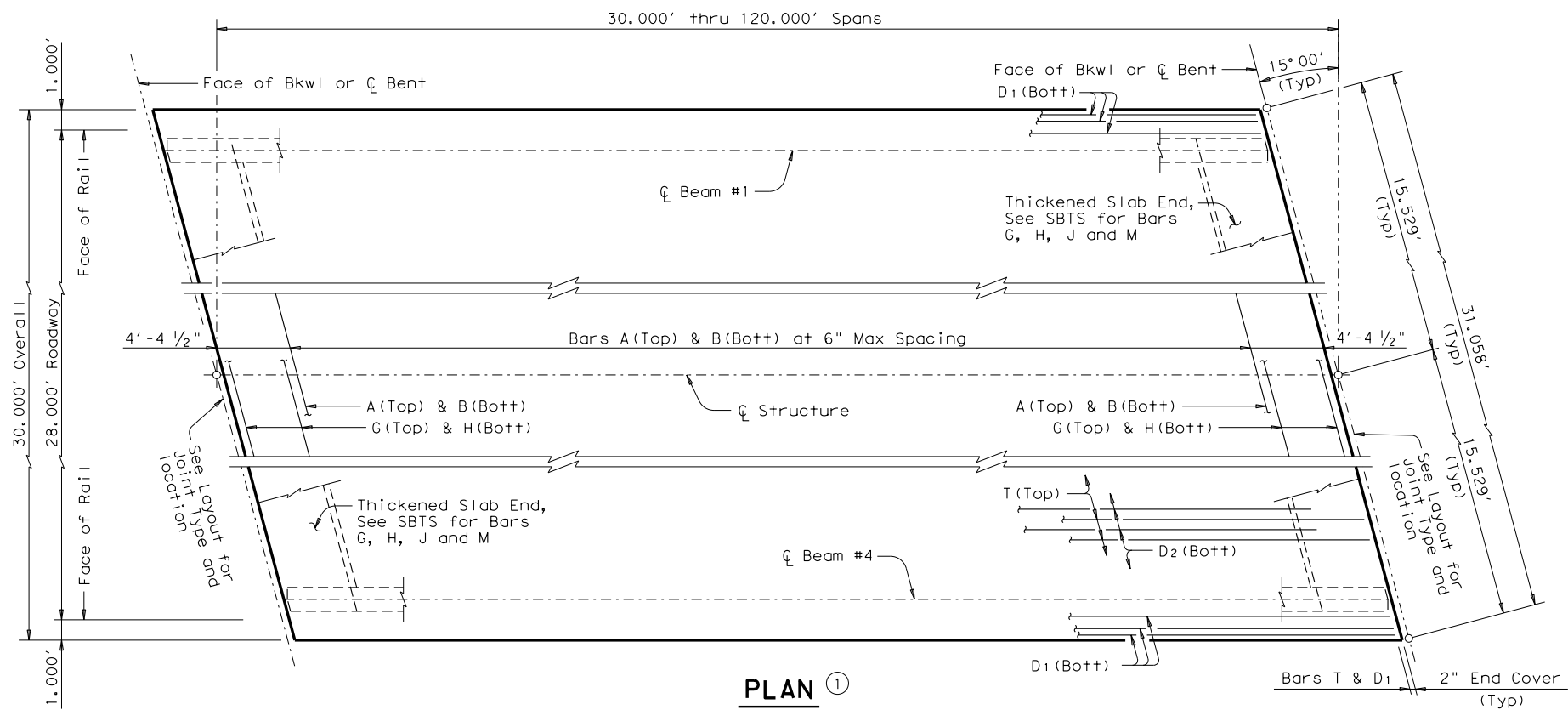


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BAR TABLE	
Bar	Size
A	#5
B	#5
D	#5
G	#5
H	#5
J	#5
M	#5
T	#4

TABLE OF ESTIMATED QUANTITIES <sup>(5)</sup>			
Span Length	Reinf Concrete Slab	Class "S" Concrete	Total Reinf Steel <sup>(2)</sup>
Ft	SF	CY	Lb
30	900	24.0	5,850
35	1,050	27.8	6,825
40	1,200	31.7	7,800
45	1,350	35.5	8,775
50	1,500	39.4	9,750
55	1,650	43.2	10,725
60	1,800	47.1	11,700
65	1,950	50.9	12,675
70	2,100	54.8	13,650
75	2,250	58.6	14,625
80	2,400	62.5	15,600
85	2,550	66.3	16,575
90	2,700	70.2	17,550
95	2,850	74.0	18,525
100	3,000	77.8	19,500
105	3,150	81.7	20,475
110	3,300	85.5	21,450
115	3,450	89.4	22,425
120	3,600	93.2	23,400

- ① If multi-span units (with slab continuous over interior bents) are indicated on the Bridge Layout, see standard SBSC for adjustment to slab reinforcement and quantities.
- ② Reinforcing steel weight is calculated using an approximate factor of 6.5 Lbs/SF.
- ③ See standard SBSD-28 for "A" and "Y" values. Increase "Y" value as necessary for sag roadway vertical curves.
- ④ Tolerance on slab thickness is +1", -0" regardless of forming system used or any other tolerances shown elsewhere.
- ⑤ See standard SBSD-28 for Structural Steel (Rolled Beam) estimated quantities.

**GENERAL NOTES:**  
 Designed according to AASHTO LRFD Specifications. This standard is drawn showing right forward skew. See Layout for actual skew direction. Multi-span units, with slab continuous over interior bents, may be built with the details shown on this sheet and standard SBSC. See standard SBTS for Thickened Slab End Details and quantity adjustments. See standards PCP or PMDF for details and quantity adjustments if either of these options are used. See standard SBMS for miscellaneous details. All reinforcing shall be Grade 60. Concrete compressive strength  $f'c = 4,000$  psi. Bar laps, where required, shall be as follows:  
 Uncoated ~ #4 = 1'-5"  
 ~ #5 = 1'-9"  
 Epoxy Coated ~ #4 = 2'-1"  
 ~ #5 = 2'-7"  
 This standard does not support the use of Transition Bents.

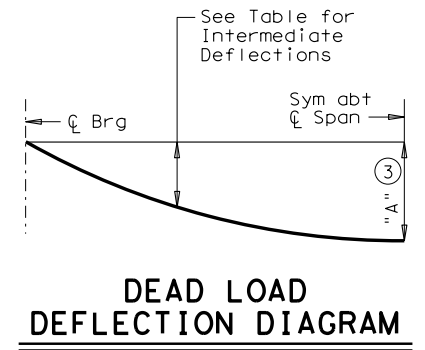
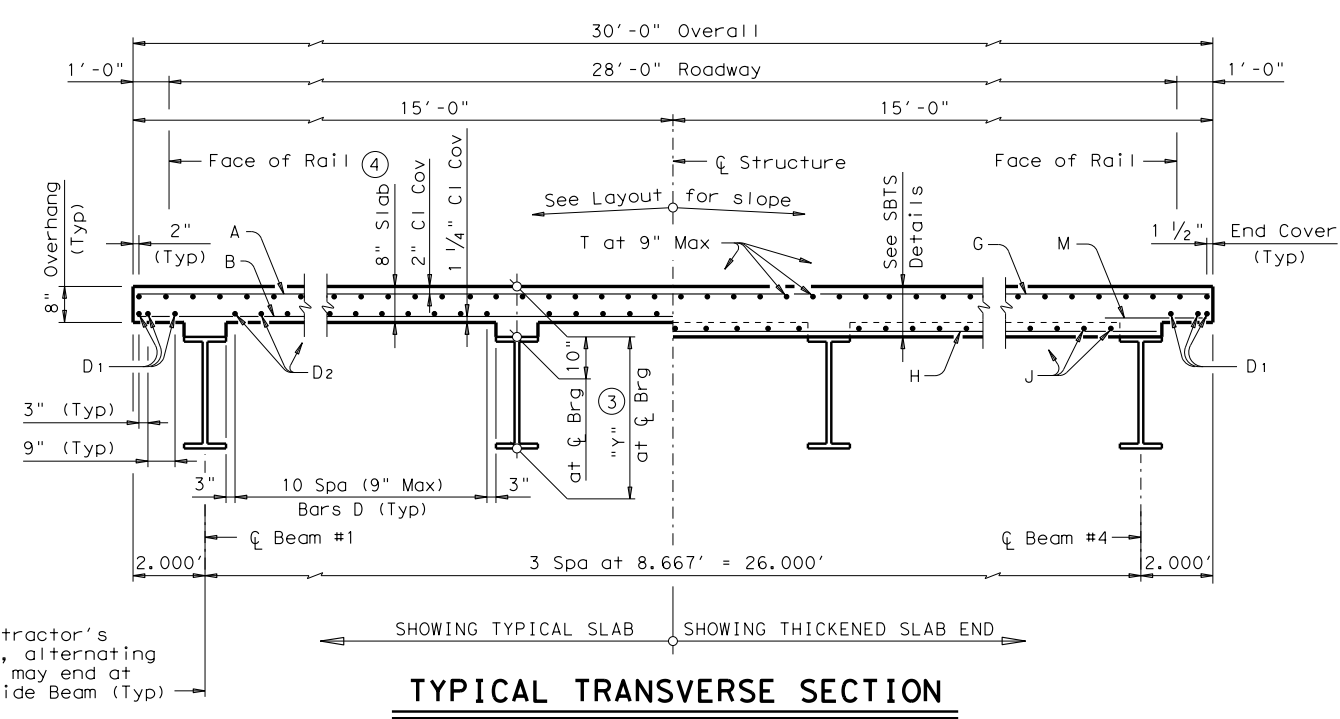


TABLE OF DEFLECTIONS <sup>(3)</sup>	
Location	Deflection
Cl Brg	0.0
0.1 Span	0.31 x "A"
0.2 Span	0.59 x "A"
0.3 Span	0.81 x "A"
0.4 Span	0.95 x "A"
Cl Span	"A"

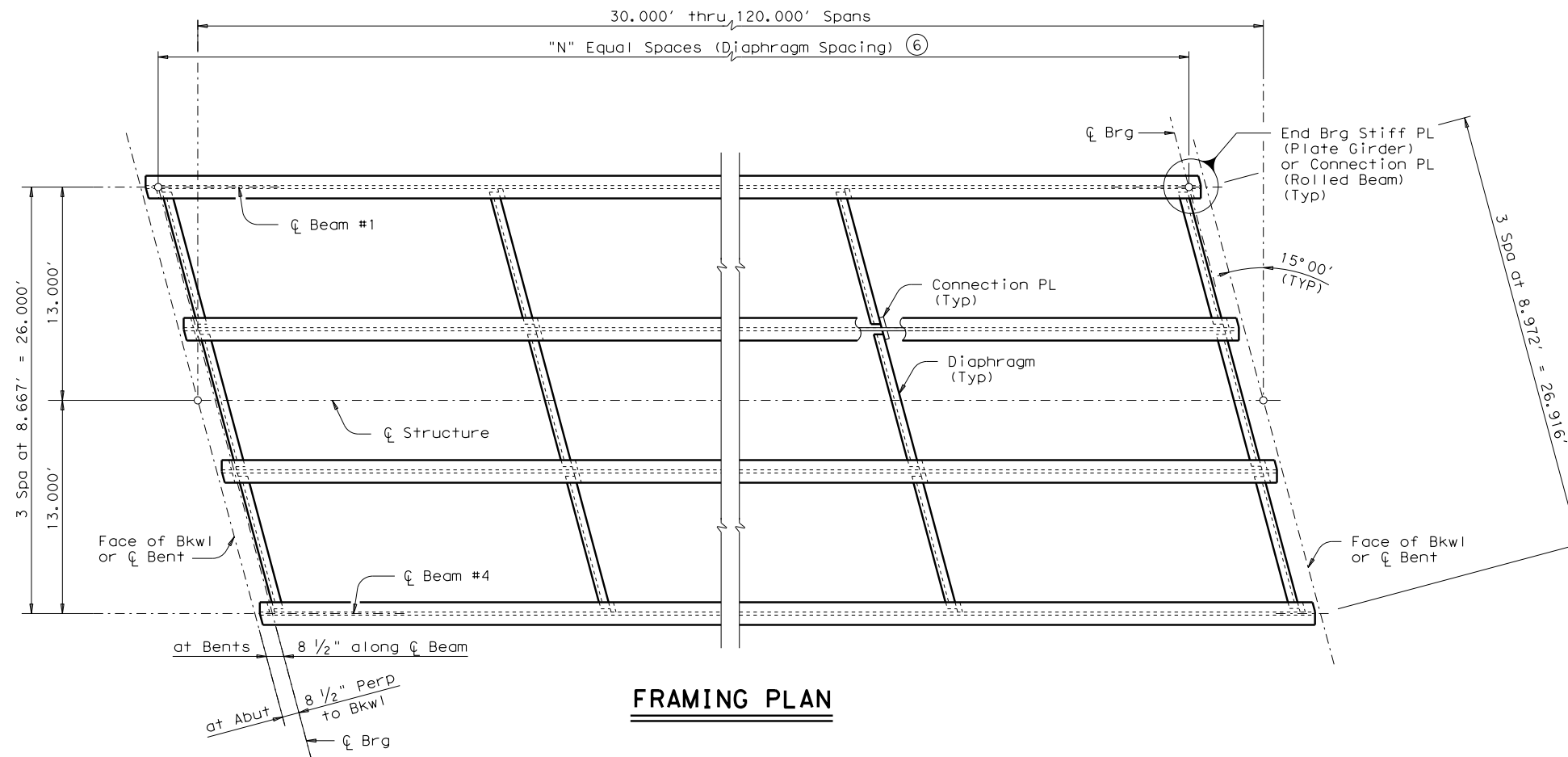
**HL93 LOADING SHEET 1 OF 2**  
  
**STEEL BEAM SPANS**  
**28' ROADWAY 15° SKEW**  
**SSB-28-15**

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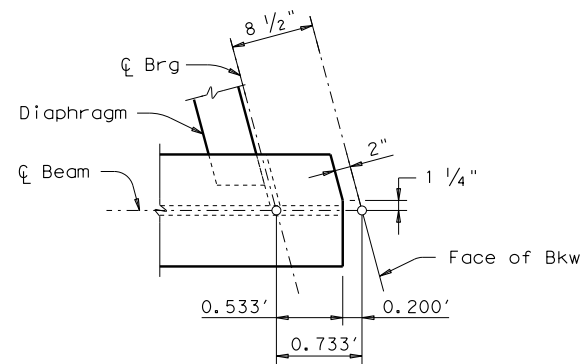
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**FRAMING PLAN**



**DETAIL "A"**

CAMBER TOLERANCE TABLE (11)	
P+	Tolerance
0.1	+ 9/16", -0"
0.2	+ 1", -0"
0.3	+ 1 1/4", -0"
0.4	+ 1 7/16", -0"
0.5	+ 1 1/2", -0"

**FABRICATION NOTES**

**GENERAL:**

See Layout for beam type. See standard sheet SBSD-28 for beam size.  
For unpainted structures, use A709 Grade 50W for all steel. For painted structures, use any of the following steels: A709 Grades 50, 50S, or 50W.  
All dimensions in Framing Plan and Beam Elevation are measured horizontally.  
See standard SBMD for details not shown.

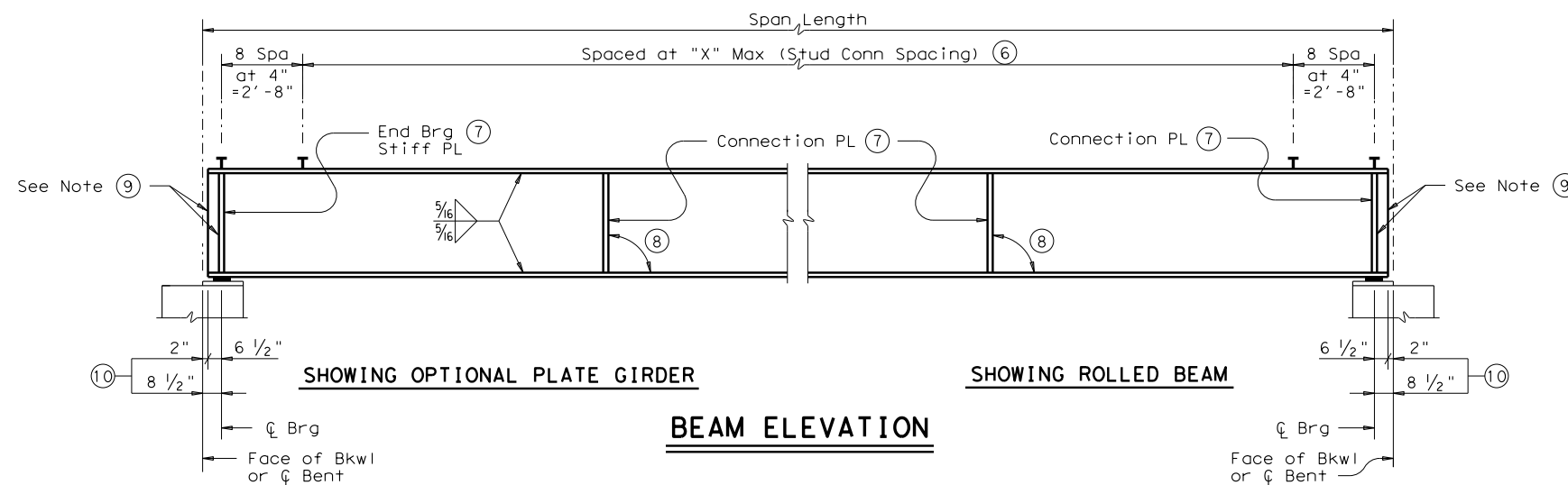
**ROLLED BEAMS:**

Beam bottom flanges and webs are classified as tension components and are subject to the impact testing requirements of Item 442, "Metal for Structures".  
One optional beam splice is permissible for beam lengths in excess of 60'. Do not locate the optional splice within 0.10L of either side of the centerline of span where L is the span length between centers of bearing. Optional beam splices must be made by full penetration groove welds.  
Camber beams for total dead load deflection. Camber tolerance for beams is shown in CAMBER TOLERANCE TABLE.  
Produce camber using heat, pressure, or a combination of heat and pressure.

**OPTIONAL PLATE GIRDERS:**

Girder bottom flanges and webs are classified as tension components and are subject to the impact testing requirements of Item 442, "Metal for Structures".  
Camber girders for total dead load deflection and any crest roadway vertical curves. Camber tolerance is shown in CAMBER TOLERANCE TABLE.

- (6) See standard SBSD-28 for "N" and "X" values.
- (7) See standard SBMD for connection plate and bearing stiffener sizes and connection details.
- (8) Connection plates at intermediate locations may be plumb or square to the beam.
- (9) Beam ends, bearing stiffeners, and connection plates at end bearings must be plumb after all dead loads are applied (Tolerance = +/- 1/8" per foot of beam depth)
- (10) Dimensions shown are for Interior Bents. See Detail "A" for dimensions at Abutments.
- (11) Use one-half the values shown when a sag roadway vertical curve is on the span.



**BEAM ELEVATION**

HL93 LOADING SHEET 2 OF 2



**STEEL BEAM SPANS**  
**28' ROADWAY 15° SKEW**

**SSB-28-15**

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