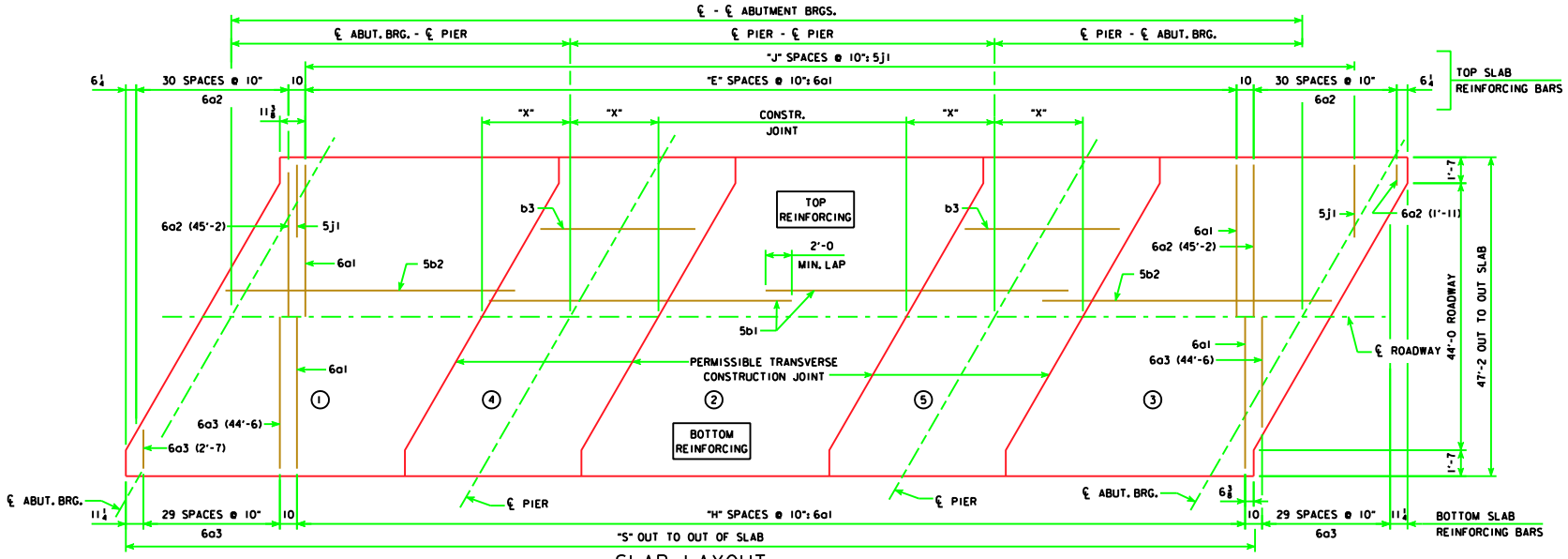

SLAB LAYOUT

(LEFT AHEAD SKEW SHOWN, RIGHT AHEAD SKEW SIMILAR)

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)

			℄-℄ 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.	247.1	262.3	288.9	304.1	319.7	347.8	363.2	379.1	400.1
	WITH OPEN RAIL	C.Y.	249.6	265.0	291.9	307.3	323.1	351.3	366.9	383.0	404.3
STRUCTURAL CONCRETE ABUTMENTS (w/ WOOD PILES) ***		C.Y.	43.1	43.1	42.8	42.8	42.7	-----	-----	-----	-----
STRUCTURAL CONCRETE ABUTMENTS (w/ STEEL H PILES) ***		C.Y.	44.8	44.8	44.8	44.8	44.8	52.6	52.6	52.6	52.6
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.	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)		LB.	5577	5577	5665	5665	5665	5630	5630	5630	5630
STRUCTURAL STEEL (w/ PILE BENT PIERS & NO DRAINS)		LB.	5009	5009	5009	5009	5009	4894	4894	4894	4894
STRUCTURAL STEEL (w/ TEE PIERS & DRAINS)		LB.	6831	6831	6919	6919	6919	7111	7111	7111	7111
STRUCTURAL STEEL (w/ TEE PIERS & NO DRAINS)		LB.	6263	6263	6263	6263	6263	6375	6375	6375	6375
EPOXY COATED REINF. STEEL (w/ WOOD PILES & BARRIER RAIL)		LB.	67,462	72,091	76,397	81,606	86,229	-----	-----	-----	-----
EPOXY COATED REINF. STEEL (w/ WOOD PILES & OPEN RAIL)		LB.	67,731	72,307	76,744	82,111	86,655	-----	-----	-----	-----
EPOXY COATED REINF. (w/ STEEL H PILES & BARRIER RAIL)		LB.	67,029	71,658	76,366	81,575	86,094	93,608	99,497	104,023	109,933
EPOXY COATED REINF. (w/ STEEL H PILES & OPEN RAIL)		LB.	67,298	71,874	76,713	82,080	86,520	94,582	100,371	105,076	111,015
NO. OF WOOD PILES, TREATED FOR TWO ABUTMENTS		NO.	30	30	34	34	36	-----	-----	-----	-----
NO. OF STEEL H-PILES, HP10 x 57 FOR TWO ABUTMENTS		NO.	16	16	16	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.	160	160	160	160	160	200	220	220	220

GENERAL DATA

			℄-℄ 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 1/16	3'-7 13/16	4'-2 5/16	4'-2 1/8	4'-2 5/16	4'-8 5/8	4'-8 3/8	4'-9 3/16	4'-9 5/8
CURVE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 7/16	3'-6 3/8	4'-1 3/8	4'-1 5/8	4'-1 15/16	4'-7 5/16	4'-7 3/16	4'-7 9/16	4'-7 3/16
STRAIGHT	TOP OF SLAB TO ABUT. CONSTR. JT. AT C.L. ABUT. BRG.	"U"	3'-8 1/16	3'-7 7/8	4'-2 5/16	4'-2 13/16	4'-3 1/16	4'-8 3/4	4'-8 13/16	4'-9 3/8	4'-10
GRADE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 3/8	3'-6 7/8	4'-1 11/16	4'-1 15/16	4'-2 5/16	4'-7 1/4	4'-7 3/4	4'-8 1/16	4'-8 1/16
D.L. PIER REACTION (D.L. + F.W.S.)		KIPS	489.3	527.5	604.3	644.6	685.2	822.9	868.4	914.4	959.2
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 6a1 BARS (TOP)		"E"	138	153	168	183	198	213	228	243	263
NO. OF SPACES FOR 6a1 BARS (BOTTOM)		"H"	139	154	169	184	199	214	229	244	264
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 3/8	154'-9 3/8	167'-3 3/8	179'-9 3/8	192'-3 3/8	204'-9 3/8	217'-3 3/8	229'-9 3/8	246'-5 3/8
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)

			℄-℄ 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.	135.0	143.8	159.2	168.0	176.8	195.6	204.6	214.0	235.0
	WITH OPEN RAIL	C.Y.	136.3	145.2	160.8	169.7	178.6	197.5	206.6	216.1	237.4
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.	57.6	60.2	67.6	70.2	73.4	78.6	81.2	83.8	83.8
	WITH OPEN RAIL	C.Y.	58.1	60.7	68.2	70.8	74.0	79.2	81.9	84.5	84.5
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.	43.1	43.1	42.8	42.8	42.7	-----	-----	-----	-----
ABUTMENT FOOTINGS (w/ STEEL H PILES) ***		C.Y.	44.8	44.8	44.8	44.8	44.8	52.6	52.6	52.6	52.6

* VALUES SHOWN ARE FOR FIXED PIERS ONLY AND ALLOW FOR 1/16 INCH DEFLECTION OF THE 1 INCH NEOPRENE BEARING PAD. AT EXPANSION PIER LOCATIONS ADD 3 1/16 INCHES TO "U" VALUES SHOWN.

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

*** SEE SHEET H44-24-07 FOR ADDITIONAL CONCRETE REQUIRED IN ABUTMENT FOOTINGS.

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 44' ROADWAY, THREE SPAN BRIDGE

PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES

HL93 SUPERSTRUCTURE MARCH, 2007 HS25 SUBSTRUCTURE

SUPERSTRUCTURE DETAILS
30° SKEW

H44-22-07