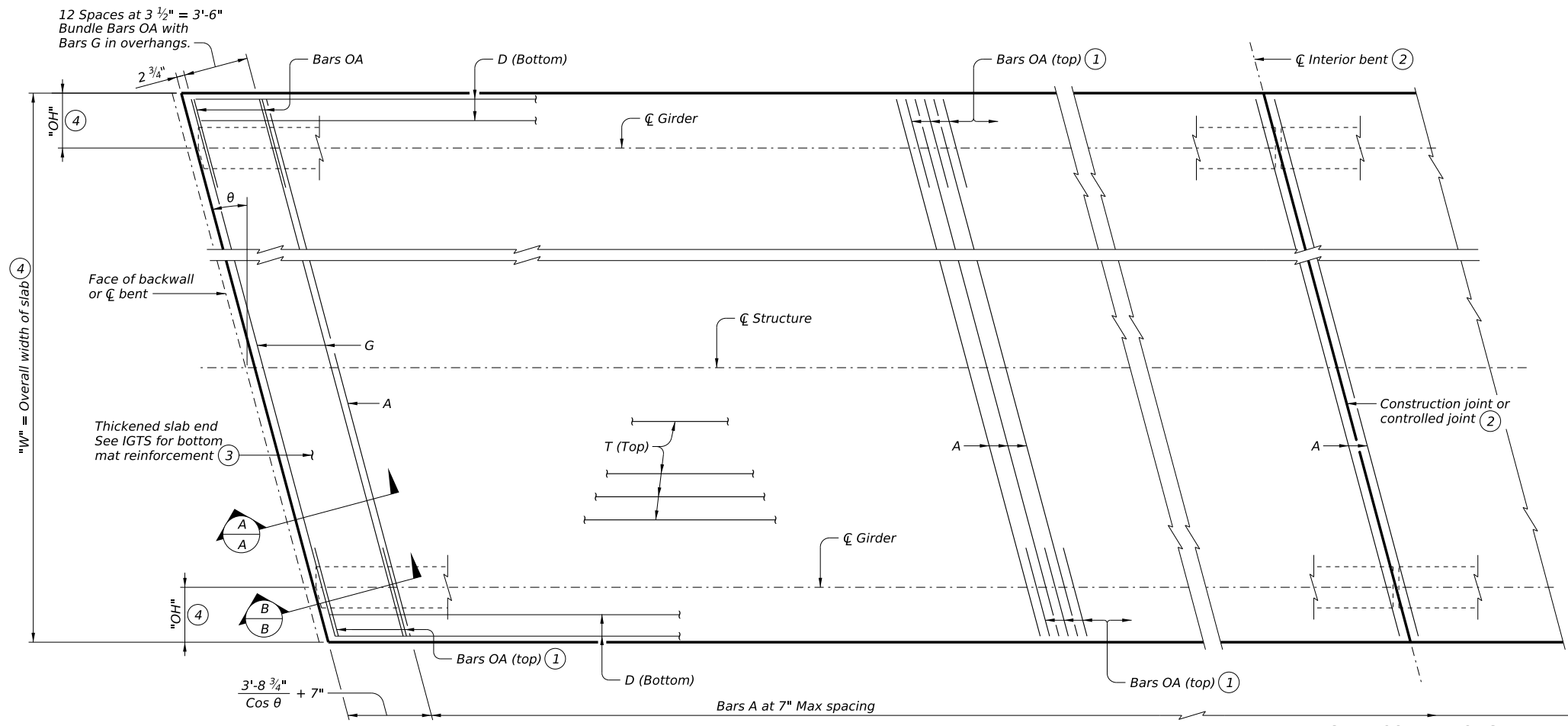


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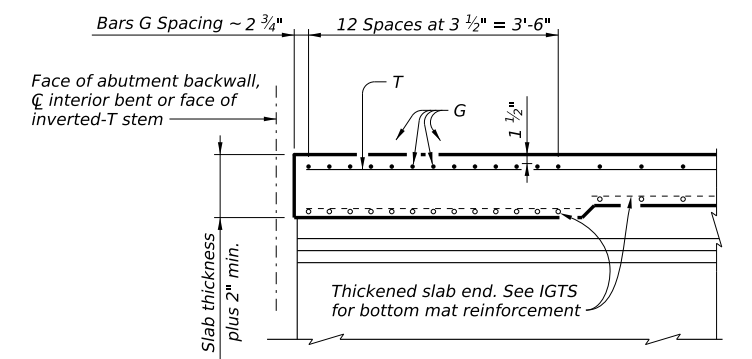


**THICKENED SLAB END**

**PLAN FOR SLABS WITHOUT BREAKBACKS**

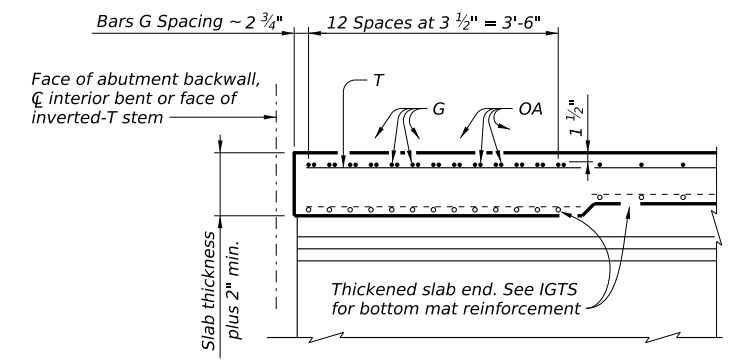
Showing top mat reinforcement only.

**SLAB CONTINUOUS OVER INTERIOR BENTS**



**SECTION A-A**

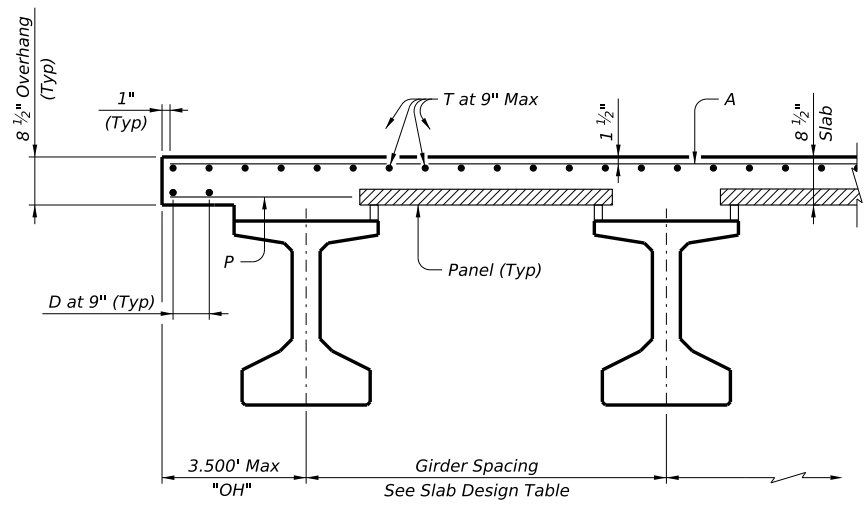
Showing Thickened Slab End with PCP Option 1. (Option 2 similar.)



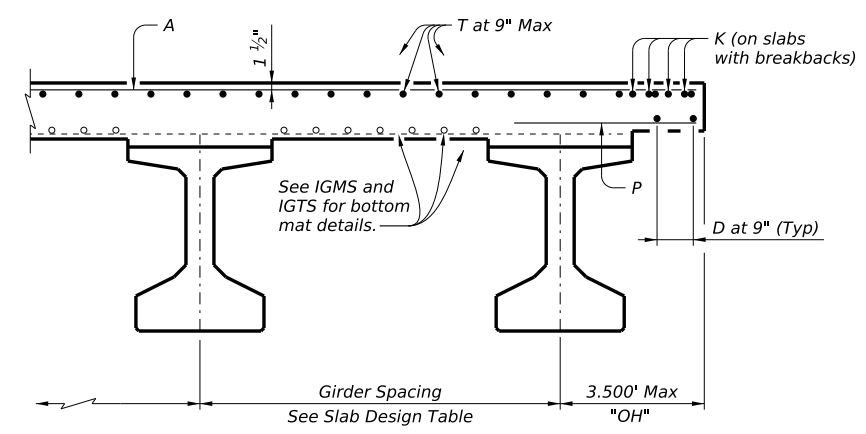
**SECTION B-B**

Showing Thickened Slab End with PCP Option 1. (Option 2 similar.)

- ① Place Bars OA midway between Bars A at overhang.
- ② Bars are continuous through joint.
- ③ Thickened slab end dimensioned perpendicular to face of backwall, centerline interior bent or face of inverted-T stem.
- ④ See Slab Details for dimensions.



**PARTIAL TYPICAL TRANSVERSE SECTION**



**SECTION OF THICKENED SLAB END**

Showing PCP Option 1. Option 2 similar.

HL93 LOADING SHEET 1 OF 2



**GFRP SLAB TOP MAT REINFORCEMENT  
PRESTRESSED CONCRETE I-GIRDER SPANS**

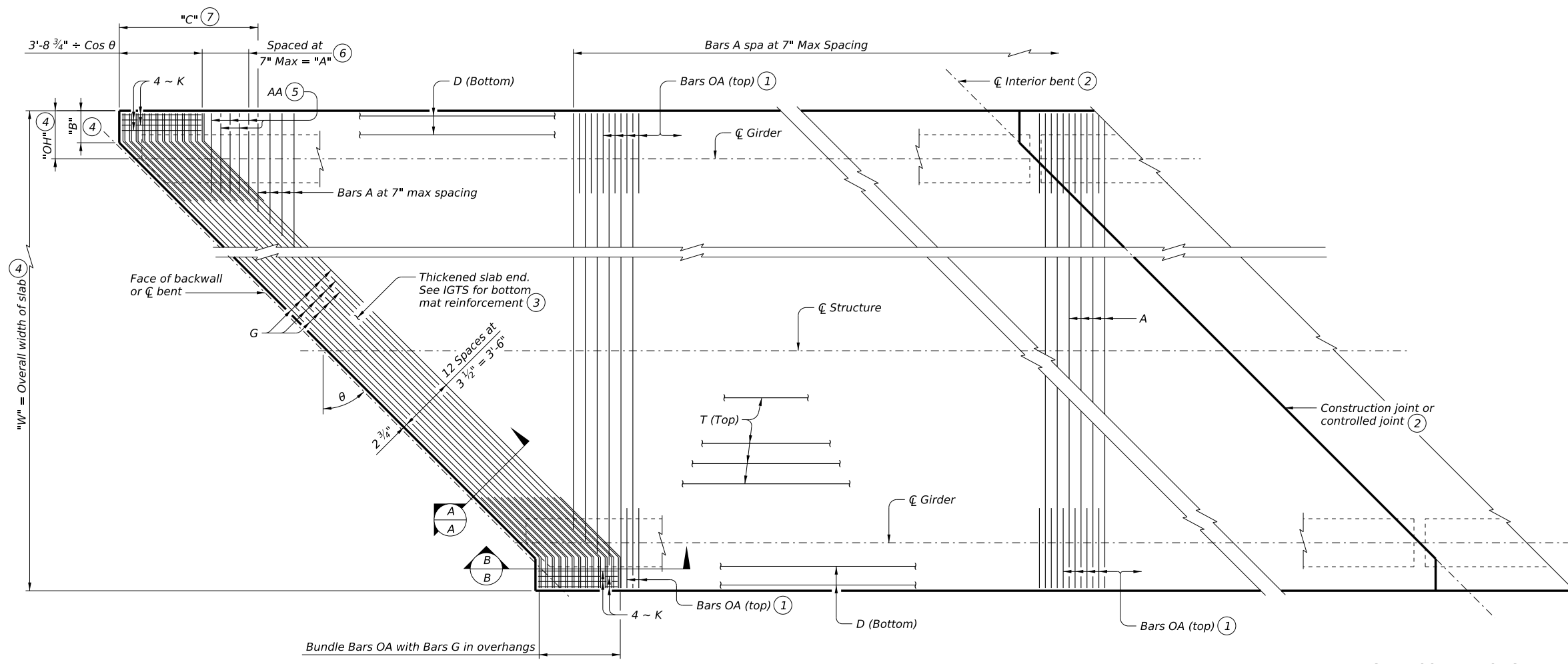
**IGFRP**

FILE: IG-IGFRP-24.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT August 2017	CONT	SECT	JOB	HIGHWAY
REVISIONS				
10-19: Updated to latest design specification	DIST	COUNTY		SHEET NO.
11-24: Flipped top mat				

DATE:  
FILE:

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DATE:  
FILE:



**THICKENED SLAB END**

**PLAN FOR SLABS WITH BREAKBACKS**

Showing top mat reinforcement only.

**SLAB CONTINUOUS OVER INTERIOR BENTS**

**BAR TABLE**

BAR	SIZE
A	#5
AA	#5
D	#5
G	#5
K	#5
OA	#5
P	#5
T	#5

- ① Place Bars OA midway between Bars A at overhang.
- ② Bars are continuous through joint.
- ③ Thickened slab end dimensioned perpendicular to face of backwall, centerline interior bent or face of inverted-T stem.
- ④ See Slab Details for dimensions.
- ⑤ Tie Bars AA to bottom of Bars G in this location.
- ⑥  $A = ("OH" + 2.333' - "B") \times \tan \theta$
- ⑦  $C = \frac{3.729'}{\cos \theta} + "A" + \text{Bar A spacing}$
- ⑧ Only required on slabs with breakbacks.

**GENERAL NOTES:**

Designed according to AASHTO LRFD Bridge Design Specifications and AASHTO LRFD Bridge Design Guide Specifications for GFRP-Reinforced Concrete, 2nd Edition.

These details are restricted to Prestressed Concrete I-Girder spans with an 8 1/2" slab and up to a 10'-0" girder spacing.

These details are to be used in conjunction with the Span Details and PCP Standard (if prestressed concrete panels are used).

This standard provides Glass Fiber Reinforced Polymer (GFRP) reinforcement details for the top mat of slab reinforcement. The bottom mat reinforcement and other slab details are as shown elsewhere in the plans.

The Contractor has the option to provide GFRP reinforcement, in accordance with the details shown, when epoxy-coated steel bars are specified for the deck slab. The Contractor may provide an alternate GFRP slab design with calculations signed and sealed by a Professional Engineer.

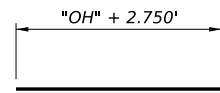
Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

**MATERIAL NOTES:**

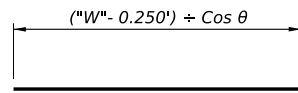
Provide GFRP bars, conforming to ASTM D7957/7957M, except provide a minimum modulus of elasticity of 7,500 ksi.

Provide Grade 60 steel bars for all bottom mat reinforcement as shown elsewhere in plans.

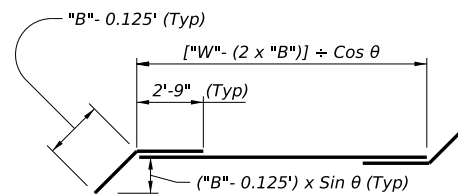
Provide bar laps, where required, as follows: #5 GFRP bar = 2'-9"



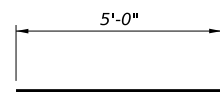
**BARS AA (#5) ⑧**



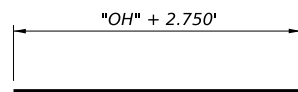
**BARS G (#5)**  
(For slabs without breakbacks)



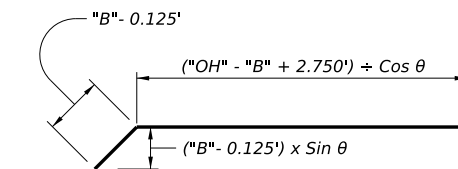
**BARS G (#5)**  
(For slabs with breakbacks)



**BARS K (#5) ⑧**



**BARS OA (#5)**



**BARS OA (#5)**  
(For slabs with breakbacks)

HL93 LOADING

SHEET 2 OF 2



**GFRP SLAB TOP MAT REINFORCEMENT PRESTRESSED CONCRETE I-GIRDER SPANS**

**IGFRP**

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