BILL OF REINFORCING STEEL - ONE ABUTMENT - 0° SKEW

MARK	LOCATION	SHAPE	LENGTH	70'-0 NO.	70'-0 WEIGHT	80'-0 NO.	80'-0 WEIGHT	90'-0 NO.	90'-0 WEIGHT	100'-0 NO.	100'-0 WEIGHT	110'-0 NO.	110'-0 WEIGHT	120'-0 NO.	120'-0 WEIGHT	130'-0 NO.	130'-0 WEIGHT	140'-0 NO.	140'-0 WEIGHT	150'-0 NO.	150'-0 WEIGHT
8r1	ABUTMENT FOOTING LONGITUDINAL		26'-4	7	492	7	492	7	492	7	492	7	492	7	492	7	492	7	492	7	492
8r2	ABUTMENT FOOTING LONGITUDINAL		21'-4	7	399	7	399	7	399	7	399	7	399	7	399	7	399	7	399	7	399
5s1	ABUTMENT FOOTING HOOPS		11'-0	36	413	40	459	40	459	34	390	37	425	37	425	40	459	32	367	34	390
5p2	PAVING SUPPORT TRANSVERSE		9'-4	20	195	20	195	20	195	20	195	20	195	20	195	20	195	20	195	20	195
4p5	PAVING SUPPORT TRANSVERSE		1'-11	20	26	20	26	20	26	20	26	20	26	20	26	20	26	20	26	20	26
5p6	PAVING SUPPORT LONGITUDINAL		22'-8	2	47	2	47	2	47	2	47	2	47	2	47	2	47	2	47	2	47
5p7	PAVING SUPPORT LONGITUDINAL		20'-0	2	42	2	42	2	42	2	42	2	42	2	42	2	42	2	42	2	42
6t1	FOOTING TO SLAB DOWELS		3'-11	92	541	92	541	92	541	92	541	92	541	92	541	92	541	92	541	92	541
*5u1	WING LONGITUDINAL		6'-8	12	83	12	83	12	83	12	83	12	83	12	83	12	83	12	83	12	83
#2	PILE SPIRAL		38'-6	9	58	10	64	10	64	11	71	12	77	12	77	13	84	15	96	16	103
	SPIRAL SPACERS, L 7/8 x 7/8 x 1/8 x 0.70		1'-10	18	23	20	26	20	26	22	28	24	31	24	31	26	33	30	39	32	41
REINFORCING STEEL EPOXY COATED - TOTAL (LBS.)					2319		2374		2374		2314		2358		2358		2401		2327		2359

BILL OF REINFORCING STEEL - ONE ABUTMENT - 15° SKEW

MARK	LOCATION	SHAPE	LENGTH	70'-0 NO.	70'-0 WEIGHT	80'-0 NO.	80'-0 WEIGHT	90'-0 NO.	90'-0 WEIGHT	100'-0 NO.	100'-0 WEIGHT	110'-0 NO.	110'-0 WEIGHT	120'-0 NO.	120'-0 WEIGHT	130'-0 NO.	130'-0 WEIGHT	140'-0 NO.	140'-0 WEIGHT	150'-0 NO.	150'-0 WEIGHT
8r1	ABUTMENT FOOTING LONGITUDINAL		27'-1	7	506	7	506	7	506	7	506	7	506	7	506	7	506	7	506	7	506
8r2	ABUTMENT FOOTING LONGITUDINAL		22'-0	7	411	7	411	7	411	7	411	7	411	7	411	7	411	7	411	7	411
5s1	ABUTMENT FOOTING HOOPS		11'-0	40	459	36	413	40	459	40	459	33	379	36	413	36	413	28	321	30	344
5s2	ABUTMENT FOOTING HOOPS		11'-3	4	47	4	47	4	47	4	47	4	47	4	47	4	47	4	47	4	47
5p2	PAVING SUPPORT TRANSVERSE		9'-4	21	204	21	204	21	204	21	204	21	204	21	204	21	204	21	204	21	204
4p5	PAVING SUPPORT TRANSVERSE		1'-11	21	27	21	27	21	27	21	27	21	27	21	27	21	27	21	27	21	27
5p6	PAVING SUPPORT LONGITUDINAL		23'-5	2	49	2	49	2	49	2	49	2	49	2	49	2	49	2	49	2	49
5p7	PAVING SUPPORT LONGITUDINAL		20'-8	2	43	2	43	2	43	2	43	2	43	2	43	2	43	2	43	2	43
6t1	FOOTING TO SLAB DOWELS		3'-11	92	541	92	541	92	541	92	541	92	541	92	541	92	541	92	541	92	541
*5u1	WING LONGITUDINAL		6'-8	12	83	12	83	12	83	12	83	12	83	12	83	12	83	12	83	12	83
#2	PILE SPIRAL		38'-6	9	58	10	64	11	71	11	71	12	77	13	84	13	84	15	96	16	103
	SPIRAL SPACERS, L 7/8 x 7/8 x 1/8 x 0.70		1'-10	18	23	20	26	22	28	22	28	24	31	26	33	26	33	30	39	32	41
REINFORCING STEEL EPOXY COATED - TOTAL (LBS.)					2451		2414		2469		2469		2398		2441		2441		2367		2399

BILL OF REINFORCING STEEL - ONE ABUTMENT - 30° SKEW

MARK	LOCATION	SHAPE	LENGTH	70'-0 NO.	70'-0 WEIGHT	80'-0 NO.	80'-0 WEIGHT	90'-0 NO.	90'-0 WEIGHT	100'-0 NO.	100'-0 WEIGHT	110'-0 NO.	110'-0 WEIGHT	120'-0 NO.	120'-0 WEIGHT	130'-0 NO.	130'-0 WEIGHT	140'-0 NO.	140'-0 WEIGHT	150'-0 NO.	150'-0 WEIGHT
8r1	ABUTMENT FOOTING LONGITUDINAL		29'-6	7	551	7	551	7	551	7	551	7	551	7	551	7	551	7	551	7	551
8r2	ABUTMENT FOOTING LONGITUDINAL		24'-5	7	456	7	456	7	456	7	456	7	456	7	456	7	456	7	456	7	456
5s1	ABUTMENT FOOTING HOOPS		11'-0	45	516	45	516	40	459	44	505	44	505	36	413	39	447	30	344	30	344
5s2	ABUTMENT FOOTING HOOPS		11'-11	4	50	4	50	4	50	4	50	4	50	4	50	4	50	4	50	4	50
5p2	PAVING SUPPORT TRANSVERSE		9'-4	23	224	23	224	23	224	23	224	23	224	23	224	23	224	23	224	23	224
4p5	PAVING SUPPORT TRANSVERSE		1'-11	23	29	23	29	23	29	23	29	23	29	23	29	23	29	23	29	23	29
5p6	PAVING SUPPORT LONGITUDINAL		25'-10	2	54	2	54	2	54	2	54	2	54	2	54	2	54	2	54	2	54
5p7	PAVING SUPPORT LONGITUDINAL		23'-1	2	48	2	48	2	48	2	48	2	48	2	48	2	48	2	48	2	48
6t1	FOOTING TO SLAB DOWELS		3'-11	92	541	92	541	92	541	92	541	92	541	92	541	92	541	92	541	92	541
*5u1	WING LONGITUDINAL		6'-8	12	83	12	83	12	83	12	83	12	83	12	83	12	83	12	83	12	83
#2	PILE SPIRAL		38'-6	10	64	10	64	11	71	12	77	12	77	13	84	14	90	16	103	16	103
	SPIRAL SPACERS, L 7/8 x 7/8 x 1/8 x 0.70		1'-10	20	26	20	26	22	28	24	31	24	31	26	33	28	36	32	41	32	41
REINFORCING STEEL EPOXY COATED - TOTAL (LBS.)					2642		2642		2594		2649		2649		2566		2609		2524		2524

BILL OF REINFORCING STEEL - ONE ABUTMENT - 45° SKEW

MARK	LOCATION	SHAPE	LENGTH	70'-0 NO.	70'-0 WEIGHT	80'-0 NO.	80'-0 WEIGHT	90'-0 NO.	90'-0 WEIGHT	100'-0 NO.	100'-0 WEIGHT	110'-0 NO.	110'-0 WEIGHT	120'-0 NO.	120'-0 WEIGHT	130'-0 NO.	130'-0 WEIGHT	140'-0 NO.	140'-0 WEIGHT	150'-0 NO.	150'-0 WEIGHT
8r1	ABUTMENT FOOTING LONGITUDINAL		34'-8	7	648	7	648	7	648	7	648	7	648	7	648	7	648	7	648	7	648
8r2	ABUTMENT FOOTING LONGITUDINAL		29'-7	7	553	7	553	7	553	7	553	7	553	7	553	7	553	7	553	7	553
5s1	ABUTMENT FOOTING HOOPS		11'-0	50	574	55	631	48	551	48	551	52	597	42	482	42	482	48	551	51	585
5s2	ABUTMENT FOOTING HOOPS		13'-6	4	56	4	56	4	56	4	56	4	56	4	56	4	56	4	56	4	56
5p2	PAVING SUPPORT TRANSVERSE		9'-4	28	273	28	273	28	273	28	273	28	273	28	273	28	273	28	273	28	273
4p5	PAVING SUPPORT TRANSVERSE		1'-11	28	36	28	36	28	36	28	36	28	36	28	36	28	36	28	36	28	36
5p6	PAVING SUPPORT LONGITUDINAL		31'-0	2	65	2	65	2	65	2	65	2	65	2	65	2	65	2	65	2	65
5p7	PAVING SUPPORT LONGITUDINAL		28'-3	2	59	2	59	2	59	2	59	2	59	2	59	2	59	2	59	2	59
6t1	FOOTING TO SLAB DOWELS		3'-11	92	541	92	541	92	541	92	541	92	541	92	541	92	541	92	541	92	541
*5u1	WING LONGITUDINAL		6'-8	12	83	12	83	12	83	12	83	12	83	12	83	12	83	12	83	12	83
#2	PILE SPIRAL		38'-6	11	71	12	77	13	84	13	84	14	90	15	96	15	96	17	109	18	116
	SPIRAL SPACERS, L 7/8 x 7/8 x 1/8 x 0.70		1'-10	22	28	24	31	26	33	26	33	28	36	30	39	30	39	34	44	36	46
REINFORCING STEEL EPOXY COATED - TOTAL (LBS.)					2987		3053		2982		2982		3037		2931		2931		3018		3061

* SEE SHEET J40-20-06 FOR SPACING

NOTE: THE PILE SPIRALS AND SPIRAL SPACERS ARE TO BE NON-COATED REINFORCING BUT MAY BE EPOXY COATED AT THE CONTRACTORS OPTION AND EXPENSE.

ESTIMATED QUANTITIES - ONE ABUT. - 0° SKEW

LOCATION	UNIT	QUANTITY 70'-0	80'-0	90'-0	100'-0	110'-0	120'-0	130'-0	140'-0	150'-0
BRIDGE LENGTH		70'-0	80'-0	90'-0	100'-0	110'-0	120'-0	130'-0	140'-0	150'-0
STRUCTURAL CONCRETE (BRIDGE)	C.Y.	15.5	15.5	15.5	15.4	15.3	15.3	15.3	15.2	15.1
REINFORCING STEEL EPOXY COATED	LBS.	2319	2374	2374	2314	2358	2358	2401	2327	2359
WOOD PILES (TREATED)	NO.	9	10	10	11	12	12	13	15	16
PREBORE HOLES	FT.	-	-	-	-	-	-	-	150	160

ESTIMATED QUANTITIES - ONE ABUT. - 15° SKEW

LOCATION	UNIT	QUANTITY 70'-0	80'-0	90'-0	100'-0	110'-0	120'-0	130'-0	140'-0	150'-0
BRIDGE LENGTH		70'-0	80'-0	90'-0	100'-0	110'-0	120'-0	130'-0	140'-0	150'-0
STRUCTURAL CONCRETE (BRIDGE)	C.Y.	16.1	16.0	16.0	16.0	15.9	15.8	15.8	15.7	15.7
REINFORCING STEEL EPOXY COATED	LBS.	2451	2414	2469	2469	2398	2441	2441	2367	2399
WOOD PILES (TREATED)	NO.	9	10	11	11	12	13	13	15	16
PREBORE HOLES	FT.	-	-	-	-	-	-	-	150	160

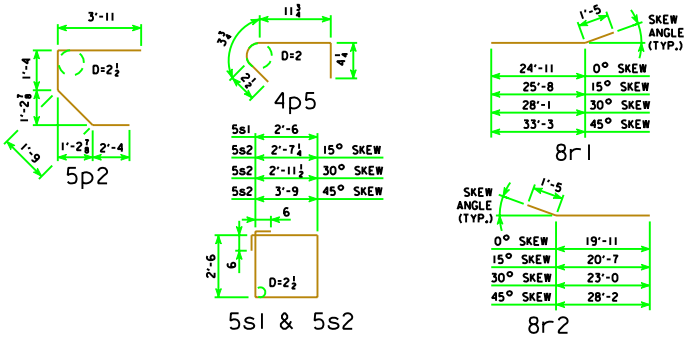
ESTIMATED QUANTITIES - ONE ABUT. - 30° SKEW

LOCATION	UNIT	QUANTITY 70'-0	80'-0	90'-0	100'-0	110'-0	120'-0	130'-0	140'-0	150'-0
BRIDGE LENGTH		70'-0	80'-0	90'-0	100'-0	110'-0	120'-0	130'-0	140'-0	150'-0
STRUCTURAL CONCRETE (BRIDGE)	C.Y.	17.9	17.9	17.8	17.8	17.8	17.7	17.7	17.6	17.6
REINFORCING STEEL EPOXY COATED	LBS.	2642	2642	2594	2649	2649	2566	2609	2524	2524
WOOD PILES (TREATED)	NO.	10	10	11	12	12	13	14	16	16
PREBORE HOLES	FT.	-	-	-	-	-	-	-	160	160

ESTIMATED QUANTITIES - ONE ABUT. - 45° SKEW

LOCATION	UNIT	QUANTITY 70'-0	80'-0	90'-0	100'-0	110'-0	120'-0	130'-0	140'-0	150'-0
BRIDGE LENGTH		70'-0	80'-0	90'-0	100'-0	110'-0	120'-0	130'-0	140'-0	150'-0
STRUCTURAL CONCRETE (BRIDGE)	C.Y.	22.0	22.0	21.9	21.9	21.8	21.8	21.8	21.7	21.6
REINFORCING STEEL EPOXY COATED	LBS.	2987	3053	2982	2982	3037	2931	2931	3018	3061
WOOD PILES (TREATED)	NO.	11	12	13	13	14	15	15	17	18
PREBORE HOLES	FT.	-	-	-	-	-	-	-	170	180

BENT BAR DETAILS



NOTE: DIMENSIONS ARE OUT TO OUT. D = PIN DIAMETER.

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES

CONTINUOUS CONCRETE SLAB BRIDGES

NOVEMBER, 2006

ABUTMENT DETAILS
TIMBER PILING

J40-38-06