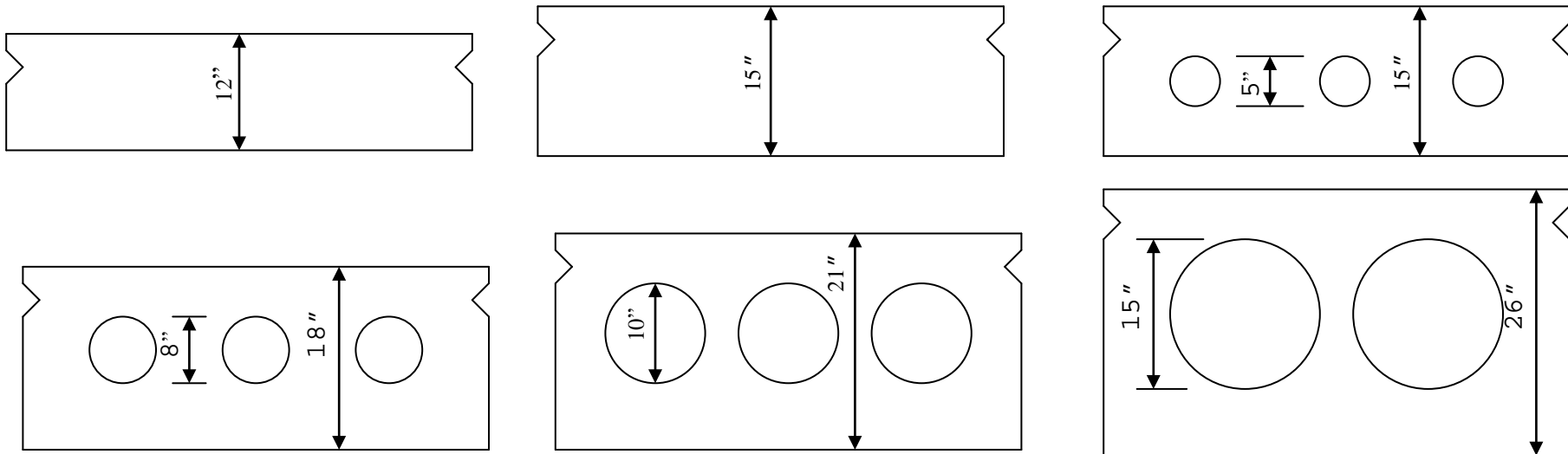


PRECAST PRESTRESSED SLAB SECTION PROPERTIES

DEPTH	AREA	CENTER OF GRAVITY		MOMENT OF INERTIA	SECTION MODULUS		WEIGHT LB/FT
		TOP	BOTTOM		TOP	BOTTOM	
12" SOLID	561.188	6.055	5.945	6782	1120	1141	585
15" SOLID	705.188	7.573	7.427	13233	1746	1780	735
15" VOID	646.283	7.534	7.466	13121	1742	1757	673
18" VOID	698.391	8.995	9.005	22208	2469	2466	728
21" VOID	757.568	10.622	10.378	34798	3276	3353	789
26" VOID	879.758	13.144	12.856	63943	4865	4974	917

ALL UNITS IN INCHES EXCEPT WEIGHT



All slabs are 48" wide

**MAXIMUM SPAN LENGTH
PRECAST PRESTRESSED SLABS**

	Span	# of strand	Center of gravity
12" Solid Slab	20'	16	3.75"
15" Solid Slab	30'	22	4.18"
15" Voided Slab	30'	22	4.18"
18" Voided Slab	40'	26	4.31"
21" Voided Slab	50'	30	4.80"
26" Voided Slab	55'	32	6.38"

DESIGN CRITERIA

AASHTO LRFD

Beams are parallel

Minimum 4 girders

28 psf asphalt pavement

44'-0" out - out bridge width with a concrete parapet

HL93 Live Load

½" ϕ 270^k low relaxation strand

Girder $f'c = 6000$ psi maximum

NOTES TO DESIGNER FOR PRECAST PRESTRESSED SLAB

The Standard Drawings for precast prestressed slabs are shown in Appendix B for Section 5.

The following criteria shall be used in developing details for projects utilizing precast prestressed slabs:

PRESTRESSING STEEL

Prestressing steel shall be designed as straight strand.

TIE RODS

Tie rods spacing shall be as follows:

SPAN \leq 40' at centerline span
SPAN $>$ 40' at 1/3 points

Tie rods shall be oriented as follows:

skew angle $<$ 20° parallel to centerline bearing
skew angle $>$ 20° perpendicular to slab centerline

When tie rod lengths greater than 20' are required, specify heavy-duty sleeve nuts to obtain the required length.

BEARING PADS

Bearing pads should be designed in accordance with Article 14.7.5 of the Bridge Design Manual.

The beam seat shall be parallel to the bottom of the beams.

MEMBRANE SEAL

A waterproof membrane seal shall be applied to the top surface of the slabs when an asphalt wearing surface is used. The membrane seal shall conform to Section 511, Concrete Waterproofing System, Type A or Type D.

Revisions:

July 2009 Corrected references on page 3 to Section 511 and System Type D.