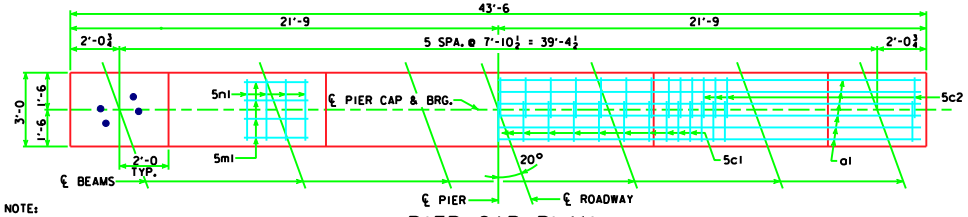
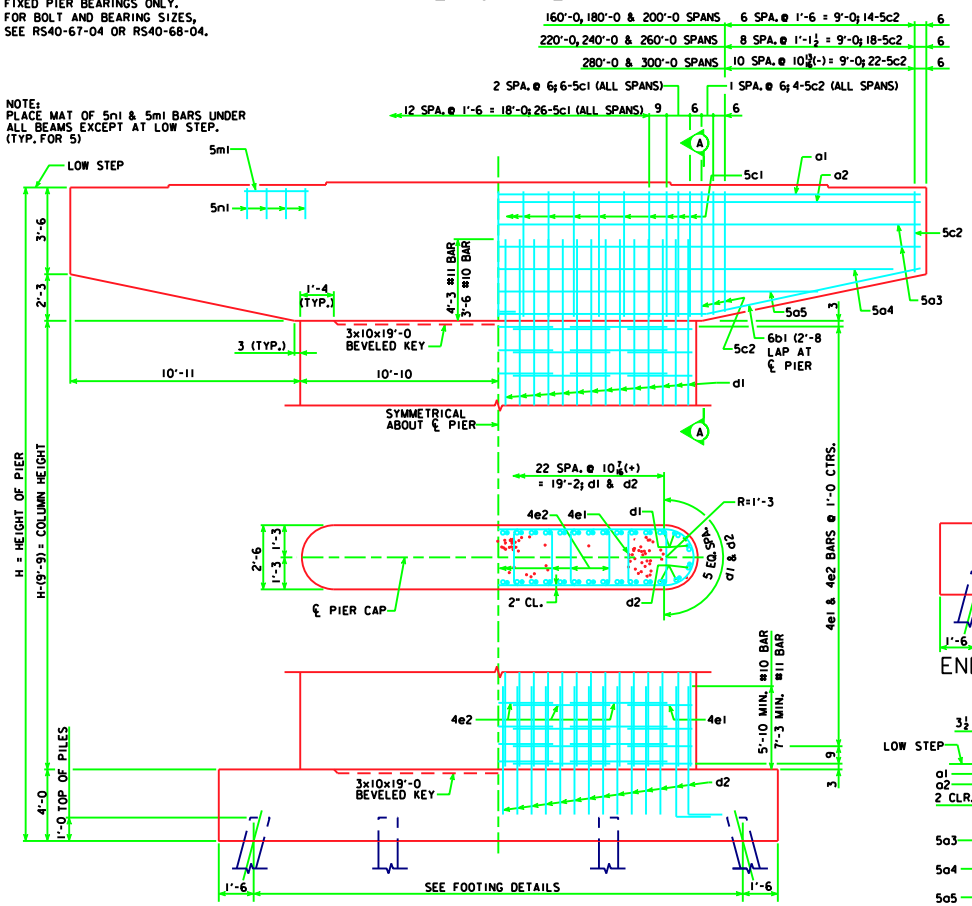


PIER CAP PLAN

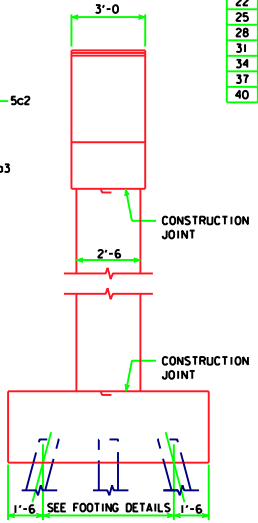
NOTE:
ANCHOR BOLTS REQUIRED FOR FIXED PIER BEARINGS ONLY.
FOR BOLT AND BEARING SIZES, SEE RS40-67-04 OR RS40-68-04.

NOTE:
PLACE MAT OF 5n1 & 5m1 BARS UNDER ALL BEAMS EXCEPT AT LOW STEP. (TYP. FOR 5)

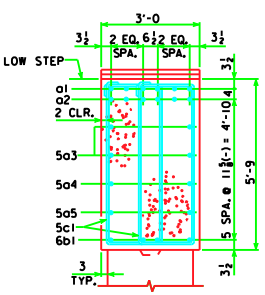


PIER ELEVATION

STEP NOTE:
THE HEIGHT OF THE STEPS ON THE BRIDGE SEAT IS EQUAL TO THE DIFFERENCE IN ELEVATIONS OF THE TOP OF SLAB AT ADJACENT BEAMS ALONG ℄ PIER.



END ELEVATION



SECTION A-A

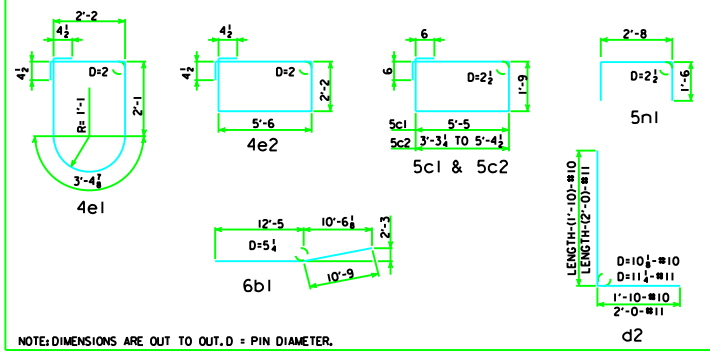
ONE CAP

REINFORCING STEEL	℄-℄ ABUT. BEARINGS			160'-0			180'-0			200'-0			220'-0			240'-0			260'-0			280'-0			300'-0		
BAR	LENGTH	SHAPE		NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT
a1	43'-2			6	8	692	6	9	881	6	9	881	6	9	881	6	10	1114	6	10	1114	6	10	1114	6	11	1376
a2	43'-2			6	8	692	6	8	692	6	9	881	6	9	881	6	9	881	6	10	1114	6	10	1114	6	10	1114
a3	43'-2			4	5	180	4	5	180	4	5	180	4	5	180	4	5	180	4	5	180	4	5	180	4	5	180
a4	41'-6			2	5	87	2	5	87	2	5	87	2	5	87	2	5	87	2	5	87	2	5	87	2	5	87
a5	32'-3			2	5	67	2	5	67	2	5	67	2	5	67	2	5	67	2	5	67	2	5	67	2	5	67
b1	23'-2			8	6	278	8	6	278	8	6	278	8	6	278	8	6	278	8	6	278	8	6	278	8	6	278
c1	15'-4			38	5	608	38	5	608	38	5	608	38	5	608	38	5	608	38	5	608	38	5	608	38	5	608
c2	VARIES			36	5	506	36	5	506	36	5	506	44	5	615	44	5	615	44	5	615	52	5	723	52	5	723
n1	5'-8			20	5	118	20	5	118	20	5	118	20	5	118	20	5	118	20	5	118	20	5	118	20	5	118
m1	2'-10			20	5	59	20	5	59	20	5	59	20	5	59	20	5	59	20	5	59	20	5	59	20	5	59
TOTAL LB.						3287			3476			3665			3774			4007			4240			4348			4610
STRUCTURAL CONCRETE (C.Y.)				26.0			26.0			26.0			26.0			26.0			26.0			26.0			26.0		

ONE COLUMN

H IN FEET	COLUMN HEIGHT	STRUCTURAL CONCRETE C.Y.	REINFORCING STEEL d1 BAR				d2 BAR				4e1 BAR				4e2 BAR				TOTAL WEIGHT LB.
			NO.	SIZE	LENGTH	WEIGHT	NO.	SIZE	LENGTH	WEIGHT	NO.	SIZE	LENGTH	WEIGHT	NO.	SIZE	LENGTH	WEIGHT	
16	6'-3	12.2	-	-	-	-	54	10	14'-6	3369	14	4	10'-6	98	35	4	16'-1	376	3843
19	9'-3	18.1	-	-	-	-	54	10	17'-6	4066	20	4	10'-6	140	50	4	16'-1	537	4743
22	12'-3	24.0	54	10	15'-9	3660	54	10	10'-7	2459	26	4	10'-6	182	65	4	16'-1	698	6999
25	15'-3	29.8	54	10	18'-9	4357	54	10	10'-7	2459	32	4	10'-6	224	80	4	16'-1	859	7899
28	18'-3	35.7	54	11	22'-6	6455	54	11	12'-2	3491	38	4	10'-6	267	95	4	16'-1	1021	11,234
31	21'-3	41.6	54	11	25'-6	7316	54	11	12'-2	3491	44	4	10'-6	309	110	4	16'-1	1182	12,298
34	24'-3	47.4	54	11	28'-6	8177	54	11	12'-2	3491	50	4	10'-6	351	125	4	16'-1	1343	13,362
37	27'-3	53.3	54	11	31'-6	9047	54	11	12'-2	3491	56	4	10'-6	393	140	4	16'-1	1504	14,425
40	30'-3	59.2	54	11	34'-6	9898	54	11	12'-2	3491	62	4	10'-6	435	155	4	16'-1	1665	15,489

BENT BAR DETAILS



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

NOTE:
CAP STRUCTURAL CONCRETE QUANTITIES BASED ON 1¾ INCH STEP HEIGHT.

REVISION - 03-07 - KEYWAY SIZE CHANGED.

03-07
LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES

ROLLED STEEL BEAM BRIDGES

FEBRUARY, 2004

T PIER 20° SKEW
CAP & COLUMN DETAILS

RS40-13-04