# 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	Summa	ary Det	ails for Re	inforced	d Concr	ete Bri	dges			Table Date 07-01-15
	Table 1 - LFR															
	Load Factors Moment (Strength) Shear (Strength)															
Level	Vehicle	Weight (tons)	LL	DL	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Comments: Interior/exterior beam if other than Standard Other appropriate com	Spec.
Inventory	HS-20	36.0	2.17	1.30												
Operating	HS-20	36.0	1.30	1.30												

					Lo	oad Rat	ing Sun	nmary	Details	for Rei	nforced Co	ncrete	Bridges	5				Table Date 01-01-11
									Table	2 - LRF	R							
				Lo	ad Facto	ors		М	oment (St	rength)			5	hear (Str	ength)			
Level	Limit State	Vehicle	Weight (tons)	LL	DC	DW	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	DF method than LRFD.	terior beam if other opriate comments
Design Load Rating	Strength I (Inv)	HL-93	N/A	1.75	1.25	1.50			N/A					N/A				
Des Load	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												

# 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. Has the AASHTO LRFD Specifications
  Article 5.8.3.5 longitudinal reinforcement
  been satisfied? ☐ Yes ☐ No

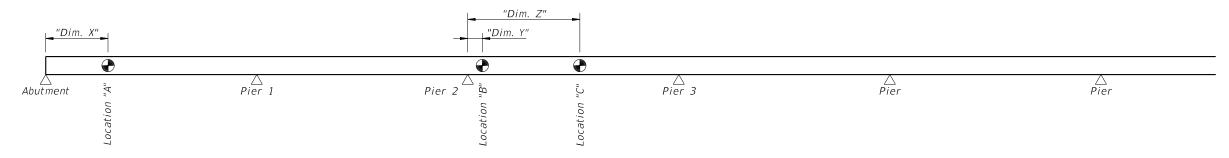
# Notes to Designer:

- 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 release of software used for rating.

Abbreviations:

Inv - Inventory

Op - Operating



RATING LOCATIONS

			Load	Rating	Summar	y Deta	ils for	Prestre	ssed Cond	rete Br	idges (I	Flat Sla	b and D	Deck/Gird	er) Ta	ble Date 07-01-15	. (
								Т	able 1 - LF	-R							
			Load H	Factors	Мог	ment (Str	ength) oi	Stress (	(Service)			Shear (St	rength)				
Level	Vehicle	Weight (tons)	LL	DL	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Comments:  Interior/exterior beam DF if other than Standard Spe Other appropriate commen	ec.	
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			N
Operating (Strength)	HS-20	36.0	1.30	1.30													

			Load	d Rating	Summ	ary De	tails fo	r Prest	ressed	Concre	te Bridges	(Flat S	lab and	Deck/	Girder)		Tal	ble Date 07-01-15
								•	Table 2	- LRFR							·	
				Lo	pad Facto	ors	Мо	ment (Sti	rength) oi	r Stress (	Service)		9	hear (Str	ength)			
Level	Limit State	Vehicle	Weight (tons)	LL	DC	DW	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Comments:  Interior/exter  DF method if  than LRFD.  Other appropr	
77	Strength I (Inv)	HL-93	N/A	1.75	1.25	1.50			N/A					N/A				
Design Load Rating	Strength I (Op)	HL-93	N/A	1.35	1.25	1.50			N/A					N/A				
D B	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												

# Abutment Pier 1 Pier 2 Pier 3 Pier 9 Pier 9

RATING LOCATIONS

# 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:

- 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.

Abbreviations:

Inv - Inventory

Op - Operating

					Lc	ad Rat	ing Sur	nmary	Details	for Co	ontinuou	is Post	-Tension	ned I-Gi	rder Bridg	ies					Table Date 01-01-11
										Table	e 1 - LR	FR									
						Load	d Factors	1			Мог	ment (St	rength) or	Stress (	Service)			hear (Sti	rength)		
Level	Limit State	Vehicle	Weight (tons)	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	Comments:  Interior/exterior beam DF method if other than LRFD. Other appropriate comments
ng	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			
Design ad Ratii	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			
Des	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	
709	Service III (Op)	HL-93	N/A	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	
Permit ad Rating	Strength II	FL120	60.0	1.25/0.9	1.50/0.65	1.00	1.00	0.50	N/A	1.35											
Per Load I	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	

Abbreviations:

NOTES

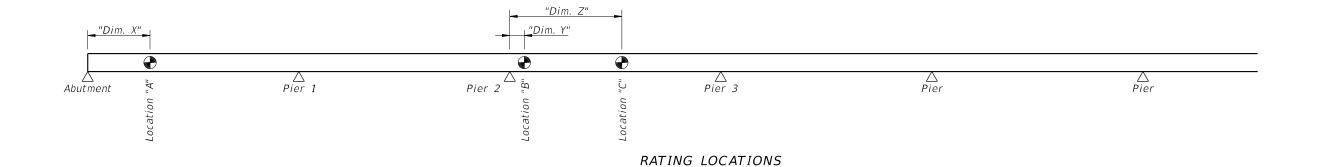
Inv - Inventory

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.
- Op Operating
- 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:

- 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.
   Provide name, version# and date of release of software used in rating.



					Load	Rating S	Summa	ry Deta	ails for	Post-T	ensione	d Conc	rete Bo	x Gird	er Brid	ges						Table Date 01-01-11
									T	able 1	- LRFR											·
							Load	d Factors	;			Мог	ment (Str	ength) o	r Stress (	(Service)		5	hear (Str	ength)		
[Fevel	Direction	Limit State	Vehicle	Weight (tons)	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	Comments:  Interior/exterior beam DF method if other than LRFD. Other appropriate comments
	nal	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			
	gitudinal	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			
	ngit	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	N/A	
Rating	107	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	N/A	
Rat		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	
Load		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	
	se	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	
Design	ver	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	
De	ans	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	
mit Rating	udinal	Strength II	FL120	60.0	1.25/0.9	1.50/0.65	1.00	1.00	0.50	N/A	1.35											
Permit Load Rating	Longit	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:

Gene

Inv - Inventory

Op - Operating

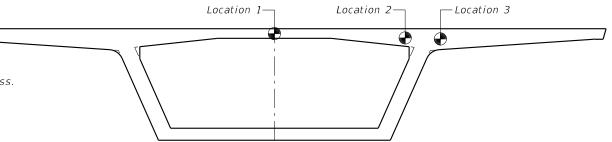
SL - Striped Lanes

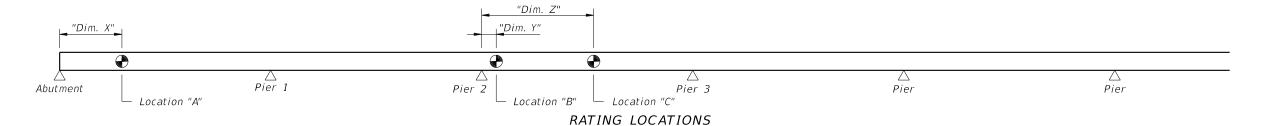
NOTES General Notes:

- 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.





### Load Rating Summary Details for Steel Girder Bridges Table Date 07-01-15 Table 1 - LFR Shear (Strength) Load Factors Moment (Strength) Rating Factor Comments: Rating Factor Distribution Factor (DF) Dimension Dimension Weight Level Vehicle Interior/exterior beam DF method (tons) LLDLif other than Standard Spec. Other appropriate comments Inventory (Strength) HS-20 36.0 2.17 1.30 Operating (Strength) HS-20 36.0 1.30 1.30

						Load	Rating	Summa	ary Det	ails for	Steel Gir	der Brid	lges				Table Date 01-01-11
									Table	2 - LRF	R						·
				Lo	ad Facto	ors	Мог	ment (Sti	ength) or	Stress (	Service)		S	hear (Str	ength)		
Level	Limit State	Vehicle	Weight (tons)	LL	DC	DW	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Distribution Factor (DF)	Rating Factor	Tons	Location	Dimension	Comments:  Interior/exterior beam  DF method if other  than LRFD.  Other appropriate comments
ng	Strength I (Inv)	HL-93	N/A	1.75	1.25	1.50			N/A					N/A			
Design ad Rating	Strength I (Op)	HL-93	N/A	1.35	1.25	1.50			N/A					N/A			
Des	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	
07	Service II (0p)⁴	HL-93	N/A	1.00	1.00	1.00			N/A			N/A	N/A	N/A	N/A	N/A	
Permit and Rating	Strength II	FL120	60.0	1.35	1.25	1.50											
Per	Service II <sup>4</sup>	FL120	60.0	0.90	1.00	1.00						N/A	N/A	N/A	N/A	N/A	

# General Notes:

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

# Table 2 Notes:

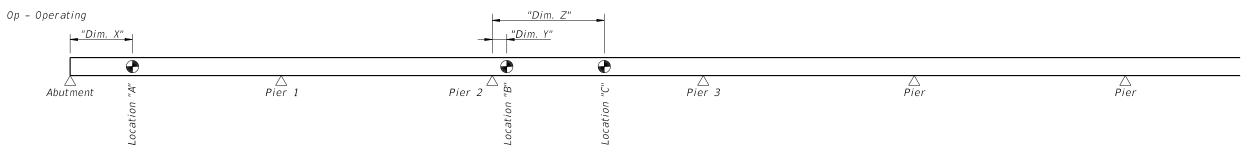
1. Permit capacity is determined by using the permit vehicle in all lanes.

# 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.

Abbreviations:

Inv - Inventory



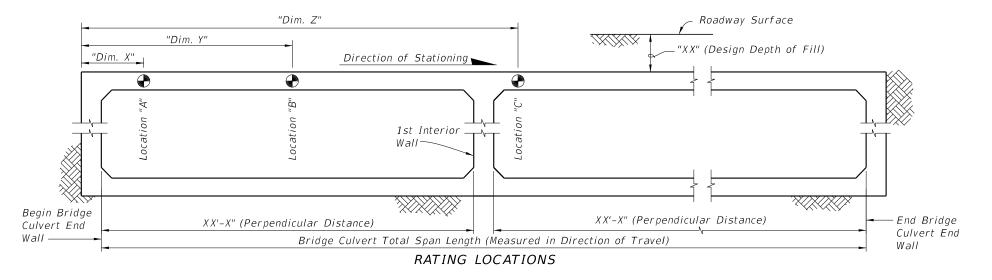
RATING LOCATIONS

		L	oad Rat	ting Sun	nmary l	Details	for Rei	nforced	l Concrete	Bridge	Culver	ts (Box	and T	hree-Sided	Culvert)	Table Date 07-01-15	
									Table 1 - L	LFR						•	
			Load I	Factors	,	Moment (	Strength)	ı			Shear	(Strengt	h)				
Level	Vehicle	Weight (tons)	LL	DL	Unfactored Ratio LL / DL	Rating Factor	Tons	Location	Dimension	Unfactored Ratio LL / DL	Rating Factor	Tons	Location	Dimension	Comments:  Wheel load distribution if other than Standard Other appropriate comm	Spec.	
Inventory	HS-20	36.0	2.17	1.30													
Operating	HS-20	36.0	1.30	1.30													

						Load Ra	ting Sum	mary D	etails f	or Reir	forced C	oncrete E	Bridges				Table Date 01-01-11
									Table 2	2 - LRFI	<b>R</b>						
				Lo	oad Facto	rs	ı	Moment (	Strength)			S	hear (Str	ength)			
Level	Limit State	Vehicle	Weight (tons)	LL	DC	DW	Unfactored Ratio LL Permanent Loads	Rating Factor	Tons	Location	Dimension	Unfactored Ratio LL Permanent Loads	Rating Factor	Tons	Location	Dimension	distribution method n LRFD. Other comments.
Design oad 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:

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



# 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.

# 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.