Creating Reports & Getting Results Out of AASHTO BrDR

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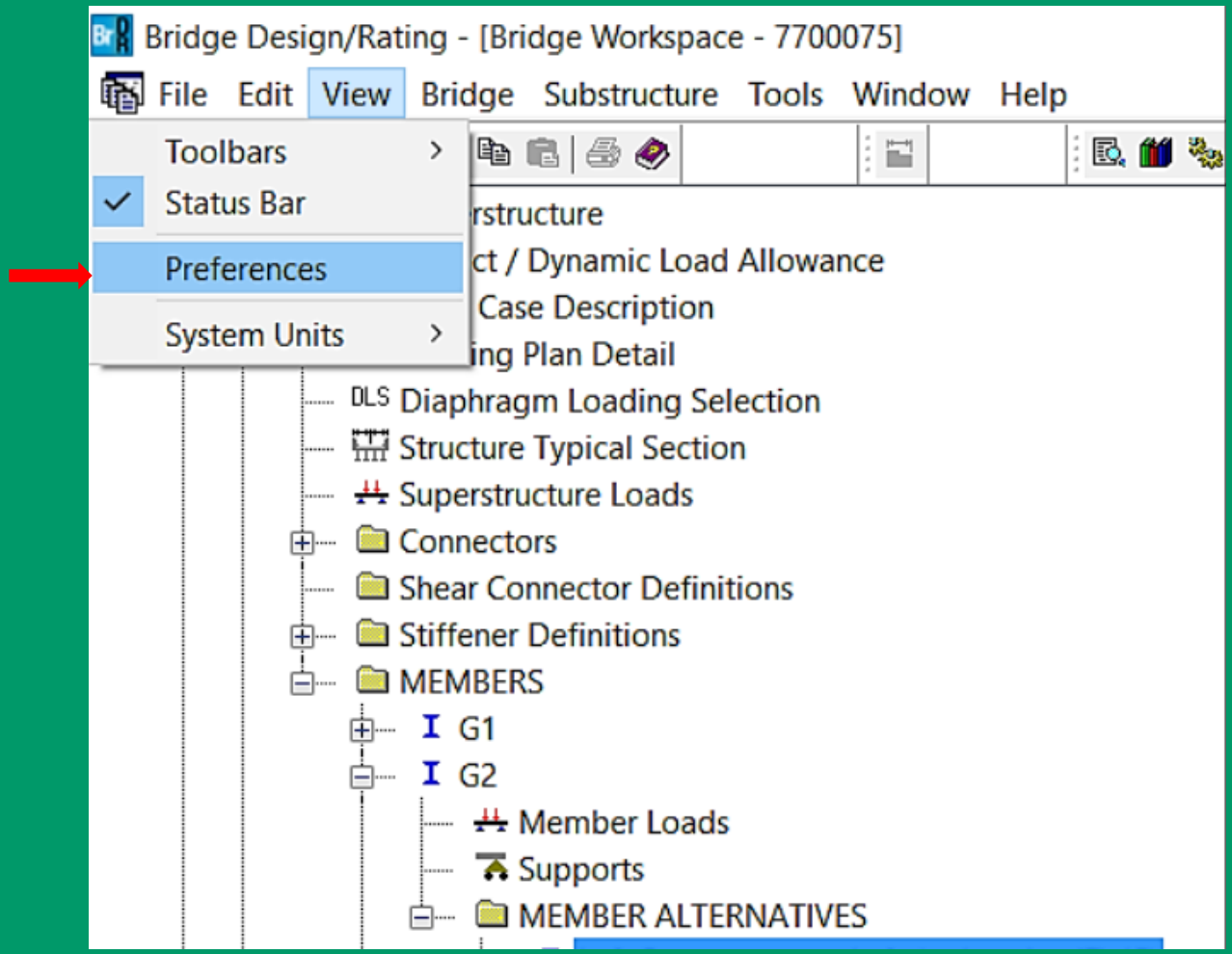
Office of Structural Engineering

August 5, 2015

AASHTOWare Br Design and Rating

1. Preference Settings
2. Analysis Setting
3. Output Setting at Member Alt. Level
4. Reports

Preferences



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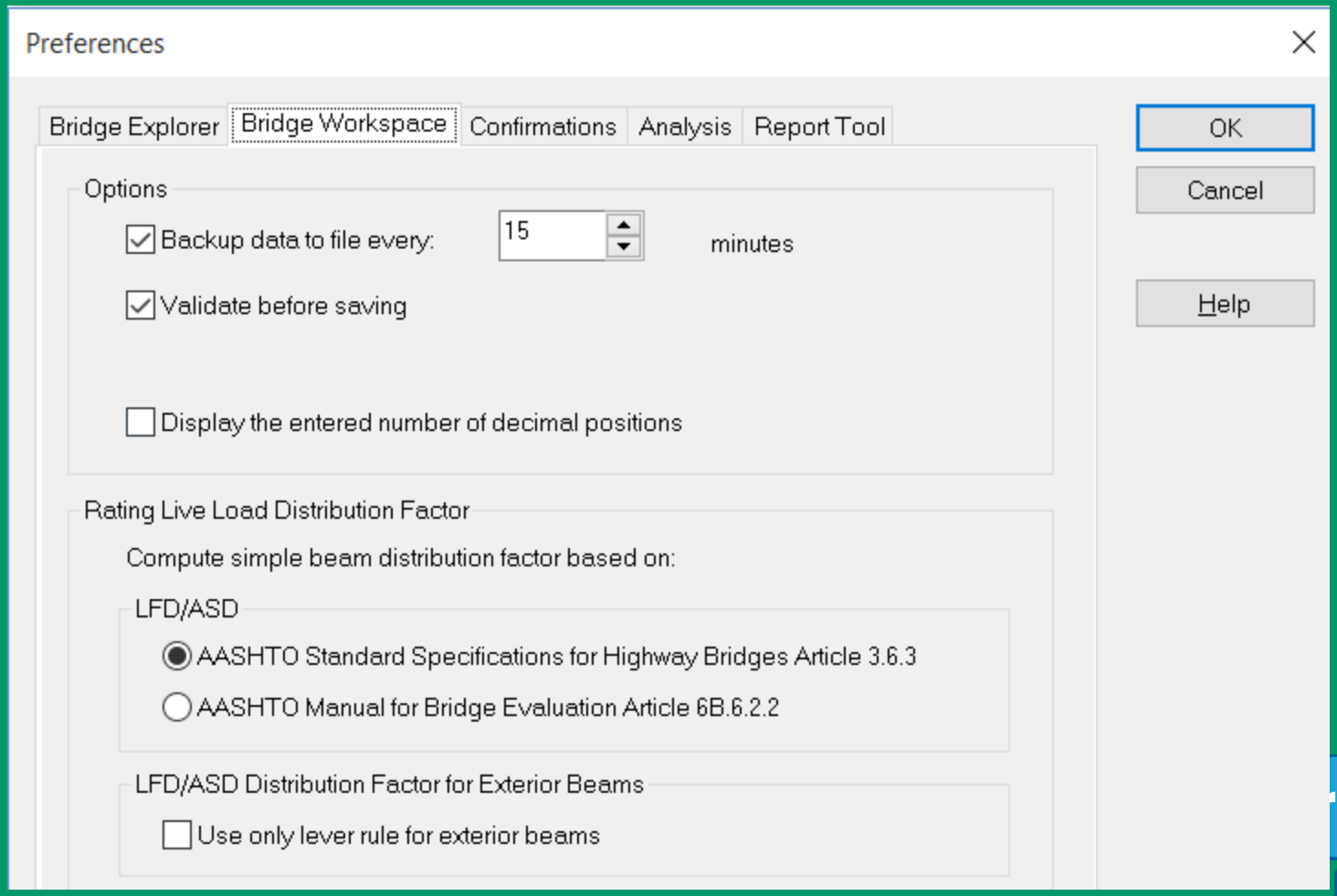

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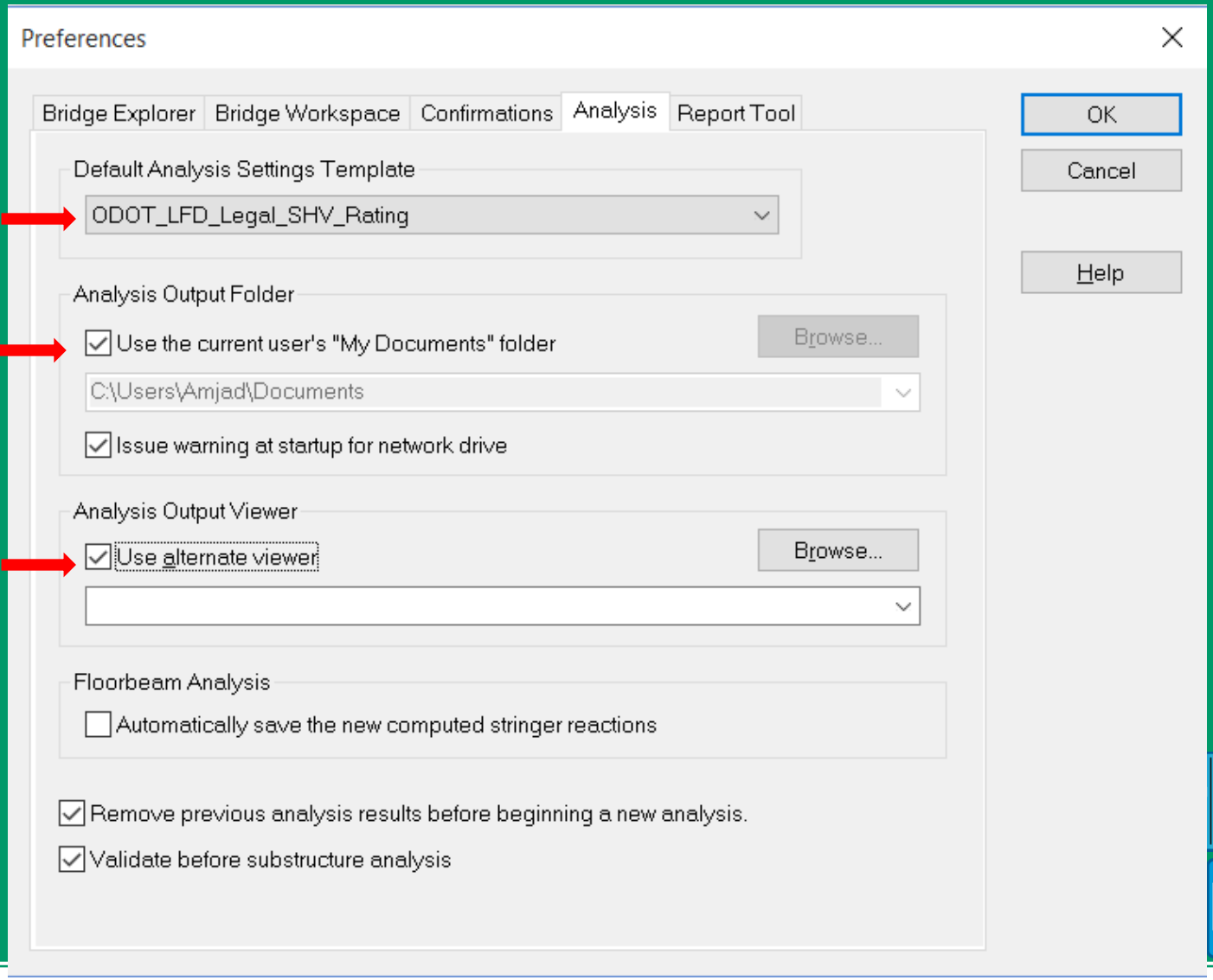

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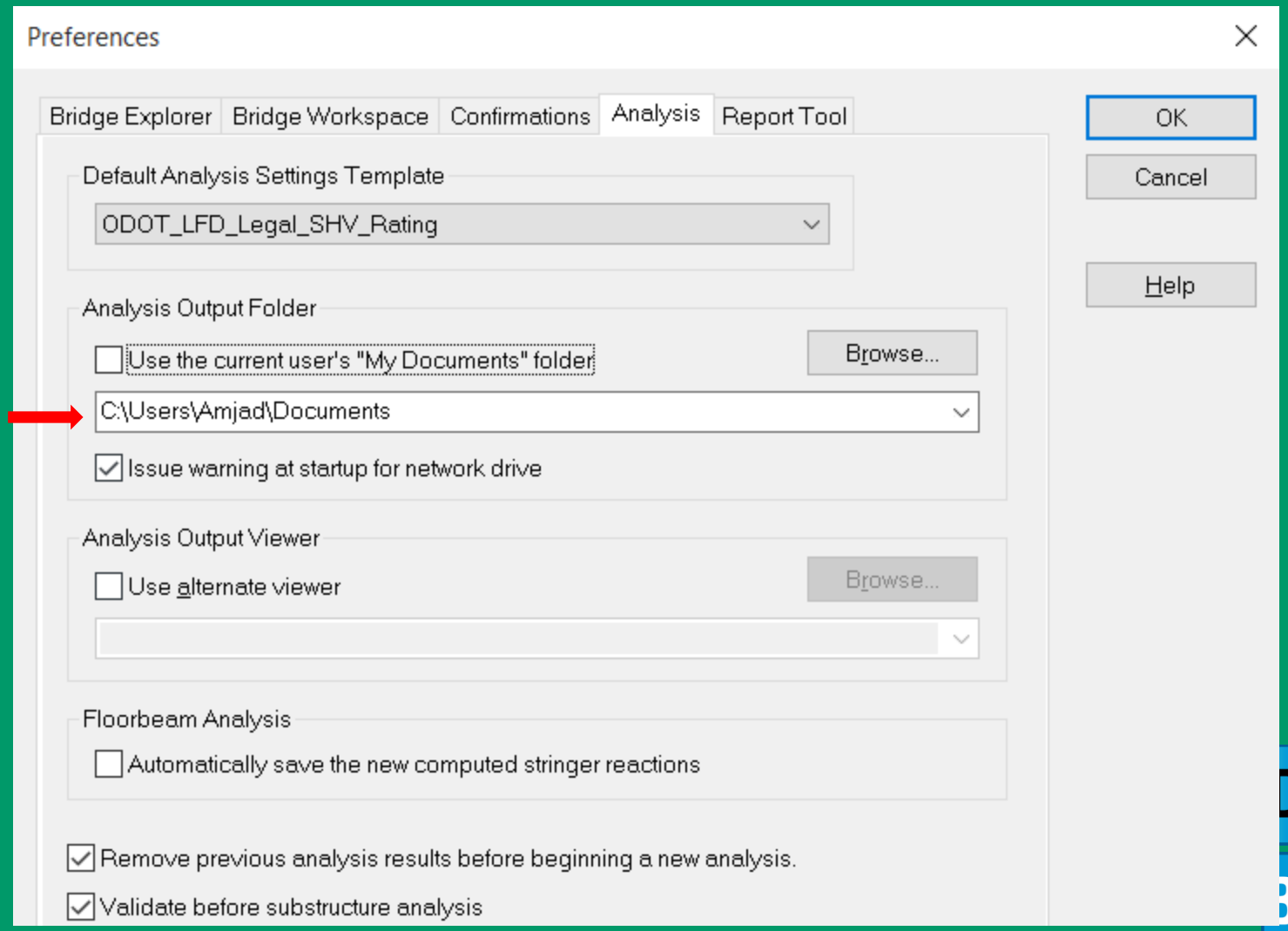

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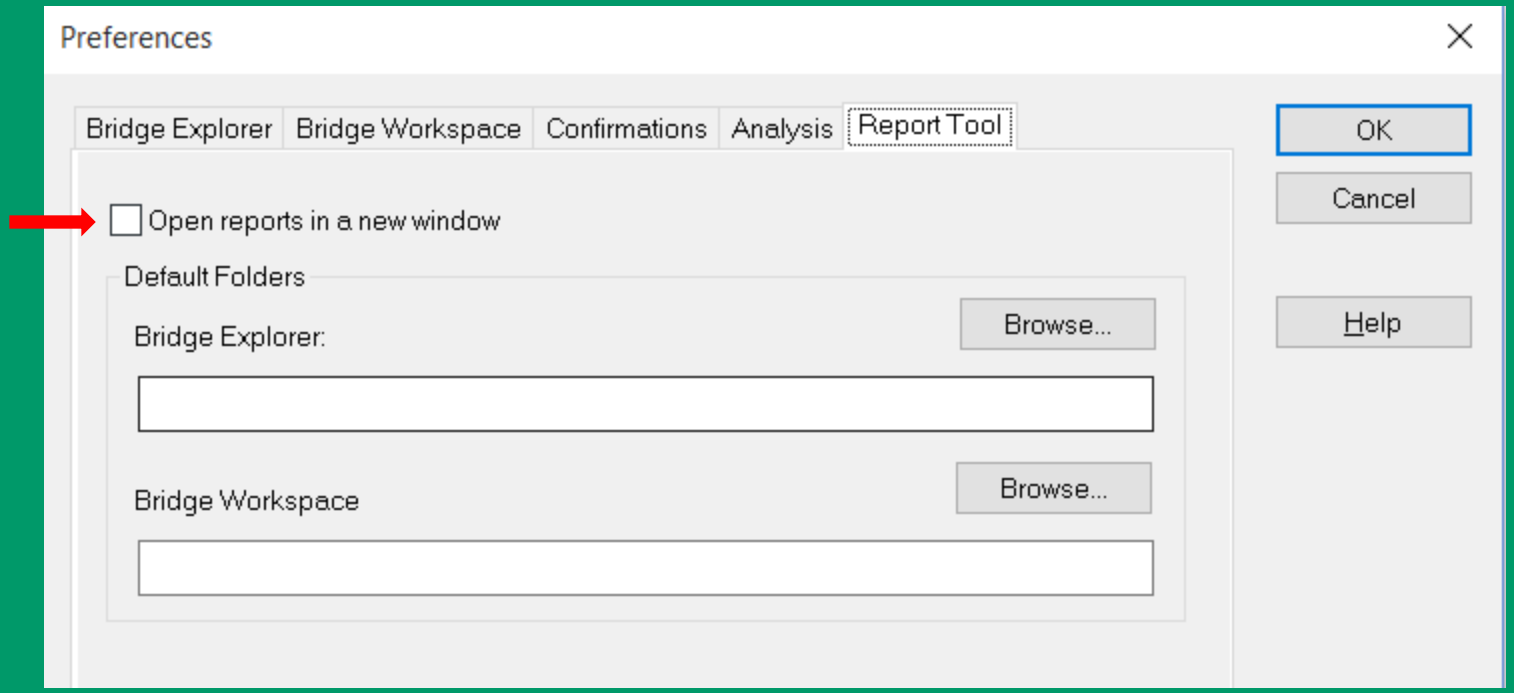
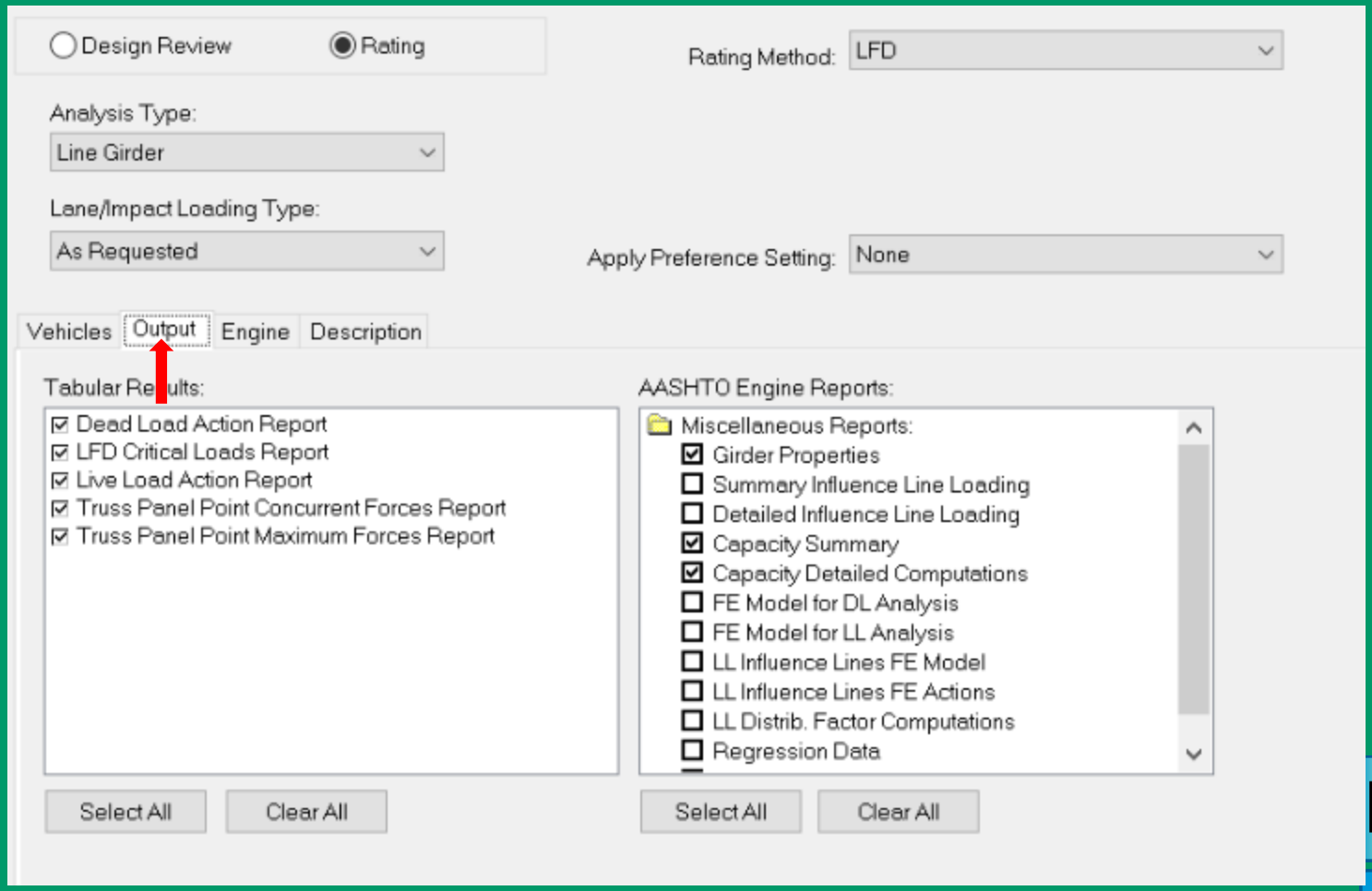
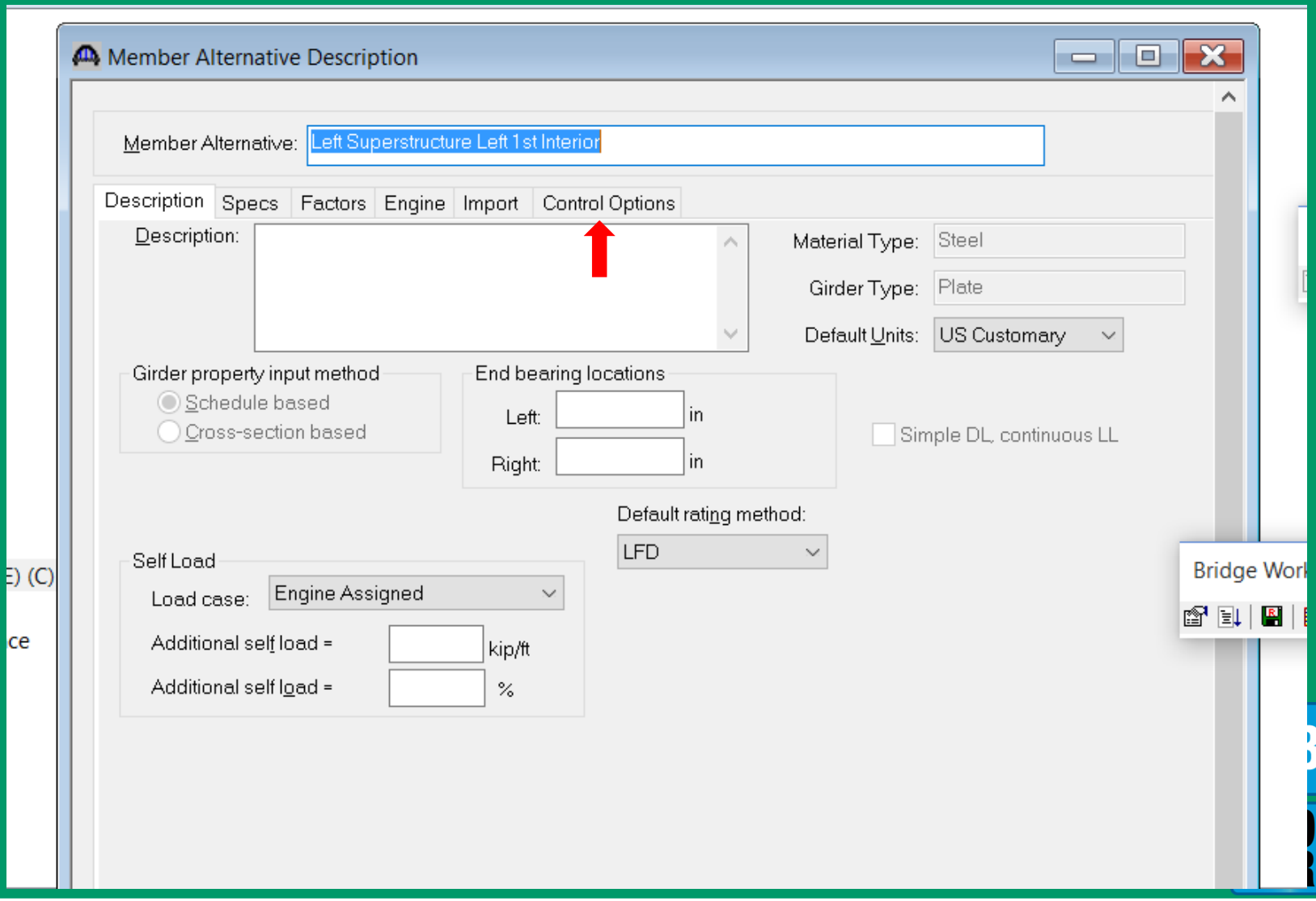


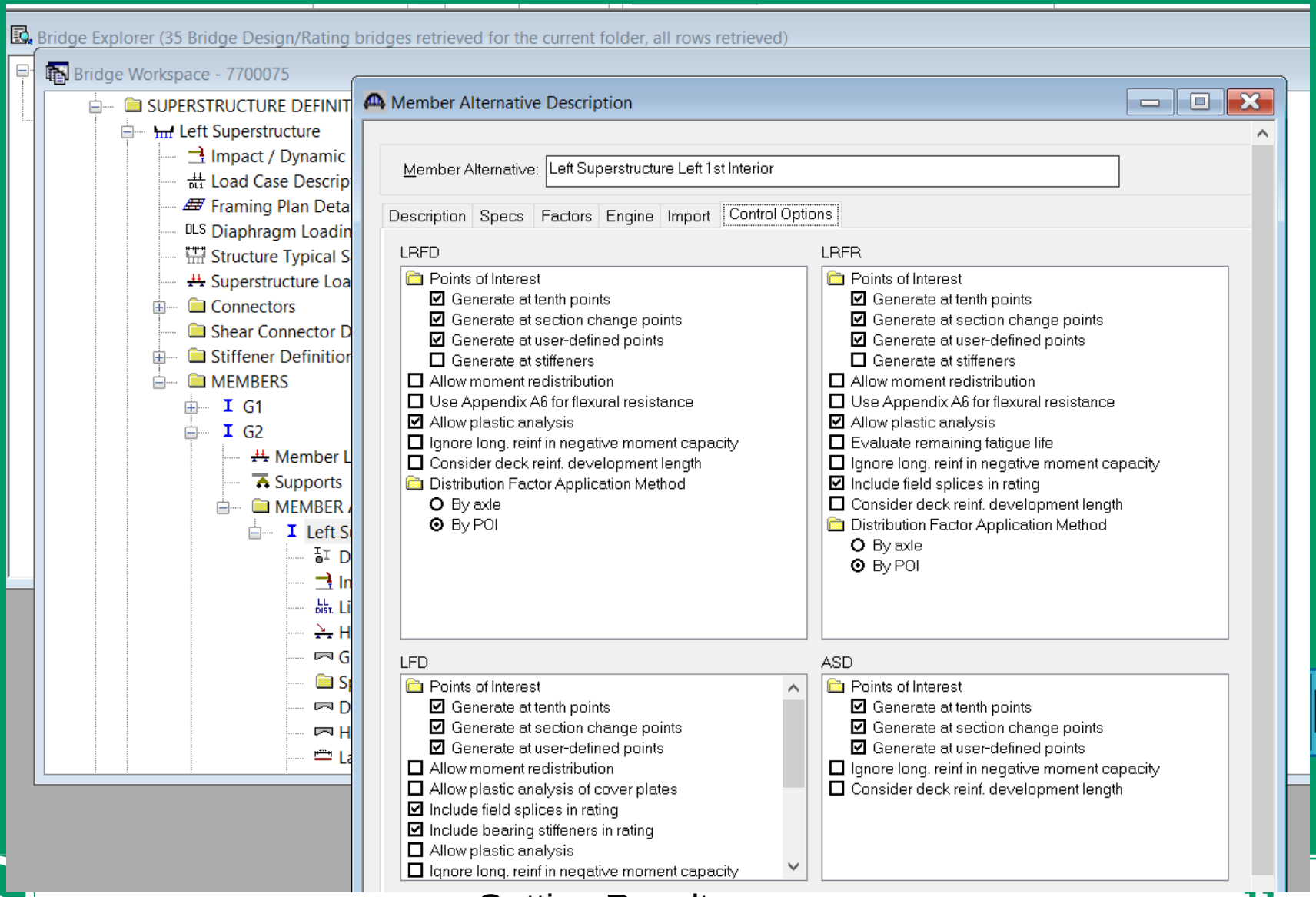
Analysis Setting Output Controls



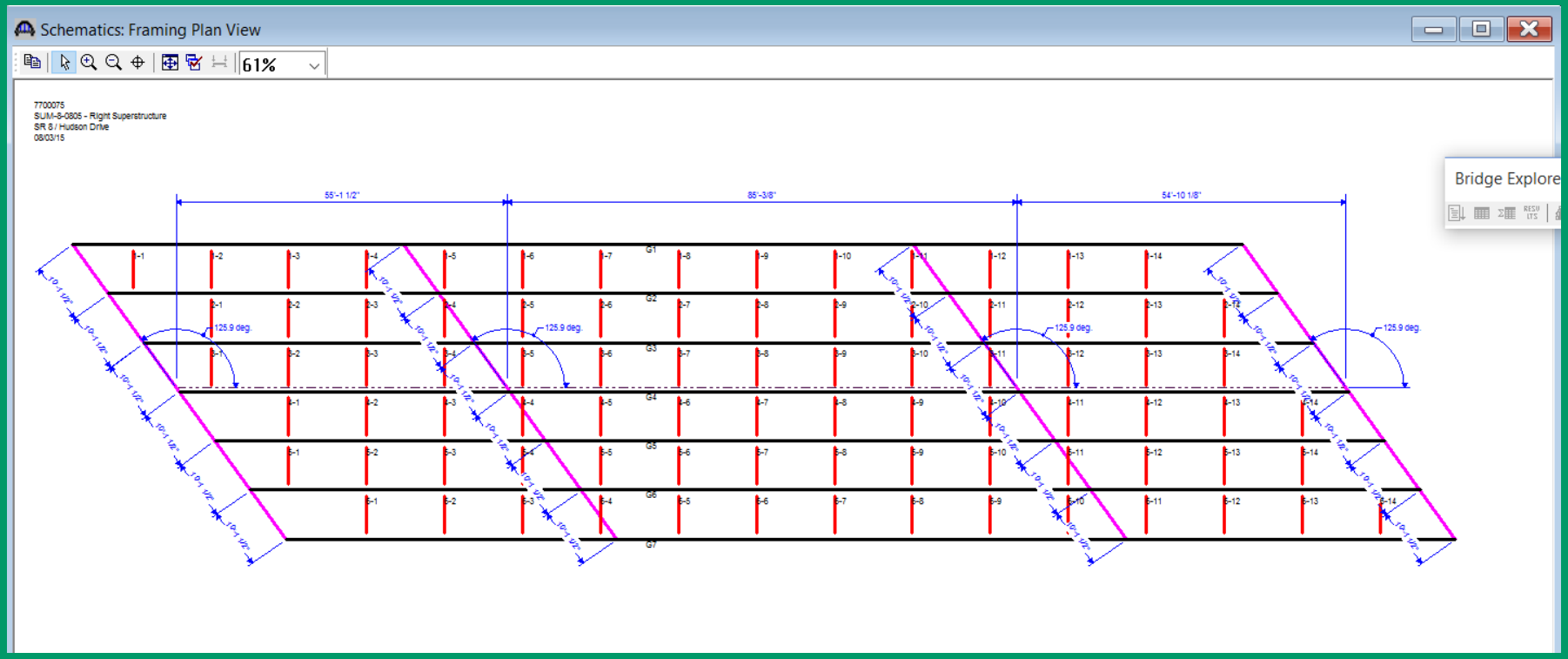
Member Alternate Controls



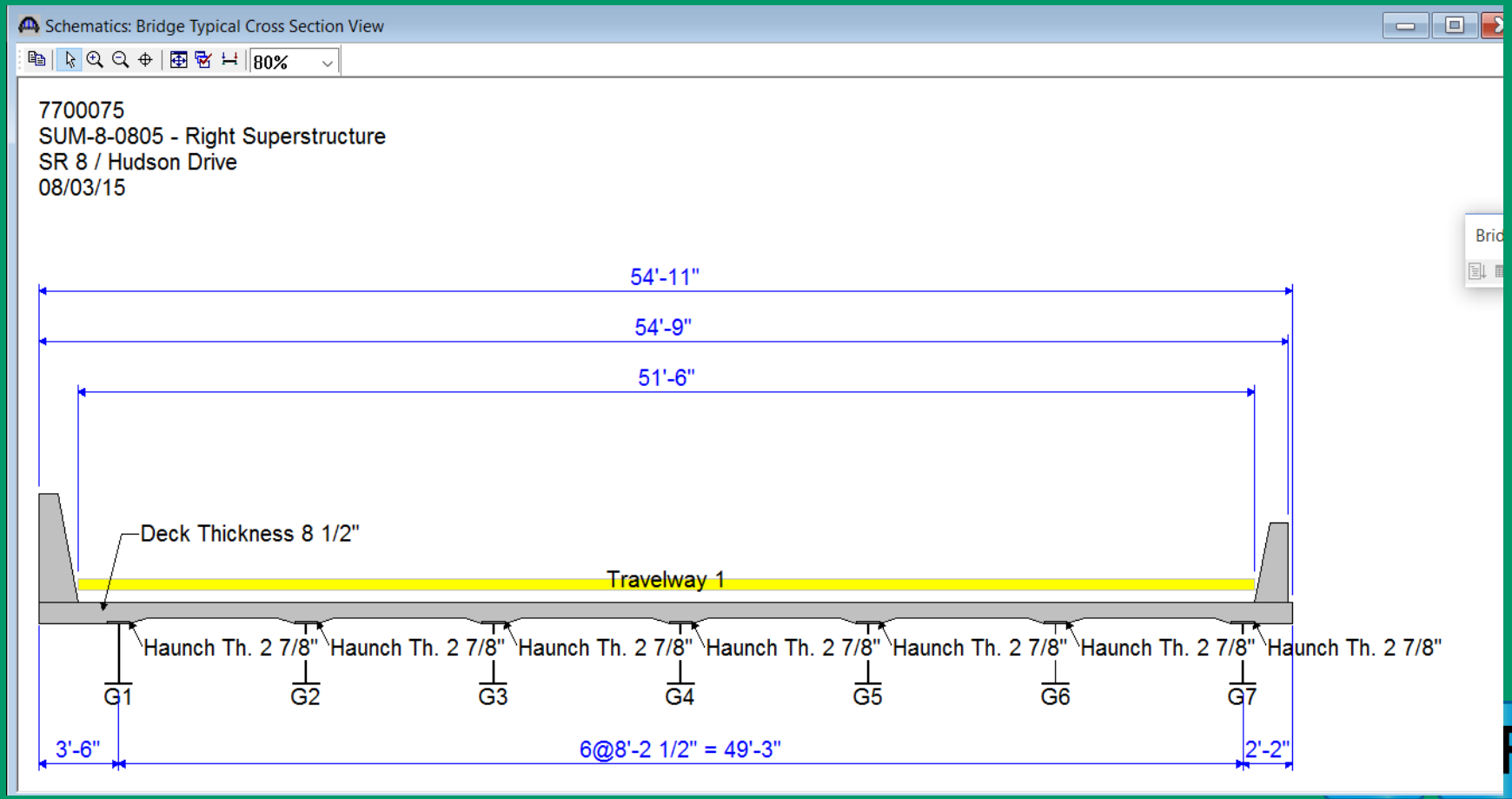
Member Alternate Controls



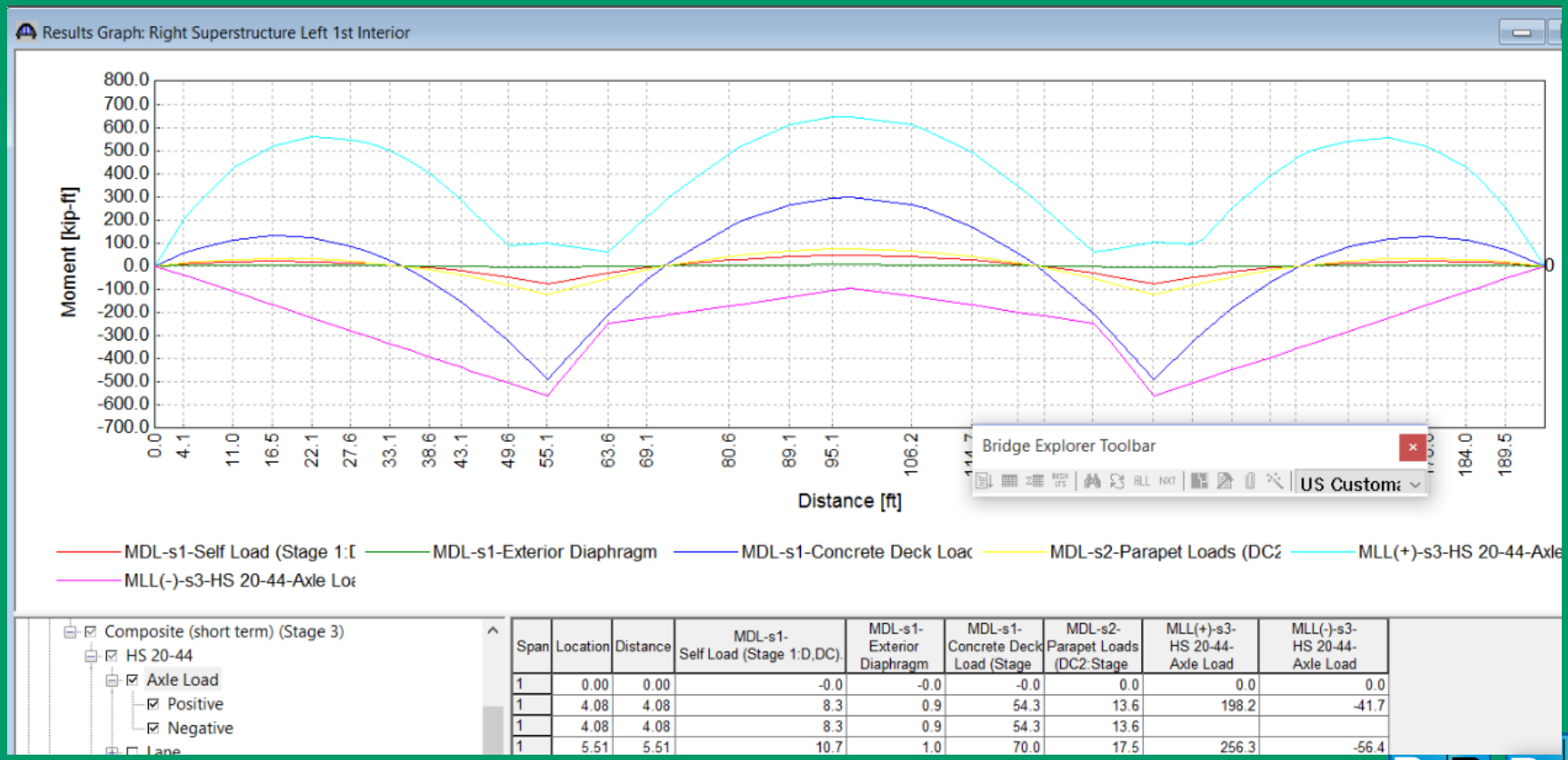
Framing Plan View



Cross-Section View



Output – Tables & Graphs



- Composite (short term) (Stage 3)
  - HS 20-44
    - Axle Load
      - Positive
      - Negative
    - Lane

Span	Location	Distance	MDL-s1-Self Load (Stage 1:D,DC)	MDL-s1-Exterior Diaphragm	MDL-s1-Concrete Deck Load (Stage	MDL-s2-Parapet Loads (DC2:Stage	MLL(+)-s3-HS 20-44-Axle Load	MLL(-)-s3-HS 20-44-Axle Load
1	0.00	0.00	-0.0	-0.0	-0.0	0.0	0.0	0.0
1	4.08	4.08	8.3	0.9	54.3	13.6	198.2	-41.7
1	4.08	4.08	8.3	0.9	54.3	13.6		
1	5.51	5.51	10.7	1.0	70.0	17.5	256.3	-56.4

Reports

- **Bridge Explorer**
- **Bridge Workspace**
- **Post Bridge Analysis**

Summary Report

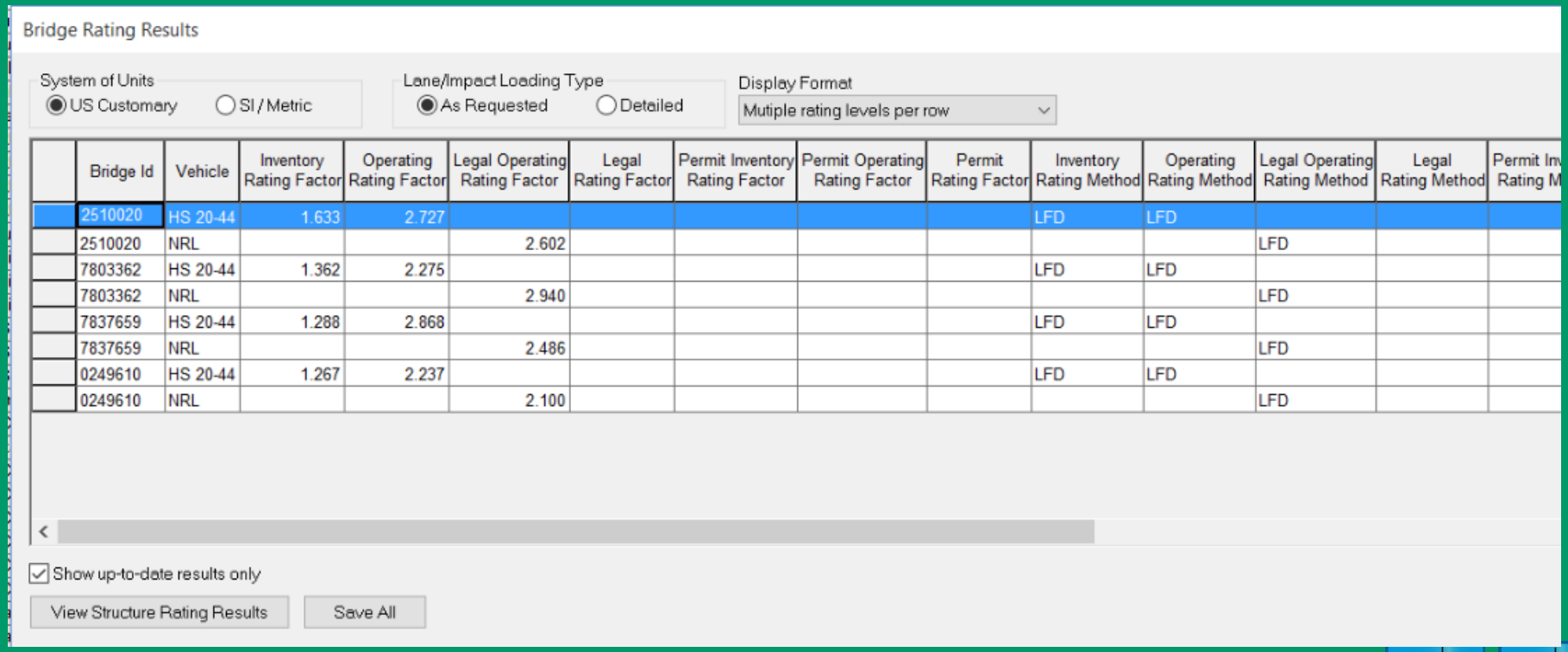
Edit View Bridge Tools Window Help

ll Bridges
Templates
eleted Bridges

	BID	Bridge ID	Bridge Name	District	County	Facility	Location	Route	Feature Intersected	M
	37	2500612	FRA-023R-0832	Dist 02	Franklin	US 23	0.36 MI. N. OF SR-104	23	CSX & NS RAILROA	
	36	5202493	MED-71-0342 L	Dist 03	Medina	IR 71	1.54 mi N of SR83	71	Over W.&L.E R/R	
	35	2510020	FRA-70-1373R	Not Applicable	Franklin	IR 70	0.5 miles E of Scioto Rvr	70	Short St.	
	34	7803362	TRU-80-0155R	04	Trumbull	IR 80	TRU	80	RR	
	33	7837659	TRU-C0046-0002	Dist 02	Trumbull	CH 46	1500 FT SE of SR 11	46	Squaw Creek	
	32	0249610	ALL-ML11-0010	01	Allen	ML11	Over Ottawa River	11	Ottawa River	
	31	7700075	SUM-8-0805	04	Summit	SR 8	1.94 mi N of SR 59	8	Hudson Drive	
	30	Simple DL-Cont LL-Splice	Simple DL Splice	Unknown	Unknown (P)	N/A	N/A	-1	N/A	
	29	Splice Example	Splice Example					-1		
	28	Gusset Plate Example	Gusset Plate Example	Dist 01			Some Highway			
	27	MultiCell Box Examples	Multi Cell Box Examples					100		
	26	LFD Curved Guide Spec	LFD Curved Guide Spec Example					1		
	25	Culvert Example 1	Culvert Example 1					STH60		
	24	Visual Reference 1	Visual Reference 1	Dist 01	Clark	I-76	WAITSFIELD	I-76	MAD RIVER	
	23	LRFD Substructure Example 4	LRFD Substructure Example 4 (NHI Hammer Head)					-1		
	22	LRFD Substructure Example 3	LRFD Substructure Example 3							
	21	LRFD Substructure Example 2	LRFD Substructure Example 2			SR 4034	ERIE COUNTY	4034	FOUR MILE CREEK	
	20	LRFD Substructure Example 1	LRFD Substructure Example 1							
	19	TrussTrainingExample	Truss Training Example					5		
	18	FLine GF TrainingBridge3	FloorLine GF Training Bridge 3	Dist 01	Adams	I-95	NY	15		
	17	FLine FS TrainingBridge2	FloorLine FS Training Bridge 2	Dist 02	Allen	I-75	GNV	-1		
	16	FLine GFS TrainingBridge1	FloorLine GFS Training Bridge 1	Dist 01	Adams	I-75	JAX	-1		
	15	FSys GF TrainingBridge3	FloorSystem GF Training Bridge 3	Dist 07	Auglaize	I-95	ATL	-1		
	14	FSys FS TrainingBridge2	FloorSystem FS Training Bridge 2	Dist 11		I-95	NYC	-1		
	13	FSys GFS TrainingBridge1	FloorSystem GFS Training Bridge 1	Dist 06	Columbiana	NJ-Turnpike	NJCity	-1		
	12	TimberTrainingBridge1	Timber Tr. Bridge1 (ASD)					-1		
	11	RCTrainingBridge1	RC Training Bridge1(LFD)					-1		

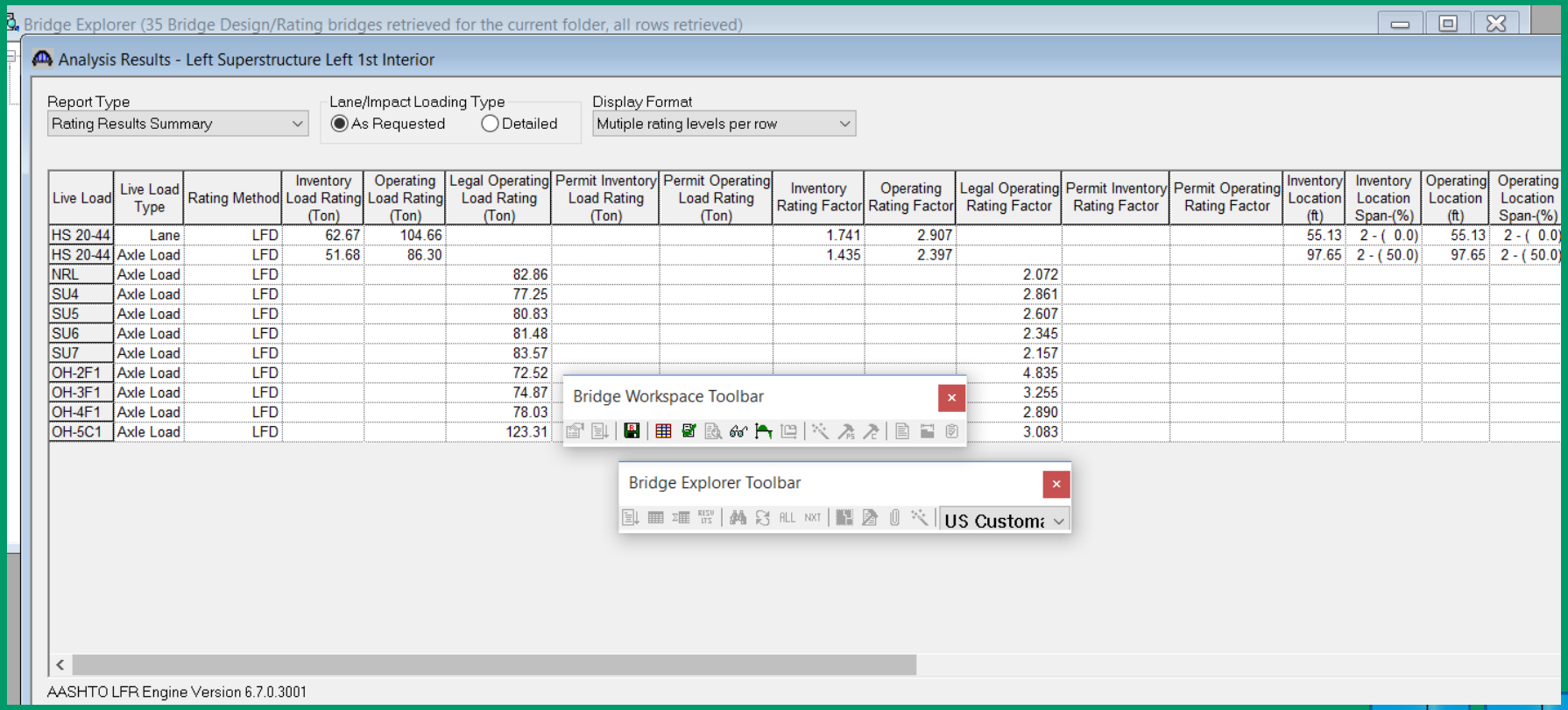
BrD BrR BrDR

Summary Report



Bridge Id	Vehicle	Inventory Rating Factor	Operating Rating Factor	Legal Operating Rating Factor	Legal Rating Factor	Permit Inventory Rating Factor	Permit Operating Rating Factor	Permit Rating Factor	Inventory Rating Method	Operating Rating Method	Legal Operating Rating Method	Legal Rating Method	Permit Inv Rating M
2510020	HS 20-44	1.633	2.727						LFD	LFD			
2510020	NRL			2.602							LFD		
7803362	HS 20-44	1.362	2.275						LFD	LFD			
7803362	NRL			2.940							LFD		
7837659	HS 20-44	1.288	2.868						LFD	LFD			
7837659	NRL			2.486							LFD		
0249610	HS 20-44	1.267	2.237						LFD	LFD			
0249610	NRL			2.100							LFD		

Summary Report



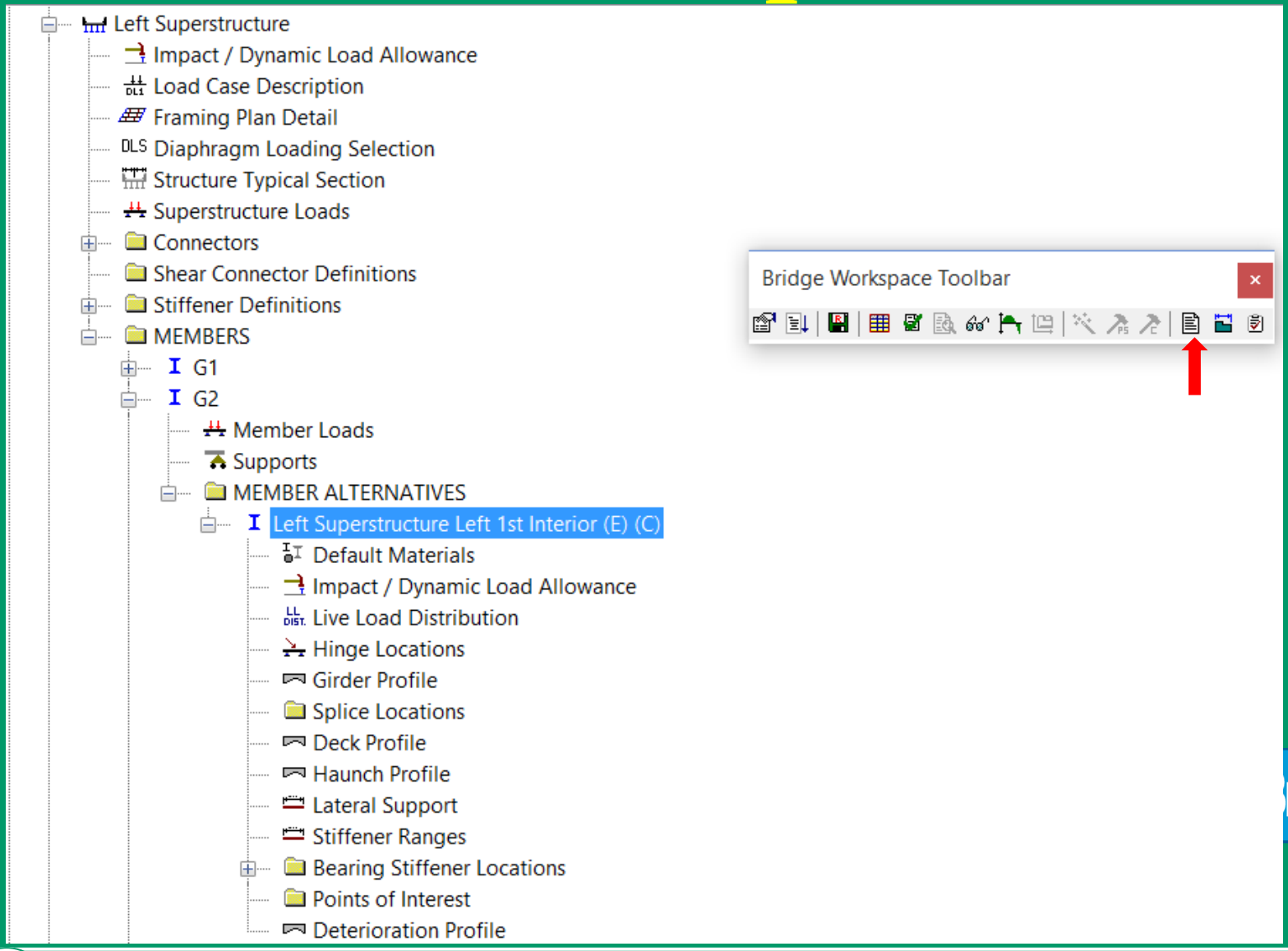
Live Load	Live Load Type	Rating Method	Inventory Load Rating (Ton)	Operating Load Rating (Ton)	Legal Operating Load Rating (Ton)	Permit Inventory Load Rating (Ton)	Permit Operating Load Rating (Ton)	Inventory Rating Factor	Operating Rating Factor	Legal Operating Rating Factor	Permit Inventory Rating Factor	Permit Operating Rating Factor	Inventory Location (ft)	Inventory Location Span-(%)	Operating Location (ft)	Operating Location Span-(%)
HS 20-44	Lane	LFD	62.67	104.66				1.741	2.907				55.13	2 - (0.0)	55.13	2 - (0.0)
HS 20-44	Axle Load	LFD	51.68	86.30				1.435	2.397				97.65	2 - (50.0)	97.65	2 - (50.0)
NRL	Axle Load	LFD			82.86					2.072						
SU4	Axle Load	LFD			77.25					2.861						
SU5	Axle Load	LFD			80.83					2.607						
SU6	Axle Load	LFD			81.48					2.345						
SU7	Axle Load	LFD			83.57					2.157						
OH-2F1	Axle Load	LFD			72.52					4.835						
OH-3F1	Axle Load	LFD			74.87					3.255						
OH-4F1	Axle Load	LFD			78.03					2.890						
OH-5C1	Axle Load	LFD			123.31					3.083						

Analysis Summary Report

Report Type: Live Load Actions | Stage: Composite (short term) (Stage 3) | Live Load: HS 20-44 | Live Load Type: Axle Load

Span	Location (ft)	% Span	Positive Moment (kip-ft)	Negative Moment (kip-ft)	Positive Shear (kip)	Negative Shear (kip)	Positive Axial (kip)	Negative Axial (kip)	Positive Reaction (kip)	Negative Reaction (kip)	Positive X Deflection (in)	Negative X Deflection (in)	Positive Y Deflection (in)	Negative Y Deflection (in)	% Impact Pos Reaction	% Impact Neg Reaction
1	0.00	0.0	0.00	0.00	61.04	-11.59	0.00	0.00	61.04	-11.59	0.0000	0.0000	0.0000	0.0000	27.758	27.758
1	5.51	10.0	270.10	-59.21	49.33	-11.00	0.00	0.00			0.0000	0.0000	0.0412	-0.0762		
1	11.03	20.0	449.08	-118.43	41.31	-11.08	0.00	0.00			0.0000	0.0000	0.0798	-0.1432		
1	11.75	21.3	466.25	-126.20	40.28	-11.09	0.00	0.00			0.0000	0.0000	0.0845	-0.1508		
1	16.54	30.0	544.43	-177.64	33.50	-13.84	0.00	0.00			0.0000	0.0000	0.1128	-0.1938		
1	22.05	40.0	585.86	-236.85	26.00	-21.63	0.00	0.00			0.0000	0.0000	0.1378	-0.2215		
1	24.75	44.9	582.03	-265.83	22.56	-25.35	0.00	0.00			0.0000	0.0000	0.1461	-0.2260		
1	27.57	50.0	571.89	-296.06	19.15	-29.13	0.00	0.00			0.0000	0.0000	0.1518	-0.2244		
1	33.08	60.0	524.55	-355.28	12.92	-37.17	0.00	0.00			0.0000	0.0000	0.1522	-0.2053		
1	35.67	64.7	478.87	-383.12	10.16	-40.85	0.00	0.00			0.0000	0.0000	0.1469	-0.1884		
1	37.75	68.5	434.33	-405.46	8.14	-43.70	0.00	0.00			0.0000	0.0000	0.1402	-0.1720		
1	38.59	70.0	415.85	-414.49	7.35	-44.84	0.00	0.00			0.0000	0.0000	0.1370	-0.1648		
1	44.10	80.0	264.88	-473.70	2.55	-51.74	0.00	0.00			0.0000	0.0000	0.1076	-0.1126		
1	49.62	90.0	94.54	-532.91	1.92	-57.83	0.00	0.00			0.0000	0.0000	0.0626	-0.0551		
1	50.75	92.1	96.69	-545.08	1.92	-58.98	0.00	0.00			0.0000	0.0000	0.0512	-0.0429		
1	55.13	100.0	105.04	-592.13	1.91	-63.12	0.00	0.00	71.07	-6.74	0.0000	0.0000	0.0000	0.0000	27.758	27.758
2	0.00	0.0	105.04	-592.13	66.04	-4.83	0.00	0.00	71.07	-6.74	0.0000	0.0000	0.0000	0.0000	27.758	27.758
2	8.50	10.0	61.98	-263.40	58.39	-4.72	0.00	0.00			0.0000	0.0000	0.0650	-0.1254		
2	8.62	10.1	61.43	-262.84	58.30	-4.72	0.00	0.00			0.0000	0.0000	0.0657	-0.1273		
2	15.37	18.1	266.57	-230.37	52.93	-4.75	0.00	0.00			0.0000	0.0000	0.1027	-0.2402		
2	17.01	20.0	312.63	-222.50	51.54	-5.21	0.00	0.00			0.0000	0.0000	0.1098	-0.2676		
2	21.62	25.4	429.35	-200.30	47.46	-8.30	0.00	0.00			0.0000	0.0000	0.1253	-0.3408		
2	25.51	30.0	516.25	-181.59	43.82	-11.28	0.00	0.00			0.0000	0.0000	0.1334	-0.3951		
2	34.01	40.0	640.85	-140.69	35.53	-18.68	0.00	0.00			0.0000	0.0000	0.1378	-0.4841		
2	34.62	40.7	646.59	-137.76	34.93	-19.25	0.00	0.00			0.0000	0.0000	0.1375	-0.4888		
2	42.52	50.0	677.79	-99.78	27.15	-27.20	0.00	0.00			0.0000	0.0000	0.1273	-0.5184		
2	47.62	56.0	666.13	-122.99	21.91	-32.21	0.00	0.00			0.0000	0.0000	0.1338	-0.5061		
2	51.02	60.0	642.48	-139.14	18.67	-35.58	0.00	0.00			0.0000	0.0000	0.1364	-0.4845		
2	59.52	70.0	513.57	-179.55	11.20	-43.87	0.00	0.00			0.0000	0.0000	0.1320	-0.3955		
2	60.62	71.3	490.65	-184.77	10.35	-44.91	0.00	0.00			0.0000	0.0000	0.1302	-0.3812		
2	68.02	80.0	311.52	-219.96	5.20	-51.58	0.00	0.00			0.0000	0.0000	0.1087	-0.2681		

BWS Reports


Left Superstructure
Impact / Dynamic Load Allowance
Load Case Description
Framing Plan Detail
DLS Diaphragm Loading Selection
Structure Typical Section
Superstructure Loads
Connectors
Shear Connector Definitions
Stiffener Definitions
MEMBERS
G1
G2
Member Loads
Supports
MEMBER ALTERNATIVES
Left Superstructure Left 1st Interior (E) (C)
Default Materials
Impact / Dynamic Load Allowance
Live Load Distribution
Hinge Locations
Girder Profile
Splice Locations
Deck Profile
Haunch Profile
Lateral Support
Stiffener Ranges
Bearing Stiffener Locations
Points of Interest
Deterioration Profile
Bridge Workspace Toolbar

BWS Reports

Username: brr
Date: Tuesday, August 04, 2015 00:33:48

Bridge ID 7700075 SUM-8-0805

NBI Structure ID (8): 7700075
Description: rated by APM, from Stage 3 plans, rated 6/2015
checked by JBD, 4/2015

Three span (55.13'-85.03'-54.83') continuous steel plate griders with 8.5" composite reinforced concrete deck.

Superstructure Definition Left Superstructure

Member G2

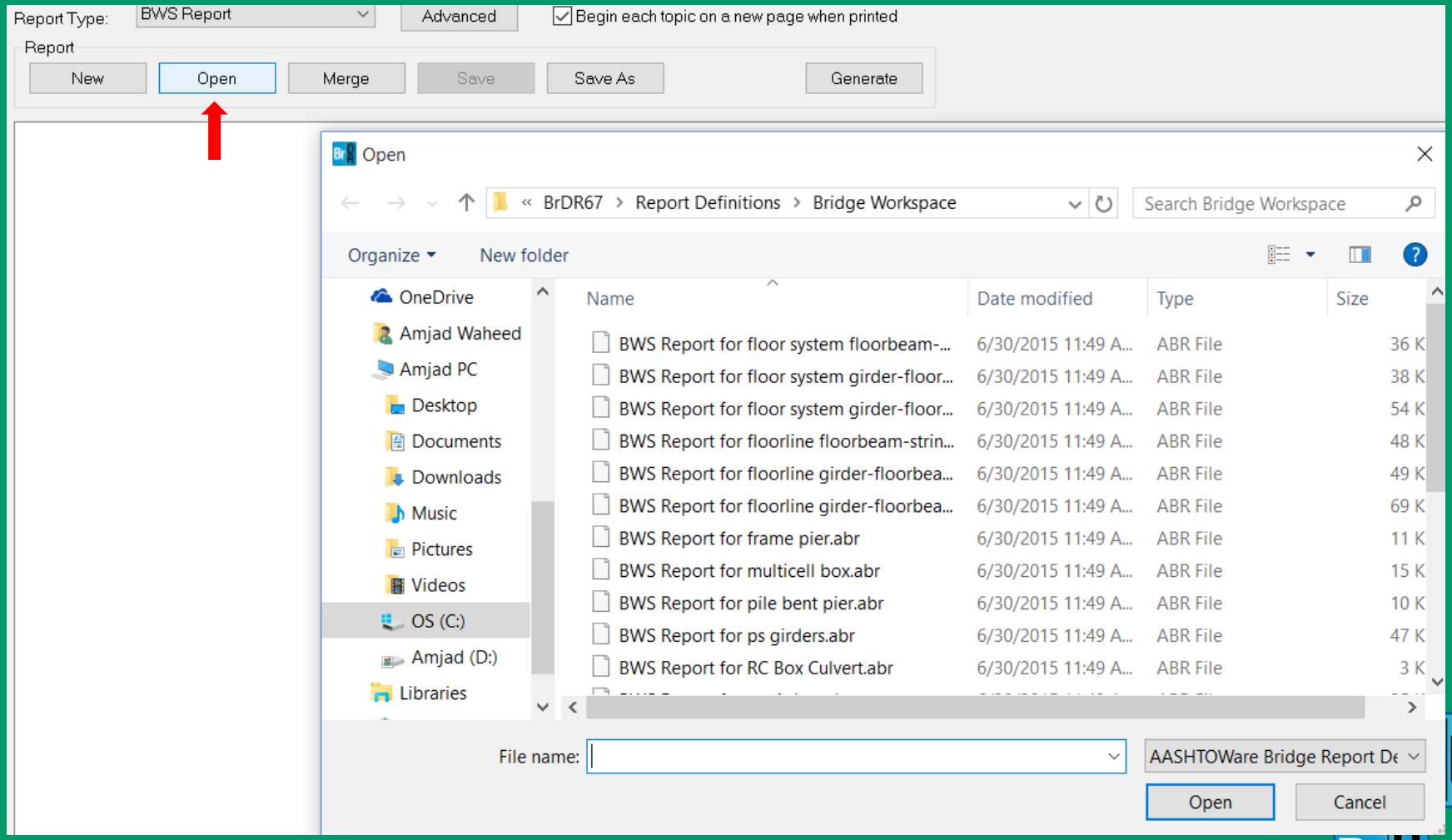
Link with: None
Description: Left Superstructure Left 1st Interior

Member Alternative Left Superstructure Left 1st Interior

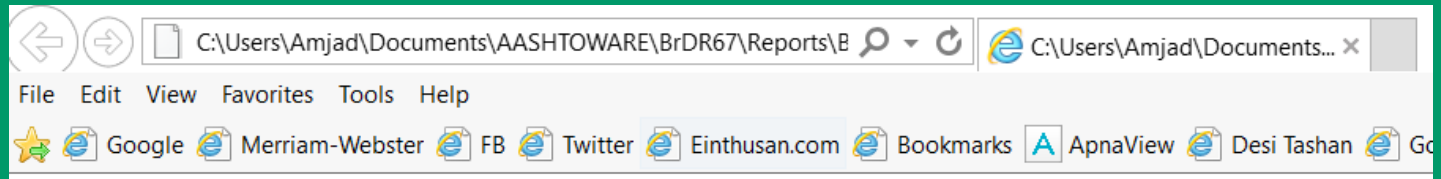
Description:
Description

Material Type:	Steel
Girder Type:	Plate
Member units:	US Customary
Girder property input method:	Schedule based
Left end X:	*(in)*
Right end X:	*(in)*
Additional Self Load:	*(kip/ft)*
Additional Self Load %:	*(%)*

BWS Reports


Report Type:
BWS Report
Advanced
Begin each topic on a new page when printed
Report
New
Open
Merge
Save
Save As
Generate
Open
BrDR67 › Report Definitions › Bridge Workspace
Search Bridge Workspace
Organize
New folder
OneDrive
Amjad Waheed
Amjad PC
Desktop
Documents
Downloads
Music
Pictures
Videos
OS (C:)
Amjad (D:)
Libraries
Name
Date modified
Type
Size
BWS Report for floor system floorbeam-... 6/30/2015 11:49 A... ABR File 36 K
BWS Report for floor system girder-floor... 6/30/2015 11:49 A... ABR File 38 K
BWS Report for floor system girder-floor... 6/30/2015 11:49 A... ABR File 54 K
BWS Report for floorline floorbeam-strin... 6/30/2015 11:49 A... ABR File 48 K
BWS Report for floorline girder-floorbea... 6/30/2015 11:49 A... ABR File 49 K
BWS Report for floorline girder-floorbea... 6/30/2015 11:49 A... ABR File 69 K
BWS Report for frame pier.abr 6/30/2015 11:49 A... ABR File 11 K
BWS Report for multicell box.abr 6/30/2015 11:49 A... ABR File 15 K
BWS Report for pile bent pier.abr 6/30/2015 11:49 A... ABR File 10 K
BWS Report for ps girders.abr 6/30/2015 11:49 A... ABR File 47 K
BWS Report for RC Box Culvert.abr 6/30/2015 11:49 A... ABR File 3 K
File name:
AASHTOWare Bridge Report De
Open
Cancel

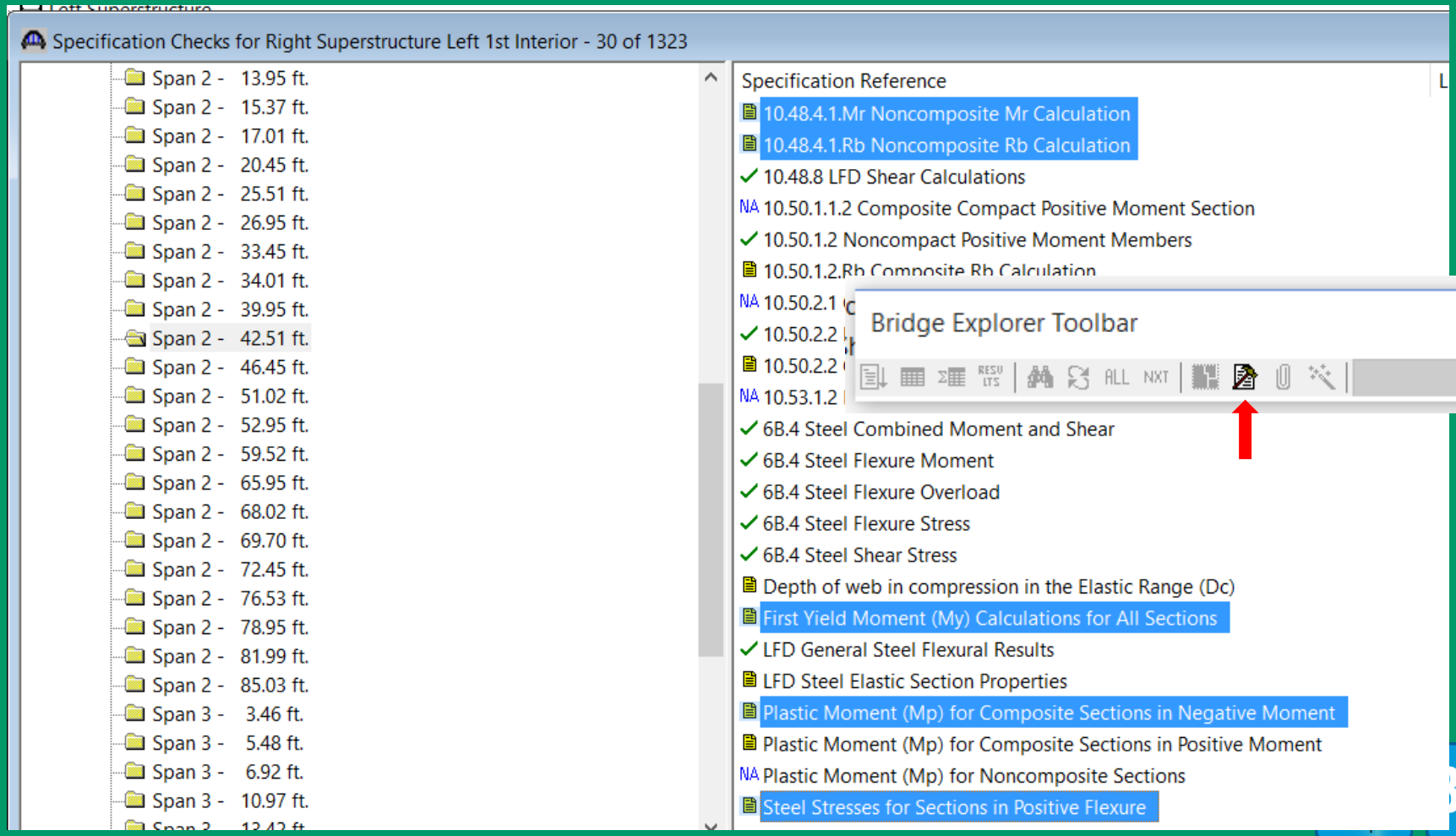
BWS Reports



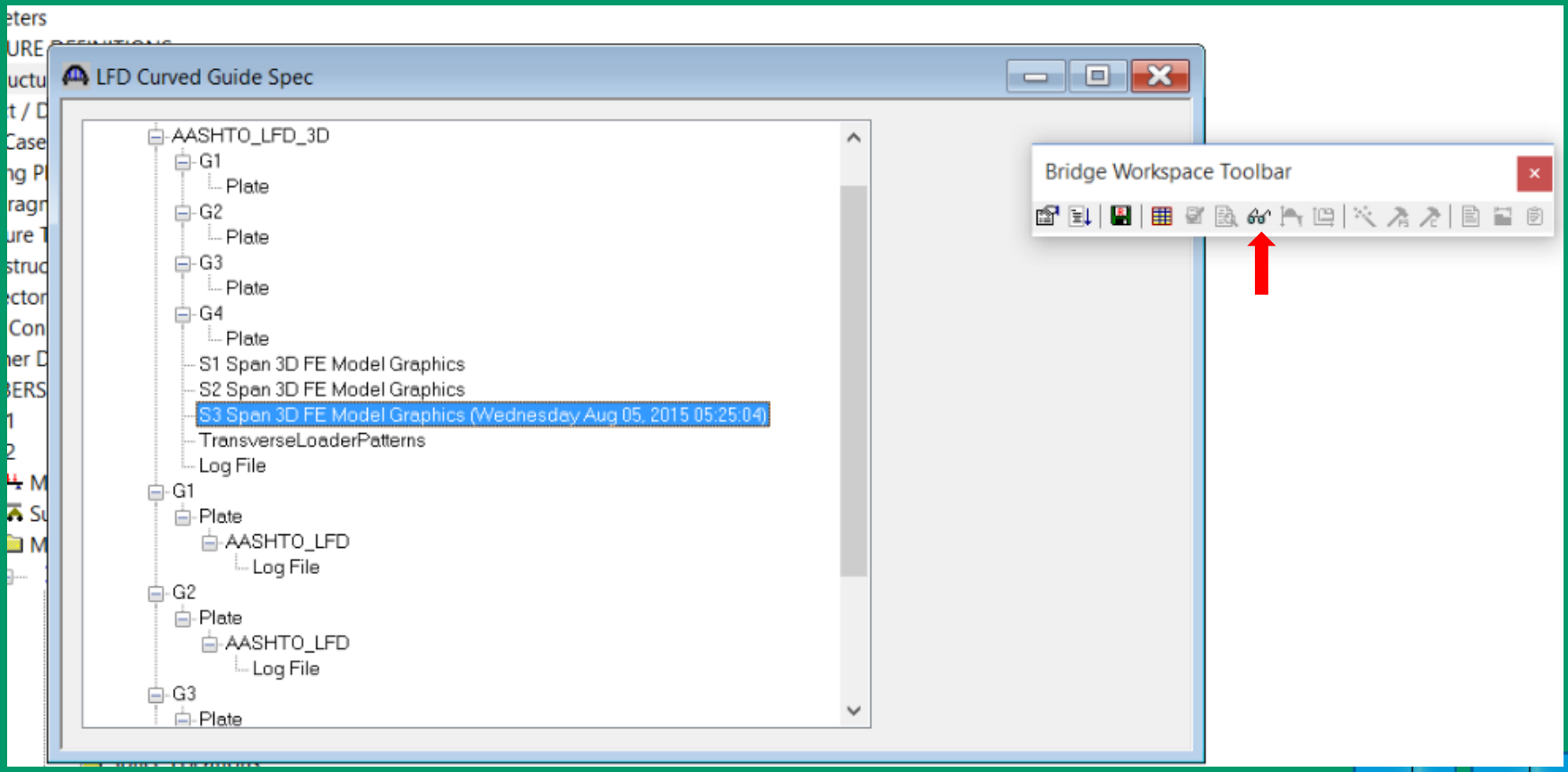
Bridge

Bridge Id:	7700075
Structure Number:	7700075
Name:	SUM-8-0805
Creation Timestamp:	Sunday, August 02, 2015 23:55:49
Last Modified Timestamp:	Monday, August 03, 2015 23:55:45
Description:	rated by APM, from Stage 3 plans, rated 6/2015 checked by JBD, 4/201 120.67' out to out width. SBR-1-13 railings with SBR-2-13 median barr included in strength calculations.
Location:	1.94 mi N of SR 59
Bridge Completely Defined Indicator:	FALSE
Template Indicator:	FALSE
Facility Carried:	SR 8
Feature Intersected:	Hudson Drive
Year Built:	2015
System Of Units:	US Customary
Route Number:	8
Length:	200.54
Mile/Km Post:	8.05
Recent ADTT:	6273
District:	D
County:	77
Owner:	1
Maintainer:	1
Administrative Area:	

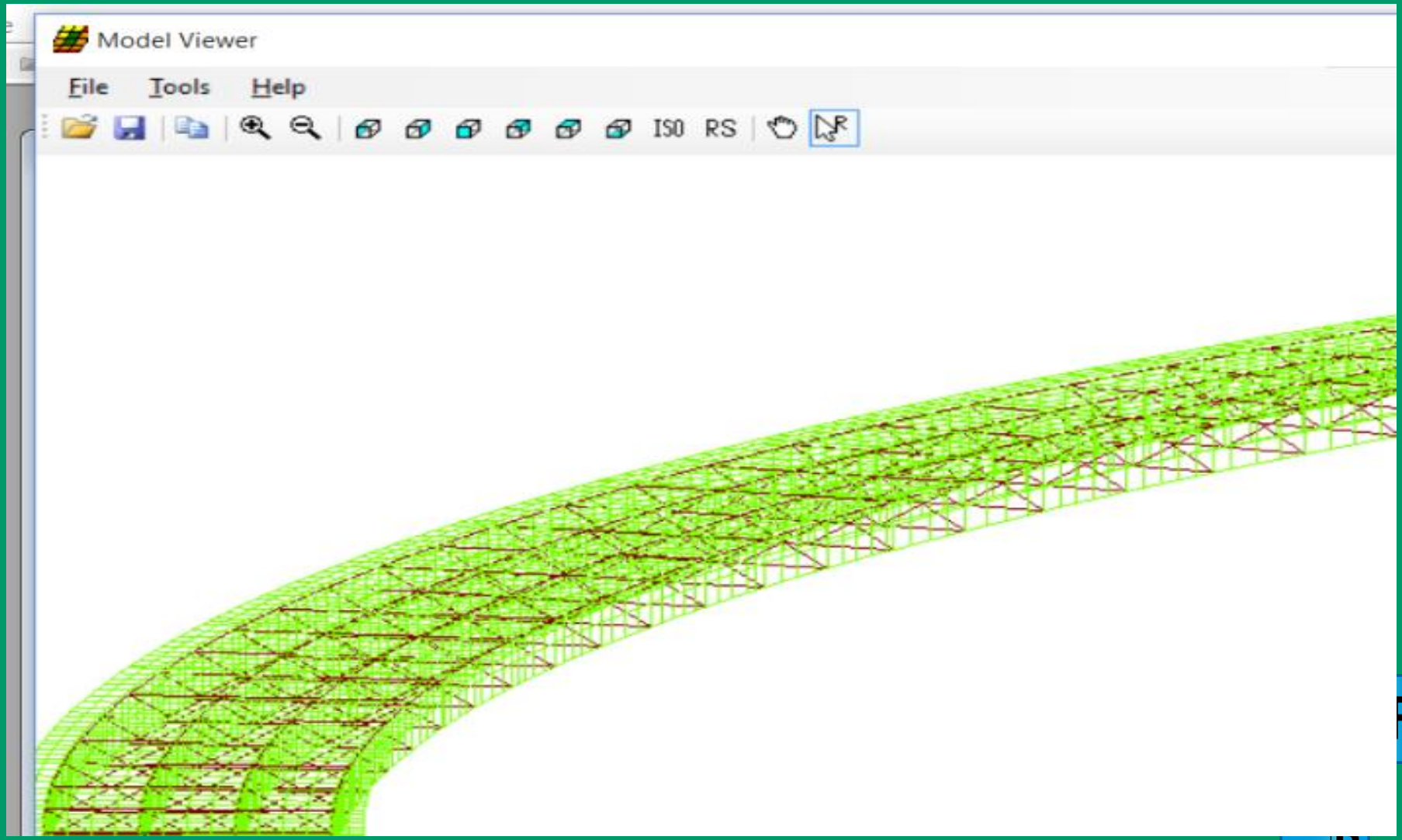
BWS Reports


Specification Checks for Right Superstructure Left 1st Interior - 30 of 1323
Span 2 - 13.95 ft.
Span 2 - 15.37 ft.
Span 2 - 17.01 ft.
Span 2 - 20.45 ft.
Span 2 - 25.51 ft.
Span 2 - 26.95 ft.
Span 2 - 33.45 ft.
Span 2 - 34.01 ft.
Span 2 - 39.95 ft.
Span 2 - 42.51 ft.
Span 2 - 46.45 ft.
Span 2 - 51.02 ft.
Span 2 - 52.95 ft.
Span 2 - 59.52 ft.
Span 2 - 65.95 ft.
Span 2 - 68.02 ft.
Span 2 - 69.70 ft.
Span 2 - 72.45 ft.
Span 2 - 76.53 ft.
Span 2 - 78.95 ft.
Span 2 - 81.99 ft.
Span 2 - 85.03 ft.
Span 3 - 3.46 ft.
Span 3 - 5.48 ft.
Span 3 - 6.92 ft.
Span 3 - 10.97 ft.
Specification Reference
10.48.4.1.Mr Noncomposite Mr Calculation
10.48.4.1.Rb Noncomposite Rb Calculation
10.48.8 LFD Shear Calculations
NA 10.50.1.1.2 Composite Compact Positive Moment Section
10.50.1.2 Noncompact Positive Moment Members
10.50.1.2.Rb Composite Rb Calculation
NA 10.50.2.1
10.50.2.2
10.50.2.2
NA 10.53.1.2
Bridge Explorer Toolbar
6B.4 Steel Combined Moment and Shear
6B.4 Steel Flexure Moment
6B.4 Steel Flexure Overload
6B.4 Steel Flexure Stress
6B.4 Steel Shear Stress
Depth of web in compression in the Elastic Range (Dc)
First Yield Moment (My) Calculations for All Sections
LFD General Steel Flexural Results
LFD Steel Elastic Section Properties
Plastic Moment (Mp) for Composite Sections in Negative Moment
Plastic Moment (Mp) for Composite Sections in Positive Moment
NA Plastic Moment (Mp) for Noncomposite Sections
Steel Stresses for Sections in Positive Flexure

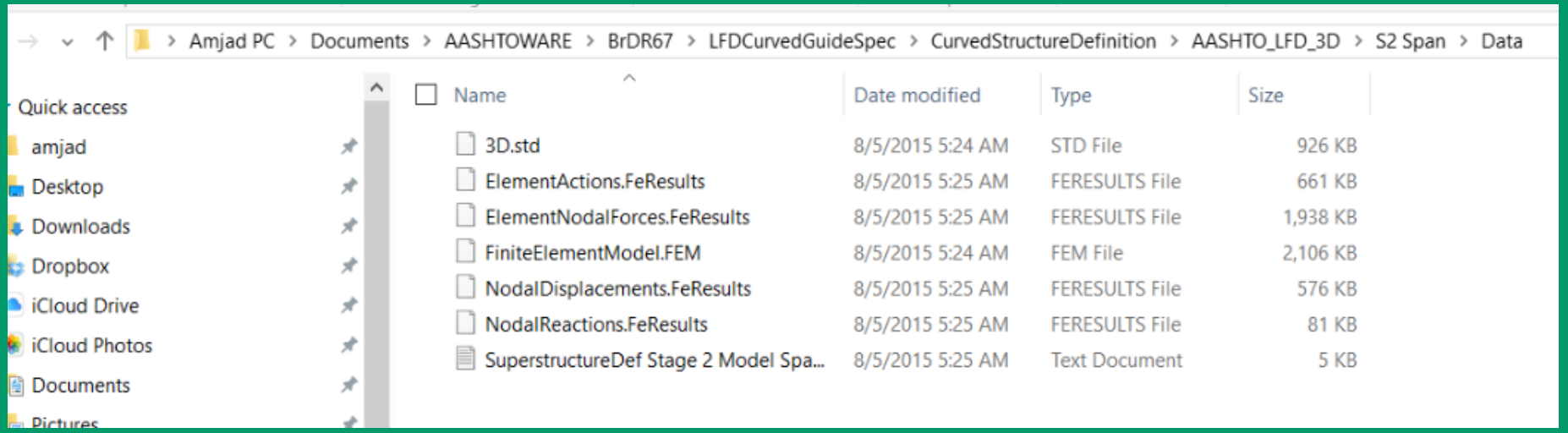
3-D ANALYSIS RESULTS



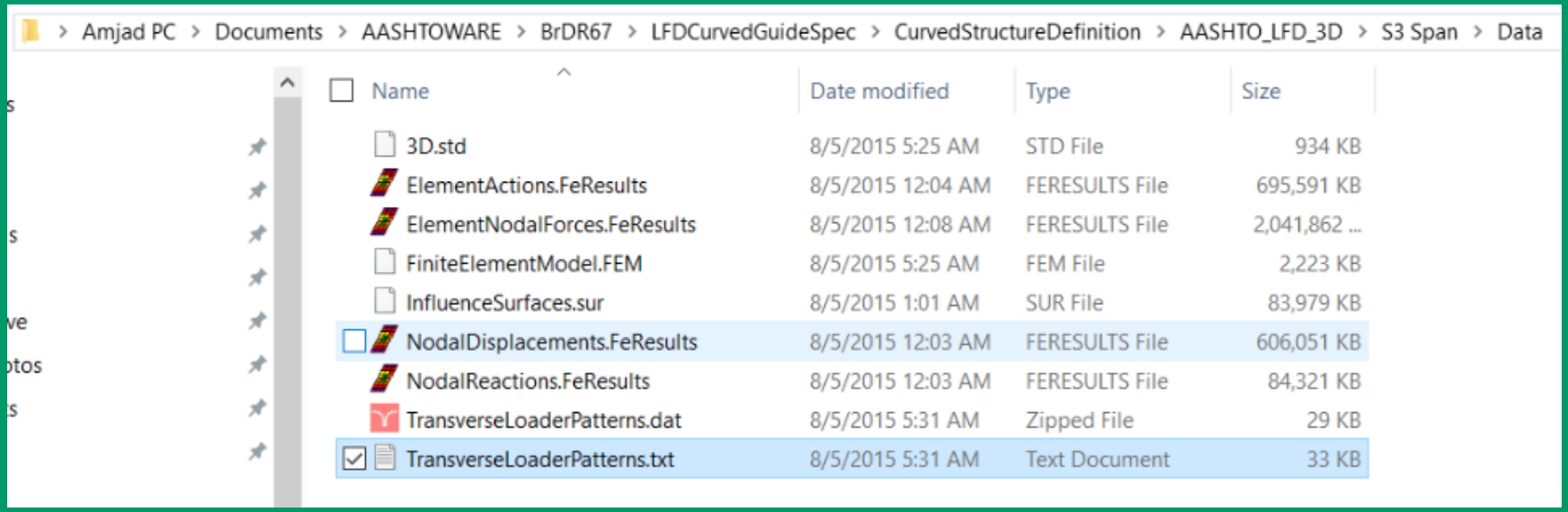
3-D ANALYSIS RESULTS



3-D ANALYSIS RESULTS



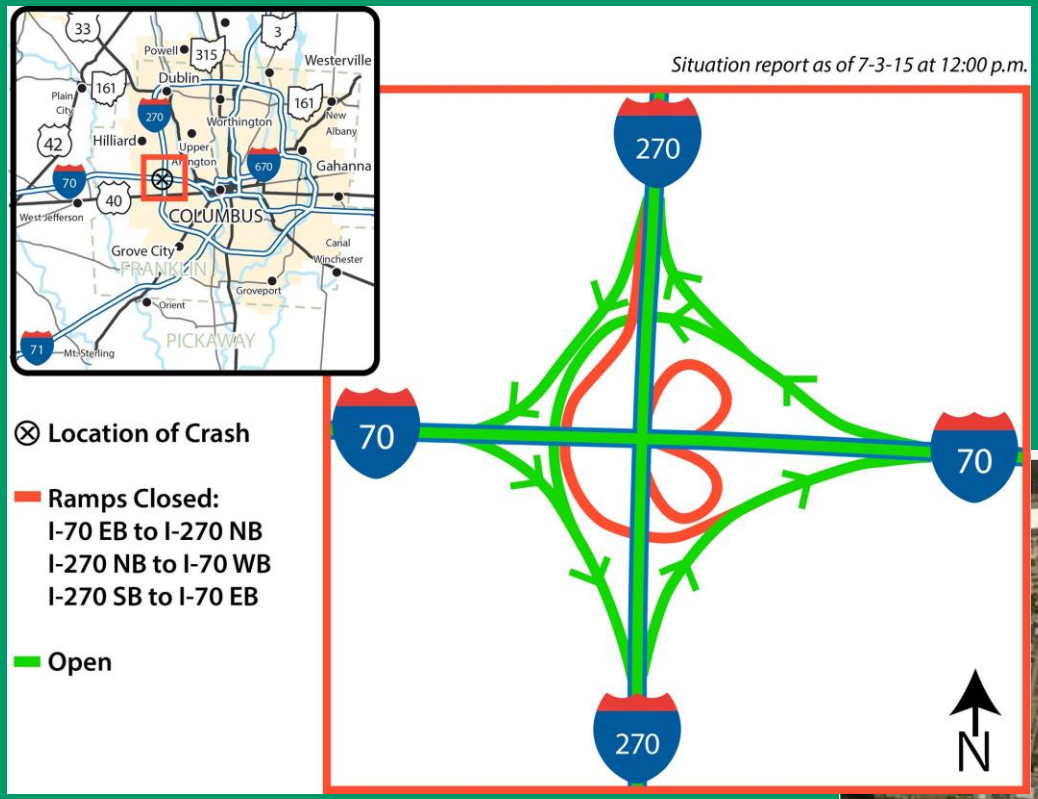
3-D ANALYSIS RESULTS

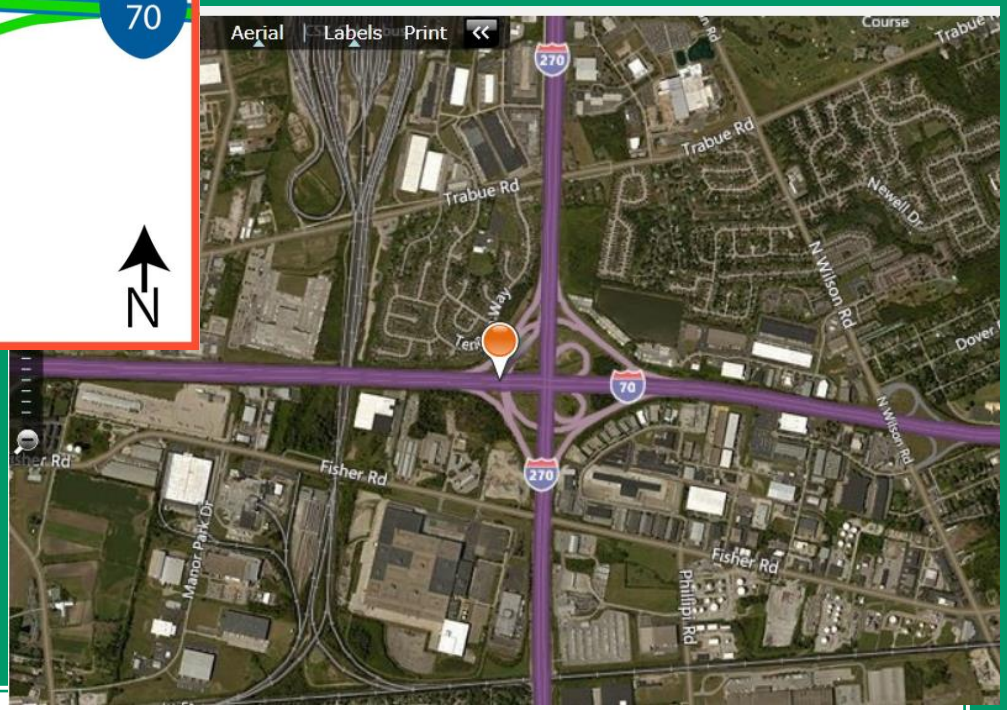


Questions?

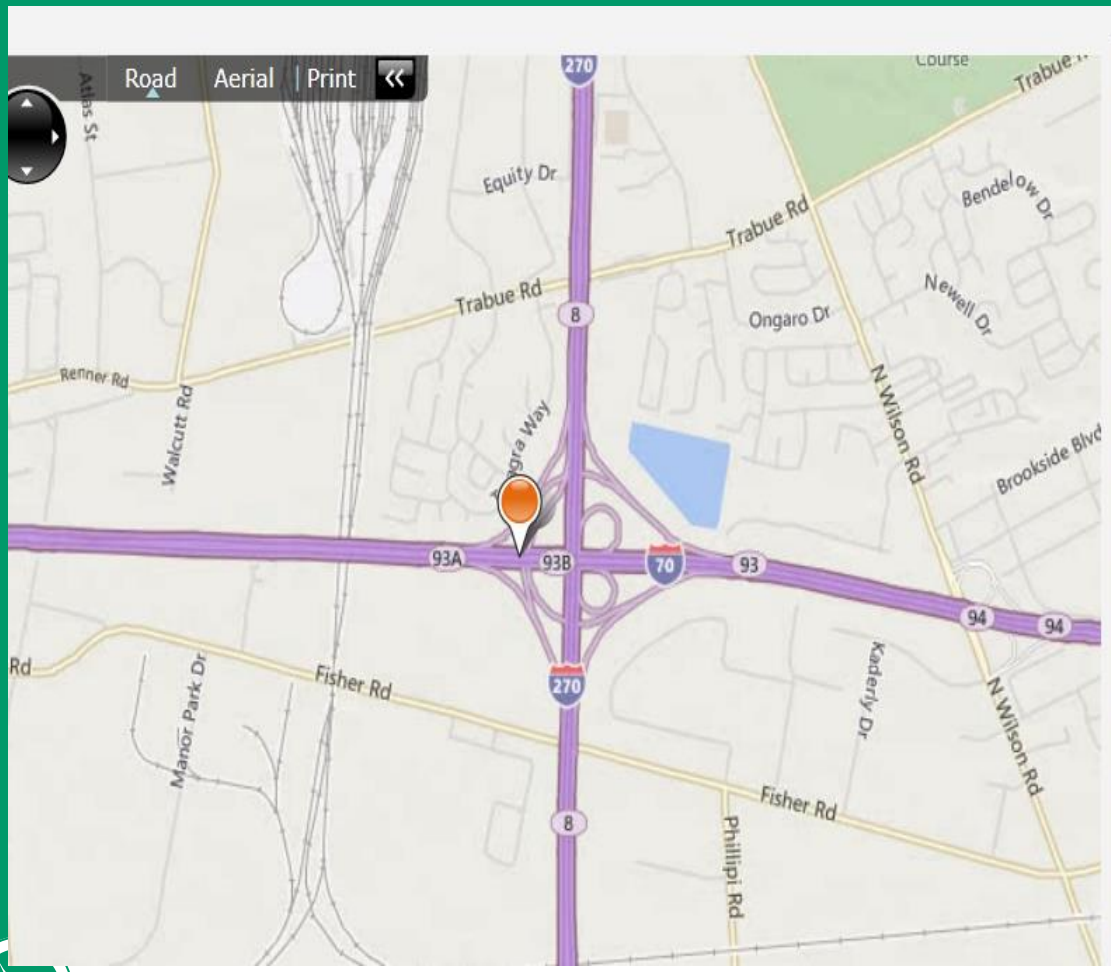
Amjad Waheed, P.E.
Bridge Management & Rating Engineer
Ohio DOT
Amjad.Waheed@dot.ohio.gov
(614) 752-9972

IR-70 West of Columbus, Ohio





IR-70 West of Columbus, Ohio



Information | Street View

Asset Code: 2504146
Asset Type: Bridge
(8) Structure Number: 2504146
(221) Inspection Program Responsibility(A): 1 - Ohio State Transporta
(21) Maintenance Responsibility: 1 - Ohio State Transportation Depart
(4) City or Town FIPS: 18000 - COLUMBUS
(3) County (Parish) Code: 25 - Franklin
(5D) Inventory Route: Route Number - ROUTE: 00070
(201) Special Designation: R
(7) Facility Carried by Structure: I-70 EB
(16) Latitude: Decimal: 39.976394
(17) Longitude: Decimal: -83.121669
(27) Year Built: 1970
(43A) Structure Type: Material: 1 - Concrete
(43B) Structure Type: Type: 1 - Slab
(43C) Main Structure Description: 2 - Continuous
(6) Feature Intersected: OVER RAMPS TO 70E & 270S
(54B) Minimum Vertical Underclearance: 17.333
(53) Minimum Vertical Clearance OVER Bridge Roadway: 99.99
(41) Structure Open, Posted, or Closed to Traffic: A - OPEN, NO RE
(63) Method Used to Determine Operating Rating: 6 - Load Factor (L
(704) Load Rating Date: 7/1/2007
(734) Ohio Percent Legal: 150

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