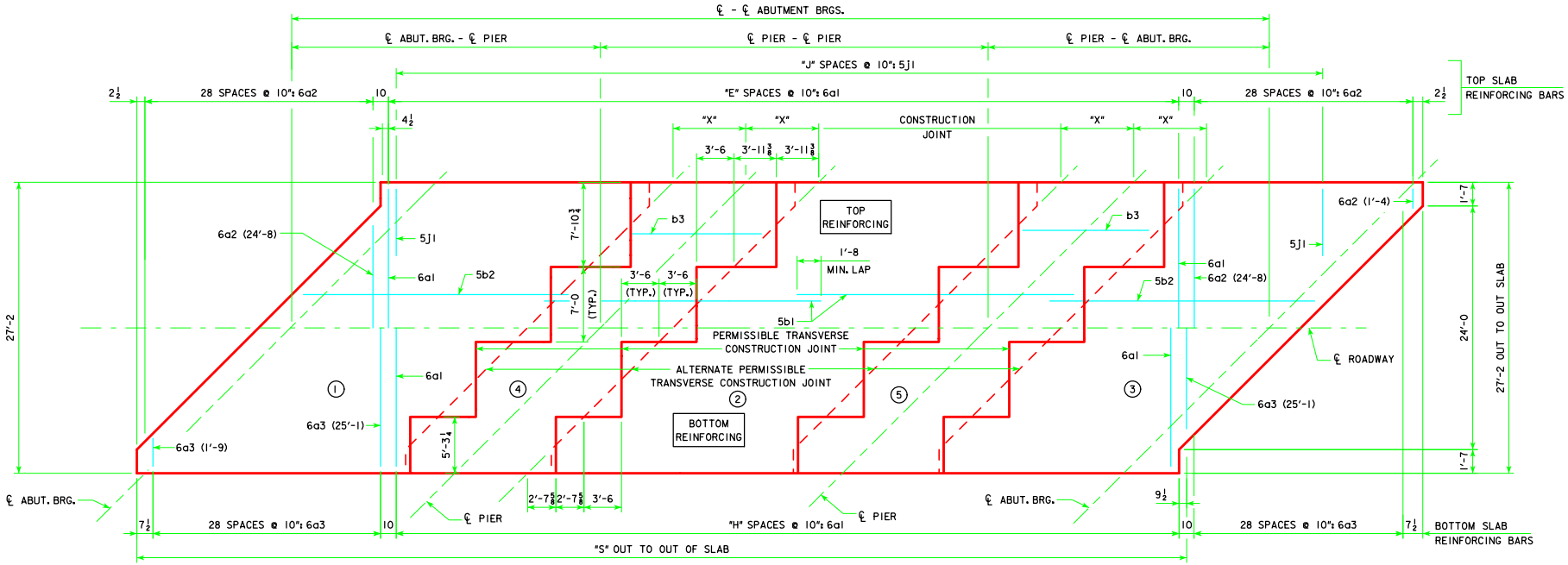

SLAB LAYOUT

(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.

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	3'-7 7/8	4'-2 7/8	4'-2 7/8	4'-2 7/8	4'-8 1/2	4'-8 11/16	4'-9 1/8	4'-9 1/2
CURVE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 3/8	3'-6 5/8	4'-1 3/8	4'-1 9/16	4'-1 15/16	4'-7 5/16	4'-7 5/16	4'-7 9/16	4'-7 13/16
STRAIGHT	TOP OF SLAB TO ABUT. CONSTR. JT. AT C.L. ABUT. BRG.	"U"	3'-8 1/16	3'-7 7/8	4'-2 15/16	4'-2 15/16	4'-3 1/16	4'-8 3/4	4'-8 7/8	4'-9 3/8	4'-9 15/16
GRADE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 5/8	3'-6 13/16	4'-1 5/8	4'-1 7/8	4'-2 5/16	4'-7 3/4	4'-7 3/4	4'-8 1/16	4'-8 1/16
D.L. PIER REACTION (D.L. + F.W.S.)		KIPS	305.3	328.9	375.5	400.5	425.6	506.3	534.2	562.4	589.7
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"	142	157	172	187	202	217	232	247	267
NO. OF SPACES FOR 6a1 BARS (BOTTOM)		"H"	141	156	171	186	201	216	231	246	266
NO. OF SPACES FOR 5j1 BARS (TOP)		"J"	164	179	194	209	224	239	254	269	289
OUT TO OUT OF SLAB		"S"	143'-0 7/8	155'-6 7/8	168'-0 7/8	180'-6 7/8	193'-0 7/8	205'-6 7/8	218'-0 7/8	230'-6 7/8	247'-2 7/8
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

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 ABUT. WINGS)	C.Y.	160.0	169.0	186.6	195.6	204.9	224.8	233.8	243.5	256.2
STRUCTURAL CONCRETE ABUTMENTS (w/ WOOD PILES) ***	C.Y.	29.5	29.5	29.4	29.3	29.3	-----	-----	-----	-----
STRUCTURAL CONCRETE ABUTMENTS (w/ STEEL H PILES) ***	C.Y.	30.8	30.8	30.8	30.8	30.8	37.8	37.8	37.8	37.8
PRETENSIONED PRESTRESSED CONCRETE BEAM, CENTER SPAN	NO.	4-A50	4-A55	4-B59	4-B63	4-B67	4-C71	4-C75	4-C80	4-C80
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.	314.2	339.2	364.2	389.2	414.2	456.7	481.7	506.7	540.0
STRUCTURAL STEEL (w/ PILE BENT PIERS)	LB.	2555	2555	2555	2555	2555	2498	2498	2498	2498
STRUCTURAL STEEL (w/ TEE PIERS)	LB.	3272	3272	3272	3272	3272	3344	3344	3344	3344
REINFORCING STEEL (w/ WOOD PILES)	LB.	45,732	48,636	51,540	55,061	57,899	-----	-----	-----	-----
REINFORCING STEEL (w/ STEEL H PILES)	LB.	45,346	48,250	51,548	54,961	57,799	64,417	67,783	70,883	74,744
NO. OF WOOD PILES, TREATED FOR TWO ABUTMENTS	NO.	22	22	24	26	26	-----	-----	-----	-----
NO. OF STEEL H-PILES (HP 10 x 57) FOR TWO ABUTMENTS	NO.	10	10	12	12	12	16	16	16	18
PREBORED HOLES (w/ WOOD PILES)	L.F.	220	220	240	260	260	-----	-----	-----	-----
PREBORED HOLES (w/ STEEL H-PILES)	L.F.	100	100	120	120	120	160	160	160	180

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 INCL. HAUNCH, ABUT. DIAPHR., & WINGWALLS** , SECT. 1 & 3	C.Y.	85.7	90.8	101.0	106.1	111.4	124.9	130.2	135.9	148.6
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.	35.9	37.5	42.2	43.8	45.6	48.8	50.3	51.9	51.9
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.	29.5	29.5	29.4	29.3	29.3	-----	-----	-----	-----
ABUTMENT FOOTINGS (w/ STEEL H PILES) ***	C.Y.	30.8	30.8	30.8	30.8	30.8	37.8	37.8	37.8	37.8

* 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 3/16 INCHES TO "U" VALUES SHOWN.

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

*** SEE SHEET H30-31-06 FOR ADDITIONAL CONCRETE REQUIRED IN ABUTMENT FOOTINGS.

12-10
LATEST REVISION DATE

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
45° SKEW

H24-29-06

REVISED 12-10 - CORRECTED THE OPEN RAIL REBAR QUANTITIES FOR THE 201'-4, 213'-10, 213'-0, 226'-4, & 243'-0 BRIDGE LENGTHS.