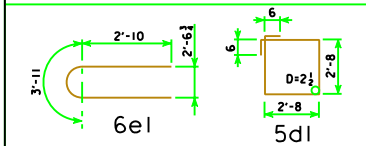
BILL OF EPOXY REINFORCING STEEL - ONE PIER

BRIDGE LENGTH			70'-0 BRIDGE			80'-0 BRIDGE			90'-0 BRIDGE			100'-0 BRIDGE			110'-0 BRIDGE			120'-0 BRIDGE			130'-0 BRIDGE			140'-0 BRIDGE			150'-0 BRIDGE		
MARK	SKEW	SHAPE	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT
6c1	0°		10	25'-0	376	10	25'-0	376	10	25'-0	376	10	25'-0	376	10	25'-0	376	10	25'-0	376	10	25'-0	376	10	25'-0	376	10	25'-0	376
	15°		10	25'-9	387	10	25'-9	387	10	25'-9	387	10	25'-9	387	10	25'-9	387	10	25'-9	387	10	25'-9	387	10	25'-9	387	10	25'-9	387
	30°		10	28'-4	426	10	28'-4	426	10	28'-4	426	10	28'-4	426	10	28'-4	426	10	28'-4	426	10	28'-4	426	10	28'-4	426	10	28'-4	426
	45°		10	34'-0	511	10	34'-0	511	10	34'-0	511	10	34'-0	511	10	34'-0	511	10	34'-0	511	10	34'-0	511	10	34'-0	511	10	34'-0	511
6c2	0°		10	21'-11	330	10	21'-11	330	10	21'-11	330	10	21'-11	330	10	21'-11	330	10	21'-11	330	10	21'-11	330	10	21'-11	330	10	21'-11	330
	15°		10	22'-8	341	10	22'-8	341	10	22'-8	341	10	22'-8	341	10	22'-8	341	10	22'-8	341	10	22'-8	341	10	22'-8	341	10	22'-8	341
	30°		10	25'-4	381	10	25'-4	381	10	25'-4	381	10	25'-4	381	10	25'-4	381	10	25'-4	381	10	25'-4	381	10	25'-4	381	10	25'-4	381
	45°		10	31'-0	466	10	31'-0	466	10	31'-0	466	10	31'-0	466	10	31'-0	466	10	31'-0	466	10	31'-0	466	10	31'-0	466	10	31'-0	466
5d1	0°		36	11'-8	438	36	11'-8	438	40	11'-8	487	36	11'-8	438	39	11'-8	475	42	11'-8	511	30	11'-8	365	32	11'-8	390	34	11'-8	414
	15°		36	11'-8	438	36	11'-8	438	40	11'-8	487	36	11'-8	438	39	11'-8	475	42	11'-8	511	30	11'-8	365	32	11'-8	390	34	11'-8	414
	30°		45	11'-8	548	45	11'-8	548	40	11'-8	487	48	11'-8	585	39	11'-8	475	42	11'-8	511	45	11'-8	548	48	11'-8	585	34	11'-8	414
	45°		54	11'-8	657	54	11'-8	657	60	11'-8	731	48	11'-8	585	52	11'-8	633	56	11'-8	682	45	11'-8	548	48	11'-8	585	51	11'-8	621
6e1	ALL		6	9'-7	86	6	9'-7	86	6	9'-7	86	6	9'-7	86	6	9'-7	86	6	9'-7	86	6	9'-7	86	6	9'-7	86	6	9'-7	86

BENT BAR DETAILS



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

ESTIMATED QUANTITIES - ONE PIER

BRIDGE LENGTH	SKEW	70'-0	80'-0	90'-0	100'-0	110'-0	120'-0	130'-0	140'-0	150'-0
STRUCTURAL CONCRETE (CU. YDS.)	0°	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4
	15°	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
	30°	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7
	45°	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
REINFORCING STEEL EPOXY COATED (LBS.)	0°	1230	1230	1279	1230	1267	1303	1157	1182	1206
	15°	1252	1252	1301	1252	1289	1325	1179	1204	1228
	30°	1441	1441	1380	1478	1368	1404	1441	1478	1307
	45°	1720	1720	1794	1648	1696	1745	1611	1648	1684
④PILING (NO.)	ALL	10	10	11	13	14	15	16	17	18

APPROXIMATE PILE SPACING, BEARING & PIER REACTION TABLE

BRIDGE LENGTH	70'-0	80'-0	90'-0	100'-0	110'-0	120'-0	130'-0	140'-0	150'-0
0° SKEW	9 SPA. @ ABOUT 4'-9	9 SPA. @ ABOUT 4'-9	10 SPA. @ 4'-3	12 SPA. @ ABOUT 3'-6	13 SPA. @ ABOUT 3'-3	14 SPA. @ ABOUT 3'-0	15 SPA. @ ABOUT 2'-10	16 SPA. @ ABOUT 2'-8	17 SPA. @ 2'-6
15° SKEW	9 SPA. @ ABOUT 4'-11	9 SPA. @ ABOUT 4'-11	10 SPA. @ ABOUT 4'-5	12 SPA. @ ABOUT 3'-8	13 SPA. @ ABOUT 3'-5	14 SPA. @ ABOUT 3'-2	15 SPA. @ ABOUT 2'-11	16 SPA. @ 2'-9	17 SPA. @ ABOUT 2'-7
30° SKEW	9 SPA. @ ABOUT 5'-5	9 SPA. @ ABOUT 5'-5	10 SPA. @ ABOUT 4'-11	12 SPA. @ ABOUT 4'-1	13 SPA. @ ABOUT 3'-9	14 SPA. @ ABOUT 3'-6	15 SPA. @ ABOUT 3'-3	16 SPA. @ ABOUT 3'-1	17 SPA. @ ABOUT 2'-11
45° SKEW	9 SPA. @ ABOUT 6'-8	9 SPA. @ ABOUT 6'-8	10 SPA. @ ABOUT 6'-0	12 SPA. @ ABOUT 5'-0	13 SPA. @ ABOUT 4'-7	14 SPA. @ ABOUT 4'-4	15 SPA. @ ABOUT 4'-0	16 SPA. @ ABOUT 3'-9	17 SPA. @ ABOUT 3'-6
① BEARING PER PILE-TONS	33	36	36	34	34	35	36	37	38
②③ BEARING PER PILE-TONS	30	33	33	31	32	33	34	35	36
① MAXIMUM PIER REACTION	642 KIPS	707 KIPS	783 KIPS	868 KIPS	949 KIPS	1048 KIPS	1145 KIPS	1247 KIPS	1363 KIPS

① VALUE INCLUDES DEAD LOAD (PIER CAP WEIGHT IS BASED ON 45° SKEW), LIVE LOAD AND LIVE LOAD IMPACT.

② VALUE INCLUDES DEAD LOAD (PIER CAP WEIGHT IS BASED ON 45° SKEW), AND LIVE LOAD, WITHOUT IMPACT.

③ FOR ESTIMATING PILE LENGTHS AND FOR DETERMINING ACTUAL PILE LENGTHS IN FIELD.

④ USE PILES AS SHOWN ON PIOA STANDARD PILE DRAWING. TYPE, SIZE, AND LENGTH OF PILES SHALL BE SPECIFIED ON THE PLAN. THE LARGER PILE SIZE SHOWN ON PIOA STANDARD PILE DRAWING SHALL BE USED IF EITHER THE ACTUAL "H" DIMENSION OR THE REQUIRED BEARING EXCEEDS THE MAXIMUM "H" OR MAXIMUM BEARING CAPACITY SHOWN FOR THE PILE.

PIER NOTES:

FOR SKEWED BRIDGES BOTTOM OF PIER CAP IS TO BE SLOPED TO COMPENSATE FOR GRADE. THEREFORE BOTTOM OF CAP ELEVATIONS WILL BE REQUIRED AT THE ℄ OF ROADWAY AND AT EACH EXTERIOR PILE.

THE MINIMUM CLEAR DISTANCE FROM THE FACE OF THE CONCRETE TO NEAR REINFORCING BAR IS TO BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.

THE PIER PILES ARE TO BE DRIVEN TO FULL PENETRATION, IF PRACTICABLE, BUT IN NO CASE TO A BEARING VALUE LESS THAN THE PILE BEARING REQUIRED FOR EACH BRIDGE LENGTH AS SHOWN ON THIS SHEET.

THE CONCRETE QUANTITIES ARE BASED ON THE USE OF TYPE 3 PILING. IF TYPE 1 OR TYPE 2 IS USED, THE CONCRETE QUANTITIES MAY BE ADJUSTED TO ACCOUNT FOR THE CONCRETE DISPLACED BY THE PILING.

ALL REINFORCING STEEL IS TO BE GRADE 60.

PIER PILING WAS DESIGNED FOR HS25 LOADING WITH AN ALLOWANCE FOR 20 LBS. PER SQ. FT. FUTURE WEARING SURFACE.

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 44' ROADWAY, 3 SPAN BRIDGES

CONTINUOUS CONCRETE SLAB BRIDGES

NOVEMBER, 2006

NON-MONOLITHIC PIER CAP DETAILS ALL BRIDGES

J44-29-06