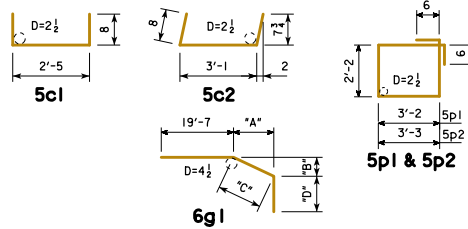


## EPOXY COATED REINFORCING BAR LIST, CAST-IN-PLACE ABUTMENT (TWO ABUTMENTS)

BAR	LOCATION	SPAN SHAPE	REINFORCED CONCRETE BOX BEAMS									PRETENSIONED PRESTRESSED CONCRETE BOX BEAMS														
			30'-0			40'-0			50'-0			30'-0			40'-0			50'-0			60'-0			70'-0		
			NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT
5c1	FOOTING END, VERTICAL		16	3'-9	63	16	3'-9	63	16	3'-9	63	16	3'-9	63	16	3'-9	63	16	3'-9	63	16	3'-9	63	16	3'-9	63
5c2	FOOTING END, HORIZONTAL		16	4'-5	74	16	4'-5	74	16	4'-5	74	16	4'-5	74	16	4'-5	74	16	4'-5	74	16	4'-5	74	16	4'-5	74
5d1	BACKWALL, VERTICAL		148	4'-0	617	148	4'-0	617	148	4'-6	695	148	3'-6	540	148	3'-6	540	148	4'-0	617	148	4'-0	617	148	4'-6	695
5d2	BACKWALL, VERTICAL		8	3'-10	32	8	3'-10	32	8	4'-4	36	8	3'-4	28	8	3'-4	28	8	3'-10	32	8	3'-10	32	8	4'-4	36
5d3	BACKWALL, VERTICAL		8	3'-4	28	8	3'-4	28	8	3'-10	32	8	3'-0	25	8	3'-0	25	8	3'-4	28	8	3'-4	28	8	3'-10	32
5d4	BACKWALL, VERTICAL		8	2'-11	24	8	2'-11	24	8	3'-5	29	8	2'-9	23	8	2'-9	23	8	2'-11	24	8	2'-11	24	8	3'-5	29
5d5	BACKWALL, VERTICAL		8	2'-5	20	8	2'-5	20	8	2'-11	24	8	2'-5	20	8	2'-5	20	8	2'-5	20	8	2'-5	20	8	2'-11	24
8f1	FOOTING, LONGITUDINAL		24	36'-3	2323	24	36'-3	2323	24	36'-3	2323	24	36'-3	2323	24	36'-3	2323	24	36'-3	2323	24	36'-3	2323	24	36'-3	2323
6g1	BACKWALL, HORIZONTAL		8	25'-9	309	8	25'-9	309	8	26'-3	315	8	24'-8	296	8	24'-8	296	8	25'-9	309	8	25'-9	309	8	26'-3	315
6g2	BACKWALL, HORIZONTAL		16	23'-5	563	16	23'-5	563	16	23'-5	563	16	22'-5	539	16	22'-5	539	16	23'-5	563	16	23'-5	563	16	23'-5	563
6g3	BACKWALL, HORIZONTAL		16	3'-7	86	16	3'-7	86	16	3'-7	86	16	2'-7	62	16	2'-7	62	16	3'-7	86	16	3'-7	86	16	3'-7	86
6g4	FOOTING TO BACKWALL, HORIZONTAL		16	5'-4	128	16	5'-4	128	16	5'-4	128	16	5'-4	128	16	5'-4	128	16	5'-4	128	16	5'-4	128	16	5'-4	128
5p1	FOOTING HOOPS		128	11'-8	1558	128	11'-8	1558	128	11'-8	1558	128	11'-8	1558	128	11'-8	1558	128	11'-8	1558	128	11'-8	1558	120	11'-8	1460
5p2	FOOTING HOOPS		8	11'-10	99	8	11'-10	99	8	11'-10	99	8	11'-10	99	8	11'-10	99	8	11'-10	99	8	11'-10	99	8	11'-10	99
	1 1/4" DIA. SMOOTH DOWELS		16	2'-9	184	16	2'-9	184	16	3'-3	217	16	2'-3	150	16	2'-3	150	16	2'-9	184	16	2'-9	184	16	3'-3	217
#2	PILE SPIRAL		12	38'-6	77	12	38'-6	77	12	38'-6	77	12	38'-6	77	12	38'-6	77	12	38'-6	77	14	38'-6	90	16	38'-6	103
	SPIRAL SPACERS L 1/2 x 1/2 x 0.70		36	1'-10	46	36	1'-10	46	36	1'-10	46	36	1'-10	46	36	1'-10	46	36	1'-10	46	42	1'-10	54	48	1'-10	62
TOTAL (LBS.)			6,231			6,231			6,365			6,051			6,051			6,231			6,252			6,309		

\* EPOXY COATING NOT REQUIRED

### BENT BAR DETAILS



	REINFORCED CONCRETE BOX BEAMS			PRETENSIONED PRESTRESSED CONCRETE BOX BEAMS				
	30'-0	40'-0	50'-0	30'-0	40'-0	50'-0	60'-0	70'-0
*A*	3'-9	3'-9	3'-9	2'-9	2'-9	3'-9	3'-9	3'-9
*B*	1'-10 1/2	1'-10 1/2	1'-10 1/2	1'-4 1/2	1'-4 1/2	1'-10 1/2	1'-10 1/2	1'-10 1/2
*C*	4'-2	4'-2	4'-2	3'-1	3'-1	4'-2	4'-2	4'-2
*D*	2'-0	2'-0	2'-6	2'-0	2'-0	2'-0	2'-0	2'-6

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

### CONCRETE PLACEMENT QUANTITIES (TWO ABUTMENTS)

LOCATION	SPAN	REINFORCED CONCRETE BOX BEAMS			PRETENSIONED PRESTRESSED CONCRETE BOX BEAMS				
		30'-0	40'-0	50'-0	30'-0	40'-0	50'-0	60'-0	70'-0
BACKWALLS (C.Y.)		9.2	9.2	11.0	7.0	7.0	9.2	9.2	11.0
FOOTINGS (C.Y.)		30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
TOTAL (C.Y.)		39.3	39.3	41.1	37.1	37.1	39.3	39.3	41.1

### ADDITIONAL CONCRETE

EACH FOOTING (C.Y.)	ROADWAY GRADE AT ABUTMENT				
	1%	2%	3%	4%	5%
	-	-	0.6	0.9	1.1

### NOTES:

THE ADDITIONAL CONCRETE TABLE LISTS THE ADDITIONAL CONCRETE VOLUME REQUIRED IN EACH ABUTMENT FOOTING BASED ON THE ROADWAY GRADE AT EACH ABUTMENT. ADDITIONAL CONCRETE SHOULD BE ADDED TO THE PLANS FOR EACH ABUTMENT FOOTING THAT HAS 0.5 CU.YDS. OR MORE OF ADDITIONAL CONCRETE. VALUES SHOULD BE EXCLUDED FOR SCENARIOS THAT HAVE LESS THAN 0.5 CU.YDS. OF ADDITIONAL CONCRETE PER ABUTMENT FOOTING. VALUES MAY BE INTERPOLATED FOR GRADES BETWEEN THE VALUES SHOWN IN THE TABLE.

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

**IOWA DOT** Highway Division

STANDARD DESIGN - 30'-0 ROADWAY, SINGLE SPAN  
**CONCRETE BOX BEAM BRIDGES**

DECEMBER, 2016

**ABUTMENT DETAILS (CAST-IN-PLACE)  
CONCRETE WINGS  
QUANTITIES  
15° SKEW**

**B30-15-16**