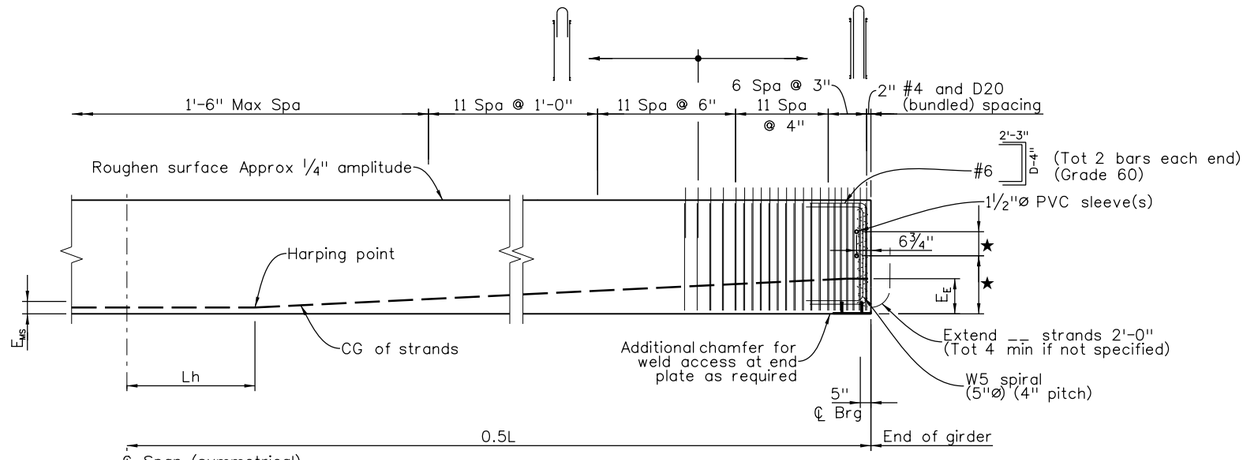
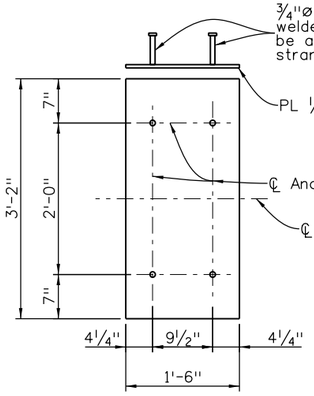


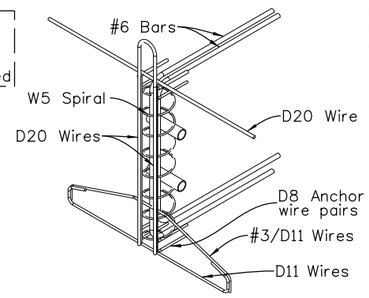
GIRDER ELEVATION



END PLATE DETAIL

Galvanize after fabrication

Designer: End plate width may be adjusted for bearings/weld requirements as required



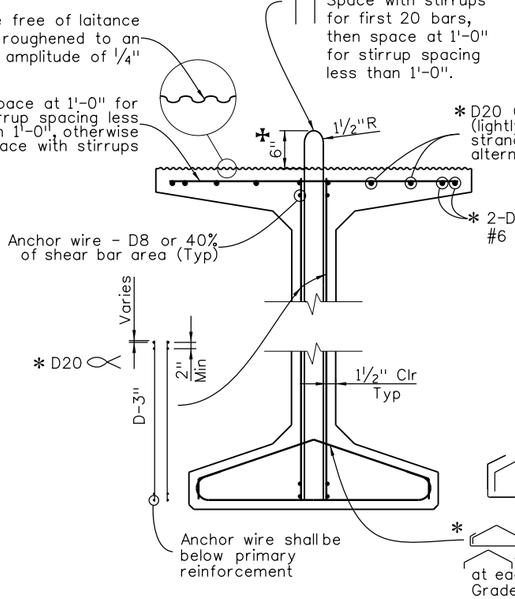
REBAR DETAIL

See Girder Elevation and Typical Girder Section for detail and spacing

Designer & Detailer:
Hold down forces shall be limited to< 4 Kip/strand on harped strands.

Avoid skewed ends for the girders. As an alternative, the top flange may be coped.

Reinforcing layout will need to be re-examined/designed for post-tensioned girders.



TYPICAL GIRDER SECTION

D = girder depth

NOTES:

1. All work necessary to fabricate and install the integral parts of the girder (including the intermediate diaphragms and leveling pads), as shown on the plans, shall be included in the bid price for Item No. 618, Prestressed Concrete I (CBT__), with a pay unit of LF which shall be measured by dimension L.
2. When approved by the Engineer, a minimum of tack welding will be permitted on ASTM A706 uncoated reinforcing steel.
3. Reinforcing projecting from the top of the girder and reinforcing within eight feet of an expansion device in the bridge deck shall be epoxy coated. Damaged coating on girder reinforcing within the girder need not be repaired. The minimum cover for the #3 confinement stirrup is 1¼" and all other reinforcing steel is 1½".
4. At girder ends not embedded in concrete diaphragms, cut strands off 1" below the surface of the concrete and finish with an approved epoxy grout. At girder ends embedded in concrete diaphragms, cut strands to project 3", except as shown. Do not make cosmetic repairs (damage less than 1½" deep) to the parts of the girders embedded in concrete.
5. Use low relaxation strands meeting the requirements of ASTM A-416 Grade 270. The minimum clear distance between groups or individual strands shall be 2.3( ) but not less than 1¼". The minimum cover for prestressing steel is 1½".
6. A minimum of two harping points shall be used per girder. Harped strands shall be well distributed at the girder ends, starting 2½" clear of the top of the girder and distributed such that there is no space between strands greater than 1'-0" at the end of the girder. As an alternate the Contractor may place #4 * x 10'-0" in the sides of the end of the web parallel to the harped strands such that there is no space greater than 1'-0".
7. Concrete shall be Class PS. Entrained air is not required for girder concrete.
8. Use ¾" chamfer on all corners except as noted.
9. Predicted camber is the camber for the girder alone at 60 days. Acceptable camber variability is limited to 20% over the predicted camber and 50% under the predicted camber or ± 1 inch, whichever is greater. The Contractor shall report to the Engineer values of camber which require remedial measures. The remedial measures shall be reviewed and approved by the Engineer. The costs associated with all remedial measures shall be borne by the Contractor. Girders with negative camber shall be rejected.
10. WWR shall be ASTM A1064 Grade 75 wire. In lieu of WWR, ASTM A615 grade 75 rebar or grade 60 at 1.25xAs shall be used, unless otherwise noted.

As* = Minimum area of the prestressing steel
ds = Nominal strand diameter
f's = Ultimate strength of prestressing steel
Fj = Jacking force per girder
Ff = Final force per girder after all losses
f'ci = Required concrete strength at release of prestress force
f'c = Required concrete strength at 28 days of age
L = Length of girder along the grade of the girder
Δ = Deflection at centerline of span due to cast-in-place slab, diaphragms, asphalt, curbs, rails, and walks

* #3 may be used in lieu of D11 or W10.9 wires.
#4 may be used in lieu of D20 wires.
#5 may be used in lieu of D31 wires.
2-D20 wires may be used in lieu of #6.
If rebar is used as an alternative, standard hooks shall be used in lieu of anchor wire.

✢ Designer should adjust for Min haunch or deck thickness. 6" dimension given for 0" haunch, 8" deck, 2" clear.

★ Dimensions of insert locations from bottom of girder shall be defined by Designer to avoid conflict with strands and spiral.

This worksheet shows the minimum stirrup bar size and spacing, splitting reinforcement, and confinement reinforcement. The designer may modify this standard to fit specific design requirements.

GIRDER SCHEDULE

Girder Type	Span No	Girder (Letter)	L (Ft)	Lh (Ft)	As* (Sq In)	E_{MS} (In)	E_E (In)	Fj (Kip)	Ff (Kip)	Concrete Strength f'ci (KSI)	Concrete Strength f'c (KSI)	Δ (In)	Predicted Release Camber (In)	Predicted Camber (In)

Revision Dates (Preliminary Stage Only)

6/19	7/19	6/20	3/23

INITIALS	DESIGN	DATE	DETAIL	DATE	QUANTITY	DATE
By						
Checked By						

All seals for this set of drawings are applied to the cover page(s)

Print Date: $DATE$
File Name: Sheet_B-618-CBT1.dgn
Horiz. Scale: Not to Scale Vert. Scale: As Noted
Unit Information Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation
2829 West Howard Place, 3rd Floor
Denver, CO 80204
Phone: 303-512-4079
FAX: 303-757-9197
Staff Bridge Branch Initials

As Constructed
No Revisions:
Revised:
Void:

PRESTRESSED CONCRETE I

Designer:	XXXXXXXX	Structure Numbers	X-XX-XX
Detailer:	XXXXXXXX		X-XX-XX
Sheet Subset:	BRIDGE	Subset Sheets:	BXX of XXX

Project No./Code
Project Number
Code
Sheet Number

$PLOT_INFO$