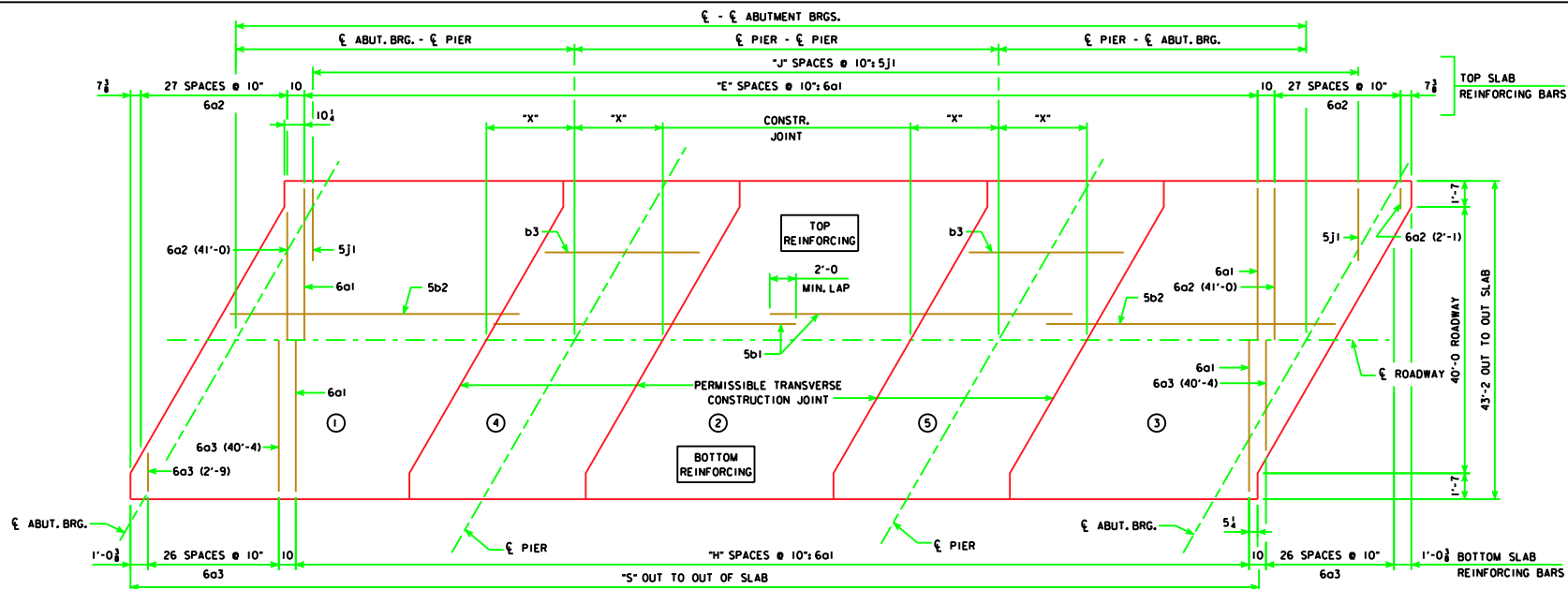




SLAB LAYOUT

(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)		ℰ-ℰ 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.	227.5	241.4	265.9	280.0	294.1	320.7	334.6	349.1	368.3
	WITH OPEN RAIL	C.Y.	230.0	244.1	268.9	283.2	297.5	324.2	338.3	353.0	372.5
STRUCTURAL CONCRETE ABUTMENTS (w/ WOOD PILES)	***	C.Y.	39.2	39.2	38.9	38.9	38.8	-----	-----	-----	-----
STRUCTURAL CONCRETE ABUTMENTS (w/ STEEL H PILES)	***	C.Y.	40.8	40.8	40.8	40.8	40.8	48.4	48.4	48.4	48.4
PRETENSIONED PRESTRESSED CONCRETE BEAM, CENTER SPAN	NO.	6-A50	6-A55	6-B59	6-B63	6-B67	6-C71	6-C75	6-C80	6-C80	6-C80
PRETENSIONED PRESTRESSED CONCRETE BEAM, END SPAN	NO.	12-A42	12-A46	12-B50	12-B55	12-B59	12-C63	12-C67	12-C71	12-C80	12-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	540.0
STRUCTURAL STEEL (w/ PILE BENT PIERS & DRAINS)	LB.	5031	5031	5119	5119	5119	5103	5103	5103	5103	5103
STRUCTURAL STEEL (w/ PILE BENT PIERS & NO DRAINS)	LB.	4463	4463	4463	4463	4463	4367	4367	4367	4367	4367
STRUCTURAL STEEL (w/ TEE PIERS & DRAINS)	LB.	6106	6106	6194	6194	6194	6373	6373	6373	6373	6373
STRUCTURAL STEEL (w/ TEE PIERS & NO DRAINS)	LB.	5538	5538	5538	5538	5538	5637	5637	5637	5637	5637
EPOXY COATED REINF. STEEL (w/ WOOD PILES & BARRIER RAIL)	LB.	62,922	67,288	71,339	76,241	80,607	-----	-----	-----	-----	-----
EPOXY COATED REINF. STEEL (w/ WOOD PILES & OPEN RAIL)	LB.	63,171	67,484	71,666	76,726	81,013	-----	-----	-----	-----	-----
EPOXY COATED REINF. STEEL (w/ STEEL H PILES & BARRIER RAIL)	LB.	62,665	67,031	71,440	76,342	80,602	87,775	93,058	97,324	102,816	102,816
EPOXY COATED REINF. STEEL (w/ STEEL H PILES & OPEN RAIL)	LB.	62,914	67,227	71,767	76,827	81,008	88,729	93,912	98,357	103,878	103,878
NO. OF WOOD PILES, TREATED FOR TWO ABUTMENTS	NO.	28	28	32	32	34	-----	-----	-----	-----	-----
NO. OF STEEL H-PILES, HP10 x 57 FOR TWO ABUTMENTS	NO.	14	14	14	14	14	20	20	20	20	22
PREBORED HOLES (w/ WOOD PILES)	L.F.	280	280	320	320	340	-----	-----	-----	-----	-----
PREBORED HOLES (w/ STEEL H-PILES)	L.F.	140	140	140	140	140	200	200	200	220	220

CONCRETE PLACEMENT QUANT.		ℰ-ℰ 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.	124.0	132.0	146.2	154.4	162.4	180.2	188.4	197.0	216.2
	WITH OPEN RAIL	C.Y.	125.3	133.4	147.8	156.1	164.2	182.1	190.4	199.1	218.6
SLAB INCLUDING HAUNCH, SECTION 2	WITH BARRIER RAIL	C.Y.	43.5	47.0	50.5	54.0	57.3	61.1	64.6	68.1	68.1
	WITH OPEN RAIL	C.Y.	44.2	47.8	51.3	54.9	58.3	62.1	65.6	69.2	69.2
SLAB INCLUDING HAUNCH & PIER DIAPHRAGM, SECTIONS 4 & 5	WITH BARRIER RAIL	C.Y.	52.8	55.2	62.0	64.4	67.2	72.2	74.4	76.8	76.8
	WITH OPEN RAIL	C.Y.	53.3	55.7	62.6	65.0	67.8	72.8	75.1	77.5	77.5
ABUTMENT WINGS	C.Y.	7.2	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.	39.2	39.2	38.9	38.9	38.8	-----	-----	-----	-----	-----
ABUTMENT FOOTINGS (w/ STEEL H PILES) ***	C.Y.	40.8	40.8	40.8	40.8	40.8	48.4	48.4	48.4	48.4	48.4

GENERAL DATA		ℰ-ℰ 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 $\frac{1}{2}$ "	4'-2 $\frac{1}{2}$ "	4'-2 $\frac{1}{2}$ "	4'-2 $\frac{1}{2}$ "	4'-8 $\frac{1}{2}$ "	4'-8 $\frac{1}{2}$ "	4'-9 $\frac{1}{2}$ "	4'-9 $\frac{1}{2}$ "
CURVE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 $\frac{3}{4}$ "	3'-6 $\frac{3}{4}$ "	4'-1 $\frac{1}{2}$ "	4'-1 $\frac{1}{2}$ "	4'-1 $\frac{1}{2}$ "	4'-7 $\frac{3}{4}$ "	4'-7 $\frac{3}{4}$ "	4'-7 $\frac{3}{4}$ "	4'-7 $\frac{3}{4}$ "
STRAIGHT	TOP OF SLAB TO ABUT. CONSTR. JT. AT C.L. ABUT. BRG.	"U"	3'-8 $\frac{3}{4}$ "	3'-7 $\frac{1}{2}$ "	4'-2 $\frac{1}{2}$ "	4'-2 $\frac{1}{2}$ "	4'-3"	4'-8 $\frac{1}{2}$ "	4'-8 $\frac{1}{2}$ "	4'-9 $\frac{1}{2}$ "	4'-9 $\frac{1}{2}$ "
GRADE	TOP OF SLAB TO PIER TOP AT C.L. PIER*	"U"	3'-6 $\frac{3}{4}$ "	3'-6 $\frac{3}{4}$ "	4'-1 $\frac{1}{2}$ "	4'-1 $\frac{1}{2}$ "	4'-2 $\frac{1}{2}$ "	4'-7 $\frac{3}{4}$ "	4'-7 $\frac{3}{4}$ "	4'-8"	4'-8"
D.L. PIER REACTION (D.L. + F.W.S.)	KIPS	446.0	480.7	549.2	585.8	622.7	743.2	784.2	825.8	866.1	866.1
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	298.3
NO. OF SPACES FOR 6a1 BARS (TOP)	"E"	141	156	171	186	201	216	231	246	266	266
NO. OF SPACES FOR 6a1 BARS (BOTTOM)	"H"	142	157	172	187	202	217	232	247	267	267
NO. OF SPACES FOR 5j1 BARS (TOP)	"J"	165	180	195	210	225	240	255	270	290	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 $\frac{1}{2}$ "	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"	10'-2"

* VALUES SHOWN ARE FOR FIXED PIERS ONLY AND ALLOW FOR $\frac{1}{4}$ INCH DEFLECTION OF THE 1 INCH NEOPRENE BEARING PAD. AT EXPANSION PIER LOCATIONS ADD $3\frac{1}{2}$ INCHES TO "U" VALUES SHOWN.

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

*** SEE SHEET H40-24-06 FOR ADDITIONAL CONCRETE REQUIRED IN ABUTMENT FOOTINGS.

LATEST REVISION DATE



Iowa Department of Transportation
Highway Division

APPROVED BY BRIDGE ENGINEER

STANDARD DESIGN - 40' ROADWAY, THREE SPAN BRIDGE

PRETENSIONED PRESTRESSED

CONCRETE BEAM BRIDGES

HL93 SUPERSTRUCTURE DECEMBER, 2006 HS25 SUBSTRUCTURE

SUPERSTRUCTURE DETAILS

30° SKEW

H40-22-06