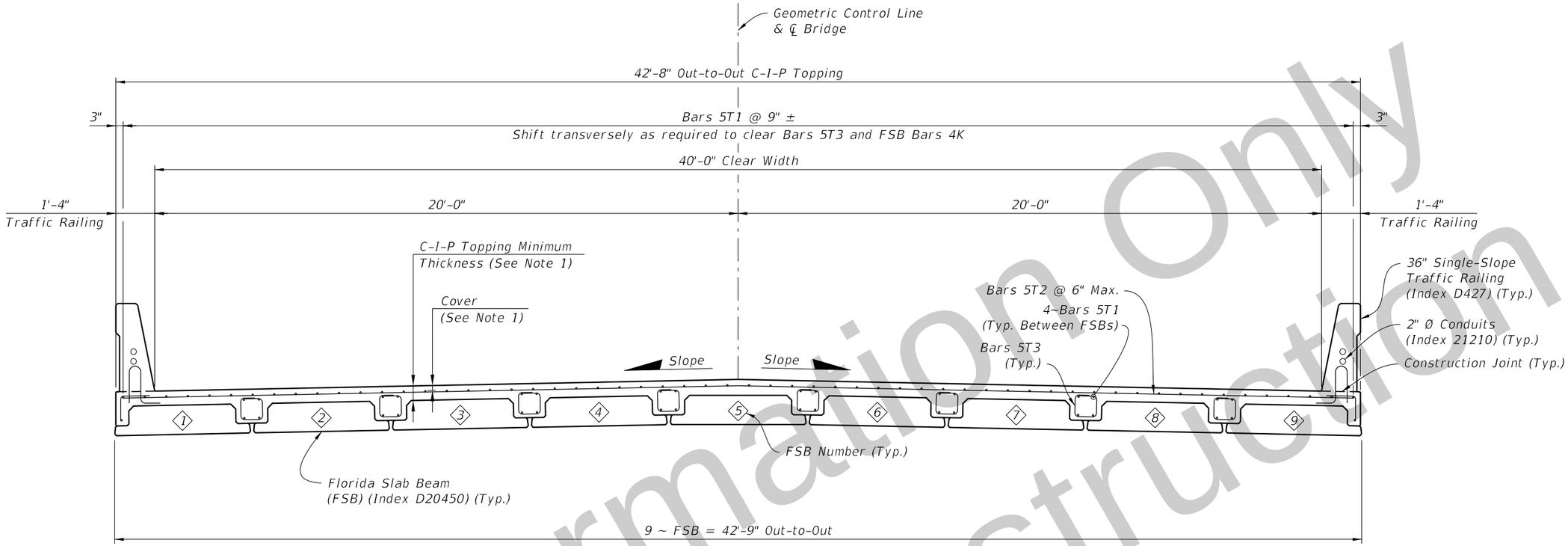
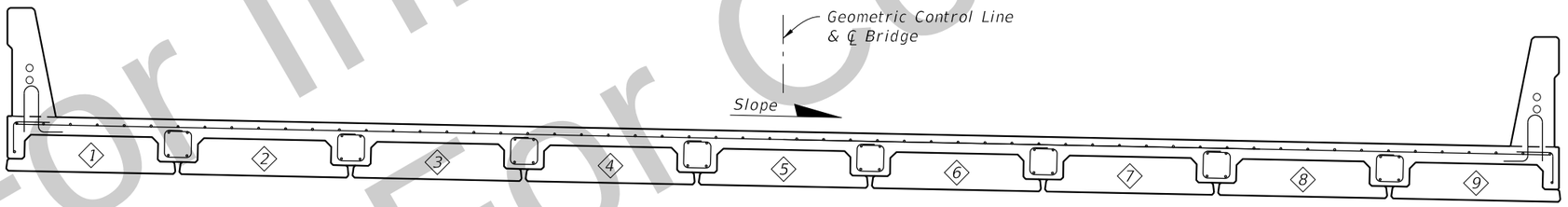


TYPICAL SECTION THRU SUPERSTRUCTURE WITH CROWN



TYPICAL SECTION THRU SUPERSTRUCTURE WITH CONSTANT CROSS SLOPE

(SEE SECTION WITH CROWN ABOVE FOR ALL INFORMATION NOT SHOWN IN THIS SECTION)

NOTES:
1. See Structure Plans General Notes for Topping minimum thickness and cover.
2. Work this Index with Index D30000.

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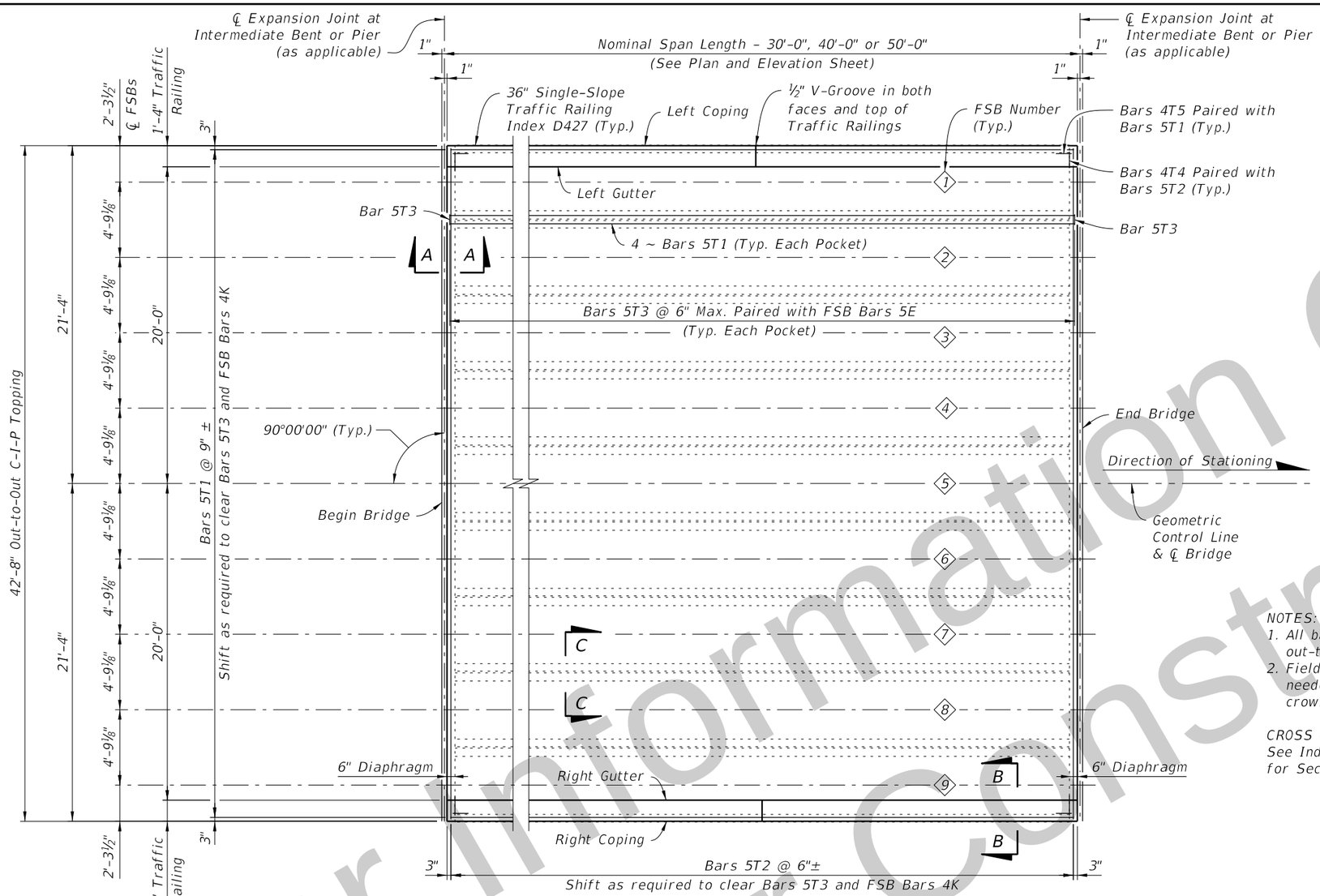
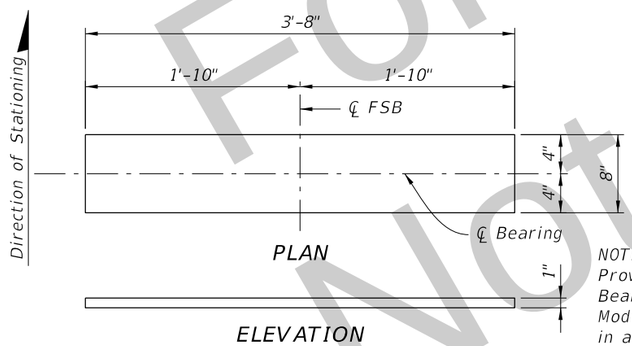
SUPERSTRUCTURE TYPICAL SECTION

LAST REVISION	REVISION	DESCRIPTION:	DEVELOPMENTAL DESIGN STANDARDS	FSB SUPERSTRUCTURE PACKAGE 40 FT. CLEAR WIDTH	INDEX NO.	SHEET NO.
10/01/16			FDOT		D30040	1 of 4



SUPERSTRUCTURE PLAN
(ONE SPAN SHOWN)



PLAN

ELEVATION

BEARING PAD DETAIL

NOTE:
Provide plain elastomeric Bearing Pads with a Shear Modulus G = 110psi and in accordance with Specification Section 932.

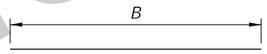
NOTES:
1. All bar dimensions are out-to-out.
2. Field bend Bars 5T2 as needed to accommodate crown.

CROSS REFERENCE:
See Index D30000, Sheet 2 for Sections A-A, B-B and C-C.

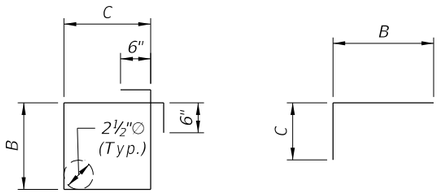
BILL OF REINFORCING STEEL FOR ONE SPAN ONLY

NOMINAL SPAN LENGTH	MARK SIZE	MARK DES	LENGTH	NO. OF BARS	B	C
30'-0"	5	T1	29'-6"	92	29'-6"	
	5	T2	42'-4"	62	42'-4"	
	5	T3	4'-2"	480	9½"	9½"
	4	T4	2'-2"	120	1'-6"	8"
	4	T5	2'-6"	116	1'-6"	1'-0"
40'-0"	5	T1	39'-6"	92	39'-6"	
	5	T2	42'-4"	82	42'-4"	
	5	T3	4'-2"	640	9½"	9½"
	4	T4	2'-2"	160	1'-6"	8"
	4	T5	2'-6"	116	1'-6"	1'-0"
50'-0"	5	T1	49'-6"	92	49'-6"	
	5	T2	42'-4"	102	42'-4"	
	5	T3	4'-7"	800	1'-0"	9½"
	4	T4	2'-5"	200	1'-6"	11"
	4	T5	2'-9"	116	1'-6"	1'-3"

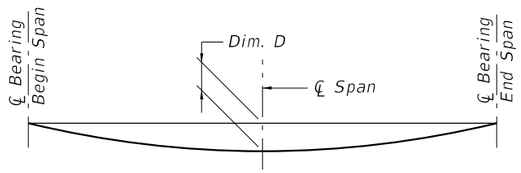
BENDING DIAGRAMS



BARS 5T1 & 5T2



STIRRUP BAR 5T3 BARS 4T4 & 4T5



DEAD LOAD DEFLECTION DIAGRAM

FLORIDA SLAB BEAM - CAMBER AND DEFLECTION DATA TABLE

SPAN LENGTH (ft.)	BEAM NO.	NET BEAM CAMBER (PRESTRESS - DEAD LOAD OF BEAM) @ 120 DAYS (in.)	DIM D DEAD LOAD DEFLECTION DUE TO TOPPING POUR @ 120 DAYS (in.)
30	1-9	⅜"	⅛"
40	1-9	¾"	⅝"
50	1-9	1⅛"	⅞"

CAMBER NOTE:

The values given in the table are based on theoretical beam cambers. The Contractor shall monitor beam cambers for the purpose of predicting camber values at the time of the topping casting. If the predicted cambers based on field measurements differ more than ± ½" from the theoretical "Net Beam Camber @ 120 Days" shown in the table, propose modified dimensions as required and submit to the Engineer for approval a minimum of 21 days prior to casting topping concrete.

SUPERSTRUCTURE PLAN

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LAST REVISION	REVISION	DESCRIPTION:				
10/01/16			FDOT DEVELOPMENTAL DESIGN STANDARDS	FSB SUPERSTRUCTURE PACKAGE 40 FT. CLEAR WIDTH	INDEX NO. D30040	SHEET NO. 2 of 4

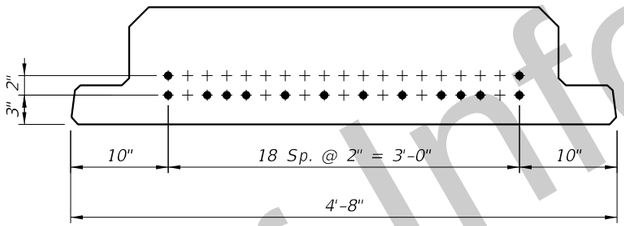
FLORIDA SLAB BEAM - TABLE OF VARIABLES

NOMINAL SPAN LENGTH	LOCATION BEAM NO.	BEAM TYPE	CONCRETE PROPERTIES CLASS	STRENGTHS (psi) 28 Day	Release	STND. PTRN. TYPE	PLAN VIEW CASE END 1	END 2	ANGLE Ø END 1	END 2	BEAM DIMENSIONS* DIM W	DIM L	DIM R	REINFORCING STEEL 3C NO.	DIM C	4D1 DIM D	4D2 DIM D	4D3 NO.	DIM D	5E1 NO.	DIM E	5E2 NO.	DIM E	6Y1 DIM Y	6Y2 DIM Y	4K NO.	NO. OF BAR SPACES S1	S2	BAR SPACING* V1	V2
30'	1,9	FSB 12x56	VI	8500	6000	1	1	1	90°	90°	4'-8"	28'-10¼"	¼"	31	4'-3½"	2'-4"	2'-4"	24	2'-4"	–	–	57	4'-4½"	3'-3½"	3'-3½"	84	1	8	1'-6"	1'-6"
	2-8	FSB 12x56	VI	8500	6000	1	1	1	90°	90°	4'-8"	28'-10¼"	¼"	31	4'-3½"	2'-4"	2'-4"	24	2'-4"	57	4'-6"	–	–	3'-3½"	3'-3½"	84	1	8	1'-6"	1'-6"
40'	1,9	FSB 12x56	VI	8500	6000	2	1	1	90°	90°	4'-8"	38'-10⅜"	⅜"	41	4'-3½"	2'-4"	2'-4"	32	2'-4"	–	–	77	4'-4½"	3'-3½"	3'-3½"	156	8	10	6"	1'-6"
	2-8	FSB 12x56	VI	8500	6000	2	1	1	90°	90°	4'-8"	38'-10⅜"	⅜"	41	4'-3½"	2'-4"	2'-4"	32	2'-4"	77	4'-6"	–	–	3'-3½"	3'-3½"	156	8	10	6"	1'-6"
50'	1,9	FSB 15x56	VI	8500	6000	3	1	1	90°	90°	4'-8"	48'-10½"	½"	51	4'-3½"	2'-4"	2'-4"	44	2'-4"	–	–	97	4'-4½"	3'-3½"	3'-3½"	148	4	13	1'-0"	1'-6"
	2-8	FSB 15x56	VI	8500	6000	3	1	1	90°	90°	4'-8"	48'-10½"	½"	51	4'-3½"	2'-4"	2'-4"	44	2'-4"	97	4'-6"	–	–	3'-3½"	3'-3½"	148	4	13	1'-0"	1'-6"

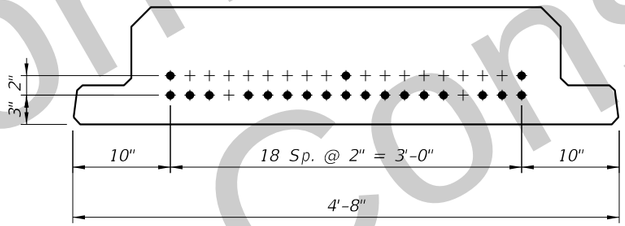
NOTE: Work this sheet with Developmental Design Standards Index D20450.

DIMENSION NOTES

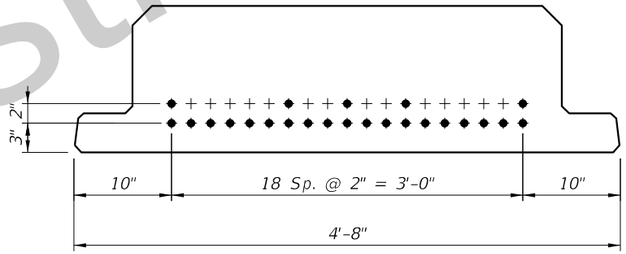
* All longitudinal slab beam dimensions shown on this sheet with a single asterisk (*) are measured along the top of beam at the centerline. Dimension "R" is calculated at mid-height of the slab beam.



TYPE (1) 14 STRANDS



TYPE (2) 20 STRANDS



TYPE (3) 24 STRANDS

STRAND DESCRIPTION: Use 0.60" Diameter, Grade 270, Low Relaxation Carbon Steel Strands stressed at 44.0 kips each. Area per strand equals 0.217 sq. in.

STRAND DEBONDING LEGEND

● – fully bonded strands.

STRAND PATTERNS

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LAST REVISION	REVISION	DESCRIPTION:				
10/01/16			DEVELOPMENTAL DESIGN STANDARDS	FSB SUPERSTRUCTURE PACKAGE 40 FT. CLEAR WIDTH	INDEX NO. D30040	SHEET NO. 3 of 4

Load Rating Summary Details for Prestressed Concrete Bridges (Flat Slab and Deck/Girder)

Table 2 - LRFR

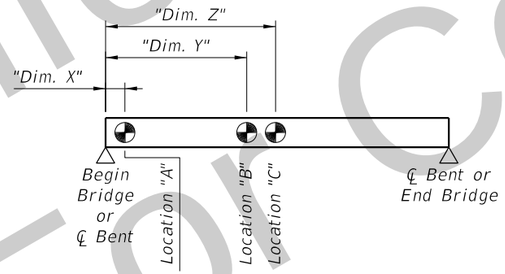
Span Length (Ft)	Level	Limit State	Vehicle	Weight (tons)	Load Factors			Moment (Strength) or Stress (Service)					Shear (Strength)					Comments: Interior/exterior beam DF method if other than LRFD. Other appropriate comments
					LL	DC	DW	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension (Ft)	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension (Ft)	
30	Design Load Rating	Strength I (Inv)	HL-93	N/A	1.75	1.25	1.50	0.41	2.01	N/A	C	13.32	0.68	4.36	N/A	A	1.39	Exterior Beam
		Strength I (Op)	HL-93	N/A	1.35	1.25	1.50	0.41	2.61	N/A	C	13.32	0.68	5.65	N/A	A	1.39	Exterior Beam
		Service III (Inv)	HL-93	N/A	0.80	1.00	1.00	0.41	1.94	N/A	C	13.32	N/A	N/A	N/A	N/A	N/A	Exterior Beam
	Permit Load Rating	Strength II	FL120	60.0	1.35	1.25	1.50	0.41	2.21	132.40	B	10.54	0.68	3.83	230.07	A	1.39	Exterior Beam
40	Design Load Rating	Strength I (Inv)	HL-93	N/A	1.75	1.25	1.50	0.39	1.73	N/A	C	18.50	0.66	4.56	N/A	A	4.15	Exterior Beam
		Strength I (Op)	HL-93	N/A	1.35	1.25	1.50	0.39	2.24	N/A	C	18.50	0.66	5.92	N/A	A	4.15	Exterior Beam
		Service III (Inv)	HL-93	N/A	0.80	1.00	1.00	0.39	1.29	N/A	C	18.50	N/A	N/A	N/A	N/A	N/A	Exterior Beam
	Permit Load Rating	Strength II	FL120	60.0	1.35	1.25	1.50	0.39	1.68	100.57	B	16.99	0.66	4.08	244.57	A	4.15	Exterior Beam
50	Design Load Rating	Strength I (Inv)	HL-93	N/A	1.75	1.25	1.50	0.37	1.65	N/A	C	22.44	0.65	4.54	N/A	A	1.43	Exterior Beam
		Strength I (Op)	HL-93	N/A	1.35	1.25	1.50	0.37	2.14	N/A	C	22.44	0.65	5.89	N/A	A	1.43	Exterior Beam
		Service III (Inv)	HL-93	N/A	0.80	1.00	1.00	0.37	1.16	N/A	C	22.92	N/A	N/A	N/A	N/A	N/A	Exterior Beam
	Permit Load Rating	Strength II	FL120	60.0	1.35	1.25	1.50	0.37	1.58	94.84	B	21.49	0.65	4.21	252.54	A	1.43	Exterior Beam

NOTES:
1. Permit capacity is determined by using the permit vehicle in all lanes.
2. Service III Design Inventory tensile stress limits = $3\sqrt{f'c}$.
3. Has the AASHTO LRFD Specifications Article 5.8.3.5 longitudinal reinforcement been satisfied? ☒ Yes ☐ No

Abbreviations:

Inv – Inventory

Op – Operating



RATING LOCATIONS

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LOAD RATING SUMMARY SHEET

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
10/01/16			DEVELOPMENTAL DESIGN STANDARDS	FSB SUPERSTRUCTURE PACKAGE 40 FT. CLEAR WIDTH	D30040	4 of 4