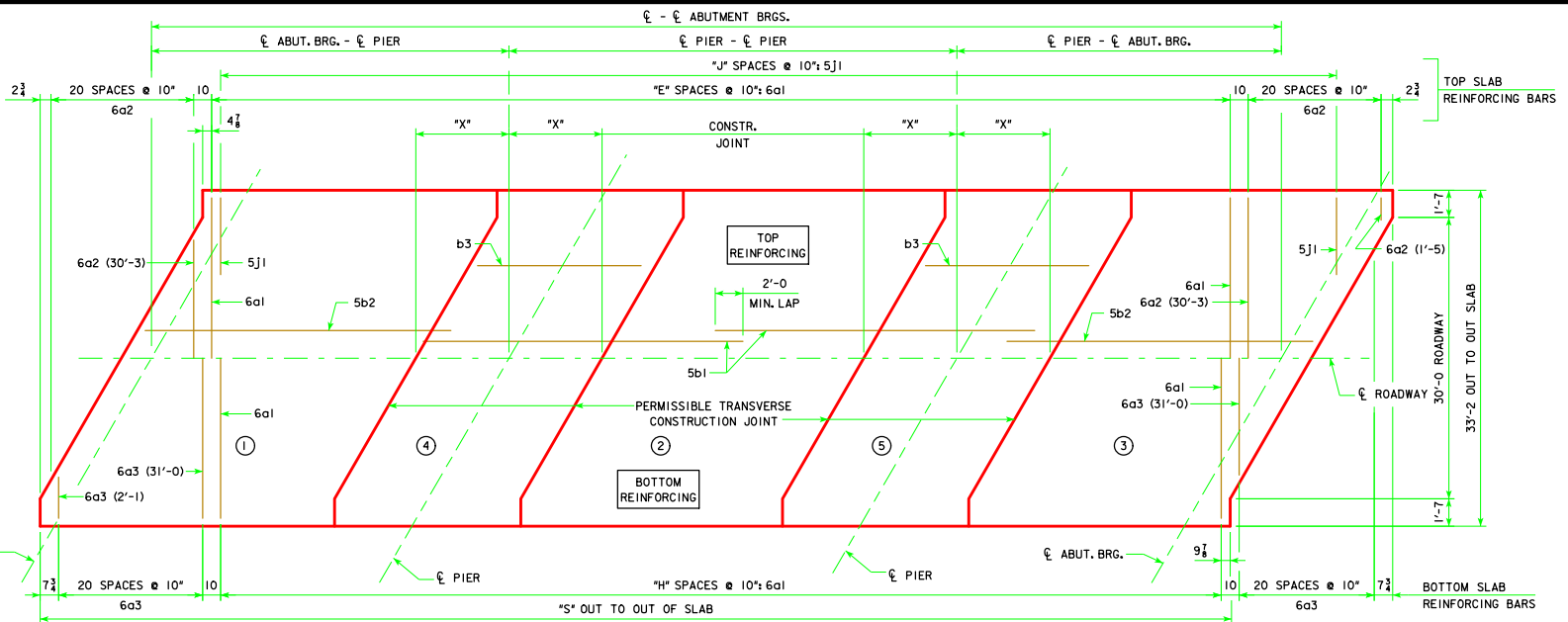


REVISED 05-11 - CORRECTED THE OPEN RAIL REBAR QUANTITIES FOR THE 20'-4, 23'-10, 226'-4, & 243'-0 BRIDGE LENGTHS.



SLAB LAYOUT
(LEFT AHEAD SKEW SHOWN, RIGHT AHEAD SKEW SIMILAR)

NOTE: CONCRETE DECK SLAB SHALL BE PLACED IN SECTIONS AND SEQUENCES INDICATED. ALTERNATE PROCEDURES FOR PLACING SLAB CONCRETE MAY BE SUBMITTED FOR APPROVAL TOGETHER WITH A STATEMENT OF THE PROPOSED METHOD AND EVIDENCE THAT THE CONTRACTOR POSSESSES THE NECESSARY EQUIPMENT AND FACILITIES TO ACCOMPLISH THE REQUIRED RESULTS.

ESTIMATED QUANTITIES (SUPERSTRUCTURE PLUS INTEGRAL ABUTMENTS)		ℓ-ℓ	ABUT. BRG.	138'-10	151'-4	163'-10	176'-4	188'-10	201'-4	213'-10	226'-4	243'-0
STRUCTURAL CONCRETE SUPERSTRUCTURE (INCLUDES ABUTMENT WINGS, PAV. BLOCKS)	WITH BARRIER RAIL	C.Y.	178.7	189.2	208.3	219.0	229.9	252.2	262.9	274.4	289.2	
	WITH OPEN RAIL	C.Y.	181.2	191.9	211.3	222.2	233.3	255.7	266.6	278.3	293.4	
STRUCTURAL CONCRETE ABUTMENTS (w/ WOOD PILES) ***		C.Y.	29.4	29.4	29.3	29.3	29.2	-----	-----	-----	-----	
PRETENSIONED PRESTRESSED CONCRETE BEAM, CENTER SPAN		NO.	5-A50	5-A55	5-B59	5-B63	5-B67	5-C71	5-C75	5-C80	5-C80	
PRETENSIONED PRESTRESSED CONCRETE BEAM, END SPAN		NO.	10-A42	10-A44	10-B50	10-B55	10-B59	10-C63	10-C67	10-C71	10-C80	
CONCRETE RAIL (BARRIER OR OPEN)		L.F.	312.6	337.6	362.6	387.6	412.6	456.7	481.7	506.7	540.0	
STRUCTURAL STEEL (w/ PILE BENT PIERS & DRAINS)		L.B.	3873	3873	3961	3961	3961	3965	3965	3965	3965	
STRUCTURAL STEEL (w/ PILE BENT PIERS & NO DRAINS)		L.B.	3305	3305	3305	3305	3305	3229	3229	3229	3229	
STRUCTURAL STEEL (w/ TEE PIERS & DRAINS)		L.B.	4769	4769	4857	4857	4857	5023	5023	5023	5023	
STRUCTURAL STEEL (w/ TEE PIERS & NO DRAINS)		L.B.	4201	4201	4201	4201	4287	4287	4287	4287	4287	
REINFORCING STEEL (w/ WOOD PILES & BARRIER RAIL)		L.B.	50,727	54,225	57,905	61,770	65,300	-----	-----	-----	-----	
REINFORCING STEEL (w/ WOOD PILES & OPEN RAIL)		L.B.	51,392	54,846	58,673	62,714	66,174	-----	-----	-----	-----	
REINFORCING STEEL (w/ STEEL H PILES & BARRIER RAIL)		L.B.	50,735	54,233	57,805	61,670	65,091	71,558	75,702	79,122	83,596	
REINFORCING STEEL (w/ STEEL H PILES & OPEN RAIL)		L.B.	51,400	54,854	58,573	62,614	65,965	72,189	77,242	80,859	85,379	
NO. OF WOOD PILES, TREATED FOR TWO ABUTMENTS		NO.	24	24	26	26	28	-----	-----	-----	-----	
NO. OF STEEL H-PILES FOR TWO ABUTMENTS (HP 10 x 57)		NO.	12	12	12	12	12	18	18	18	18	
PREBORED HOLES (w/ WOOD PILES)		L.F.	240	240	260	260	280	-----	-----	-----	-----	
PREBORED HOLES (w/ STEEL H-PILES)		L.F.	120	120	120	120	120	180	180	180	180	

CONCRETE PLACEMENT QUANT. (SUPERSTRUCTURE PLUS INTEGRAL ABUTMENTS)		ℓ-ℓ	ABUT. BRG.	138'-10	151'-4	163'-10	176'-4	188'-10	201'-4	213'-10	226'-4	243'-0
SLAB INCLUDING HAUNCH, ABUT. DIAPHRAGM, & WINGWALLS**	WITH BARRIER RAIL	C.Y.	95.2	101.2	112.2	118.4	124.6	139.4	145.8	152.6	167.4	
	WITH OPEN RAIL	C.Y.	96.5	102.6	113.8	120.1	126.4	141.3	147.8	154.7	169.8	
SLAB INCLUDING HAUNCH, SECTION 2	WITH BARRIER RAIL	C.Y.	33.5	36.2	38.9	41.6	44.1	47.0	49.7	52.4	52.4	
	WITH OPEN RAIL	C.Y.	34.2	37.0	39.7	42.5	45.1	48.0	50.7	53.5	53.5	
SLAB INCLUDING HAUNCH & PIER DIAPHRAGM, SECTIONS 4 & 5	WITH BARRIER RAIL	C.Y.	40.0	41.8	46.8	48.6	50.8	54.6	56.2	58.2	58.2	
	WITH OPEN RAIL	C.Y.	40.5	42.3	47.4	49.2	51.4	55.2	56.9	58.9	58.9	
PAVING BLOCKS		C.Y.	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	
ABUTMENT WINGS		C.Y.	7.2	7.2	7.6	7.6	7.6	8.4	8.4	8.4	8.4	
ABUTMENT FOOTINGS (w/ WOOD PILES) ***		C.Y.	29.4	29.4	29.3	29.3	29.2	-----	-----	-----	-----	
ABUTMENT FOOTINGS (w/ STEEL H PILES) ***		C.Y.	30.8	30.8	30.8	30.8	30.8	38.4	38.4	38.4	38.4	

GENERAL DATA		ℓ-ℓ	ABUT. BRG.	138'-10	151'-4	163'-10	176'-4	188'-10	201'-4	213'-10	226'-4	243'-0
VERTICAL	TOP OF SLAB TO ABUT. CONSTR. JT. AT C.L. ABUT. BRG.	"U"	3'-7 1/8	3'-7 1/8	4'-2 1/8	4'-2 1/8	4'-3	4'-8 1/2	4'-8 1/2	4'-9	4'-9 1/2	
CURVE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 1/8	3'-6 1/8	4'-1 1/8	4'-1 1/8	4'-7 1/8	4'-7 1/8	4'-7 1/8	4'-7 1/8	4'-7 1/8	
STRAIGHT	TOP OF SLAB TO ABUT. CONSTR. JT. AT C.L. ABUT. BRG.	"U"	3'-8 1/8	3'-7 1/8	4'-2 1/8	4'-2 1/8	4'-3 1/8	4'-8 1/2	4'-8 1/2	4'-9 1/2	4'-10	
GRADE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 1/8	3'-6 1/8	4'-1 1/8	4'-1 1/8	4'-7 1/8	4'-7 1/8	4'-7 1/8	4'-8 1/8	4'-8 1/8	
D.L. PIER REACTION (D.L. + F.W.S.)		KIPS	357.3	385.4	440.8	470.4	500.2	599.2	632.4	666.1	698.8	
L.L. PIER REACTION (HL93) NO IMPACT		KIPS	207.6	215.3	222.7	229.9	237.0	244.0	253.2	268.2	284.4	
NO. OF SPACES FOR 6a1 BARS (TOP)		"E"	149	164	179	194	209	224	239	254	274	
NO. OF SPACES FOR 6a1 BARS (BOTTOM)		"H"	148	163	178	193	208	223	238	253	273	
NO. OF SPACES FOR 5j1 BARS (TOP)		"J"	166	181	196	211	226	241	256	271	291	
OUT TO OUT OF SLAB		"S"	142'-3 1/2	154'-9 1/2	167'-3 1/2	179'-9 1/2	192'-3 1/2	204'-9 1/2	217'-3 1/2	229'-9 1/2	246'-5 1/2	
SLAB TRANSVERSE CONSTR. JT. DISTANCE FROM C.L. PIER		"X"	6'-7	7'-1	7'-7	8'-1	8'-8	9'-2	9'-8	10'-2	10'-2	

* VALUES SHOWN ARE FOR FIXED PIERS ONLY AND ALLOW FOR 1/8 INCH DEFLECTION OF THE 1 INCH NEOPRENE BEARING PAD. AT EXPANSION PIER LOCATIONS ADD 3/8 INCHES TO "U" VALUES SHOWN.

** WINGWALLS APPLY ONLY TO BRIDGES USING "C" BEAMS.

*** SEE SHEET H30-24-06 FOR ADDITIONAL CONCRETE REQUIRED IN ABUTMENT FOOTINGS.

LATEST REVISION DATE
05-11
Approved by Bridge Engineer
Thomas E. M. Dwyer

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 30' ROADWAY, THREE SPAN BRIDGES

PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES

DECEMBER, 2006

SUPERSTRUCTURE DETAILS 30° SKEW	H30-22-06
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