problem corner solution

Solution to Problem **144**

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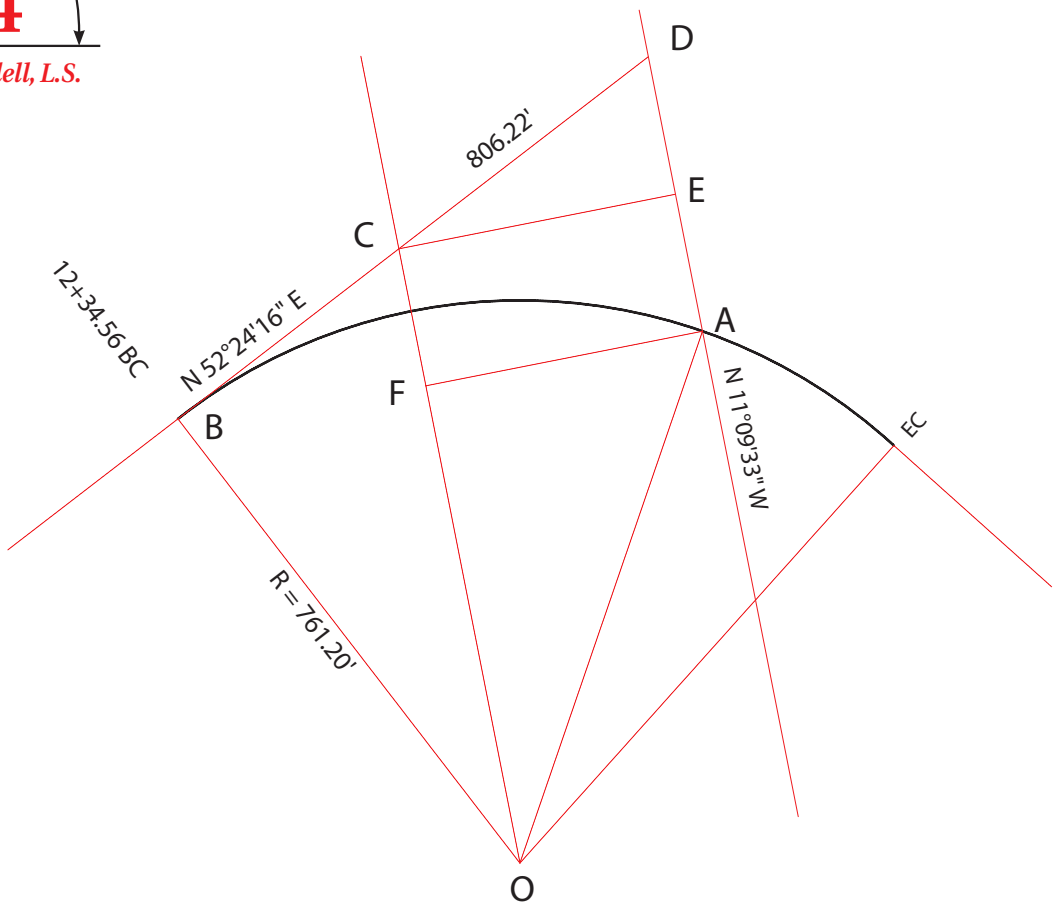

Construct O-C parallel with the pipeline, A-D, and through the radius point, O. Drop perpendicular C-E to line A-D and drop perpendicular A-F to line O-C.

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°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°26′11″ = 383.0237

F-A = C-E, making angle F-O-A = arcsin 383.0237 / 761.20 = 30°12′39″

Angle B-O-A is then 26°26′11″ + 30°12′39″ = 56°38′50″

Arc length B-A is therefore (761.20)(π/180°)(56°38′50″) = 752.58, which is added to the BC station to obtain: 12+34.56 + 752.58 = 19+87.14