

(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.

GENERAL DATA

VERTICAL CURVE	TOP OF SLAB TO ABUT. CONSTR. JT. AT C.L. ABUT. BRG.	"U"	3'-8"	3'-7 $\frac{1}{2}$ "	4'-2 $\frac{1}{2}$ "	4'-2 $\frac{1}{8}$ "	4'-2 $\frac{1}{8}$ "	4'-8 $\frac{1}{2}$ "	4'-8 $\frac{1}{8}$ "	4'-9 $\frac{1}{2}$ "	4'-9 $\frac{1}{2}$ "
STRAIGHT GRADE	TOP OF SLAB TO PIER TOP AT C.L. PIER #	"U"	3'-6"	3'-6 $\frac{1}{2}$ "	4'-1 $\frac{1}{2}$ "	4'-1 $\frac{1}{8}$ "	4'-7 $\frac{1}{8}$ "	4'-7 $\frac{1}{2}$ "	4'-7 $\frac{1}{8}$ "	4'-7 $\frac{1}{2}$ "	4'-7 $\frac{1}{2}$ "
	TOP OF SLAB TO ABUT. CONSTR. JT. AT C.L. ABUT. BRG.	"U"	3'-8"	3'-7 $\frac{1}{2}$ "	4'-2 $\frac{1}{2}$ "	4'-2 $\frac{1}{8}$ "	4'-3 $\frac{1}{8}$ "	4'-8 $\frac{1}{2}$ "	4'-8 $\frac{1}{8}$ "	4'-9 $\frac{1}{2}$ "	4'-9 $\frac{1}{2}$ "
	TOP OF SLAB TO PIER TOP AT C.L. PIER #	"U"	3'-6"	3'-6 $\frac{1}{2}$ "	4'-1 $\frac{1}{2}$ "	4'-1 $\frac{1}{8}$ "	4'-2 $\frac{1}{8}$ "	4'-7 $\frac{1}{2}$ "	4'-7 $\frac{1}{8}$ "	4'-8 $\frac{1}{2}$ "	4'-8 $\frac{1}{2}$ "
D.L. PIER REACTION (D.L. + F.W.S.)		KIPS	299.4	323.0	368.5	393.4	418.5	498.6	526.5	554.6	581.9
L.L. PIER REACTION (H.93) 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 601 BARS (TOP)		"E"	152	167	182	197	212	227	242	257	277
NO. OF SPACES FOR 601 BARS (BOTTOM)		"H"	153	168	183	198	213	228	243	258	278
NO. OF SPACES FOR 5J1 BARS (TOP)		"J"	165	180	195	210	225	240	255	270	290
OUT TO OUT OF SLAB		"S"	142'-3 $\frac{1}{2}$ "	154'-9 $\frac{1}{2}$ "	167'-3 $\frac{1}{2}$ "	179'-9 $\frac{1}{2}$ "	192'-3 $\frac{1}{2}$ "	204'-9 $\frac{1}{2}$ "	217'-3 $\frac{1}{2}$ "	229'-9 $\frac{1}{2}$ "	246'-5 $\frac{1}{2}$ "
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"

CONCRETE PLACEMENT QUANT.
(SUPERSTRUCTURE PLUS INTEGRAL ABUTMENTS)

SLAB INCL. HAUNCH, ABUT. DIAPHR., & WINGWALLS***, SECT. 1 & 3	C.Y.	76.9	82.2	90.8	96.1	101.5	114.5	120.0	125.6	138.0
SLAB INCLUDING HAUNCH, SECTION 2	C.Y.	28.4	30.7	33.0	35.3	37.5	39.9	42.1	44.5	44.5
SLAB INCLUDING HAUNCH & PIER DIAPHRAGM, SECTIONS 4 & 5	C.Y.	30.9	32.5	36.2	37.8	39.6	42.4	43.9	45.5	45.5
PAVING BLOCKS	C.Y.	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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.	21.2	21.1	21.1	21.1	21.1	----	----	----	----
ABUTMENT FOOTINGS (w/ STEEL H PILES) ***	C.Y.	22.4	22.4	22.4	22.4	22.4	30.2	30.2	30.2	30.2

ESTIMATED QUANTITIES (SUPERSTRUCTURE PLUS INTEGRAL ABUTMENTS)

STRUCTURAL CONCRETE SUPERSTRUCTURE (INCLUDES ABUT. WINGS)	C.Y.	150.6	159.4	175.6	184.6	193.9	213.2	222.4	232.1	244.6
STRUCTURAL CONCRETE ABUTMENTS (w/ WOOD PILES) ***	C.Y.	23.8	23.7	23.6	23.6	23.6	-----	-----	-----	-----
STRUCTURAL CONCRETE ABUTMENTS (w/ STEEL H PILES) ***	C.Y.	25.0	25.0	25.0	25.0	25.0	32.6	32.6	32.6	32.6
PRETENSIONED PRESTRESSED CONCRETE BEAM, CENTER SPAN	NO.	4-A50	4-A55	4-B59	4-B63	4-B67	4-C71	4-C75	4-C80	4-C86
PRETENSIONED PRESTRESSED CONCRETE BEAM, END SPAN	NO.	8-A42	8-A46	8-B50	8-B55	8-B59	8-C63	8-C67	8-C71	8-C80
CONCRETE RAIL	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)	L.B.	2555	2555	2555	2555	2555	2498	2498	2498	2498
STRUCTURAL STEEL (w/ TEE PIERS)	L.B.	3272	3272	3272	3272	3272	3344	3344	3344	3344
REINFORCING STEEL (w/ WOOD PILES)	L.B.	43,430	46,335	49,734	53,148	55,986	-----	-----	-----	-----
REINFORCING STEEL (w/ STEEL H PILES)	L.B.	43,414	46,212	49,503	52,917	55,775	62,370	65,736	68,837	72,650
NO. OF WOOD PILES, TREATED FOR TWO ABUTMENTS	NO.	20	22	24	24	24	-----	-----	-----	-----
NO. OF STEEL H-PILES (HP 10 x 57) FOR TWO ABUTMENTS	NO.	10	10	10	10	12	16	16	16	18
PREFORMED HOLES (w/ WOOD PILES)	L.F.	200	220	240	240	240	-----	-----	-----	-----
PREFORMED HOLES (w/ STEEL H-PILES)	L.F.	100	100	100	100	120	160	160	160	180

* VALUES SHOWN ARE FOR FIXED PIERS ONLY AND ALLOW FOR $\frac{1}{16}$ INCH DEFLECTION OF THE 1 INCH NEOPRENE BEARING PAD. AT EXPANSION PIER LOCATIONS ADD $3\frac{1}{16}$ 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.

12-10
LATEST REVISION DATE
Norman L. McQuibb
APPROVED BY BRIDGE ENGINEER



Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 24' ROADWAY, THREE SPAN BRIDGE

PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES

DECEMBER, 2006

SUPERSTRUCTURE DETAILS
30° SKEW

H24-22-06