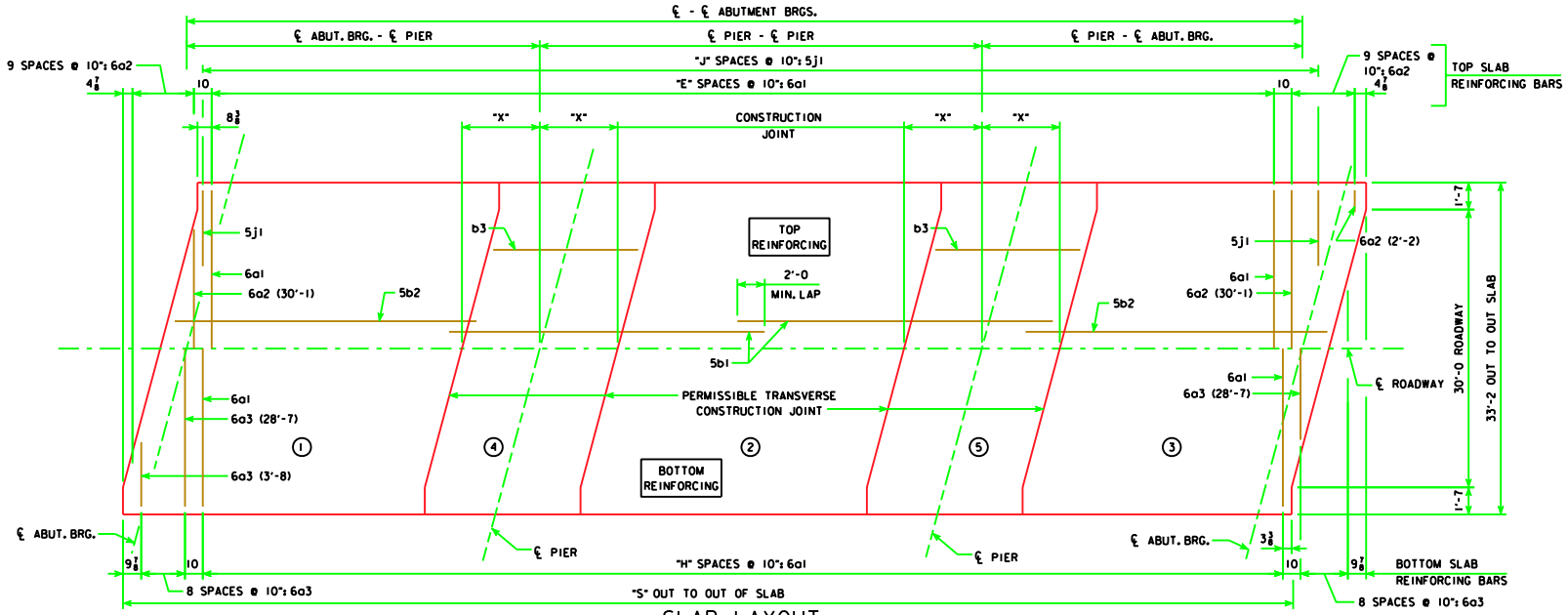

SLAB LAYOUT

(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	WITH BARRIER RAIL	C.Y.	169.9	180.6	198.1	209.0	219.9	240.8	251.5	262.8	277.6
(INCLUDES ABUTMENT WINGS)	WITH OPEN RAIL	C.Y.	172.4	183.3	201.1	212.2	223.4	244.3	255.2	266.8	281.8
STRUCTURAL CONCRETE ABUTMENTS (w/ WOOD PILES) ***		C.Y.	26.3	26.3	26.2	26.2	26.1	-----	-----	-----	-----
STRUCTURAL CONCRETE ABUTMENTS (w/ STEEL H PILES) ***		C.Y.	27.6	27.6	27.6	27.6	27.6	35.4	35.4	35.4	35.4
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.	311.9	336.9	361.9	386.9	411.9	456.7	481.7	506.7	540.0
STRUCTURAL STEEL (w/ PILE BENT PIERS & DRAINS)		LB.	3873	3873	3961	3961	3961	3965	3965	3965	3965
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.	4769	4769	4857	4857	4857	5023	5023	5023	5023
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.	49,884	53,381	57,035	60,900	64,427	-----	-----	-----	-----
REINFORCING STEEL (w/ WOOD PILES & OPEN RAIL)		LB.	50,133	53,577	57,362	61,385	64,833	-----	-----	-----	-----
REINFORCING STEEL (w/ STEEL H PILES & BARRIER RAIL)		LB.	49,952	53,449	56,996	60,923	64,345	70,530	74,674	78,093	82,581
REINFORCING STEEL (w/ STEEL H PILES & OPEN RAIL)		LB.	50,201	53,645	57,323	61,408	64,751	71,484	75,528	79,126	83,643
NO. OF WOOD PILES, TREATED FOR TWO ABUTMENTS		NO.	22	22	24	24	26	-----	-----	-----	-----
NO. OF STEEL H-PILES, HP 10 x 57 FOR TWO ABUTMENTS		NO.	10	10	10	12	12	16	16	16	18
PREBORED HOLES (w/ WOOD PILES)		L.F.	220	220	240	240	260	-----	-----	-----	-----
PREBORED HOLES (w/ STEEL H-PILES)		L.F.	100	100	100	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 INCLUDING HAUNCH, ABUT. DIAPHRAGM,	WITH BARRIER RAIL	C.Y.	91.8	98.0	108.2	114.6	120.8	135.4	141.8	148.4	163.2
& WINGWALLS** , SECTIONS 1 & 3	WITH OPEN RAIL	C.Y.	93.1	99.4	109.8	116.3	122.7	137.3	143.8	150.6	165.6
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.	37.4	39.2	43.8	45.6	47.8	51.2	52.8	54.8	54.8
PIER DIAPHRAGM, SECTIONS 4 & 5	WITH OPEN RAIL	C.Y.	37.9	39.7	44.4	46.2	48.4	51.8	53.5	55.5	55.5
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.	26.3	26.3	26.2	26.2	26.1	-----	-----	-----	-----
ABUTMENT FOOTINGS (w/ STEEL H PILES) ***		C.Y.	27.6	27.6	27.6	27.6	27.6	35.4	35.4	35.4	35.4

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 9/16	3'-7 3/4	4'-2 13/16	4'-2 13/16	4'-3	4'-8 1/2	4'-8 11/16	4'-9	4'-9 7/16
CURVE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 7/16	3'-6 3/8	4'-1 1/8	4'-1 3/8	4'-1 5/8	4'-7 1/8	4'-7 3/16	4'-7 3/8	4'-7 5/8
STRAIGHT	TOP OF SLAB TO ABUT. CONSTR. JT. AT C.L. ABUT. BRG.	"U"	3'-8 1/16	3'-7 7/8	4'-2 9/16	4'-2 9/16	4'-3 1/16	4'-8 11/16	4'-8 9/16	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 9/16	4'-2 3/8	4'-7 9/16	4'-7 3/4	4'-8 1/16	4'-8 1/16
D.L. PIER REACTION (D.L. + F.W.S.)		KIPS	352.1	380.1	434.5	464.0	493.8	592.3	625.5	659.1	691.9
L.L. PIER REACTION (HS25-44) NO IMPACT		KIPS	169.0	170.6	171.9	179.5	187.5	195.5	203.4	211.4	221.0
NO. OF SPACES FOR 6a1 BARS (TOP)		"E"	159	174	189	204	219	234	249	264	284
NO. OF SPACES FOR 6a1 BARS (BOTTOM)		"H"	160	175	190	205	220	235	250	265	285
NO. OF SPACES FOR 5j1 BARS (TOP)		"J"	167	182	197	212	227	242	257	272	292
OUT TO OUT OF SLAB		"S"	141'-11 1/4	154'-5 1/4	166'-11 1/4	179'-5 1/4	191'-11 1/4	204'-5 1/4	216'-11 1/4	229'-5 1/4	246'-1 1/4
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 H30-17-06 FOR ADDITIONAL CONCRETE REQUIRED IN ABUTMENT FOOTINGS.

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

HL93 SUPERSTRUCTURE DECEMBER, 2006 HS25 SUBSTRUCTURE

SUPERSTRUCTURE DETAILS
15° SKEW

H30-15-06