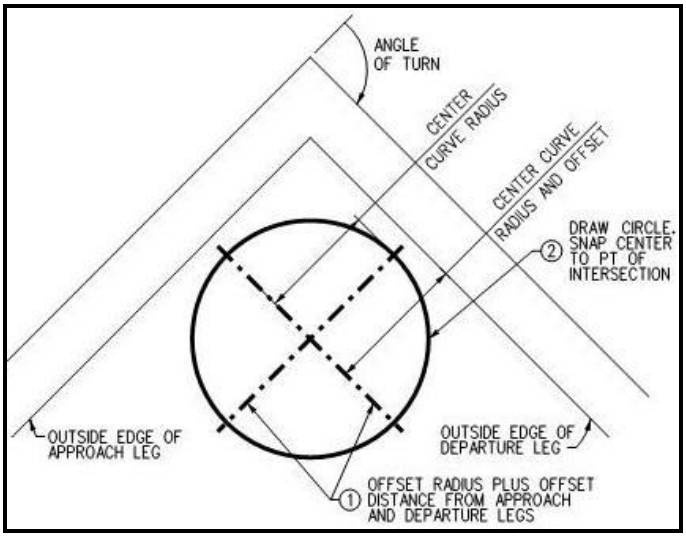
Appendix S ***Intersection Corner Radii***

1. Simple Curve Radius with Taper

Laying out a simple curve radius with taper may be done in a few easy steps as outlined below:

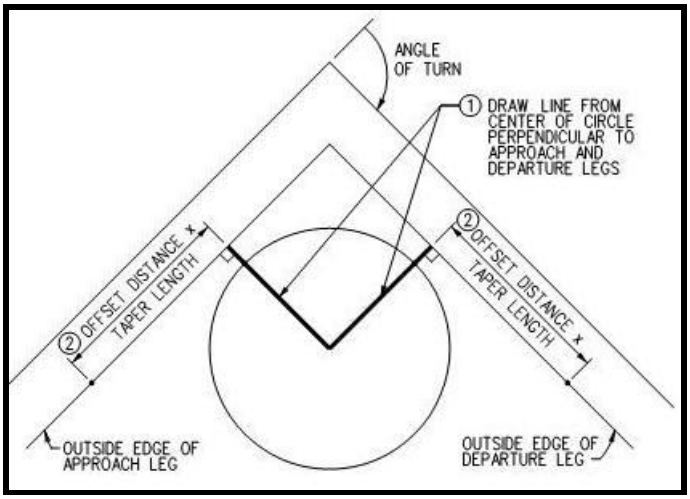
A. Based on the angle of turn and design vehicle, select the appropriate radius, offset and taper length (length to offset ratio) from Figure 5.2.5.2-a.
B. To find the center of the radius, offset the radius plus the offset distance from the outside edge of the approach and departure legs. Draw a circle equal to the radius and snap the center to the point of intersection as shown in Figure 1-a.

Figure 1-a Simple Curve Radius and Taper Design



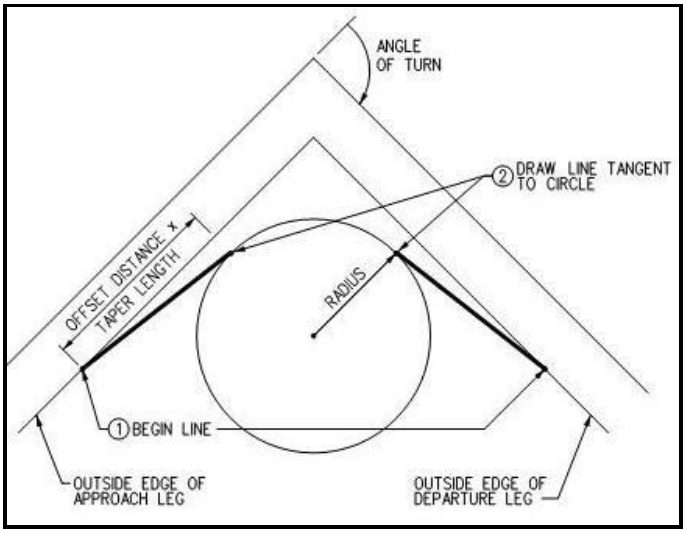
C. Draw a line from the center of the circle perpendicular to the approach and departure legs. Multiply the offset distance by the taper length. For example, if L:T is 20:1 and the offset is 4 feet, then the taper length equals 4' x 20 = 80'. Offset the distance calculated (i.e. 80') from the perpendicular lines as shown in Figure 1-b.

Figure 1-b Simple Curve Radius and Taper Design



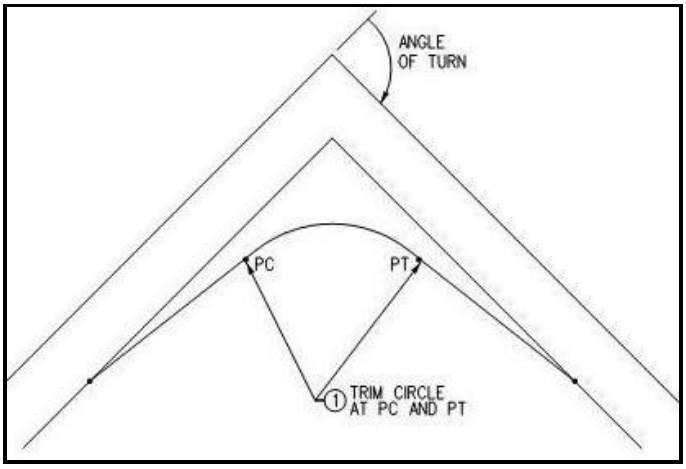
D. From the point where the offset intersects the outside edge of the approach and departure legs, draw a line back tangent to the circle as shown in Figure 1-c.

Figure 1-c Simple Curve Radius and Taper Design



E. Trim the circle at the PC and PT as shown in Figure 1-d.

Figure 1-d Simple Curve Radius and Taper Design

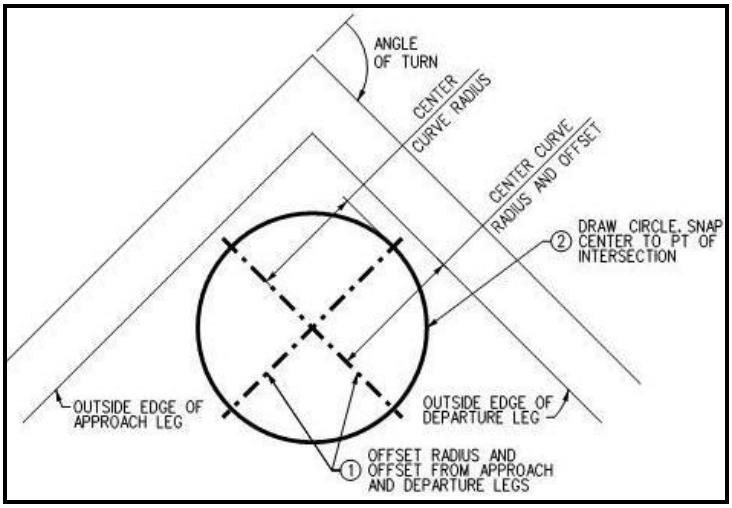


2. Three Centered Compound Curves

Laying out a three centered compound curve may be accomplished in a few steps as outlined below:

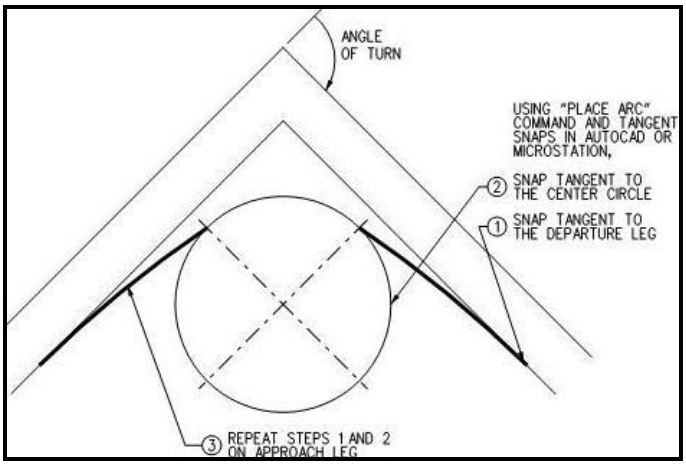
A. Based on the angle of turn and design vehicle, select the appropriate radii and offset from Figure 5.2.5.3-a.
B. To find the center of the center curve radius, offset the radius plus the offset distance from the outside edge of the approach and departure legs. Draw a circle equal to the radius and snap the center to the point of intersection as shown in Figure 2-a.

Figure 2-a Three Centered Compound Curves Design



C. Using the 'Place Arc' command and 'Tangent' snaps in AutoCad® or Microstation®, snap tangent to the departure leg and then snap tangent to the center circle as shown in Figure 2-b. Repeat steps to draw the arc on the approach leg.

Figure 2-b Three Centered Compound Curves Design



D. Trim the center circle to the arcs as shown in Figure 2-c.

Figure 2-c Three Centered Compound Curves Design

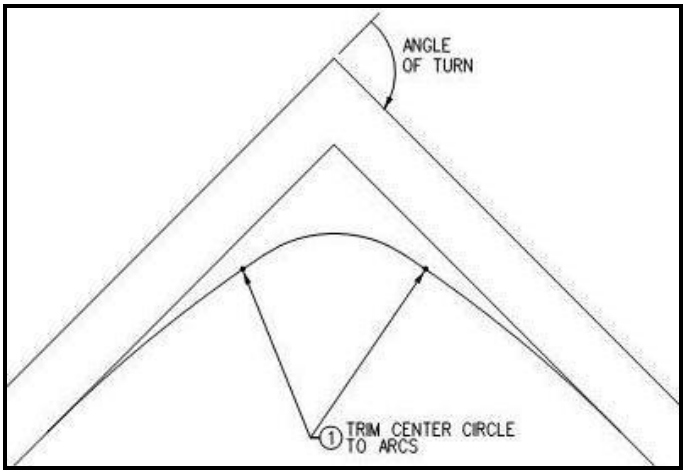


Figure 3-a Intersection Corner Design – Example 1

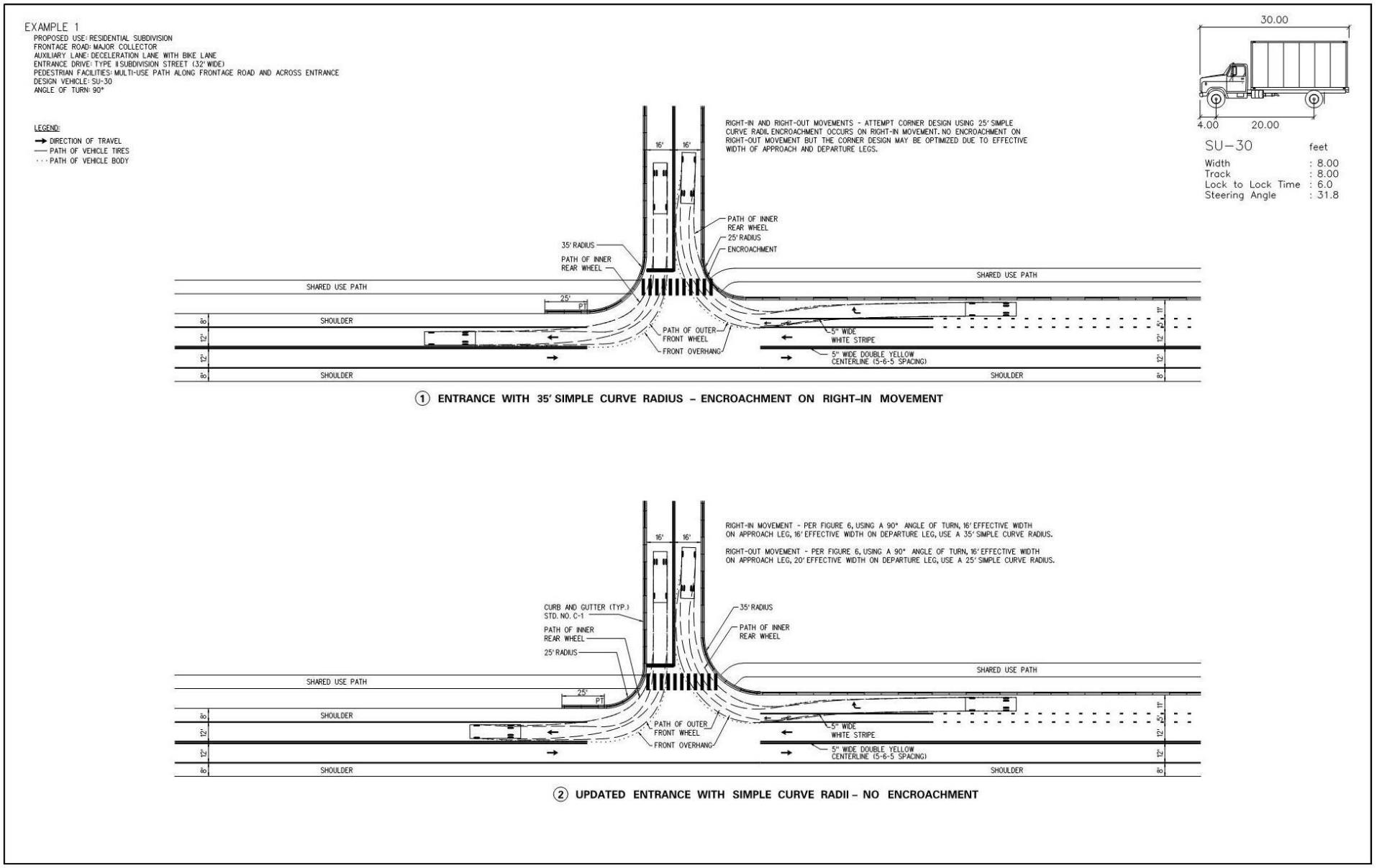


Figure 3-b Intersection Corner Design – Example 2

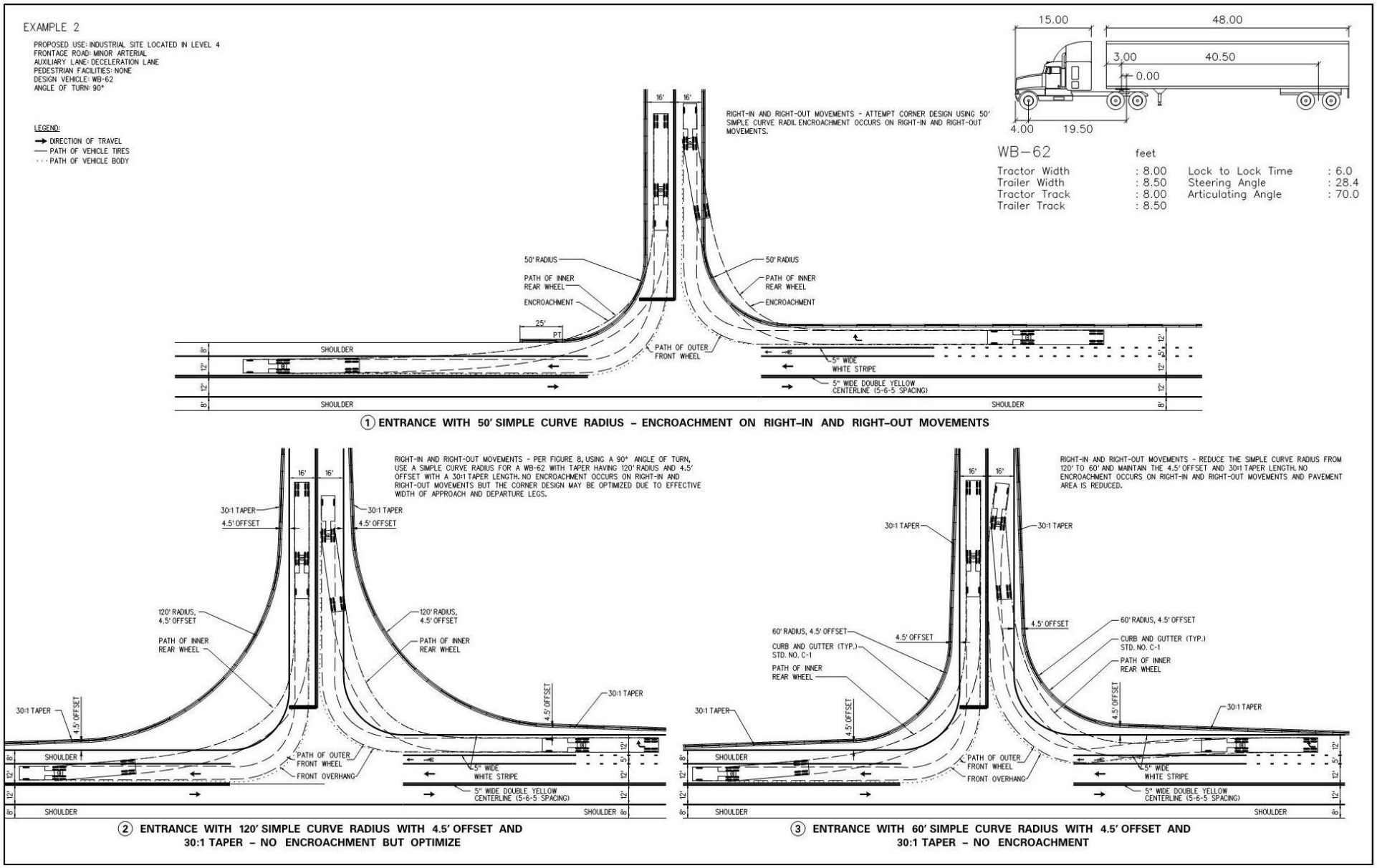


Figure 3-c Intersection Corner Design – Example 3

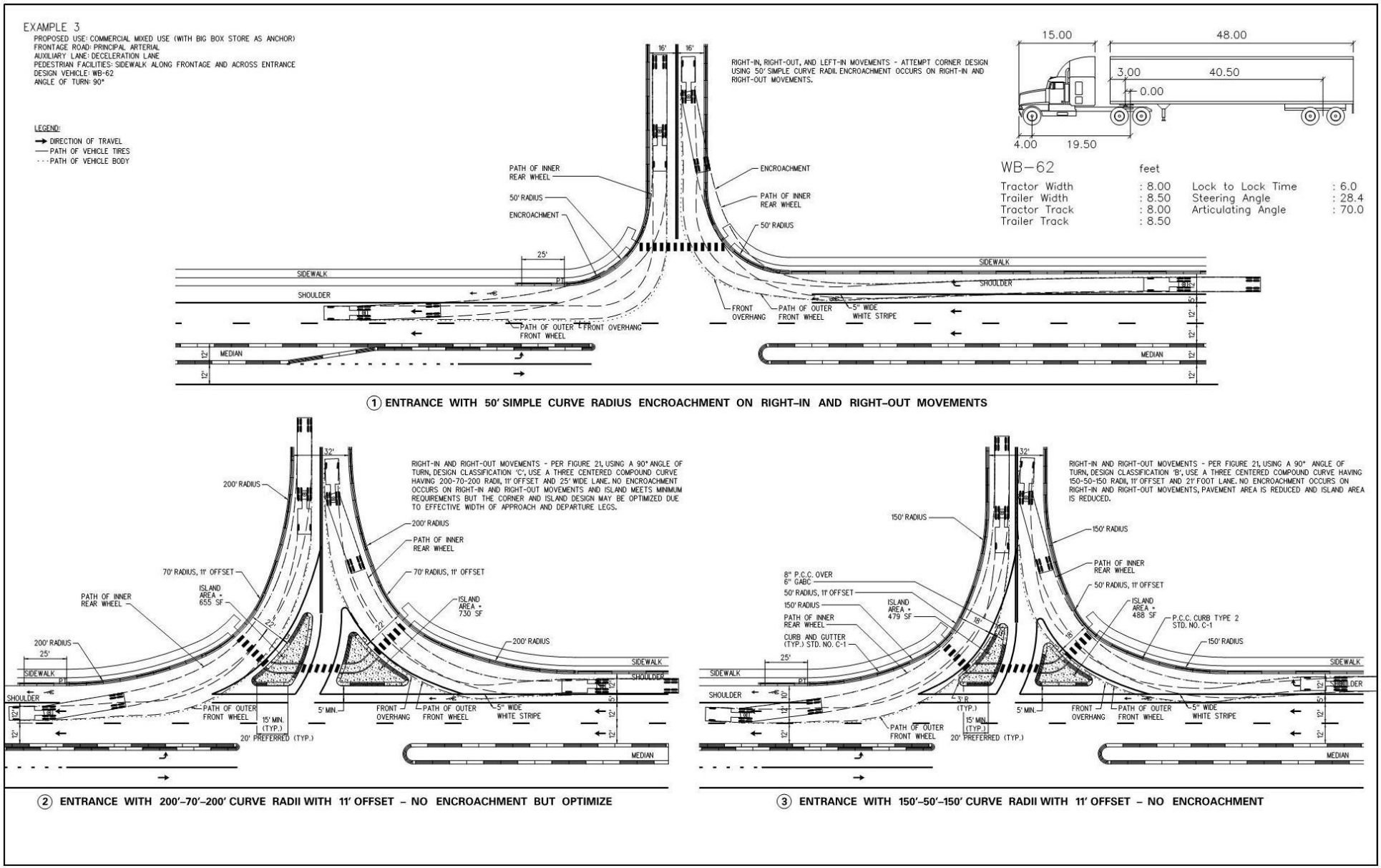


Figure 3-d Intersection Corner Design – Example 4