



SLAB LAYOUT

THE ROADWAY SLAB IS TO BE PLACED CONTINUOUSLY FROM ONE END OF THE BRIDGE TO THE OTHER, THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT EVIDENCE THAT THE NECESSARY EQUIPMENT AND FACILITIES ARE AVAILABLE TO ACCOMPLISH THE REQUIRED RESULT. PERMISSIBLE TRANSVERSE SLAB CONSTRUCTION JOINTS MAY BE USED, AT LOCATION SHOWN.

ESTIMATED QUANTITIES (SUPERSTRUCTURE PLUS INTEGRAL ABUTMENTS)		ξ-ξ 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)	WITH BARRIER RAIL	C.Y.	213.7	227.6	249.7	263.8	277.9	303.3	317.4	331.9	350.9
	WITH OPEN RAIL	C.Y.	216.2	230.3	252.7	267.0	281.4	306.8	321.1	335.9	355.1
STRUCTURAL CONCRETE ABUTMENTS (w/ WOOD PILES)		C.Y.	33.5	33.4	33.3	33.3	33.1	-----	-----	-----	-----
STRUCTURAL CONCRETE ABUTMENTS (w/ STEEL H PILES)		C.Y.	35.0	35.0	35.0	35.0	35.0	43.0	43.0	43.0	43.0
PRETENSIONED PRESTRESSED CONCRETE BEAM, CENTER SPAN		NO.	6-A50	6-A55	6-B59	6-B63	6-B67	6-C71	6-C75	6-C80	6-C80
PRETENSIONED PRESTRESSED CONCRETE BEAM, END SPAN		NO.	12-A42	12-A46	12-B50	12-B55	12-B59	12-C63	12-C67	12-C71	12-C80
CONCRETE RAIL (BARRIER OR OPEN)		L.F.	311.7	336.7	361.7	386.7	411.7	456.7	481.7	506.7	540.0
STRUCTURAL STEEL (w/ PILE BENT PIERS & DRAINS)		L.B.	4823	4823	4911	4911	4911	4883	4883	4883	4883
STRUCTURAL STEEL (w/ PILE BENT PIERS & NO DRAINS)		L.B.	4255	4255	4255	4255	4255	4147	4147	4147	4147
STRUCTURAL STEEL (w/ TEE PIERS & DRAINS)		L.B.	5898	5898	5898	5898	5898	6153	6153	6153	6153
STRUCTURAL STEEL (w/ TEE PIERS & NO DRAINS)		L.B.	5330	5330	5330	5330	5330	5417	5417	5417	5417
EPOXY COATED REINF. STEEL (w/ WOOD PILES & BARRIER RAIL)		L.B.	61,558	65,818	70,543	75,445	79,813	-----	-----	-----	-----
EPOXY COATED REINF. STEEL (w/ WOOD PILES & OPEN RAIL)		L.B.	61,807	66,014	70,870	75,930	80,219	-----	-----	-----	-----
EPOXY COATED REINF. STEEL (w/ STEEL H PILES & BARRIER RAIL)		L.B.	61,695	65,849	70,487	75,389	79,651	86,769	92,051	96,317	102,117
EPOXY COATED REINF. STEEL (w/ STEEL H PILES & OPEN RAIL)		L.B.	61,944	66,045	70,814	75,874	80,057	87,723	92,905	97,350	103,179
NO. OF WOOD PILES, TREATED FOR TWO ABUTMENTS		NO.	26	28	30	30	32	-----	-----	-----	-----
NO. OF STEEL H-PILES, HP10 x 57 FOR TWO ABUTMENTS		NO.	12	12	14	14	14	20	20	20	22
PREBORED HOLES (w/ WOOD PILES)		L.F.	260	280	300	300	320	-----	-----	-----	-----
PREBORED HOLES (w/ STEEL H-PILES)		L.F.	120	120	140	140	140	200	200	200	220

CONCRETE PLACEMENT QUANT.		ξ-ξ 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** , SECTIONS 1 & 3	WITH BARRIER RAIL	C.Y.	118.2	126.2	139.6	147.8	155.8	173.2	181.6	190.2	209.2
	WITH OPEN RAIL	C.Y.	119.5	127.6	141.2	149.5	157.7	175.1	183.6	192.4	211.6
SLAB INCLUDING HAUNCH, SECTION 2	WITH BARRIER RAIL	C.Y.	43.5	47.0	50.5	54.0	57.3	61.1	64.6	68.1	68.1
	WITH OPEN RAIL	C.Y.	44.2	47.8	51.3	54.9	58.3	62.1	65.6	69.2	69.2
SLAB INCLUDING HAUNCH & PIER DIAPHRAGM, SECTIONS 4 & 5	WITH BARRIER RAIL	C.Y.	44.8	47.2	52.4	54.8	57.6	61.8	64.0	66.4	66.4
	WITH OPEN RAIL	C.Y.	45.3	47.7	53.0	55.4	58.2	62.4	64.7	67.1	67.1
ABUTMENT WINGS		C.Y.	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
ABUTMENT FOOTINGS (w/ WOOD PILES)		C.Y.	33.5	33.4	33.3	33.3	33.1	-----	-----	-----	-----
ABUTMENT FOOTINGS (w/ STEEL H PILES)		C.Y.	35.0	35.0	35.0	35.0	35.0	43.0	43.0	43.0	43.0

GENERAL DATA		ξ-ξ 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'-8	3'-7 1/2	4'-2 1/2	4'-2 1/2	4'-2 1/2	4'-8 1/2	4'-8 1/2	4'-9 1/2	4'-9 1/2
CURVE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 1/2	3'-6 1/2	4'-1 1/2	4'-1 1/2	4'-1 1/2	4'-7 1/2	4'-7 1/2	4'-7 1/2	4'-7 1/2
STRAIGHT	TOP OF SLAB TO ABUT. CONSTR. JT. AT C.L. ABUT. BRG.	"U"	3'-8 1/2	3'-7 1/2	4'-2 1/2	4'-2 1/2	4'-3	4'-8 1/2	4'-8 1/2	4'-9 1/2	4'-9 1/2
GRADE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 1/2	3'-6 1/2	4'-1 1/2	4'-1 1/2	4'-2 1/2	4'-7 1/2	4'-7 1/2	4'-8	4'-8
D.L. PIER REACTION (D.L. + F.W.S.)		KIPS	430.0	464.6	530.0	566.5	603.2	722.1	763.1	804.5	844.8
L.L. PIER REACTION (HS25-44) NO IMPACT		KIPS	228.1	230.3	232.0	242.3	253.1	263.9	274.6	285.4	298.3
NO. OF SPACES FOR 6o1 BARS (TOP)		"B"	169	184	199	214	229	244	259	274	294
NO. OF SPACES FOR 6o1 BARS (BOTTOM) AND 5j1 BARS (TOP)		"D"	168	183	198	213	228	243	258	273	293
OUT TO OUT OF SLAB		"S"	141'-10	154'-4	166'-10	179'-4	191'-10	204'-4	216'-10	229'-4	246'-0
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 3/4 INCHES TO "U" VALUES SHOWN.
 ** WINGWALLS APPLY ONLY TO BRIDGES USING "C" BEAMS.

LATEST REVISION DATE

Thomas E. McQuinn

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 40' ROADWAY, THREE SPAN BRIDGE

PRETENSIONED PRESTRESSED
CONCRETE BEAM BRIDGES

HL93 SUPERSTRUCTURE DECEMBER, 2006 HS25 SUBSTRUCTURE

SUPERSTRUCTURE DETAILS
 0° SKEW

H40-09-06