



SLAB LAYOUT

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)		℄-℄ 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.	232.3	247.1	271.7	286.9	302.3	330.2	345.4	361.3	382.1
	WITH OPEN RAIL	C.Y.	234.8	249.8	274.7	290.1	305.8	333.7	349.1	365.3	386.3
STRUCTURAL CONCRETE ABUTMENTS (w/ WOOD PILES)		C.Y.	36.7	36.7	36.4	36.4	36.3	-----	-----	-----	-----
STRUCTURAL CONCRETE ABUTMENTS (w/ STEEL H PILES)		C.Y.	38.4	38.4	38.4	38.4	38.4	46.4	46.4	46.4	46.4
PRETENSIONED PRESTRESSED CONCRETE BEAM, CENTER SPAN		NO.	7-A50	7-A55	7-B59	7-B63	7-B67	7-C71	7-C75	7-C80	7-C80
PRETENSIONED PRESTRESSED CONCRETE BEAM, END SPAN		NO.	14-A42	14-A46	14-B50	14-B55	14-B59	14-C63	14-C67	14-C71	14-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.	5429	5429	5517	5517	5517	5467	5467	5467	5467
STRUCTURAL STEEL (w/ PILE BENT PIERS & NO DRAINS)		L.B.	4749	4749	4749	4749	4749	4619	4619	4619	4619
STRUCTURAL STEEL (w/ TEE PIERS & DRAINS)		L.B.	6683	6683	6771	6771	6771	6948	6948	6948	6948
STRUCTURAL STEEL (w/ TEE PIERS & NO DRAINS)		L.B.	6003	6003	6003	6003	6003	6100	6100	6100	6100
EPOXY COATED REINF. STEEL (w/ WOOD PILES & BARRIER RAIL)		L.B.	66,476	70,884	76,051	81,260	85,889	-----	-----	-----	-----
EPOXY COATED REINF. STEEL (w/ WOOD PILES & OPEN RAIL)		L.B.	67,141	71,505	76,819	82,204	86,763	-----	-----	-----	-----
EPOXY COATED REINF. (w/ STEEL H PILES & BARRIER RAIL)		L.B.	66,662	71,070	76,021	81,207	85,728	93,492	99,033	103,560	109,469
EPOXY COATED REINF. (w/ STEEL H PILES & OPEN RAIL)		L.B.	67,327	71,691	76,789	82,151	86,602	95,336	100,786	105,510	111,465
NO. OF WOOD PILES, TREATED FOR TWO ABUTMENTS		NO.	30	30	34	34	36	-----	-----	-----	-----
NO. OF STEEL H-PILES FOR TWO ABUTMENTS (HP 10 x 57)		NO.	14	14	14	16	16	20	22	22	22
PREBORED HOLES (W/WOOD PILES)		L.F.	300	300	340	340	360	-----	-----	-----	-----
PREBORED HOLES (W/STEEL H-PILES)		L.F.	140	140	140	160	160	200	220	220	220

CONCRETE PLACEMENT QUANT.		℄-℄ 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.	128.8	137.4	152.0	160.8	169.6	188.0	197.0	206.4	227.2
	WITH OPEN RAIL	C.Y.	130.1	138.8	153.6	162.5	171.5	189.9	199.0	208.6	229.6
SLAB INCLUDING HAUNCH, SECTION 2	WITH BARRIER RAIL	C.Y.	47.3	51.1	54.9	58.7	62.3	66.4	70.2	74.1	74.1
	WITH OPEN RAIL	C.Y.	48.0	51.9	55.7	59.6	63.3	67.4	71.2	75.2	75.2
SLAB INCLUDING HAUNCH & PIER DIAPHRAGM, SECTIONS 4 & 5	WITH BARRIER RAIL	C.Y.	49.0	51.4	57.2	59.8	62.8	67.4	69.8	72.4	72.4
	WITH OPEN RAIL	C.Y.	49.5	51.9	57.8	60.4	63.4	68.0	70.5	73.1	73.1
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.	36.7	36.7	36.4	36.4	36.3	-----	-----	-----	-----
ABUTMENT FOOTINGS (w/ STEEL H PILES)		C.Y.	38.4	38.4	38.4	38.4	38.4	46.4	46.4	46.4	46.4

GENERAL DATA		℄-℄ ABUT. BRG.	138'-10	151'-4	163'-10	176'-4	188'-10	201'-4	213'-10	226'-4	243'-0
VERTICAL CURVE	TOP OF SLAB TO ABUT. CONSTR. JT. AT C.L. ABUT. BRG.	"U"	3'-8 1/8	3'-7 3/8	4'-2 1/8	4'-2 1/8	4'-2 1/8	4'-8 5/8	4'-8 1/2	4'-9 3/8	4'-9 3/8
	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 3/8	3'-6 3/8	4'-1 1/8	4'-1 1/8	4'-1 1/8	4'-7 3/8	4'-7 3/8	4'-7 3/8	4'-7 3/8
STRAIGHT GRADE	TOP OF SLAB TO ABUT. CONSTR. JT. AT C.L. ABUT. BRG.	"U"	3'-8 1/8	3'-7 3/8	4'-2 1/8	4'-2 1/8	4'-3 1/8	4'-8 5/8	4'-8 1/2	4'-9 3/8	4'-9 3/8
	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 3/8	3'-6 3/8	4'-1 1/8	4'-1 1/8	4'-2 1/8	4'-7 3/8	4'-7 3/8	4'-8 1/8	4'-8 1/8
D.L. PIER REACTION (D.L. + F.W.S.) SERVICE LOADS		KIPS	471.8	509.8	583.3	623.5	663.8	799.8	845.3	891.2	936.0
L.L. PIER REACTION (HL93) NO IMPACT SERVICE LOADS		KIPS	264.7	274.5	283.9	293.1	302.2	311.0	322.9	341.9	362.6
NO. OF SPACES FOR 6a1 BARS (TOP)		"B"	169	184	199	214	229	244	259	274	294
NO. OF SPACES FOR 6a1 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 3/8 INCHES TO "U" VALUES SHOWN.
 ** WINGWALLS APPLY ONLY TO BRIDGES USING "C" BEAMS.

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 44' ROADWAY, THREE SPAN BRIDGE

PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES

MARCH, 2007

SUPERSTRUCTURE DETAILS
0° SKEW

H44-09-07

REVISED 05-13 - REVISION FOR LRFD PILE DESIGN.