

Estimating Conveyance Loss using the Worstell Method

Claim No.

Formula: $S = (w)(i)(0.0667)$

Where: S = loss in cfs per mile

w = top width of the high water mark in feet

i = loss rate in feet per day (see Table)

Type of soil	i (ft/day)
medium clay loam	0.5 - 1.5
impervious clay	0.5
medium soils	1.0
somewhat pervious soils	1.5 - 2.0
gravels	2.5 - 5.0

Worksheet:

$w = 8'$ assumed

$i = 1.0$

ditch length (mi.) = $800 \text{ ft} = 0.15 \text{ miles}$

Conveyance Loss:

$S = (3)(1)(0.0667) = 0.2 \text{ cfs/mile}$

Loss = 0.03 cfs

$(0.2 \text{ cfs/mile})(0.15 \text{ miles}) = 0.03 \text{ cfs}$

$5 \text{ ac.} \times 0.02 \text{ cfs/ac.} = 0.1 \text{ cfs}$

ditch loss = $+0.03 \text{ cfs}$

0.13 cfs

claimed: 0.15 cfs

recommended: 0.13 cfs