Bill of Reinforcing Steel for Superstructure - 30' Bridge

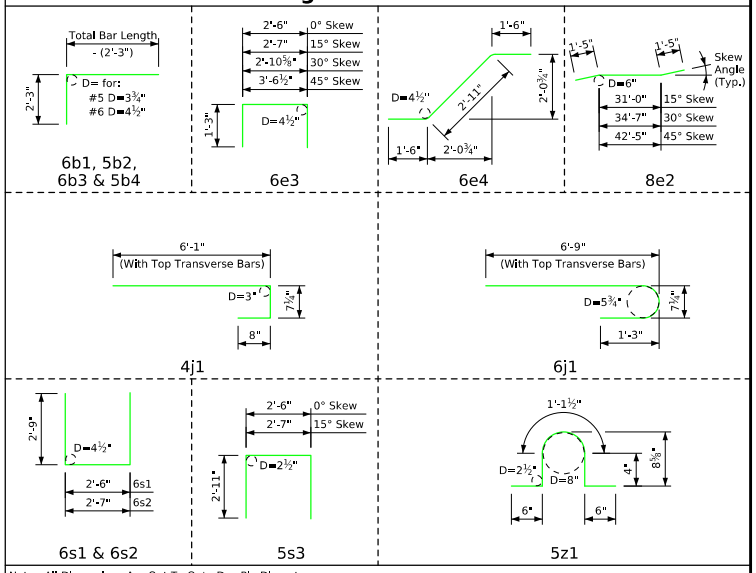
Location	Skew Shape	0 Degree Bar	No.	Length	Weight	15 Degree No.	Length	Weight	30 Degree No.	Length	Weight	45 Degree No.	Length	Weight
Slab Longitudinal Bottom		9a1	39	32'-8"	4332	39	32'-8"	4332	39	32'-8"	4332	39	32'-8"	4332
Slab Longitudinal Bottom		9a2	20	19'-10"	1349	20	19'-10"	1349	20	19'-10"	1349	20	19'-10"	1349
Slab Longitudinal Bottom, at Rail		9a3	4	32'-8"	444	4	32'-8"	444	4	32'-8"	444	4	32'-8"	444
Slab Longitudinal Bottom, at Rail		8a4	4	22'-8"	242	4	22'-8"	242	4	22'-8"	242	4	22'-8"	242
Slab Longitudinal Top		6b1	80	19'-8"	2358	80	19'-8"	2358	80	19'-8"	2358	80	19'-8"	2358
Slab Longitudinal Top		5b2	38	9'-8"	383	38	9'-8"	383	38	9'-8"	383	38	9'-8"	383
Slab Longitudinal Top, at Rail		6b3	8	19'-6"	234	8	19'-6"	234	8	19'-6"	234	8	19'-6"	234
Slab Longitudinal Top, at Rail		5b4	8	13'-1"	109	8	13'-1"	109	8	13'-1"	109	8	13'-1"	109
Slab Transverse Bottom		6c1	27	32'-10"	1332	27	34'-0"	1379	13	32'-10"	641	-	-	-
Slab Transverse Bottom Ends, Bottom		6c3	-	-	-	-	-	-	30	VARIES	802	56	VARIES	1074
Slab Transverse, Top		4d1	27	32'-10"	592	27	34'-0"	613	13	32'-10"	285	-	-	-
Slab Transverse Ends, Top		4d3	-	-	-	-	-	-	30	VARIES	356	56	VARIES	478
Top of Slab, Transverse, at W-Beam/Open Rail		4j1	52	7'-5"	258	52	7'-5"	258	52	7'-5"	258	50	7'-5"	248
Top of Slab, Transverse, at Single Slope Rail		6j1	52	8'-7"	670	52	8'-7"	670	52	8'-7"	670	50	8'-7"	645
Paving Block Lifting Hoops		5z1	10	2'-10"	30	10	2'-10"	30	10	2'-10"	30	10	2'-10"	30
Epoxy-Coated Sub Total - W-Beam/Open Rail - LBS.					11,663			11,731			11,823			11,281
Epoxy-Coated Sub Total - Single Slope Rail - LBS.					12,075			12,143			12,235			11,678
Integral Abutment Bars														
Slab, Transverse at Abutment		8e1	14	32'-10"	1227	-	-	-	-	-	-	-	-	-
Slab, Transverse at Abutment		8e2	-	-	-	14	33'-10"	1265	14	37'-5"	1399	14	45'-3"	1691
Slab, Hairpins, at Abutment		6e3	72	5'-0"	541	72	5'-1"	550	72	5'-5"	586	72	6'-1"	658
Slab, Diagonal, at Abutment		6e4	72	5'-11"	640	72	5'-11"	640	72	5'-11"	640	72	5'-11"	640
Wing, Vertical		5m1	40	4'-5"	184	40	4'-5"	184	40	4'-5"	184	40	4'-5"	184
Wing, Horizontal		5n1	48	6'-8"	334	48	6'-8"	334	48	6'-8"	334	48	6'-8"	334
Epoxy-Coated Sub Total - Integral Abutment - LBS.					2,926			2,973			3,143			3,507
High Abutment Bars														
Slab, Diagonal, at Abutment		6e4	68	5'-11"	604	68	5'-11"	604	-	-	-	-	-	-
Slab, Transverse at Abutment		8e5	18	40'-8"	1954	18	42'-1"	2023	-	-	-	-	-	-
Slab, Transverse at Abutment, Cap Ends		8e6	4	5'-2"	55	4	5'-4"	57	-	-	-	-	-	-
Abutment Hairpins		6s1	176	8'-0"	2115	160	8'-0"	1923	-	-	-	-	-	-
Abutment Hairpins, Cap Ends		6s2	-	-	-	16	8'-1"	194	-	-	-	-	-	-
Abutment Hairpins, Cap Ends		5s3	24	8'-4"	209	24	8'-5"	211	-	-	-	-	-	-
Spiral		#2	12	38'-6"	77	12	38'-6"	77	-	-	-	-	-	-
Spiral Spacers, L 7/8x7/8x1/8x 0.7			36	1'-10"	46	36	1'-10"	46	-	-	-	-	-	-
Epoxy-Coated Sub Total - High Abutment - LBS.					4,937			5,012						
Non-Coated Sub Total - High Abutment - LBS.					123			123						
Open Rail - Integral Abutment - See Sheets J30S-33-25					3,364			3,364			3,364			3,364
Open Rail - High Abutment - See Sheets J30S-35-25					2,752			2,752			-			-
Single Slope Rail - Integral Abutment - See Sheets J30S-27-25 & J30S-31-25					3,241			3,243			3,279			3,322
Single Slope Rail - High Abutment - See Sheets J30S-29-25 & J30S-31-25					2,751			2,745			-			-
Integral Abutment Total - Epoxy Coated - LBS	With Open Rail				17,953			18,068			18,330			18,152
	With W-Beam Guardrail				14,589			14,704			14,966			14,788
	With Single Slope Rail				18,242			18,359			18,657			18,507
High Abutment Total - Epoxy Coated - LBS	With Open Rail				19,352			19,495			-			-
	With W-Beam Guardrail				16,600			16,743			-			-
	With Single Slope Rail				19,763			19,900			-			-
High Abutment Total - Non Coated - LBS					123			123			-			-

Estimated Quantities for Superstructure - 30' Bridge

Item	Skew	Integral Abutment 0°	15°	30°	45°	High Abutment 0°	15°
* Structural Concrete (Bridge)	C.Y.	75.1	75.5	77.0	80.2	87.8	88.5
Reinf. Steel Epoxy Coated With Open Rail	LBS.	17,953	18,068	18,330	18,152	19,352	19,495
Reinf. Steel Epoxy Coated With W-Beam Guardrail	LBS.	14,589	14,704	14,966	14,788	16,600	16,743
Reinf. Steel Epoxy Coated With Single Slope Rail	LBS.	18,242	18,359	18,657	18,507	19,763	19,900
Reinf. Steel Non-Coated	LBS.	-	-	-	-	123	123

* Includes 4 wings for Integral abutment at 1.18 CY each and temporary paving blocks; excludes rail concrete.

30' Bridge - Bent Bar Details



Note: All Dimensions Are Out To Out. D = Pin Diameter.

Latest Revision Date

Approved by Bridge Engineer

IOWA DOT

Standard Design - 30'-0" Roadway, Single Span Bridge

Single Span Concrete Slab Bridges

July, 2025

Superstructure Details
30'-0" Bridge

J30S-06-25

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