



Bridge Design Details 14.1 January 2023

Prestressed Post-Tensioned Concrete

The details and guidelines in this chapter only cover the general detailing practices for Cast-in-place Prestressed (CIP/PS) bridges. Detailers must check with the Design Engineer for anchorage zone reinforcement details and any other details that may be needed.

Prestressing Notes

The following decal and notes are to be placed on the GIRDER LAYOUT sheets. One set of PRESTRESSING NOTES are required for each structural frame. For staged construction, there should be a separate set of PRESTRESSING NOTES for each stage. P_{jack} corresponds to the total number of girders listed. Specify either one end or two end stressing. If one end stressing, specify which end is to be the stressing end. Include all assumptions for prestress losses (assumed K and μ as well as average long term loss stress).

PRESTRESSING NOTES

270 KSI Low Relaxation Strand:

P_{jack} = _____ (kips)
Anchor Set = _____ (in)
Friction curvature coefficient, μ = _____ (1/rad)
Friction wobble coefficient, K = _____ (1/ft)
Assumed long term losses = _____ (ksi)
Total Number of Girders = _____

The final force ratio (larger divided by smaller) between any two girders shall not exceed the ratio of: 10 to 9

Concrete:

$f'c$ = _____ psi @ 28 days
 $f'ci$ = _____ psi @ time of stressing

Contractor shall submit elongation calculations based on initial stress at:

ϵ = _____ times jacking stress.

One end stressing shall be performed from the long-span end only.

Figure 14.1.1 Prestressing Notes