Epoxy Steel Reinforcing for Superstructure-110' Bridge

	Degree Skew		0			15			30			45		
Location	Shape	Bar	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight	No.	Length	Weight
Slab Longitudinal Bottom		8a1	53	23'-0"	3255	53	23'-0"	3255	53	23'-0"	3255	53	23'-0"	3255
Slab Longitudinal Bottom		9a2	53	34'-10"	6277	53	34'-10"	6277	53	34'-10"	6277	53	34'-10"	6277
Slab Longitudinal Bottom		8a3	53	35'-6"	5024	53	35'-6"	5024	53	35'-6"	5024	53	35'-6"	5024
Slab Longitudinal Bottom		9a4	52	27'-8"	4892	52	27'-8"	4892	52	27'-8"	4892	52	27'-8"	4892
Slab Longitudinal Bottom		8a5	26	30'-3"	2100	26	30'-3"	2100	26	30'-3"	2100	26	30'-3"	2100
Slab Longitudinal Bottom, at Rail		9a6	8	39'-11"	1086	8	39'-11"	1086	8	39'-11"	1086	8	39'-11"	1086
Slab Longitudinal Bottom, at Rail		9a7	4	41'-10"	569	4	41'-10"	569	4	41'-10"	569	4	41'-10"	569
Slab Longitudinal Bottom, at Rail		8a8	8	26'-3"	561	8	26'-3"	561	8	26'-3"	561	8	26'-3"	561
Slab Longitudinal Bottom, at Rail		8a9	4	27'-11"	299	4	27'-11"	299	4	27'-11"	299	4	27'-11"	299
Slab Longitudinal Top		7b1	53	6'-1"	660	53	6'-1"	660	53	6'-1"	660	53	6'-1"	660
Slab Longitudinal Top		10b2	53	20'-2"	4600	53	20'-2"	4600	53	20'-2"	4600	53	20'-2"	4600
Slab Longitudinal Top		10b3	53	18'-9"	4277	53	18'-9"	4277	53	18'-9"	4277	53	18'-9"	4277
Slab Longitudinal Top		6b4	52	32'-5"	2532	52	32'-5"	2532	52	32'-5"	2532	52	32'-5"	2532
Slab Longitudinal Top		10b5	52	15'-4"	3431	52	15'-4"	3431	52	15'-4"	3431	52	15'-4"	3431
Slab Longitudinal Top		6b6	26	35'-6"	1387	26	35'-6"	1387	26	35'-6"	1387	26	35'-6"	1387
Slab Longitudinal Top		6b7	53	27'-6"	2190	53	27'-6"	2190	53	27'-6"	2190	53	27'-6"	2190
Slab Longitudinal Top, at Rail		6b8	8	32'-3"	388	8	32'-3"	388	8	32'-3"	388	8	32'-3"	388
Slab Longitudinal Top, at Rail		6b9	8	34'-11"	420	8	34'-11"	420	8	34'-11"	420	8	34'-11"	420
Slab Longitudinal Top, at Rail		6b10	4	29'-2"	176	4	29'-2"	176	4	29'-2"	176	4	29'-2"	176
Slab Longitudinal Top, at Rail		10b11	8	18'-8"	643	8	18'-8"	643	8	18'-8"	643	8	18'-8"	643
Slab Longitudinal Top, at Rail		9b12	8	10'-7"	288	8	10'-7"	288	8	10'-7"	288	8	10'-7"	288
Slab Transverse Bottom		6c1	107	24'-4"	3911	107	25'-2"	4045	97	24'-4"	3546	87	24'-4"	3180
Slab Transverse Bottom		6c2	107	21'-3"	3416	107	22'-0"	3536	99	21'-3"	3160	91	21'-3"	2905
Slab Transverse Ends, Bottom		6c3	-	-	-	-	-	-	13	VARIES	262	21	VARIES	447
Slab Transverse Ends, Bottom		6c4	-	-	-	-	-	-	11	VARIES	233	20	VARIES	386
Slab Transverse Ends, Bottom		6c5	-	-	-	-	-	-	10	VARIES	173	17	VARIES	298
Slab Transverse Ends, Bottom		6c6	-	-	-	-	-	-	11	VARIES	191	17	VARIES	311
Slab Transverse Top		5d1	107	25'-3"	2818	107	26'-1"	2911	97	25'-3"	2555	87	25'-3"	2292
Slab Transverse Top		5d2	107	21'-10"	2437	107	22'-7"	2521	99	21'-10"	2255	91	21'-10"	2073
Slab Transverse Ends, Top		5d3	-	-	-	-	-	-	13	VARIES	188	21	VARIES	324
Slab Transverse Ends, Top		5d4	-	-	-	-	-	-	11	VARIES	166	20	VARIES	275
Slab Transverse Ends, Top		5d5	-	-	-	-	-	-	10	VARIES	120	17	VARIES	207
Slab Transverse Ends, Top		5d6	-	-	-	-	-	-	11	VARIES	139	17	VARIES	227
Slab, Tansverse at Abutment		8e1	18	26'-4"	1266	18	27'-1"	1302	18	29'-6"	1418	18	34'-8"	1667
Slab, Tansverse at Abutment		8e2	18	21'-4"	1026	18	22'-0"	1058	18	24'-5"	1174	18	29'-7"	1422
Slab, Tansverse at Abutment		6e3	92	5'-0"	691	92	5'-1"	703	92	5'-5"	749	92	6'-1"	841
Slab, Tansverse at Abutment		6e4	92	5'-11"	818	92	5'-11"	818	92	5'-11"	818	92	5'-11"	818
Top of Slab, Transverse, at Rail		6j1	212	7'-7"	2415	212	7'-7"	2415	202	7'-7"	2301	196	7'-7"	2233
Wing, Vertical		5m1	40	4'-5"	185	40	4'-5"	185	40	4'-5"	185	40	4'-5"	185
Wing, Horizontal Back Face		5n1	48	6'-8"	334	48	6'-8"	334	48	6'-8"	334	48	6'-8"	334
Epoxy Reinforcing Total Weight (lbs)					64,372			64,883			65,022			65,480
Rail Single-Slope Barrier – Quantities - See Sheet J40-48-25.					4787			4787			4787			4787
Rail Open Barrier – Quantities - See Sheet J40-52-25.					5607			5607			5607			5607
Epoxy Coated Rail Total-lbs. Monolithic Single-Slope Rail					69,159			69,670			69,809			70,267
Epoxy Coated Rail Total-lbs. Monolithic Open Rail					69,979			70,490			70,629			71,087
Epoxy Coated Rail Total-lbs. Non-Monolithic Single-Slope Rail					69,159			69,670			69,809			70,267
Epoxy Coated Rail Total-lbs. Non-Monolithic Open Rail					69,979			70,490			70,629			71,087
Stainless Steel Rail Total-lbs. Single-Slope Rail					2416			2416			2416			2416
Stainless Steel Rail Total-lbs. Open Rail					2178			2178			2178			2178

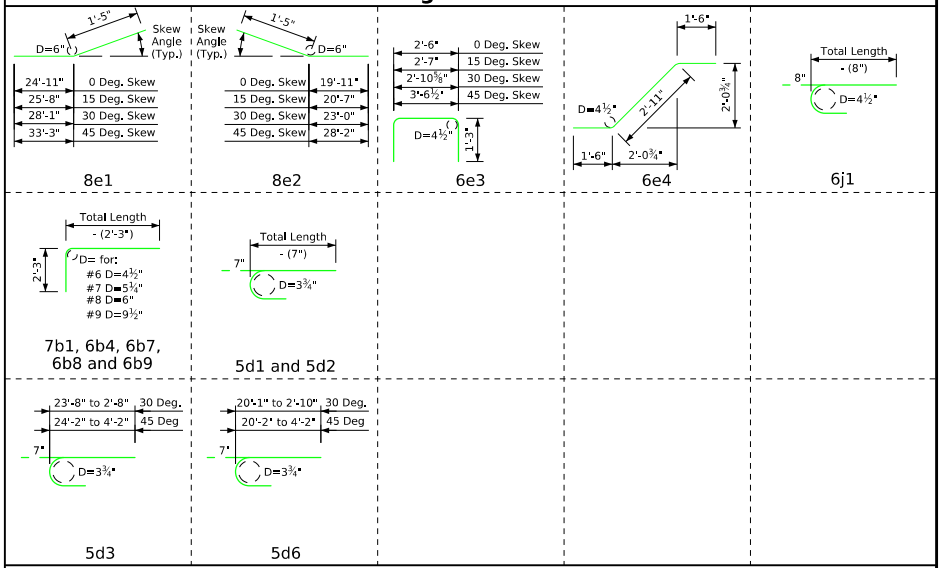
Estimated Quantities for Superstructure 110' Bridge

	Monolithic Cap				Non-Monolithic Cap			
Item	0°	15°	30°	45°	0°	15°	30°	45°
With Single-Slope Rail								
* Structural Concrete (Bridge) (c.y.)	294.8	295.6	297.6	302.7	298.1	298.9	301.6	307.3
Reinf. Steel Epoxy Coated (lbs.)	69,159	69,670	69,809	70,267	69,159	69,670	69,809	70,267
Δ Reinf. Steel Stainless Steel (lbs.)	2639	2639	2639	2639	2639	2639	2639	2639
Concrete single-slope barrier or open rail (lin.ft.)	242	242.2	242.9	244.5	242	242.2	242.9	244.5
With Open Rail								
* Structural Concrete (Bridge) (c.y.)	294.6	295.3	297.5	302.5	297.9	298.7	301.4	307.1
Reinf. Steel Epoxy Coated (lbs.)	69,979	70,490	70,629	71,087	69,979	70,490	70,629	71,087
Δ Reinf. Steel Stainless Steel (lbs.)	2401	2401	2401	2401	2401	2401	2401	2401

* Includes 4 wings at 1.114 cubic yard each; excludes rail concrete.

Δ Includes abutment paving notch bar weight.

110'-0 Bridge-Bent Bar Details



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

Stainless Steel Reinforcing for Superstructure

(All Skews)

Location	Shape	Bar	No.	Length	Weight
Abutment Paving Notch Bar		8u1	40	2'-1	223

8u1 bars are to be paid for under the price bid for "**Reinforcing Steel, Stainless Steel**". Weight = lbs.

Note:
See J40-26-25 Sheet for Monolithic Pier Cap reinforcing details and quantities.
See J40-28-25 Sheet for Non-Monolithic Pier Cap reinforcing details and quantities.

Latest Revision Date

Approved by Bridge Engineer

IOWA DOT

Standard Design-40'-0" Roadway, 3 Span Bridge

Continuous Concrete Slab Bridge

July, 2025

Superstructure Details
110'-0" Bridge Quantities

J40-11-25