

DESIGN LOAD RATING SUMMARY TABLES

*Load Rating Summary Tables must be completed by the designer and included in the contract plans in accordance with the Structures Manual (Topic No. 625-020-018). See the "FDOT Structures Bar Menu" included with the FDOT CADD Software for the Microstation CADD Cell Summary Tables. Updates to the Summary Tables from Structures Manual revisions are available on the Structures Design Office website at:
<http://www.dot.state.fl.us/structures/CADD/standards/CurrentStandards/MicrostationDrawings.shtm>*

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Load Rating Summary Details for Reinforced Concrete Bridges

Table Date 07-01-15

Table 1 - LFR

Level	Vehicle	Weight (tons)	Load Factors		Moment (Strength)					Shear (Strength)					Comments:		
			LL	DL	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension			
Inventory	HS-20	36.0	2.17	1.30													
Operating	HS-20	36.0	1.30	1.30													

General Notes:

- This table is based on the requirements established in the January 2xxx "Structures Manual".

Table 2 Notes:

- Permit capacity is determined by using the permit vehicle in all lanes.
- Has the AASHTO LRFD Specifications Article 5.8.3.5 longitudinal reinforcement been satisfied? Yes No

Notes to Designer:

- Modify or replace the Rating Location sketch Showing Span Length(s) to resemble the bridge being rated.
- Fill in the date in General Note number 1 above.
- See "FD0T Bridge Load Rating Manual" for appropriate rating methods.
- Provide name, version #, and date of release of software used for rating.

Load Rating Summary Details for Reinforced Concrete Bridges

Table Date 01-01-11

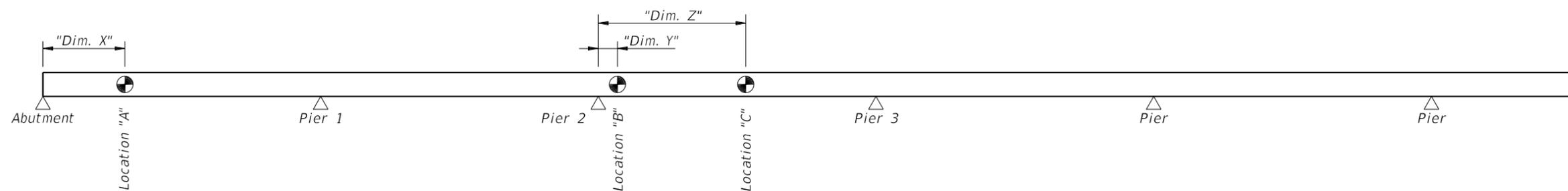
Table 2 - LRFR

Level	Limit State	Vehicle	Weight (tons)	Load Factors			Moment (Strength)					Shear (Strength)					Comments:	
				LL	DC	DW	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension		
Design Load Rating	Strength I (Inv)	HL-93	N/A	1.75	1.25	1.50			N/A						N/A			
	Strength I (Op)	HL-93	N/A	1.35	1.25	1.50			N/A						N/A			
Permit Load Rating	Strength II	FL120	60.0	1.35	1.25	1.50												

Abbreviations:

Inv - Inventory

Op - Operating



RATING LOCATIONS

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

Table Date 07-01-15

Table 1 - LFR

Level	Vehicle	Weight (tons)	Load Factors		Moment (Strength) or Stress (Service)					Shear (Strength)					Comments:		
			LL	DL	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension			
Inventory (Strength)	HS-20	36.0	2.17	1.30													
Inventory (Service)	HS-20	36.0	1.0	1.0						N/A	N/A	N/A	N/A	N/A			
Operating (Strength)	HS-20	36.0	1.30	1.30													

General Notes:

1. This table is based on the requirements established in the January 2xxx "Structures Manual".

Table 2 Notes [Notes Date 07-01-15]:

1. Permit capacity is determined by using the permit vehicle in all lanes.
2. Service III Design Inventory tensile stress limits = $3\sqrt{f'c}$ or $6\sqrt{f'c}$.
3. Has the AASHTO LRFD Specifications Article 5.8.3.5 longitudinal reinforcement been satisfied? Yes No

Notes to Designer:

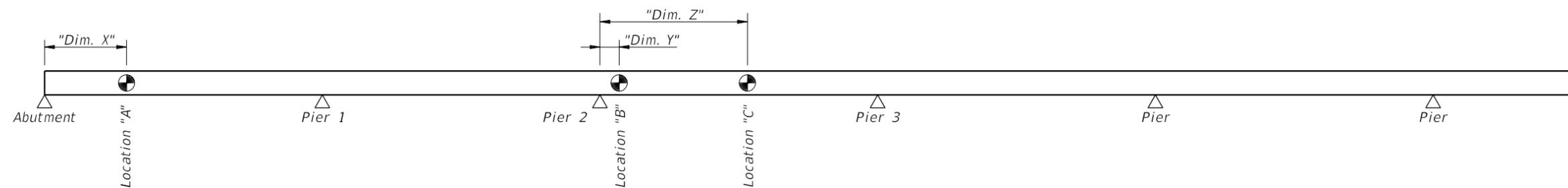
1. Modify or replace the Rating Location sketch Showing Span Length(s) to resemble the bridge being rated.
2. Fill in the date in General Note number 1 above.
3. See "FDOT Bridge Load Rating Manual" for appropriate rating methods.
4. Provide name, version #, and date of software used for rating.

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

Table Date 07-01-15

Table 2 - LRFR

Level	Limit State	Vehicle	Weight (tons)	Load Factors			Moment (Strength) or Stress (Service)					Shear (Strength)					Comments:	
				LL	DC	DW	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension		
Design Load Rating	Strength I (Inv)	HL-93	N/A	1.75	1.25	1.50			N/A						N/A			
	Strength I (Op)	HL-93	N/A	1.35	1.25	1.50			N/A						N/A			
	Service III (Inv)	HL-93	N/A	0.80	1.00	1.00			N/A			N/A	N/A	N/A	N/A	N/A		
Permit Load Rating	Strength II	FL120	60.0	1.35	1.25	1.50												



RATING LOCATIONS

Abbreviations:

Inv - Inventory

Op - Operating

Table 1 - LRFR

Level	Limit State	Vehicle	Weight (tons)	Load Factors							Moment (Strength) or Stress (Service)					Shear (Strength)					Comments:				
				DC CR SH	DW	EL PS	FR	TU	TG	LL	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension					
Design Load Rating	Strength I (Inv)	HL-93	N/A	1.25/0.9	1.50/0.65	1.00	1.00	0.50	N/A	1.75														Interior/exterior beam DF method if other than LRFD. Other appropriate comments	
	Strength I (Op)	HL-93	N/A	1.25/0.9	1.50/0.65	1.00	1.00	0.50	N/A	1.35															
	Service III (Inv)	HL-93	N/A	1.00	1.00	1.00	1.00	1.00	0.50	0.8					N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
	Service III (Op)	HL-93	N/A	1.00	1.00	1.00	1.00	1.00	1.00	N/A	0.8				N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Permit Load Rating	Strength II	FL120	60.0	1.25/0.9	1.50/0.65	1.00	1.00	0.50	N/A	1.35															
	Service III	FL120	60.0	1.00	1.00	1.00	1.00	1.00	N/A	0.7					N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

Abbreviations:

Inv - Inventory

Op - Operating

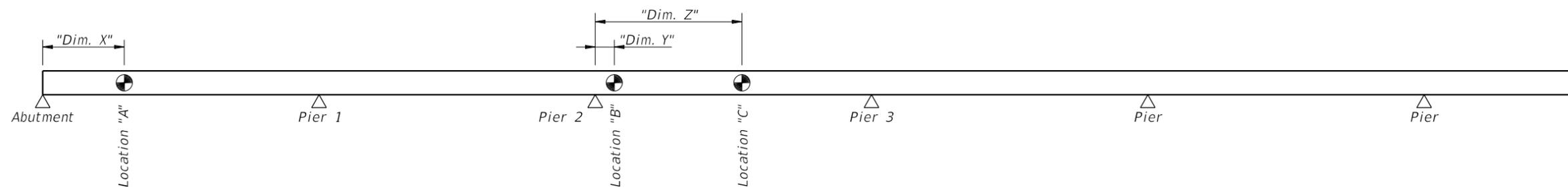
NOTES

General Notes:

1. This table is based on the requirements established in the January 2xxx "Structures Manual".
2. Permit capacity is determined by using the permit vehicle in all lanes.
3. Service III Design Inventory tensile stress limit = $3\sqrt{f'_c}$ or $6\sqrt{f'_c}$; Service III Design Operating, Legal, and Permit tensile stress limit = $7.5\sqrt{f'_c}$.
4. Has the AASHTO LRFD Specifications Article 5.8.3.5 longitudinal reinforcement been satisfied? Yes No

Notes to Designer:

1. Modify or replace the Rating Location sketch Showing Span Length(s) to resemble the bridge being rated.
2. Fill in the date in General Note number 1 above.
3. Provide name, version# and date of release of software used in rating.



RATING LOCATIONS

Load Rating Summary Details for Post-Tensioned Concrete Box Girder Bridges

Table Date 01-01-11

Table 1 - LRFR

Level	Direction	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				
					DC CR SH	DW	EL PS	FR	TU	TG	LL	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Distribution Factor (DF)	Rating Factor		Tons	Location	Dimension	
Design Load Rating	Longitudinal	Strength I (Inv)	HL-93	N/A	1.25/0.9	1.50/0.65	1.00	1.00	0.50	N/A	1.75			N/A					N/A				
		Strength I (Op)	HL-93	N/A	1.25/0.9	1.50/0.65	1.00	1.00	0.50	N/A	1.35			N/A					N/A				
		Service III (Inv)	HL-93	N/A	1.00	1.00	1.00	1.00	1.00	0.50	0.80								N/A	N/A	N/A	N/A	N/A
		Service III (Op)	HL-93	N/A	1.00	1.00	1.00	1.00	1.00	N/A	1.0 SL								N/A	N/A	N/A	N/A	N/A
	Transverse	Strength I (Inv)	single axle	16.0	1.25*	1.50	1.00	N/A	N/A	N/A	1.75								N/A	N/A	N/A	N/A	N/A
		Strength I (Inv)	tandem axle	25.0	1.25*	1.50	1.00	N/A	N/A	N/A	1.75								N/A	N/A	N/A	N/A	N/A
		Strength I (Op)	single axle	16.0	1.25*	1.50	1.00	N/A	N/A	N/A	1.35								N/A	N/A	N/A	N/A	N/A
		Strength I (Op)	tandem axle	25.0	1.25*	1.50	1.00	N/A	N/A	N/A	1.35								N/A	N/A	N/A	N/A	N/A
		Service I (Inv)	single axle	16.0	1.00*	1.00	1.00	N/A	N/A	N/A	1.00								N/A	N/A	N/A	N/A	N/A
		Service I (Inv)	tandem axle	25.0	1.00*	1.00	1.00	N/A	N/A	N/A	1.00								N/A	N/A	N/A	N/A	N/A
		Service I (Op)	single axle	16.0	1.00*	1.00	1.00	N/A	N/A	N/A	1.00								N/A	N/A	N/A	N/A	N/A
		Service I (Op)	tandem axle	25.0	1.00*	1.00	1.00	N/A	N/A	N/A	1.00								N/A	N/A	N/A	N/A	N/A
Permit Load Rating	Longitudinal	Strength II	FL120	60.0	1.25/0.9	1.50/0.65	1.00	1.00	0.50	N/A	1.35												
		Service III	FL120	60.0	1.00	1.00	1.00	1.00	1.00	N/A	0.9 SL							N/A	N/A	N/A	N/A	N/A	

* CR, SH not applicable

Abbreviations:

- Inv - Inventory
- Op - Operating
- SL - Striped Lanes

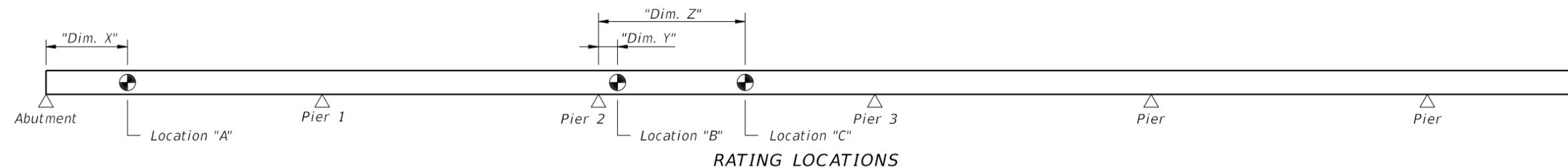
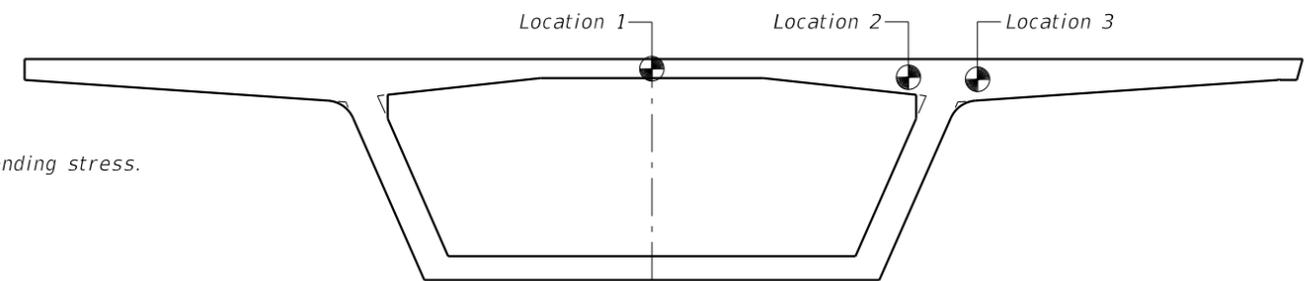
NOTES

General Notes:

1. This table is based on the requirements established in the January 2xxx "Structures Manual".
2. Permit capacity is determined by using the permit vehicle in all lanes.
3. Service III tensile stress limit = $3\sqrt{f'_c}$ or $6\sqrt{f'_c}$; Service III Principal Tension Limit = $3.5\sqrt{f'_c}$.
4. Service I Transverse Design Inventory tensile stress limit = $3\sqrt{f'_c}$ or $6\sqrt{f'_c}$; Service I Transverse Design Operating tensile stress limit = $6\sqrt{f'_c}$.

Notes to Designer:

1. Modify or place the Rating Location sketch Showing Span Length(s) to resemble the bridge being rated.
2. Fill in the date in General Note number 1 above.
3. In the comments section for Service Limit III, state whether the rating is for principal tension stress or bending stress.
4. Provide Name, Version #, and Date of Release of Software used for rating.



RATING LOCATIONS

Load Rating Summary Details for Steel Girder Bridges Table Date 07-01-15

Table 1 - LFR

Level	Vehicle	Weight (tons)	Load Factors		Moment (Strength)					Shear (Strength)					Comments:			
			LL	DL	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension				
Inventory (Strength)	HS-20	36.0	2.17	1.30														
Operating (Strength)	HS-20	36.0	1.30	1.30														

General Notes:
 1. This table is based on the requirements established in the January 2xxx "Structures Manual".

Table 2 Notes:
 1. Permit capacity is determined by using the permit vehicle in all lanes.

Notes to Designer:
 1. Modify or replace the Rating Location sketch Showing Span Lengths to resemble the bridge being rated.
 2. Fill in the date in General Note number 1 above.
 3. For Girder, Floorbeam, Stringer Bridges, use one Summary sheet for each member type."
 4. Design Service Limit State ratings are only required for compact members.
 5. See "FDOT Bridge Load Rating Manual" for appropriate rating methods.
 6. Provide name, version #, and date of software used in rating.

Load Rating Summary Details for Steel Girder Bridges Table Date 01-01-11

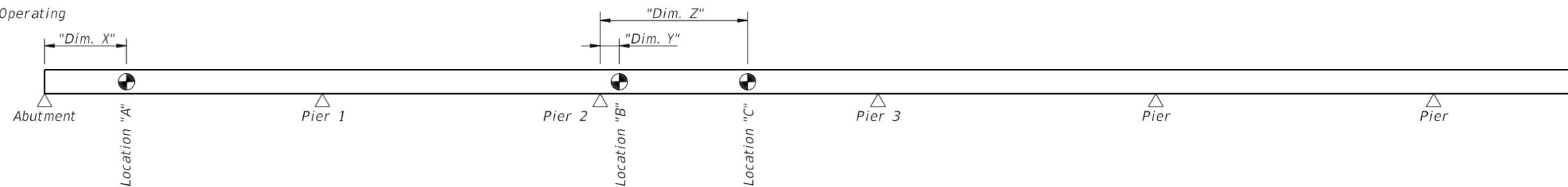
Table 2 - LRFR

Level	Limit State	Vehicle	Weight (tons)	Load Factors			Moment (Strength) or Stress (Service)					Shear (Strength)					Comments:	
				LL	DC	DW	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension		
Design Load Rating	Strength I (Inv)	HL-93	N/A	1.75	1.25	1.50			N/A						N/A			
	Strength I (Op)	HL-93	N/A	1.35	1.25	1.50			N/A						N/A			
	Service II (Inv) ⁴	HL-93	N/A	1.30	1.00	1.00			N/A				N/A	N/A	N/A	N/A	N/A	
	Service II (Op) ⁴	HL-93	N/A	1.00	1.00	1.00			N/A				N/A	N/A	N/A	N/A	N/A	
Permit Load Rating	Strength II	FL120	60.0	1.35	1.25	1.50												
	Service II ⁴	FL120	60.0	0.90	1.00	1.00							N/A	N/A	N/A	N/A	N/A	

Abbreviations:

Inv - Inventory

Op - Operating



RATING LOCATIONS

Load Rating Summary Details for Reinforced Concrete Bridge Culverts (Box and Three-Sided Culvert)

Table Date 07-01-15

Table 1 - LFR

Level	Vehicle	Weight (tons)	Load Factors		Moment (Strength)					Shear (Strength)					Comments:	
			LL	DL	Unfactored Ratio LL / DL	Rating Factor	Tons	Location	Dimension	Unfactored Ratio LL / DL	Rating Factor	Tons	Location	Dimension		
Inventory	HS-20	36.0	2.17	1.30												
Operating	HS-20	36.0	1.30	1.30												

General Notes:
 1. This table is based on the requirements established in the January 2xxx "Structures Manual".

Table 2 Notes:
 1. Permit capacity is determined by using the permit vehicle in all lanes.
 2. Does the depth of fill above the top slab exceed the span length between the inside faces of the end walls (Bridge Culvert Total Span Length)? Yes No

If Yes then the live load may be neglected per LRFD 3.6.1.2.6.

Load Rating Summary Details for Reinforced Concrete Bridges

Table Date 01-01-11

Table 2 - LRFR

Level	Limit State	Vehicle	Weight (tons)	Load Factors			Moment (Strength)					Shear (Strength)					Comments:
				LL	DC	DW	Unfactored Ratio LL / Permanent Loads	Rating Factor	Tons	Location	Dimension	Unfactored Ratio LL / Permanent Loads	Rating Factor	Tons	Location	Dimension	
Design Load Rating	Strength I (Inv)	HL-93	N/A	1.75	1.25	1.50											
	Strength I (Op)	HL-93	N/A	1.35	1.25	1.50											
Permit Load Rating	Strength II	FL120	60.0	1.35	1.25	1.50											

Notes to Designer:
 1. Modify or replace the Rating Location sketch Showing Span Length(s) to resemble the bridge culvert being rated.
 2. Fill in the date in General Note number 1 above.
 3. See "FDOT Bridge Load Rating Manual" for appropriate rating methods.
 4. Provide name, version #, and date of release of software used in rating.

- Abbreviations:**
- DL - Dead Load (LFR)
 - DC - Component Dead Load (LRFR)
 - DW - Wearing Surface & Utility Dead Load (LRFR)
 - LL - Live Load
 - Inv - Inventory
 - Op - Operating

