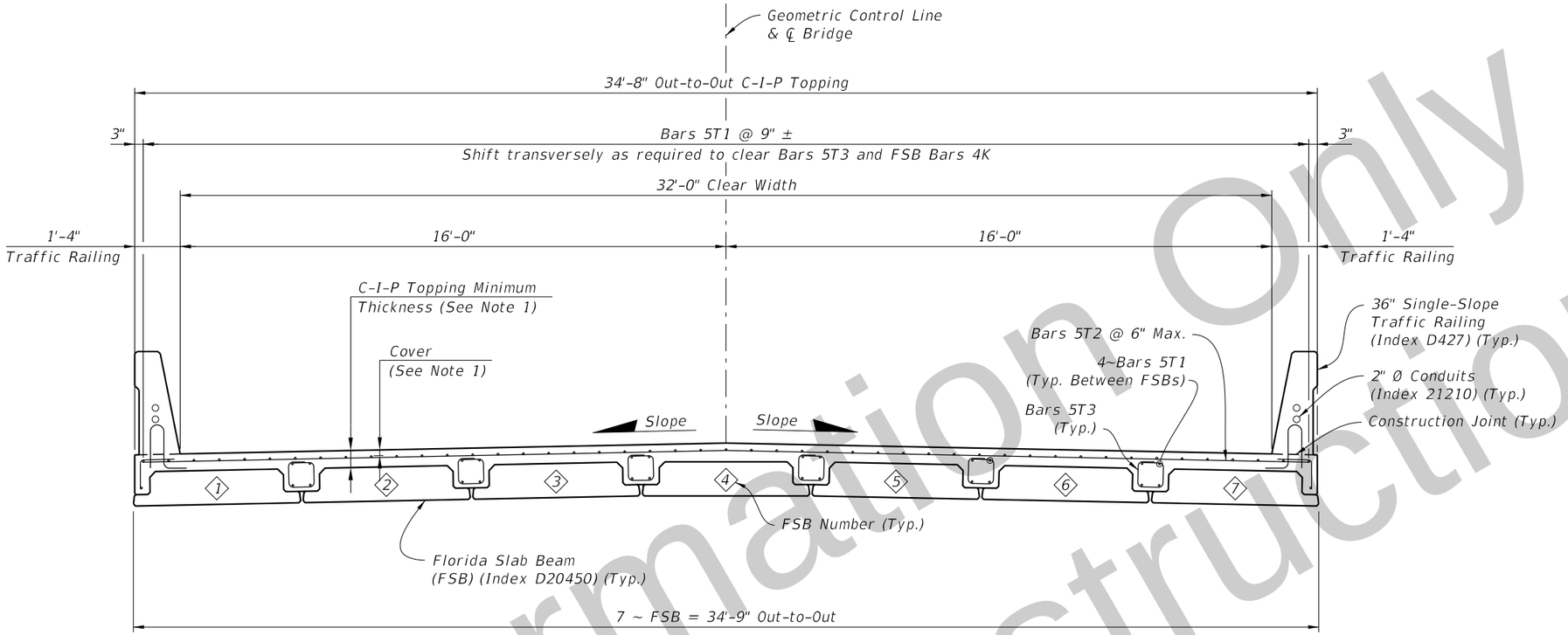
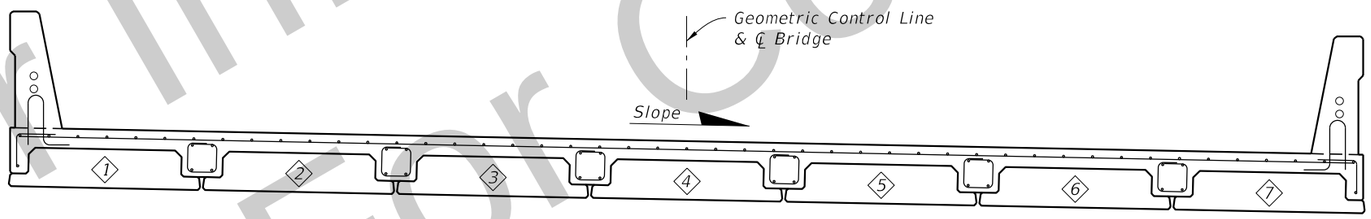



TYPICAL SECTION THRU SUPERSTRUCTURE WITH CROWN




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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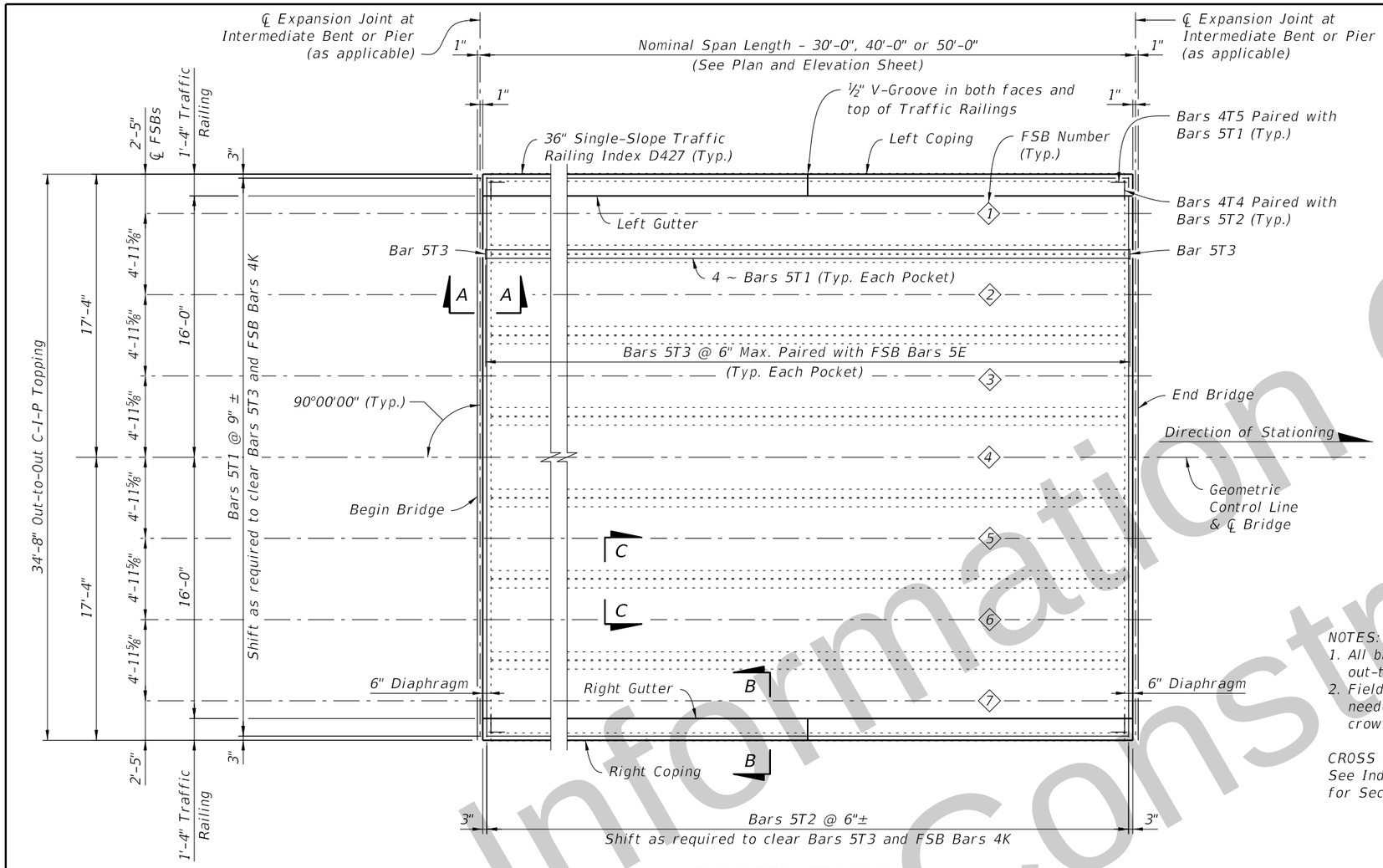
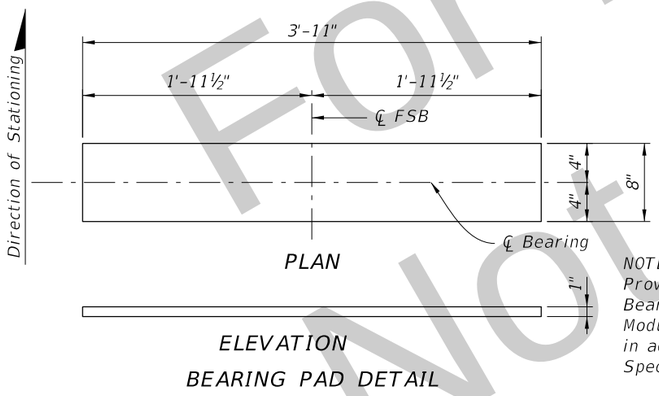
SUPERSTRUCTURE TYPICAL SECTION

| LAST REVISION | REVISION | DESCRIPTION: | | | INDEX NO. | SHEET NO. |
|---|---|---|---|---|---|---|
| 10/01/16 | | | FDOT DEVELOPMENTAL DESIGN STANDARDS | FSB SUPERSTRUCTURE PACKAGE 32 FT. CLEAR WIDTH | D30032 | 1 of 4 |




SUPERSTRUCTURE PLAN
(ONE SPAN SHOWN)




PLAN

ELEVATION

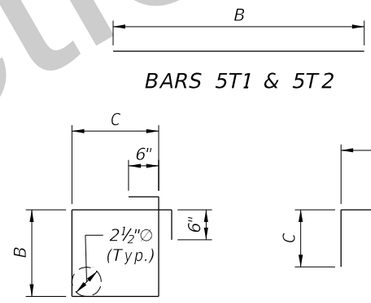
BEARING PAD DETAIL

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

## 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" | 73 | 29'-6" | |
| | 5 | T2 | 34'-4" | 62 | 34'-4" | |
| | 5 | T3 | 4'-2" | 360 | 9½" | 9½" |
| | 4 | T4 | 2'-2" | 120 | 1'-6" | 8" |
| | 4 | T5 | 2'-6" | 94 | 1'-6" | 1'-0" |
| 40'-0" | 5 | T1 | 39'-6" | 73 | 39'-6" | |
| | 5 | T2 | 34'-4" | 82 | 34'-4" | |
| | 5 | T3 | 4'-2" | 480 | 9½" | 9½" |
| | 4 | T4 | 2'-2" | 160 | 1'-6" | 8" |
| | 4 | T5 | 2'-6" | 94 | 1'-6" | 1'-0" |
| 50'-0" | 5 | T1 | 49'-6" | 73 | 49'-6" | |
| | 5 | T2 | 34'-4" | 102 | 34'-4" | |
| | 5 | T3 | 4'-7" | 600 | 1'-0" | 9½" |
| | 4 | T4 | 2'-5" | 200 | 1'-6" | 11" |
| | 4 | T5 | 2'-9" | 94 | 1'-6" | 1'-3" |

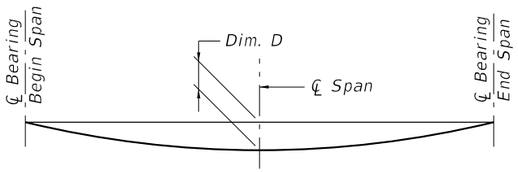
## BENDING DIAGRAMS




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.

| 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 | 1-7 | ½" | ⅛" |
| 40 | 1-7 | ¾" | ⅝" |
| 50 | 1-7 | 1⅛" | ⅞" |




DEAD LOAD DEFLECTION DIAGRAM

### 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 32 FT. CLEAR WIDTH | INDEX NO. D30032 | SHEET NO. 2 of 4 |

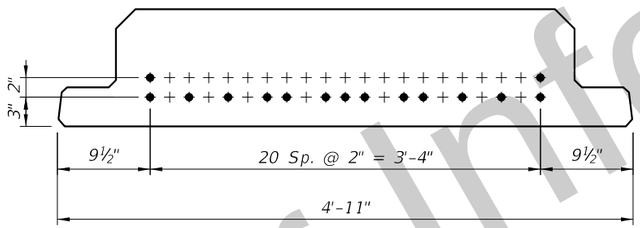
## FLORIDA SLAB BEAM - TABLE OF VARIABLES

| 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' | 1,7 | FSB 12x59 | VI | 8500 | 6000 | 1 | 1 | 1 | 90° | 90° | 4'-11" | 28'-10¼" | ¼" | 31 | 4'-6½" | 2'-5½" | 2'-5½" | 24 | 2'-5½" | – | – | 57 | 4'-7½" | 3'-6½" | 3'-6½" | 84 | 1 | 8 | 1'-6" | 1'-6" |
| | 2-6 | FSB 12x59 | VI | 8500 | 6000 | 1 | 1 | 1 | 90° | 90° | 4'-11" | 28'-10¼" | ¼" | 31 | 4'-6½" | 2'-5½" | 2'-5½" | 24 | 2'-5½" | 57 | 4'-9" | – | – | 3'-6½" | 3'-6½" | 84 | 1 | 8 | 1'-6" | 1'-6" |
| 40' | 1,7 | FSB 12x59 | VI | 8500 | 6000 | 2 | 1 | 1 | 90° | 90° | 4'-11" | 38'-10⅜" | ⅜" | 41 | 4'-6½" | 2'-5½" | 2'-5½" | 32 | 2'-5½" | – | – | 77 | 4'-7½" | 3'-6½" | 3'-6½" | 156 | 8 | 10 | 6" | 1'-6" |
| | 2-6 | FSB 12x59 | VI | 8500 | 6000 | 2 | 1 | 1 | 90° | 90° | 4'-11" | 38'-10⅜" | ⅜" | 41 | 4'-6½" | 2'-5½" | 2'-5½" | 32 | 2'-5½" | 77 | 4'-9" | – | – | 3'-6½" | 3'-6½" | 156 | 8 | 10 | 6" | 1'-6" |
| 50' | 1,7 | FSB 15x59 | VI | 8500 | 6000 | 3 | 1 | 1 | 90° | 90° | 4'-11" | 48'-10½" | ½" | 51 | 4'-6½" | 2'-5½" | 2'-5½" | 44 | 2'-5½" | – | – | 97 | 4'-7½" | 3'-6½" | 3'-6½" | 148 | 4 | 13 | 1'-0" | 1'-6" |
| | 2-6 | FSB 15x59 | VI | 8500 | 6000 | 3 | 1 | 1 | 90° | 90° | 4'-11" | 48'-10½" | ½" | 51 | 4'-6½" | 2'-5½" | 2'-5½" | 44 | 2'-5½" | 97 | 4'-9" | – | – | 3'-6½" | 3'-6½" | 148 | 4 | 13 | 1'-0" | 1'-6" |

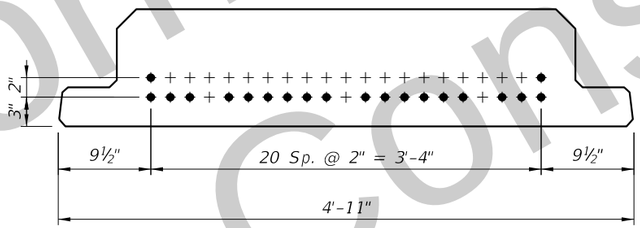
NOTE: Work this sheet with Developmental Design Standards Index D20450.

### DIMENSION NOTES

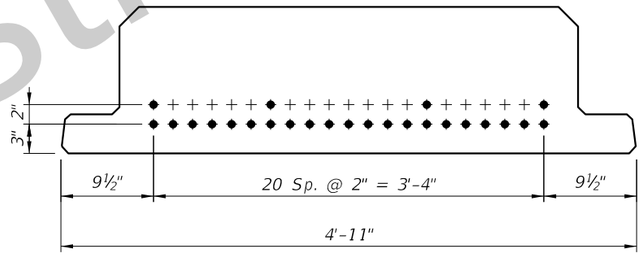
* All longitudinal slab beam dimensions shown on this sheet with a single asterisk (*) are measured along the top of beam at the centerline. Dimension "R" is calculated at mid-height of the slab beam.




TYPE (1) 15 STRANDS




TYPE (2) 20 STRANDS




TYPE (3) 25 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: | | | INDEX NO. | SHEET NO. |
|---|---|---|---|---|---|---|
| 10/01/16 | | | DEVELOPMENTAL DESIGN STANDARDS | FSB SUPERSTRUCTURE PACKAGE 32 FT. CLEAR WIDTH | D30032 | 3 of 4 |

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

### Table 2 - LRFR

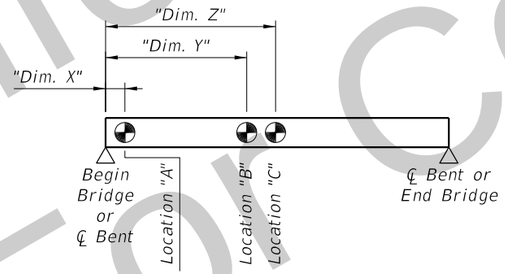
| Span Length (Ft) | Level | Limit State | Vehicle | Weight (tons) | Load Factors | | | Moment (Strength) or Stress (Service) | | | | | Shear (Strength) | | | | | Comments: Interior/exterior beam DF method if other than LRFD. Other appropriate comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 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 | 0.45 | 1.95 | N/A | C | 13.32 | 0.71 | 4.40 | N/A | A | 1.39 | Exterior Beam |
| | | Strength I (Op) | HL-93 | N/A | 1.35 | 1.25 | 1.50 | 0.45 | 2.53 | N/A | C | 13.32 | 0.71 | 5.70 | N/A | A | 1.39 | Exterior Beam |
| | | Service III (Inv) | HL-93 | N/A | 0.80 | 1.00 | 1.00 | 0.45 | 1.92 | 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 | 0.45 | 2.14 | 128.59 | B | 10.54 | 0.71 | 3.86 | 231.88 | A | 1.39 | Exterior Beam |
| 40 | Design Load Rating | Strength I (Inv) | HL-93 | N/A | 1.75 | 1.25 | 1.50 | 0.42 | 1.60 | N/A | C | 18.50 | 0.69 | 4.56 | N/A | A | 4.15 | Exterior Beam |
| | | Strength I (Op) | HL-93 | N/A | 1.35 | 1.25 | 1.50 | 0.42 | 2.08 | N/A | C | 18.50 | 0.69 | 5.91 | N/A | A | 4.15 | Exterior Beam |
| | | Service III (Inv) | HL-93 | N/A | 0.80 | 1.00 | 1.00 | 0.42 | 1.15 | 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 | 0.42 | 1.56 | 93.46 | B | 16.99 | 0.69 | 4.07 | 244.31 | A | 4.15 | Exterior Beam |
| 50 | Design Load Rating | Strength I (Inv) | HL-93 | N/A | 1.75 | 1.25 | 1.50 | 0.41 | 1.58 | N/A | C | 22.44 | 0.67 | 4.57 | N/A | A | 1.43 | Exterior Beam |
| | | Strength I (Op) | HL-93 | N/A | 1.35 | 1.25 | 1.50 | 0.41 | 2.05 | N/A | C | 22.44 | 0.67 | 5.92 | N/A | A | 1.43 | Exterior Beam |
| | | Service III (Inv) | HL-93 | N/A | 0.80 | 1.00 | 1.00 | 0.41 | 1.12 | 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 | 0.41 | 1.52 | 90.96 | B | 21.49 | 0.67 | 4.23 | 253.91 | 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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