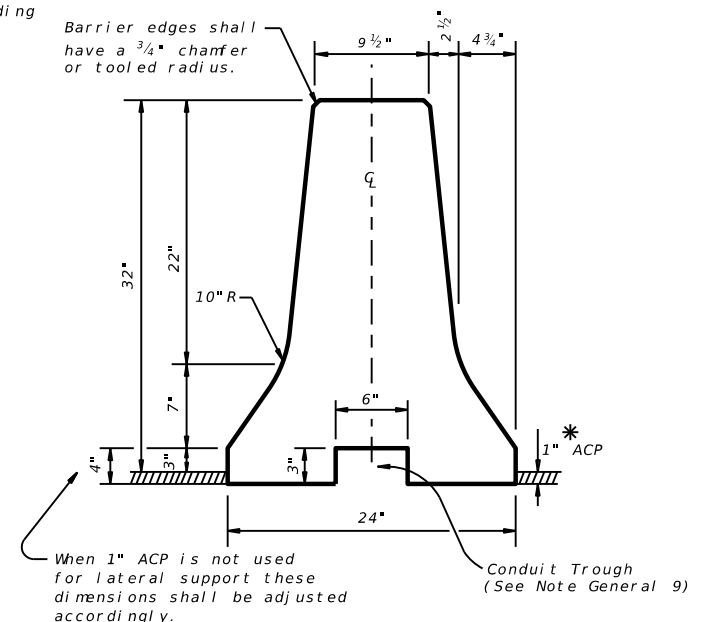
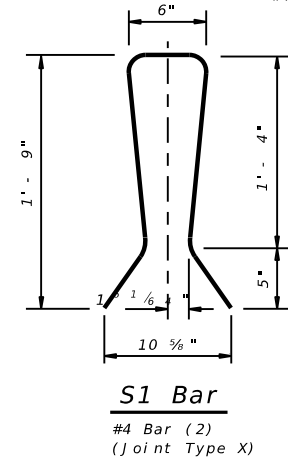
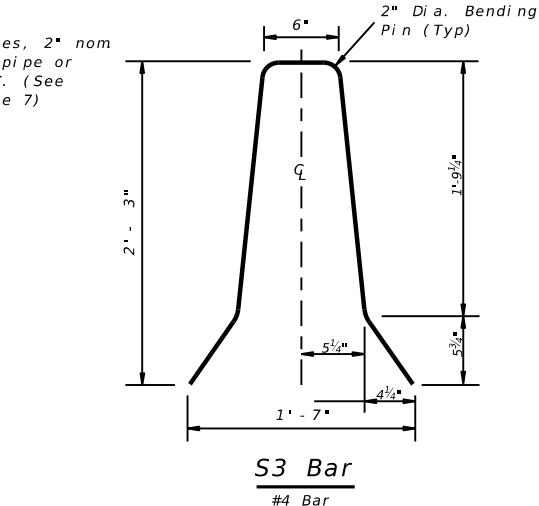
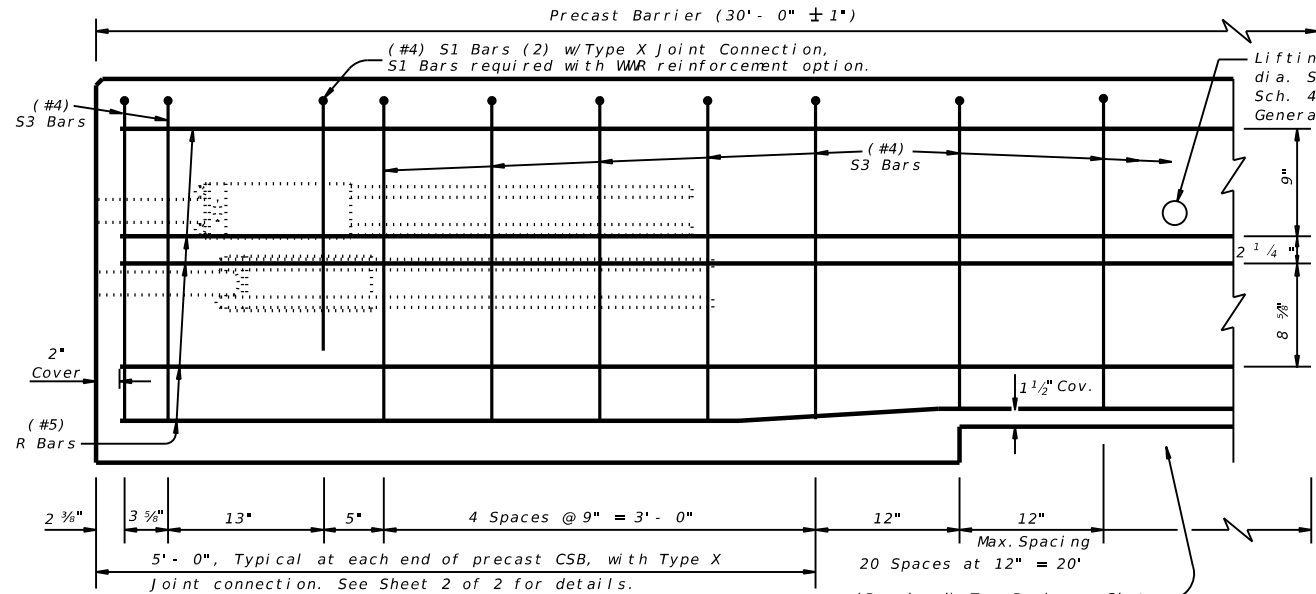
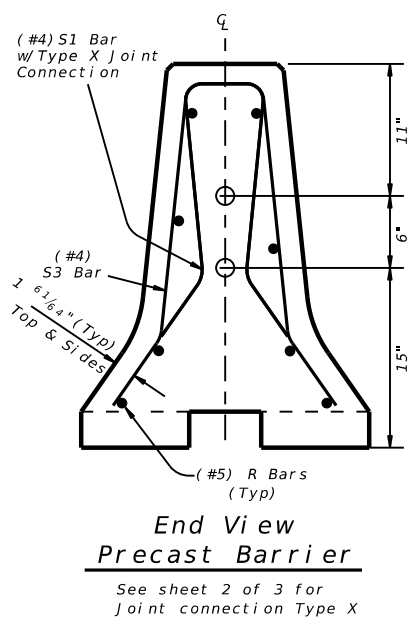


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**Concrete Safety Barrier**

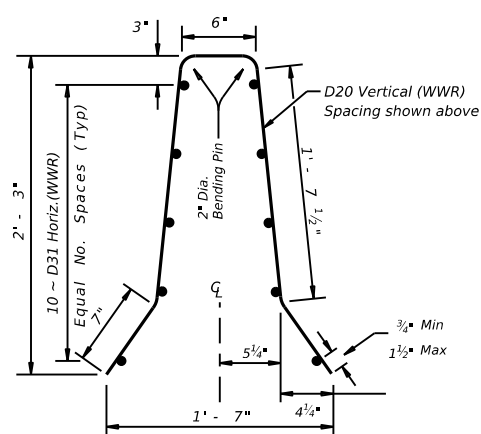
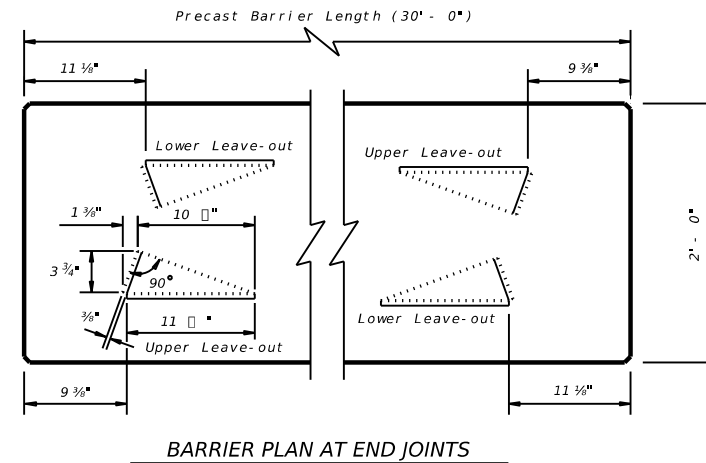
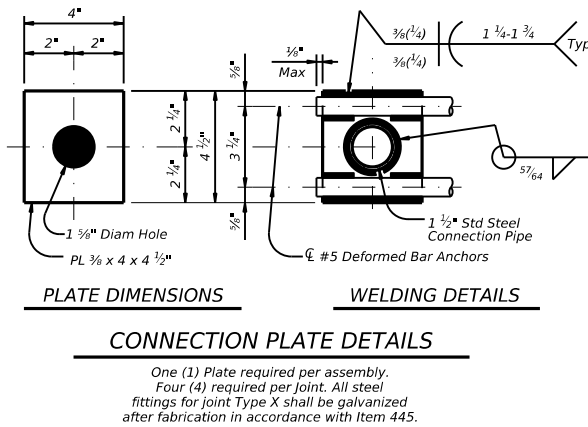
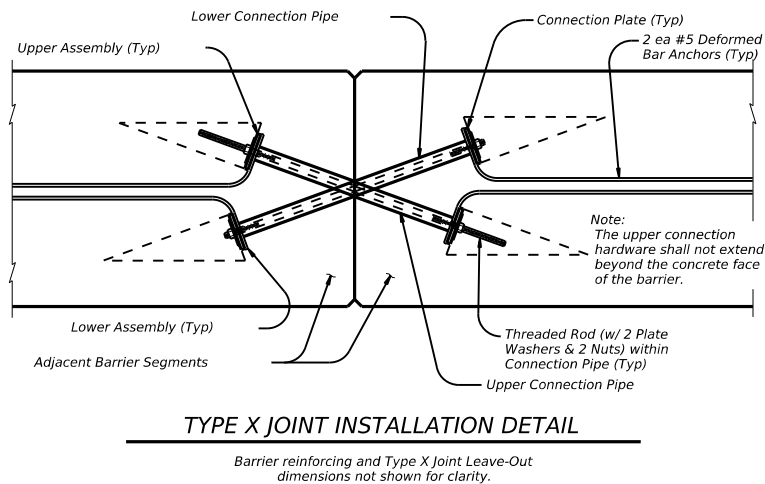
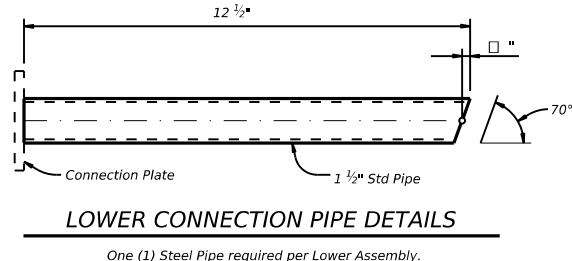
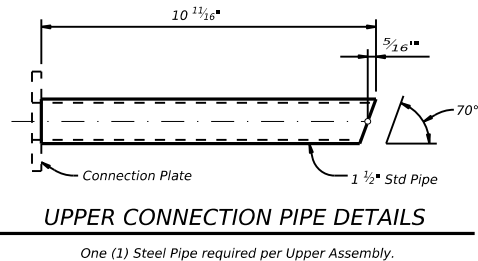
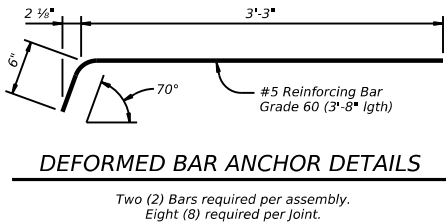
\* When 1" ACP is "not" used as lateral support for permanent barrier placement. A permissible method of attaining the equivalent lateral support may be used. See CSB(6) sheet.

**GENERAL NOTES**

- Concrete shall be Class H with a minimum compressive strength of 3,600 psi.
- Where used, rebar reinforcement shall be Grade 60 and conform to ASTM A615.
- Precast barrier length shall be 30 ft. unless otherwise specified on the plans.
- All precast barrier edges shall have a 3/4" chamfer or tool radius.
- All concrete, reinforcement, joint connection systems, grout etc. as shown, are considered as part of the barrier payment.
- All steel assemblies for joint shall be galvanized after fabrication in accordance with Item 445, "Galvanizing."
- Regardless of the method of handling, barrier lifting points shall be approx. 7.5 feet from the ends of the barrier. Lifting devices and attachments to barrier sections shall be approved by the Engineer.
- Surface finishing and grouting (where required) shall be two parts sand one part cement with enough water to make the mixture plastic. Grouting shall be done in a manner that will assure a smooth surface. Surface finishing shall be considered subsidiary to the various bid items involved.
- Conduit trough when required shall be shown elsewhere on the plans, or as directed by the Engineer.

SHEET 1 OF 2

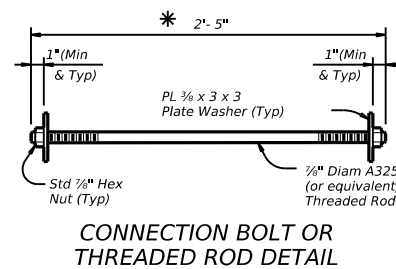
		<b>Design Division Standard</b>	
<h1>CONCRETE SAFETY BARRIER (F-SHAPE)</h1>			
<h2>PRECAST BARRIER (TYPE 1)</h2>			
<h3>CSB(1)-10</h3>			
FILE: csb110.dgn	DN: TxDOT	CK: AM	DW: BD
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**Welded Wire Reinforcement (WWR) Option for Bars R and S3**

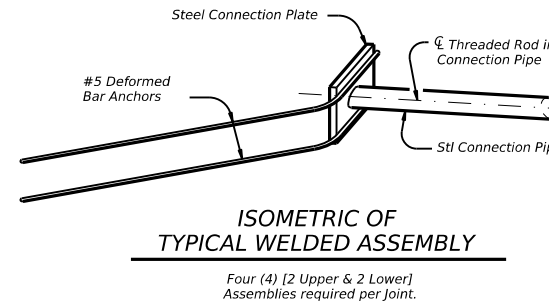
**(WWR) General Notes**

- Deformed Welded Wire Reinforcement (WWR) shall conform to ASTM A497.
- Welded wire cage may be cut or bent to accommodate the Type X joint connection and drainage slots, as directed by the Engineer.
- All reinforcement shall comply with Item 440, "Reinforcing Steel."
- Combinations of reinforcing steel and WWR will be permitted, as directed by the Engineer. The dimension from the end of the barrier section to the first wire shall not exceed 3".



Two (2) Threaded Rods (Or Equivalent Hex Hd. Bolts) (w/ Two (2) PL 3/4 x 3 x 3 Plate Washers & Two (2) Std Hex Nuts) required per joint.

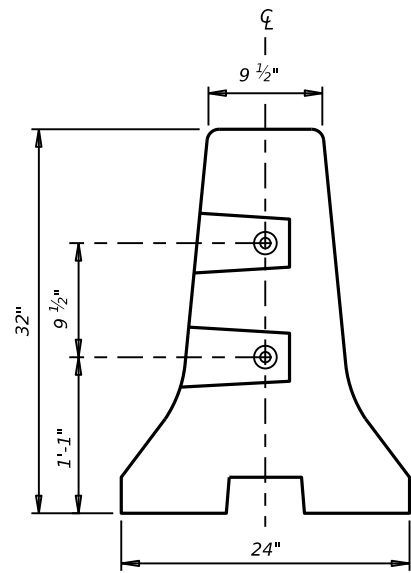
\* The connection hardware shall not extend beyond the concrete face of the barrier. Hex head bolts may be provided. The proper length of all hardware should be verified.



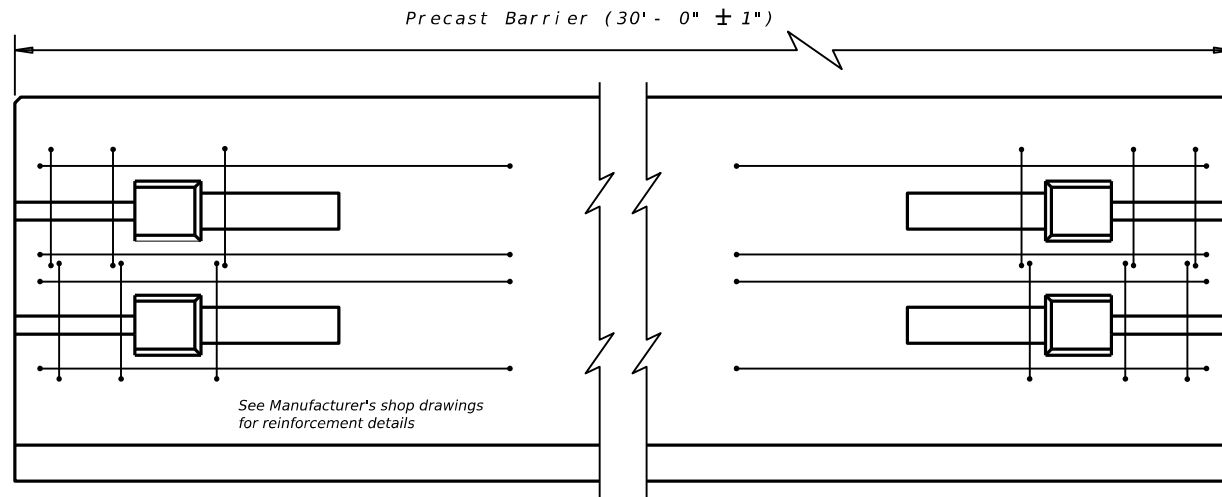
Weight of one Precast 30 ft. (CSB) segment = Approx. 6.5 Tons or 440 lbs per ft.

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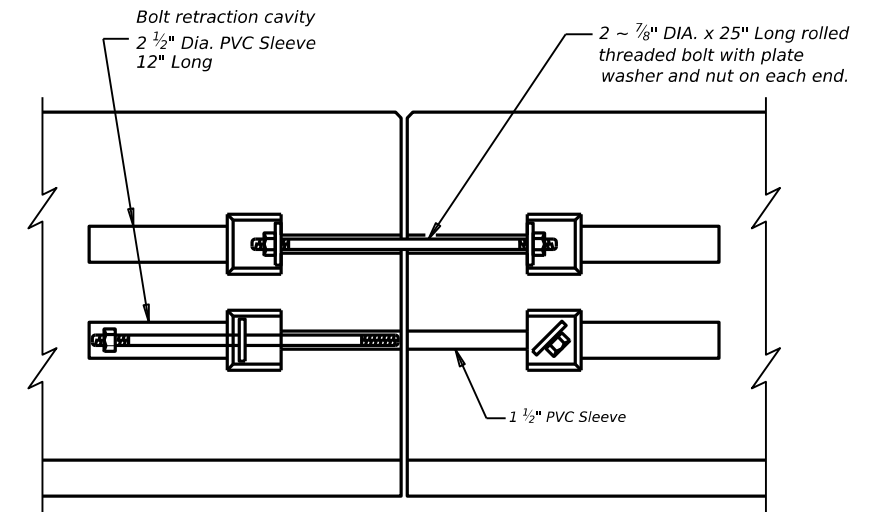
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**END VIEW (CSB) QUICK-BOLT**  
QUICK-BOLT POCKET LOCATIONS

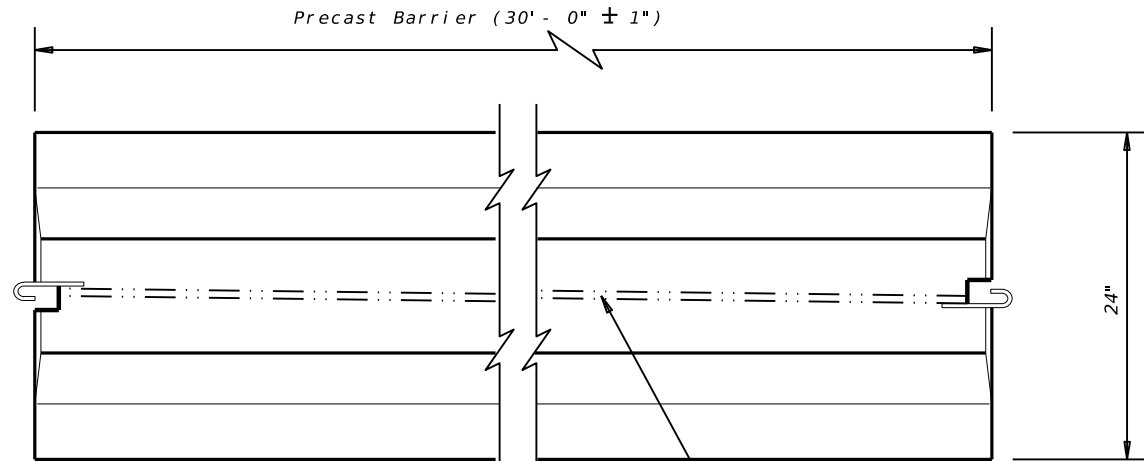


**ELEVATION (CSB) QUICK-BOLT**  
See Manufacturer's shop drawing for additional details

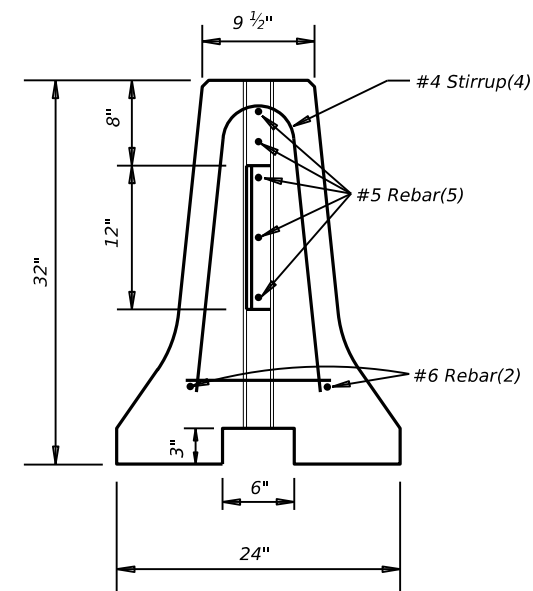


**ELEVATION VIEW SHOWING JOINT CONNECTION**  
"QUICK-BOLT"

**Joint Connection (Type Q)**

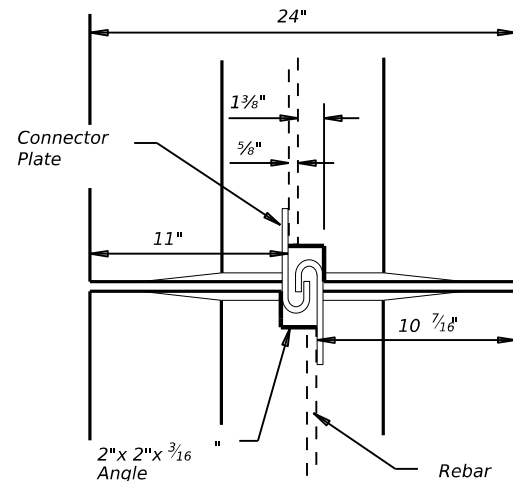


**TOP VIEW**  
**PRECAST (CSB) WITH J-J HOOKS**  
See Manufacturer's shop drawing for additional details



**END VIEW**  
**J-J HOOK CONNECTION**

**Joint Connection (Type J)**



**VIEW FROM ABOVE**  
**J-J HOOK CONNECTION**

**Proprietary Joint Connections (CSB)**

Two proprietary joint connections are acceptable as alternates to the (Type X) connection shown, here on. These joint connections types are:

J-J Hooks by Easi-Set Industries, (800) 547-4045  
Quick-Bolt by Bexar Concrete, (210) 497-3773

If one of these connection systems are exclusively specified in the plans, prior approval for sole source use must be obtained. Details of the connection components and barrier reinforcement for these systems, will be shown on the manufacturer's shop drawing(s) furnished to the Engineer.

SHEET 2 OF 2

		<b>Design Division Standard</b>	
<b>CONCRETE SAFETY BARRIER (F-SHAPE)</b> <b>PRECAST BARRIER (TYPE 1)</b> <b>CSB(1)-10</b>			
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