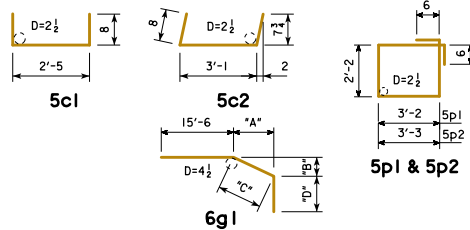


EPOXY COATED REINFORCING BAR LIST, CAST-IN-PLACE ABUTMENT (TWO ABUTMENTS)

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	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	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	16	4'-5	74
5d1	BACKWALL, VERTICAL		112	4'-0	467	112	4'-0	467	112	4'-6	526	112	3'-6	409	112	3'-6	409	112	4'-0	467	112	4'-0	467	112	4'-0	467	112	4'-6	526
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	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'-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	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'-5	20	8	2'-11	24
8f1	FOOTING, LONGITUDINAL		24	27'-11	1789	24	27'-11	1789	24	27'-11	1789	24	27'-11	1789	24	27'-11	1789	24	27'-11	1789	24	27'-11	1789	24	27'-11	1789	24	27'-11	1789
6g1	BACKWALL, HORIZONTAL		8	21'-8	260	8	21'-8	260	8	22'-2	266	8	20'-7	247	8	20'-7	247	8	21'-8	260	8	21'-8	260	8	21'-8	260	8	22'-2	266
6g2	BACKWALL, HORIZONTAL		16	19'-4	465	16	19'-4	465	16	18'-4	441	16	18'-4	441	16	19'-4	465	16	19'-4	465	16	19'-4	465	16	19'-4	465	16	19'-4	465
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	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	16	5'-4	128
5p1	FOOTING HOOPS		88	11'-8	1071	88	11'-8	1071	88	11'-8	1071	88	11'-8	1071	88	11'-8	1071	88	11'-8	1071	88	11'-8	1071	88	11'-8	1071	88	11'-8	1071
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	8	11'-10	99
	1 1/4" DIA. SMOOTH DOWELS		12	2'-9	138	12	2'-9	138	12	3'-3	163	12	2'-3	113	12	2'-3	113	12	2'-9	138	12	2'-9	138	12	2'-9	138	12	3'-3	163
#2	PILE SPIRAL		10	38'-6	64	10	38'-6	64	10	38'-6	64	10	38'-6	64	10	38'-6	64	10	38'-6	64	10	38'-6	64	10	38'-6	64	12	38'-6	77
	SPIRAL SPACERS L 1/2 x 1/2 x 0.70		30	1'-10	38	30	1'-10	38	30	1'-10	38	30	1'-10	38	30	1'-10	38	30	1'-10	38	30	1'-10	38	30	1'-10	38	36	1'-10	46
TOTAL (LBS.)			4,846			4,846			4,953			4,694			4,694			4,846			4,846			4,974					

* 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.)		7.6	7.6	9.0	5.8	5.8	7.6	7.6	9.0
FOOTINGS (C.Y.)		23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
TOTAL (C.Y.)		30.6	30.6	32.0	28.8	28.8	30.6	30.6	32.0

ADDITIONAL CONCRETE

EACH FOOTING (C.Y.)	ROADWAY GRADE AT ABUTMENT				
	1%	2%	3%	4%	5%
	-	-	-	0.5	0.7

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 - 24'-0 ROADWAY, SINGLE SPAN
CONCRETE BOX BEAM BRIDGES

DECEMBER, 2016

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

B24-15-16