**ERECTION BRACING**

- Diagonal bracing on first girder/beam erected.
- See Angle Brace Details.

**DIAGONAL BRACING DETAILS**

- 1" Dia. x 12" long anchor bolt.
- 3/4" Min dia expansion anchor.
- Weld #5 bar to girder Bar R.
- See Detail "A".

**HORIZONTAL BRACING DETAILS**

- 3" Min embed, 60 kips ultimate shear capacity required.
- 3" Min embed, 60 kips ultimate shear capacity required.
- See Sheet 2 of 2.

**ANGLE BRACE DETAILS**

- 3" Min embed, 60 kips ultimate shear capacity required.
- See Detail "A".

**PHASED CONSTRUCTION**

- Place erection and slab placement bracing for all girders in a phase as shown. For phases after first, also place erection and slab placement bracing between outer girder of completed phase and adjacent girder of current phase. When the phase construction joint is between girders, see detail "A".

**ERECTION BRACING**

- Required erection bracing must be placed immediately after erection of each girder and remain in place until additional bracing as required for slab placement is in place. This standard is repeated in cases to meet requirements for slab placement bracing.

**MINIMUM ERECTION AND BRACING REQUIREMENTS**

- Prestressed concrete girders and beams.

**HAULING & ERECTION**

- The Contractor’s attention is directed to the possible lateral instability of prestressed concrete girders and beams over 130', especially during hauling and erection. The use of the following methods to improve stability is encouraged: Locate lifting devices at the maximum practical distance from girder ends; use external lateral stiffening devices during hauling and erection; lift with vertical lines using two machines, and take care in handling to minimize inertial and impact forces.

**DETAIL "A"**

- See detail "A".

**DETAIL "B"**

- See detail "B".

**GENERAL**

- Place and weld #5 bars as shown during erection. If forming deck with prestressed panels, bars can be temporarily removed, one at a time, during gage erection. Re-insert bar prior to additional gage erection. Bars can rest on girders as required for slab placement.

**DIAGRAMS**

- For phases after first, also place erection and slab placement bracing between outer girder of completed phase and adjacent girder of current phase. When the phase construction joint is between girders, see detail "A".
**SLAB PLACEMENT BRACING**

**OPTION 1 - RIGID BRACING (STEEL STRAP)**

<table>
<thead>
<tr>
<th>Girder or Beam Type</th>
<th>Maximum Bracing Spacing</th>
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</table>

**OPTION 2 - FLEXIBLE BRACING (NO. 5 OVER PCP)**

<table>
<thead>
<tr>
<th>Girder or Beam Type</th>
<th>Maximum Bracing Spacing</th>
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<tbody>
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</tbody>
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**SLAB OVERHANG**

- **10 ft**
- **14 ft**
- **18 ft**
- **24 ft**

**Maximum Bracing Spacing**

- **7 ft**
- **10 ft**
- **14 ft**
- **18 ft**
- **24 ft**

**FOR SLAB PLACEMENT BRACING, OPTION 1 - RIGID**

- When forming deck with prestressed panels, bars can be temporarily removed, when forming deck with additional panels, bars can be reinstalled.

**GENERAL NOTES:**

- All materials and methods of construction must be in accordance with specifications.
- This specification is the minimum that must be provided.
- All materials and methods of construction must be submitted for approval by the Engineer prior to installation.
- The Contractor must submit proposed materials and methods of construction for approval by the Engineer.

**MINIMUM ERECTION AND BRACING REQUIREMENTS**

**PRESSTRESSED CONCRETE I-GIRDERS AND I-BEAMS**

**TABLE A**

<table>
<thead>
<tr>
<th>Girder or Beam Type</th>
<th>Maximum Bracing Spacing</th>
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</table>

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**SLAB OVERHANG**

- **4.0 ft**
- **4.5 ft**
- **5.0 ft**
- **6.0 ft**

**PLAN**

**DETIAL "B"**

**HORIZONTAL BRACING DETAILS**

- All materials and methods of construction must be in accordance with specifications.
- This specification is the minimum that must be provided.
- All materials and methods of construction must be submitted for approval by the Engineer prior to installation.
- The Contractor must submit proposed materials and methods of construction for approval by the Engineer.