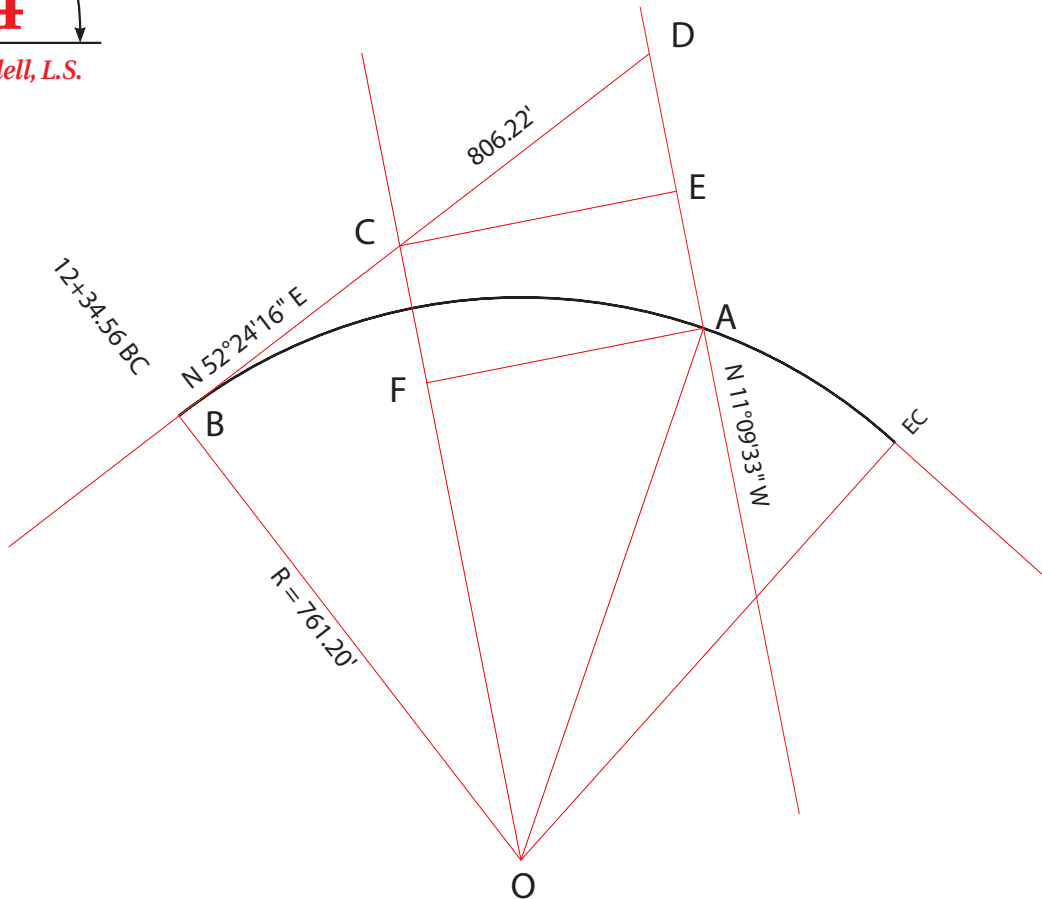


problem corner solution

Solution to
Problem
144

by Dave Lindell, L.S.



Construct O-C parallel with the pipeline, A-D, and through the radius point, O. Drop perpendicular C-E to line A-D and drop perpendicular A-F to line O-C.

Line B-O bears N 37°35'44" W and line O-C bears N 11°09'33" W, making angle B-O-C = 26°26'11", so $B-C = 761.20 \tan 26^\circ 26' 11'' = 378.4657$

C-D is then $806.22 - 378.4657 = 427.754$

Angle D-C-E = 26°26'11" also, so $C-E = 427.754 \cos 26^\circ 26' 11'' = 383.0237$

F-A = C-E, making angle F-O-A = $\arcsin 383.0237 / 761.20 = 30^\circ 12' 39''$

Angle B-O-A is then $26^\circ 26' 11'' + 30^\circ 12' 39'' = 56^\circ 38' 50''$

Arc length B-A is therefore $(761.20)(\pi/180^\circ)(56^\circ 38' 50'') = 752.58$, which is added to the BC station to obtain: $12+34.56 + 752.58 = 19+87.14$