inside ETWs (yellow traffic stripe), see Examples 2 and 4 on these generic sheets.

   In Example 2, the two inside ETWs are symmetrical to the same alignment line. Both roadbeds usually change at the same superelevation rate, and may be shown on the same superelevation diagram, but they rotate in parallel planes. Clearly label both roadbeds.

   In Example 4, there are two alignment lines because the inside ETWs are not symmetrical to the center of the roadbed and the superelevation rate may not be the same for both. The elevation for each roadbed, in this case, can be significantly different. The two superelevation diagrams are drawn independently.
7. The on-ramp and off-ramp stationing is to be in the direction of the mainline stationing.
8. As a best practice, the PG for on-ramps and off-ramps is usually the ramp alignment line (inside ETW-yellow traffic stripe).
9. Left and right callouts for ramps are always from the perspective of looking "up-station." DO NOT station ramps with respect to the "flow of traffic."
10. Ramp stationing that ties to the mainline stationing should always be the same station value as the mainline. The offset to the mainline is to be identified.

The examples on these first four generic superelevation diagram instructional sheets only show the basics of transitioning from a tangent section to full super. The key points and stationing normally shown and labeled on a superelevation diagram are shown on the fifth generic superelevation diagram instructional sheet.

The superelevation diagrams shown on these generic examples, DO NOT show the entire diagram.

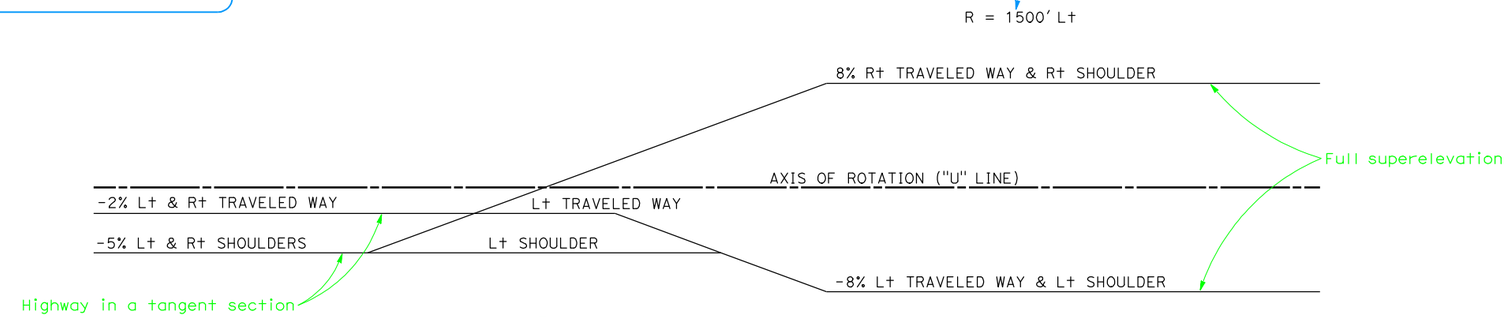


Example 1

(Cross section only depicts the tangent section)

The placement of typical cross sections on these generic sheets are for instructional purposes only.

Label the radius and direction (Lt or Rt) above the portion of the diagram in full superelevation.



Example 1

"U" LINE
TWO LANE ROAD

Use profile grids for superelevation diagrams. Profile grids are cells in the Caltrans cell library "ctcellib." For these first four generic superelevation diagram instructional sheets, profile grids were not used so instructions would be easier to read.

UNDIVIDED HIGHWAY

GENERIC SUPERELEVATION DIAGRAM, INSTRUCTIONAL INFORMATION SHEET 1 OF 5

SUPERELEVATION DIAGRAM

NO SCALE

SE-XX

SUPERELEVATION DIAGRAM SHEET 1 of 5, RELEASED 11/4/2010

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