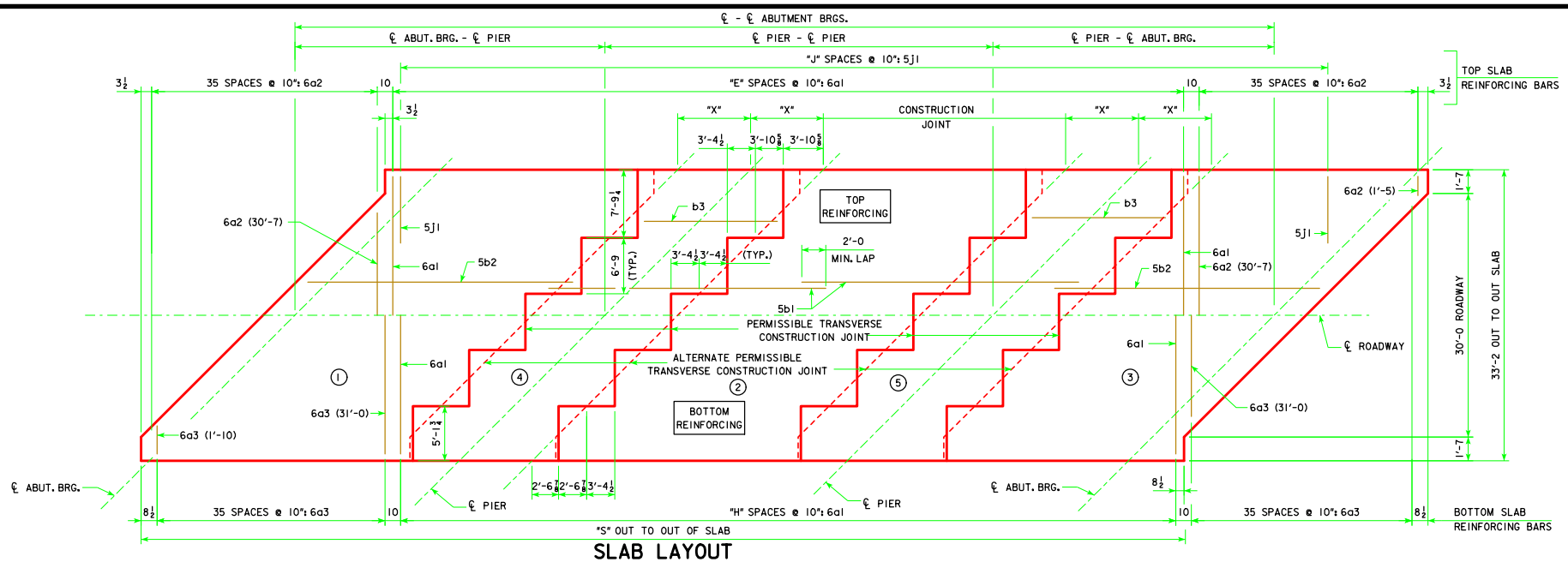

SLAB LAYOUT

(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.

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	WITH BARRIER RAIL	C.Y.	190.3	200.8	221.7	232.6	243.5	266.4	277.1	288.6	303.4
(INCLUDES ABUTMENT WINGS, PAV. BLOCKS)	WITH OPEN RAIL	C.Y.	192.8	203.5	224.7	235.8	246.9	269.9	280.8	292.5	307.6
STRUCTURAL CONCRETE ABUTMENTS (w/ WOOD PILES) ***		C.Y.	36.6	36.5	36.4	36.4	36.4	-----	-----	-----	-----
STRUCTURAL CONCRETE ABUTMENTS (w/ STEEL H PILES) ***		C.Y.	38.0	38.0	38.0	38.0	38.0	45.0	45.0	45.0	45.0
PRETENSIONED PRESTRESSED CONCRETE BEAM, CENTER SPAN		NO.	5-A50	5-A55	5-B59	5-B63	5-B67	5-C71	5-C75	5-C80	5-C80
PRETENSIONED PRESTRESSED CONCRETE BEAM, END SPAN		NO.	10-A42	10-A46	10-B50	10-B55	10-B59	10-C63	10-C67	10-C71	10-C80
CONCRETE RAIL (BARRIER OR OPEN)		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 & DRAINS)		LB.	3985	3985	4073	4073	4073	4077	4077	4077	4077
STRUCTURAL STEEL (w/ PILE BENT PIERS & NO DRAINS)		LB.	3305	3305	3305	3305	3305	3229	3229	3229	3229
STRUCTURAL STEEL (w/ TEE PIERS & DRAINS)		LB.	4881	4881	4969	4969	4969	5135	5135	5135	5135
STRUCTURAL STEEL (w/ TEE PIERS & NO DRAINS)		LB.	4201	4201	4201	4201	4201	4287	4287	4287	4287
REINFORCING STEEL (w/ WOOD PILES & BARRIER RAIL)		LB.	53,802	57,451	60,673	64,538	68,117	-----	-----	-----	-----
REINFORCING STEEL (w/ WOOD PILES & OPEN RAIL)		LB.	54,467	58,072	61,441	65,482	68,991	-----	-----	-----	-----
REINFORCING STEEL (w/ STEEL H PILES & BARRIER RAIL)		LB.	53,547	57,044	60,683	64,548	68,127	74,517	78,661	82,239	86,532
REINFORCING STEEL (w/ STEEL H PILES & OPEN RAIL)		LB.	54,212	57,665	61,451	65,492	69,001	76,148	80,201	83,976	88,315
NO. OF WOOD PILES, TREATED FOR TWO ABUTMENTS		NO.	24	26	28	28	28	-----	-----	-----	-----
NO. OF STEEL H-PILES FOR TWO ABUTMENTS (HP 10 x 57)		NO.	12	12	12	12	12	18	18	18	20
PREBORED HOLES (w/ WOOD PILES)		L.F.	240	260	280	280	280	-----	-----	-----	-----
PREBORED HOLES (w/ STEEL H-PILES)		L.F.	120	120	120	120	120	180	180	180	200

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,	WITH BARRIER RAIL	C.Y.	102.6	108.6	120.6	126.8	133.0	148.2	154.6	161.4	176.2
& WINGWALLS** , SECTIONS 1 & 3	WITH OPEN RAIL	C.Y.	103.9	110.0	122.2	128.5	134.8	150.1	156.6	163.5	178.6
SLAB INCLUDING	WITH BARRIER RAIL	C.Y.	33.5	36.2	38.9	41.6	44.1	47.0	49.7	52.4	52.4
HAUNCH, SECTION 2	WITH OPEN RAIL	C.Y.	34.2	37.0	39.7	42.5	45.1	48.0	50.7	53.5	53.5
SLAB INCLUDING HAUNCH &	WITH BARRIER RAIL	C.Y.	43.6	45.4	51.2	53.2	55.4	59.4	61.0	63.0	63.0
PIER DIAPHRAGM, SECTIONS 4 & 5	WITH OPEN RAIL	C.Y.	44.1	45.9	51.8	53.8	56.0	60.0	61.7	63.7	63.7
PAVING BLOCKS		C.Y.	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
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.	36.6	36.5	36.4	36.4	36.4	-----	-----	-----	-----
ABUTMENT FOOTINGS (w/ STEEL H PILES) ***		C.Y.	38.0	38.0	38.0	38.0	38.0	45.0	45.0	45.0	45.0

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'-7 15/16	3'-7¾	4'-2 13/16	4'-2 13/16	4'-3	4'-8½	4'-8 11/16	4'-9	4'-9 7/16
CURVE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6⅞	3'-6⅝	4'-1⅜	4'-1⅝	4'-1 15/16	4'-7⅝	4'-7⅝	4'-7 9/16	4'-7 9/16
STRAIGHT	TOP OF SLAB TO ABUT. CONSTR. JT. AT C.L. ABUT. BRG.	"U"	3'-8 1/16	3'-7⅞	4'-2 15/16	4'-2 15/16	4'-3 1/16	4'-8 11/16	4'-8 15/16	4'-9⅜	4'-10
GRADE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6⅝	3'-6⅞	4'-1 11/16	4'-1 15/16	4'-2 5/16	4'-7 15/16	4'-7¾	4'-8 1/16	4'-8 1/16
D.L. PIER REACTION (D.L. + F.W.S.)		KIPS	364.7	392.9	449.7	479.4	509.3	609.0	642.1	675.9	708.7
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"	135	150	165	180	195	210	225	240	260
NO. OF SPACES FOR 6a1 BARS (BOTTOM)		"H"	134	149	164	179	194	209	224	239	259
NO. OF SPACES FOR 5j1 BARS (TOP)		"J"	164	179	194	209	224	239	254	269	289
OUT TO OUT OF SLAB		"S"	143'-0⅞	155'-6⅞	168'-0⅞	180'-6⅞	193'-0⅞	205'-6⅞	218'-0⅞	230'-6⅞	247'-2⅞
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 1/16 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 H30-31-06 FOR ADDITIONAL CONCRETE REQUIRED IN ABUTMENT FOOTINGS.

10-11
LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 30' ROADWAY, THREE SPAN BRIDGES

PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGES

DECEMBER, 2006

SUPERSTRUCTURE DETAILS
45° SKEW

H30-29-06

REVISED 10-11 - THE ESTIMATED QUANTITIES FOR THE STRUCTURAL STEEL WITH DRAINS WAS CHANGED.