AASHTOWare BrDR 7.5.0 Getting Started Getting Started with BrDR/BrM Integration

Topics Covered

- Configuring BrM integration in BrDR.
- Syncing BrDR parameters with BrM.
- AASHTOWare Association Linking a BrDR bridge to a BrM bridge.
- Batch linking BrDR bridges to BrM bridges.
- Assign vehicles from the BrDR vehicle librarty to BrM vehicles.
- AASHTOWare Rating Perform a rating on a linked bridge and update the ratings in BrM.

Configuring BrM Integration in BrDR

Open the AASHTOWare Bridge Admin Utility.

📲 AASHTOWare E	Bridge Admin		2
Database prope	ties		
Enable Check	-In/Check-Out 🗌 Bridge Repositor	y Bridg	je Exchange
Enable Bridge	Protection Enable Load Rati	ng Tool 🛛 🗹 Enab	le BrM Integration
Database access	role settings		
	Role name	Password	Confirm password
Read only role:	VIRTIS_USER_READ_ONLY_ROLE		
Read/write role:	VIRTIS_USER_READ_WRITE_ROLE	•••••	•••••
		Show password	
– Database cleanu	p		
─ Modification	event cleanup		
Clean ever	ats older than days		
Keep at lea	events in the event chain		Clean now
Transfer even	ts		
From:	To:	~	Transfer now
			Save Close

Check the Enable BrM Integration box and click Save. Close the Admin Utility.

In BrDR, open the **Configuration Browser** by clicking the **Configuration Browser** button in the **VIEW** ribbon as shown below.

Br			AASH	TOWare	e Bridge De	sign an	id Rating			?	-	×
BRIDG	E EXPLORER	BRIDGE	FOLDER	RAT	e tool	LS	VIEW				_	
£	Retrieve A			P		US Cus	stomary	~		(in the second s)	
Refresh	4		ert Selection	Sort By ▼	Select Columns				Library	Configur	ation	
		B	ridge Explore	er View								

Open the System Defaults window by double-clicking the System Defaults folder in the Configuration Browser.

BrR	CONFIGURATION	AASHTOWare Bridge Design and Rating	? —		×
BRIDGE EXPLORER	CONFIGURATION				
	te New Open Delete by User User				
- & Users - & All Users - & Administra	ators	System Defaults ×		_	-
····뿅 Administra ····뿅 Design En	gineers	General Bridge workspace Superstructure analysis Specifications Substructure analysis Tolerance Custom agency fields			
······································	gineers	Agency name: AASHTO			
Access Priviles	ges hts	Default preference setting: None 🔍 Multimedia server folder: C:\			
🛱 Bridge Adı 😭 Bridge Che	eck-Out	Include multimedia links in bridge export/import			
···· 🔒 Bridge De: ···· 🔒 Bridge De: ···· 🔒 Bridge Exc	scription Custom Agency Field Labels	https://brdrtestintegration01.eastus.cloudapp.azure.com/ BrM Endpoint URL:			
🛱 Bridge List		dim Eliquent enc.			
BrM Ratin	g Events	BrM Database ID: 21			
🔒 Configurat	ents				
···· 🔒 General Pr ···· 🔒 Libraries ···· 🔒 Library Im					
🛱 Link to Bri	d Bridges				
🔒 Log Events	5				
🔂 Private An	alysis Setting Template Administration alysis Setting Templates				
	dge Folders Ider Administration Ilysis Setting Templates				
····· 👔 Public Ana ····· 😭 Public Bric ····· 😭 Rating Eve	lge Folders				
	ta Export/Import				
	ed Library Entries				
📁 BrM Sync Sett 📁 BrM Vehicles 📁 Parameters	ings				
Parameters			Save C	lose	
		▼	Jave C	use	

Enter a **BrM Endpoint URL** and a **BrM Database ID** in the **General** tab. If necessary, check the **BrM allow self-signed certificates** box. (*NOTE: The information displayed above is for demonstration purposes only. Enter valid BrM credentials to continue.*)

Click Save to save and close the System Defaults window.

Close the **Configuration Browser**.

Syncing BrDR Parameters with BrM

Open the **Sync Parameters** window by clicking the **Sync Parameters** button *roots* from the BrM group of the **TOOLS** ribbon.

BrR	AAS	HTOWare Bridge Des	ign and Rating		?	- 🗆	×
BRIDGE EXPLORER BRIDGE	FOLDER RATE	TOOLS VIEW					
Simple Bridge Multimedia Gene Layout Wizard Attachments Prefere Bridge		Sync Parameters BrM	Export Statch Export	Simport Batch Import	 ✓ Export Validation ✓ Import Validation 		
BrM Authentication Re	equired	>	<				
Please enter a username	and password.						
Username:							
Password:							
	OK	Cancel					

Enter a valid BrM Username and Password then click OK to close the window and continue.

📲 BrM Parameters Sync	Х
Select parameter syncing options:	
Sync Options	
Append missing parameters from BrM	
Remove parameters not found in BrM	
Warning: Any removed parameters associated within a bridge will be cleared.	
OK Cance	

Check the **Append missing parameters from BrM** and **Remove parameters not found in BrM** boxes. Click **OK** to close the window and update the BrDR parameters to match those in BrM. (*NOTE: The Remove parameters not found in BrM option will delete any parameters from BrDR that do not also exist in BrM.*)

B Syncing BrM Parameters	×
Syncing Parameters	
Complete	
Close	

Once the syncing is complete, click **Close** to close the window. The BrM parameters will now be accessible in BrDR.

To view the parameters, open the **Configuration Browser** by clicking the **Configuration Browser** button with **VIEW** ribbon as shown below.

Br			AASH	TOWar	e Bridge D	esign and Ra	ating		? –	×
BRIDGE	E EXPLORER	BRIDGE	FOLDER	RAT	E TOO	OLS VIEV	V			
422	Retrieve /	All 🛛 🛄 Sele	ect All	A		US Custom	ary 🗸		(i)	
Refresh	🗟 Retrieve I	Vext 🗱 Sele	ct None	U Z	Select			Libert	සා Configuration	
nerresh		💭 Inve	ert Selection	Sort By ▼	Columns			Library	Conliguration	
		В	ridge Explore	er View						

Open the Parameters window by double-clicking the Parameters folder in the Configuration Browser.

CONFIGURATION	AASHTOWare Bridge Design and Rating	? – 🗆 ×
BRIDGE EXPLORER CONFIGURATION		
Sroup Rename Delete New Open Delete Group User Manage		
S Users Subers Sube	Decembers X Selection criteria: Administrative area X Symc ID Administrative area X	
📁 BrM Vehicles 🔁 Parameters		New Delete
📁 System Defaults 🞾 Engine Defaults		
		Save Close

AASHTOWare Association – Linking a BrDR Bridge to a BrM Bridge

Double-click **TrainingBridge1** on the right portion of the **Bridge Explorer** to open the bridge and bring up the **Bridge Workspace**.

RIDGE EXPLORER BRIDGE FOLDER	2	R/	TE							
🔄 💴 🕞 Batch 🗸 🍼 🛄	2			TOOLS VIEW						
Bridge	aste M	٦	opy o •	Remove Delete From						
🗝 😭 Favorites Folder			BID	Bridge ID	Bridge Name	District	County	Facility		L
📁 Recent Bridges		Þ	1	TrainingBridge1	Training Bridge 1(LRFD)	District 11	01 Abbeville	SR 0051	Pitt	tsl 🛎
All Bridges			2	TrainingBridge2	Training Bridge 2(LRFD)	Unknown	Unknown (P)	N/A	N//	Α 📃
🖻 🎾 Sample Bridges			3	TrainingBridge3	Training Bridge 3(LRFD)	District 11	01 Abbeville	1-79	Pitt	tsl
🔤 Deleted Bridges			4	PCITrainingBridge1	PCI TrainingBridge1(LFD)					
			5	PCITrainingBridge2	PCITrainingBridge2(LRFD)					
			6	PCITrainingBridge3	PCI TrainingBridge3(LFD)					
			7	PCITrainingBridge4	PCITrainingBridge4(LRFD)					
			8	PCITrainingBridge5	PCI TrainingBridge5(LFD)					
			9	PCITrainingBridge6	PCITrainingBridge6(LRFD)					
			۹ 🗌)	

Workspace	_ 🗆 ×
Bridge Components	
TrainingBridge1 Components Diaphragm Definitions Diaphragm Definititions Diaphragm Definitions Diaphragm Definitions Di	

Double-click on **TrainingBridge1** (A) in the **Bridge Workspace** to open the **Bridge Description** window. The **TrainingBridge1** window opens as shown below.

idge ID: TrainingBrid	dge1	NBI structure	ID (8): TrainingBridge1		☐ Template ☑ Bridge complet	tely defined	Superst	5	
Description Desc	ription (cont'd)	Alternatives	Global reference point	Traffic	Custom agency field	s			
Name:	Training Bridge	1(LRFD)			Year built:	1999			
Description:									
Location:	Pittsburgh				Length:	161.00	ft		
Facility carried (7):	SR 0051				Route number:	0051			
Feat. intersected (6):	SR 6060				Mi. post:	17.00			
Default units:	US Customary	~							
Bridge associa	tion V B	rR 🗹 BrD 🗌	BrM Sync with BrM						

On the **Bridge Description(TrainingBridge1)** window, click the **Bridge association** button at the bottom left of the window, to open the **Bridge Association** window as shown below.

A Bridge Association	×
Bridge Design and Rating The selected bridge should be available to: BrR ØBrD	
Bridge Management Is this bridge associated with a corresponding BrM bridge? Yes No BrM Bridge ID:	
OK Cancel]

In the **Bridge Association** window, select **Yes** under **Bridge Management** to link this bridge to a **BrM** bridge. Click the **Select Bridge** button to open **Bridge Association BrM Select** window as shown below.

A Bridge Association X
■ Bridge Design and Rating The selected bridge should be available to: ✓ BrR ✓ BrD
Bridge Management Is this bridge associated with a corresponding BrM bridge? Yes No BrM Bridge ID:
OK Cancel

Select the corresponding BrM bridge 000002 to link and click OK to establish the association.

lease select the corresp	onding BrM bridge to link to.					
Bridge ID	NBI structure ID	Bridge name	Location	Facility carried	Feat. intersected	
000002	000002	COUNTRY CLUB BRIDGE	1 MILE EAST HWY 195	COUNTRY CLUB ROAD	BLACKWATER CREEK	
000003	000003	JOHNSEY BRIDGE	3 MILES N HWY 5	JOHNSEY BRIDGE RD	BLACKWATER CREEK	
000004	000004	KINGS MILL BRIDGE	1 MILE N OAKMAN HWY	KINGS MILL ROAD	LOST CREEK	
000005	000005	777777777777777777777777777777	0.5 MI E SR#17	RAILROAD STREET	Driver Creek	
000006	000006	7777777777777777777777777777	OPELIKA	PRIESTER ROAD	RAILROAD	
000007	000007	7777777777777777777777777	1.25 MI N ARONEY T9SR5E	CO RT 10	COAL CREEK	
000008	000008	2777777777777777777777777	OLD AL 5 AT WOODSTK	COUNTY 27	VIADUCT OVER SO.RR	
000009	000009	0000???????????????????????????????????	1.0 MILE EAST SR 31	EAST LACON ROAD	BRANCH OF FLINT CREEK	

Creating a link to a bridge in the BrM database will populate some bridge data fields in the BrDR database such as the **Bridge ID**, **NBI Structure ID**, etc. Once a BrDR bridge is linked to a BrM bridge, these data fields that are retrieved from the BrM database cannot be changed in BrDR unless the user breaks the link. The Bridge ID of the linked BrM bridge is populated under **BrM Bridge ID** in the **Bridge Association** window as shown below.

A Bridge Association	×
Bridge Design and Rating The selected bridge should be available to: BrR ØBrD	
Bridge Management Is this bridge associated with a corresponding BrM bridge? Yes No Select Bridge BrM Bridge ID: 000002	
OK Cancel	

The **Bridge ID**, **NBI Structure ID**, etc. are updated as shown below in the **Description** tab. Additional fields in the **Description (cont'd)**, **Global reference points**, and **Traffic** tabs are also updated during the BrM sync.

idge ID: 0000	002		NBI structure	e ID (8): 000002	Bridge comple	etely defined	Culverts
Description	Descr	iption (cont'd)	Alternatives	Global reference point T	raffic Custom agency field	ds	
Name:		COUNTRY CLUE	BRIDGE		Year built:	1898	
Description:		Imported with >	(ML on 01/12/2	015 00:00:00.			
Location:		1 MILE EAST HV	VY 195		Length:	170.00	ft
Facility carried	(7):	COUNTRY CLUE	ROAD		Route number:	00000	
Feat. intersect	ed (6):	BLACKWATER C	REEK		Mi. post:	0.01	
				Successfully synce	d bridge data from BrM!		
				Successfully synce			
				Successfully synce			

Click **OK** to close the **Bridge Description** window.

Select the Save button from the Bridge group of the WORKSPACE ribbon to save the bridge.

Bridge Workspace - 000002		ANALYSIS	REPORTS	?	– 🗆 ×
BRIDGE WORKSPACE WORKSPACE TOOL	S VIEW	DESIGN/RATE	REPORTING		^
Check Out Check In Validate Save Close	Export Refre		Copy Paste	Duplicate Delete	Schematic
Bridge			Manage		
Workspace	я × Sc	hematic	ų×	Report	я×
Bridge Components					
 → BRIDGE ALTERNATIVES → A Single Span Bridge (E) (C) 	A	nalysis			₽×

Close the Bridge Workspace

Click the **Refresh** button from the **Bridge Explorer View** group of the **VIEW** ribbon to refresh the right portion of the Bridge Explorer.

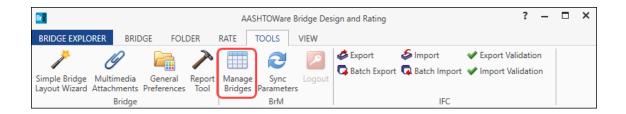
Br 🖁	AASI	HTOWare Bridge D	esign and Rating	? - 🗆	×
BRIDGE EXPLORER	BRIDGE FOLDER	RATE TOO	LS VIEW		
C Retrieve N	I 🛱 Select All ext 🗱 Select None	🧏 📃	US Customary 🔽	i 🖓 🖓 🏭	
Refresh	Invert Selection	Sort Select By▼ Columns		Library Configuration	
	Bridge Explor	er View			

The linked **BrM** bridge is updated in the **Bridge Explorer** as shown below.

B				AASH	TOWare Bridge Design an	d Rating					? - □	×
BRIDGE EXPLORER BRIDGE FOLDER	F	RATE	E TOOLS VIEW									
Refresh Retrieve All Select All Refresh Retrieve Next Select None Refresh Bridge Explore		ort •• (Select Columns	Library Configura								_
	ſ	BI	D Bridge ID		Bridge Name	District	County	Facility	Location	Route	Feature Intersected	d
All Bridges			1 000002	COUNTRY CLUB B	BRIDGE	District 10	01 Abbeville	COUNTRY CL	1 MILE EAST HWY 195	00000	BLACKWATER CREE	к
i → 🎾 Sample Bridges			2 IrainingBridge2	Iraining Bridge 2(LKFD)	Unknown	Unknown (P)	N/A	N/A	-1	N/A	
🎾 Deleted Bridges			3 TrainingBridge3	Training Bridge 3((LRFD)	District 11	01 Abbeville	1-79	Pittsburgh	0079	Ohio River	
			4 PCITrainingBridge1	PCI TrainingBridge	e1(LFD)					-1		
			5 PCITrainingBridge2	PCITrainingBridge						-1		
			6 PCITrainingBridge3	PCI TrainingBridge						-1		
			7 PCITrainingBridge4	PCITrainingBridge						-1		
			8 PCITrainingBridge5	PCI TrainingBridge						-1		
			9 PCITrainingBridge6	PCITrainingBridge						-1		
		4										
									Total Bridge Count:		38	

Batch Link BrDR Bridges to BrM Bridges

Open the **BrM Manage Bridges** window by clicking the Manage Bridges button from the **BrM** group of the **TOOLS** ribbon.



BID		BrDR	BrDR			BrM	Select	Comments
ыр	Bridge ID	NBI structure ID	Last synced	Synced by	Bridge ID	NBI structure ID	Select	comments
1	TrainingBridge1	TrainingBridge1					\checkmark	
2	TrainingBridge2	TrainingBridge2					\checkmark	
3	TrainingBridge3	TrainingBridge3					\checkmark	
4	PCITrainingBridge1	PCITrainBridge1					\checkmark	
5	PCITrainingBridge2	PCITrainBridge2					\checkmark	
6	PCITrainingBridge3	PCITrainBridge3					\checkmark	
7	PCITrainingBridge4	PCITrainBridge4					\checkmark	
8	PCITrainingBridge5	PCITrainBridge5					\checkmark	
9	PCITrainingBridge6	PCITrainBridge6					\checkmark	
10	Example7	Example7					\checkmark	
11	RCTrainingBridge1	RCTrainBridge1					\checkmark	
12	TimberTrainingBridge1	TimberTrBridge1					\checkmark	
13	FSys GFS TrainingBridge1	FS1TrainingBrdg					\checkmark	
14	FSys FS TrainingBridge2	FS2TraingBrdg					\checkmark	
15	FSys GF TrainingBridge3	FS3TraingBrdg					V	

Click the Select All button in the BrM Manage Bridges window then click the Link Selected button.

📲 BrM - Link By	\times
Select a BrM Link Option:	
Link Bridges By	
Bridge ID	
O NBI Structure Code	
OK Cancel	

Select the **Bridge ID** option in the **BrM – Link By** window to attempt to link BrDR bridges with BrM bridges by using the BrDR Bridge ID value. Click **OK** to close the window and continue linking the bridges.

Linking BrDR Bridges with BrM Bridges	×
Linking Bridges	
100%	31/31
Activity log:	
Processing Bridge ID: 29 Linked to BrM Bridge with Bridge ID: Splice Example Successfully synced with BrM.	Â
Processing Bridge ID: 30 Linked to BrM Bridge with Bridge ID: Simple DL-Cont LL-Splice Successfully synced with BrM.	
Processing Bridge ID: 31 Error processing bridge! BrM bridge could not be found.	
	~
Save Log	Close

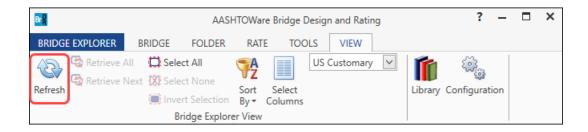
The **Linking BrDR Bridges with BrM Bridges window** will appear and display an activity log of the processed bridges.

	BID		BrDR				BrM	Select	Comments	
	ыр	Bridge ID	NBI structure ID	Last synced	Synced by	Bridge ID	NBI structure ID	Select	comments	
Þ	1	TrainingBridge1	TrainingBridge1					\checkmark		
	2	TrainingBridge2	017035E	1/18/2023	Bridge, B	Training	017035E	\checkmark		
	3	TrainingBridge3	TrainingBridge3					\checkmark		
	4	PCITrainingBridge1	1D 615	1/18/2023	Bridge, B	PCITrain	1D 615	\checkmark		
	5	PCITrainingBridge2	0C 434	1/18/2023	Bridge, B	PCITrain	0C 434	\checkmark		
	6	PCITrainingBridge3	3C 341	1/18/2023	Bridge, B	PCITrain	3C 341	\checkmark		
	7	PCITrainingBridge4	PCITrainBridge4					\checkmark		
	8	PCITrainingBridge5	1C 302	1/18/2023	Bridge, B	PCITrain	1C 302	\checkmark		
	9	PCITrainingBridge6	PCITrainBridge6					\checkmark		
	10	Example7	Example7					\checkmark		
	11	RCTrainingBridge1	035014F	1/18/2023	Bridge, B	RCTraini	035014F	\checkmark		
	12	TimberTrainingBridge1	TimberTrBridge1					\checkmark		
	13	FSys GFS TrainingBridge1	0C 274	1/18/2023	Bridge, B	FSys GF	0C 274	\checkmark		
	14	FSys FS TrainingBridge2	1D 672	1/18/2023	Bridge, B	FSys FS	1D 672	\checkmark		
	15	FSys GF TrainingBridge3	0D 710	1/18/2023	Bridge, B	FSys GF	0D 710	\checkmark		

For bridges that have been successfully linked with a BrM bridge, the **BrDR Bridge ID**, **BrDR NBI structure ID**, **Last synced**, **Synced by**, **BrM Bridge ID** and **BrM NBI structure ID** will be updated in the **BrM Manage Bridges** window.

Close the BrM Manage Bridges window.

Click the **Refresh** button from the **Bridge Explorer View** group of the **VIEW** ribbon to refresh the right portion of the Bridge Explorer.



The linked **BrDR** bridges are updated in the **Bridge Explorer** as shown below.

l		AASHTOWare Bridge Design and Rating					? - 🗆
RIDGE EXPLORER BRIDGE FOL	DER RATE TOOLS VIEW						
Retrieve All Calect All	Sort Select	Library Configuration					
🔘 Invert Sele							
Bridge E	xplorer View						
Recent Bridges	BID Bridge ID	Bridge Name	District	County Fac	lity Location	Route	Feature Intersecte
All Bridges	1 TrainingBridge1	Training Bridge 1(LRFD)	District 11	SR 005	1 Pittsburgh	0051	SR 6060
🗄 🃁 Sample Bridges	2 TrainingBridge2	2 Barrel Continuous Concrete Culvert, Poor Cond			TY ROA SOUTH SIDE O		HENRIEVILLE CRE
🟓 Deleted Bridges	3 TrainingBridge3	Training Bridge 3(LRFD)	District 11	I-79	Pittsburgh		Ohio River
	4 PCITrainingBridge1	3 Span Continuous Conc Poor Condition			R-15) 1 500 SO.INTCHO		SR-68, 500 SOUTI
	5 PCITrainingBridge2	5 Span Steel Poor Condition			TY ROA 6.6 MI.NORTHE		I-80 (SR-80) EBL 8
	6 PCITrainingBridge3	3 Span Steel Poor Condition			R-15) S NORTH LEHI		UNION PACIFIC R
	7 PCITrainingBridge4	PCITrainingBridge4(LRFD)	District 5			-1	
	8 PCITrainingBridge5	3 Span Continuous Steel Fair Condition	District 1	Davis I-15 (S	R-15) 1 500 W. JNTCH		RAMP. I-15SB TO
	9 PCITrainingBridge6	PCITrainingBridge6(LRFD)	District	50005		-1	104111,11155510
	10 Example7	Example 7 PS (LFD)				-1	
	11 RCTrainingBridge1	Prestressed T-Beam 1 Span Poor Condition	District 2	Salt Lake LARCH	WOOL 690 EAST 6755		JORDAN & SALT I
	12 TimberTrainingBridge1	Timber Tr. Bridge1 (ASD)				-1	
	13 FSys GFS TrainingBridge1	Single Span Steel Thru Arch Fair Condition	Region 4	San Juan SR-16	AT MEXICAN H	4 00163	SAN JUAN RIVER
	14 FSys FS TrainingBridge2	3 Span Continuous Conc Poor Condition	-		9NB to BECKS STREET		RAMP,I-15NB to I
	15 FSys GF TrainingBridge3	3 Span Continuous Conc T-Beam		San Juan SR-16			McELMO CREEK
	16 FLine GFS TrainingBridge1	Single Span Prestressed Concrete Fair Condition	-	Jtah US-6 (SR-6) 4TH SO.ST.in SI	00006	SR-147
	17 FLine FS TrainingBridge2	Signge Span Concrete Fair Condition		,	I (SR-1 IN CITY OF MO		MILL CREEK
	18 FLine GF TrainingBridge3	FloorLine GF Training Bridge 3	District 1	1-95	NY	15	
	19 TrussTrainingExample	Single span steel fair condition			TY ROA 2.5 MI.NW.OF 1		DIAMOND FORK
	20 LRFD Substructure Example	2.1		Washington SR-18	0.4 MILES SOUT		SANTA CLARA RIV
	21 LRFD Substructure Example		-		OGA SI 3.5 MILES SW.		JORDAN RIVER
		3 4 Span Prestressed Concrete Fair Condition			ND 6TH IN LEHI		I-15 (SR-15) NBL
	23 LRFD Substructure Example				OW LA 750 WEST MEA		MILL CREEK WETL
	24 Visual Reference 1	Visual Reference 1	District 1	1-76	WAITSFIELD		MAD RIVER
	25 Culvert Example 1	Culvert Example 1				STH60	
	26 LFD Curved Guide Spec	Single span RC slab good condition	District 3	Jtah 6800 M	ORTH 6800 NORTH 6	00000	AMERICAN FORK
	27 MultiCell Box Examples	Single Span Prestressed Concrete Good Condition			R-15) 1 500 SO.INTCHO		SR-68, 500 SOUTI
	28 Gusset Plate Example	3 Span Continuous Steel Fair Condition	Region 4	Grand SR-12			COLORADO RIVE
	29 Splice Example	2 Span Prestressed Concrete Good Condition	-	Davis SR-13	, 400 1 600 W.400 NO		I-15 (SR-15) NBL
	30 Simple DL-Cont LL-Splice	Single Span Steel in Good Condition			R-15) 1 600 W.1500 SO		1500 SOUTH STR
						· · ·	

Customize BrM Bridge Sync Settings

Open the **Configuration Browser** by clicking the **Configuration Browser** button on the **VIEW** ribbon as shown below.

Br			AASH	TOWare	e Bridge D	esign and Ra	ting		?	-	×
BRIDG	E EXPLORER	BRIDGE	FOLDER	RAT	E TOO	ULS VIEW	/			_	
Refresh	😋 Retrieve A 😋 Retrieve N	ext 🗱 Sele		Sort By▼	Select Columns	US Custom	ary 💙	Library	දිබු Configura) ation	
		B	ridge Explore	er View							

Open the **BrM Sync Settings** window by double-clicking the **BrM Sync Settings** folder in the **Configuration Browser**.

	CONFIGURATION		AASHTOW	are Bridge D	Design and Rating			?		
DGE EXPLORER	CONFIGURATION									
up Gr	Lete New Open Delete Dup User User Vanage									
🔏 Users		BrM Sync Settings ×								
- 🚟 All Users		ge								-
- Administ										
🏰 Design E		Sync								
- A Manager						1				_
		BrDR Bridge Field	Sync	Override enabled		BrM Bridge Column				
Access Privil			enabled		-					_
Access Privil		Bridge ID	~			* bridge_id	*			1
	dministration	NBI Structure ID	\checkmark		bridge	* struct_num	*			
Bridge C		Name	V		bridge '	strucname	*			
- 🔒 Bridge D		Description			bridge	" notes	*			
	escription Custom Agency Field La	Location	1		bridge	 location 	*			
- 🙆 Bridge E		Facility carried	\checkmark		bridge	 facility 	*			
🙆 Bridge Li		Feat. intersected	V		bridge	r featint	*			
	ocking and Unlocking	Year built	1		bridge	yearbuilt	*			
🛱 BrM Rati 🛱 BrM Rati		Length	V		bridge	- length	*			
🗊 BrM Rati 🗊 Configur		Route number	1		-	routenum	*			
- 👔 Conligui		Mi, post	1		roadway	- kmpost	*			
- 🛱 General		Longitude	v		bridge	precise Ion	*			
- A Libraries		Latitude	v				*			
- 🛱 Library I		Truck PCT	V							
- 🛱 Link to B	rM Bridges		V		roadway		*			
🔒 Load Rat		ADT	V		roadway	adttotal	•			
🛱 Log Ever										
🙆 Paramet										
	nalysis Setting Template Administr	ition								
	nalysis Setting Templates									
	ridge Folders older Administration									
	nalysis Setting Templates									
Public Br	idge Folders									
🛛 🙆 Rating E										
	Data Export/Import									1
- 🗿 System [1
🔂 User Pro										1
	ned Library Entries									
BrM Sync Se BrM Vehicles										
BrM Vehicle: Parameters	5									
Parameters System Defa	wite									
System Dera Engine Defa										1
- engine Dela									-	
								Save	Close	۰.

Click the **Sync** button to import the table and column names for the **bridge**, **roadway**, **userbrdg**, and **userrwy** tables from the BrM database.

Uncheck the Sync enabled box for the Longitude and Latitude fields.

Check the **Sync enabled** and **Override enabled** boxes for the **BrDR Bridge Field**. Select **roadway** from the **BrM Bridge Table** dropdown menu then select **roadway_name** from the **BrM Bridge Column** dropdown menu.

CONFIGURATION		AASHTOWa	re Bridge D	esign and Rating			? -	- (
E EXPLORER CONFIGURATION								
🗇 🌦 👤 늘 🌦								
Rename Delete New Open Delete Close								
Group User User								
Manage								
Users	BrM Sync Settings ×							
👺 All Users	ann agne aetanga tr						 	_
Administrators								
Besign Engineers	Sync							
馨 Managers 馨 Rating Engineers				1			 	_
A Routing Engineers	BrDR Bridge Field	Sync enabled	Override enabled	BrM Bridge Table	BrM Bridge Colu	umn		
Access Privileges	Bridge ID	V		bridge	bridge_id	*		
Access Rights	NBI Structure ID	V			struct_num	-		
Bridge Administration	Name	V			strucname	*		
Bridge Check-Out	Description	V	7		roadway_name	-		
Bridge Description Bridge Description Bridge Description Custom Agency Field Labels	Location	V V			location	-		
Bridge Description Custom Agency Field Labels	Facility carried	V			facility	-		
Bridge List	Feat. intersected	V			featint			
Bridge Locking and Unlocking	Year built	V V			vearbuilt			
BrM Rating Events		V			1			
BrM Rating Vehicles	Length			onoge	in the second se			
Configuration	Route number	V		· · ·	routenum	-		
Design Events	Mi. post	V		· · · ·	 kmpost 	· ·		
General Preferences	Longitude			bridge	precise_ion	· ·		
Library Import	I Latitude			bridge	r precise_lat	-		
Link to BrM Bridges	Truck PCT	V		Toduway	r truckpct	Ŧ		
Doad Rating Tool	ADT	\checkmark		roadway	adttotal	Ŧ		
🔂 Log Events								
Parameters								
Private Analysis Setting Template Administration								
Private Analysis Setting Templates								
Private Bridge Folders Private Folder Administration								
Private Folder Administration Public Analysis Setting Templates								
Public Analysis Setting Templates Public Bridge Folders								
Rating Events								
System Data Export/Import								
D System Defaults								
G User Profile Settings								
User-Owned Library Entries								
BrM Sync Settings								
BrM Vehicles Parameters								
Parameters System Defaults								
Engine Defaults	L						 	_

Click Save to save and close the BrM Sync Settings window.

Close the **Configuration Browser**.

Double-click Bridge ID **000002** (formerly TrainingBridge1) in the **Bridge Explorer** to open the bridge and bring up the **Bridge Workspace**.

Double-click on **000002** (A) in the **Bridge Workspace** to open the **Bridge Description** window. Click the **Sync with BrM** button at the bottom of the window.

idge ID: 000002		NBI structure	: ID (8): 000002		☐ Template ☑ Bridge comple		Superstructures
Description Descr	iption (cont'd)	Alternatives	Global reference point	Traffic	Custom agency field		
Name:	COUNTRY CLUB				Year built:	1898	
Description:	COUNTRY CLUB	ROAD					
Location:	1 MILE EAST HW	/Y 195			Length:	170.00	ft
Facility carried (7):	COUNTRY CLUB	ROAD			Route number:	00000	
Feat. intersected (6):	BLACKWATER CF	REEK			Mi. post:	0.01	
Default units:	US Customary	~					
Default units:	US Customary	V					

The Description field is populated with the **roadway_name** value from the BrM **roadway** table and the Description field will now be disabled.

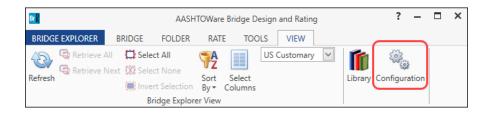
00002							
idge ID: 00	0002		NBI structure	ID (8): 000002		 Template Bridge completely defin 	Superstructures
Description	Descriptio	n (cont'd)	Alternatives	Global reference poi	nt Traffic	Custom agency fields	
X:	0.00	ft					
Y:	0.00	ft					
Elevation:		ft					
Longitude:		Degrees	٦				
Latitude:		Degrees					
	Open locati	on					
[Location co	onfirmed					
L	cocation co	/initiaco					
Brida	e association	R-R		RrM Sync with RrA			
Bridge	e association	BrR	V BrD V	BrM Sync with BrM			
Bridge	e association	. BrR	BrD V	BrM Sync with BrN	1		
Bridge	e association	. BrR	BrD V	BrM Sync with BrN	1	OK	Apply Cancel

Select the **Global reference point** tab in the window.

The **Longitude** and **Latitude** fields are reenabled and are no longer synchronized with data from BrM.

Assign Vehicles from the BrDR Vehicle Library to BrM Vehicles

Open the **Configuration Browser** by clicking the **Configuration Browser** button ³⁶ on the **VIEW** ribbon as shown below.



Open the BrM Vehicles window by double-clicking the BrM Vehicles folder in the Configuration Browser.

Click the **Sync** button to import vehicles from BrM.

	CONFIGURATION	AASHTOWare Bridge	Design and Ratin	9		?		נ
DGE EXPLOREF	CONFIGURATION							
	Image Image <td< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>							
출 Users - 생용 All User - 생용 Adminis - 생용 Design - 생용 Manage	strators Engineers	BrM vehicles ×						
- A Rating E		BrM vehicle	Enabled	BrDR vehicle	Default vehicle category			٦
- A Routing		HS-20 Operating		*	None			T.
Access Privi		HS-20 Inventory			None -			
- 🛱 Access		HL-93 Operating		-	None *			
🛱 Bridge /	Administration	HL-93 Inventory		-	None *			
	Check-Out Description	H-TRUCK			None *			
	Description Description Custom Agency Field Labels	TANDEM AXLE		•	None *			
- 🛱 Bridge I				*				
Bridge I		TRIAXLE DUMP			None			
	Locking and Unlocking	CONCRETE		*	None *			
- 🔂 BrM Rat	ting Events	18-WHEELER		.	None *			
	ting Vehicles	6-AXLE		*	None *			
- 🛱 Configu		SCHOOL BUS		Ŧ	None *			
🔂 Design		EV2		*	None *			
🔂 General	Preferences	EV3		-	None *			
Library Link to Load Ra Load Ra Ca Private Ca Private Ca Private Ca Public B Ca Rating B Ca System Ca System Ca User Prive Ca User Prive Ca BrM Sync S BrM Sync S BrM Sync S	Import BrM Bridges ating Tool ents ters Analysis Setting Template Administration Analysis Setting Templates Bridge Folders Folder Administration Analysis Setting Templates Sridge Folders Events Data Export/Import Defaults ofile Settings wined Library Entries ettings es							
📁 System Def 📁 Engine Defa								r
						Save	Close	

Check the **Enabled** box next to the **BrM vehicles** to assign vehicles from the BrDR vehicle library to BrM vehicles.

Select the following options as shown below:

CONFIGURATION		AASHTOWare Bridge Design	and Rating			?	-		
DGE EXPLORER CONFIGURATION									
W Rename Delete New Open Delete Close									
up Group User User									
Manage									
Bridge Locking and Unlocking	^ Sv	stem Defaults × BrM Sync	Settings ×	BrM vehicles ×					
BrM Rating Events	39.	Stem Deluting Drivi Syries	Jettings	bitti venicies tr					
🔂 BrM Rating Vehicles 🔂 Configuration									
- Design Events		Sync							
General Preferences							_		1
		BrM vehicle	Enabled	BrDR vehicle		Default vehicle categor	У		4
🛱 Library Import		HS-20 Operating	\checkmark	HS 20-44	· ·	Operating	*	^	1
🛱 Link to BrM Bridges		HS-20 Inventory	\checkmark	HS 20-44	*	Inventory	*		l
🔂 Load Rating Tool		HL-93 Operating	\checkmark	HL-93 (US)	-	Operating	*		l
😭 Log Events 		HL-93 Inventory	1	HL-93 (US)	-	Inventory	*		l
Parameters Private Analysis Setting Template Administra	ion	H-TRUCK	1	Type 3	Ŧ	Inventory	Ŧ		
Private Analysis Setting Template Administra		TANDEM AXLE				None	Ŧ		l
Private Bridge Folders		TRIAXLE DUMP				None	+		l
🔂 Private Folder Administration		CONCRETE				None			l
- 🛱 Public Analysis Setting Templates							-		l
🔂 Public Bridge Folders		18-WHEELER				None	*		
Rating Events		6-AXLE				None	*		
😭 System Data Export/Import 		SCHOOL BUS			*	None	*		
- G User Profile Settings		EV2			*	None	*		
User-Owned Library Entries		EV3			Ŧ	None	Ŧ		
BrM Sync Settings									
BrM Vehicles									1
📁 Parameters									1
System Defaults								V	1
Engine Defaults									

Click Save to save and close the BrM Vehicles window.

Close the **Configuration Browser**.

AASHTOWare Rating – Perform a rating on a linked bridge and update the ratings in BrM.

Select **000002** on the right portion of the **Bridge Explorer**.

		AA	SHTOWare Bridge Design and Rating				? - 🗆	×
BRIDGE EXPLORER BRID	E FOLDER RATE	TOOLS VIEW						
	ent Rating Manage Analy Results Results	Route Data	uted Load Rating Tool					
	E 🛋	Bridge ID	Bridge Name	District	County	Facility	Location	11
Recent Bridges	▶ 1 000002	C	OUNTRY CLUB BRIDGE	Unknown	Unknown (P)	COUNTRY CL	1 MILE EAST H	A (-
All Bridges	2 TrainingBr	idge2 Tr	raining Bridge 2(LRFD)	Unknown	Unknown (P)	N/A	N/A	
Templates Deleted Bridges	3 TrainingBr	idge3 Tr	raining Bridge 3(LRFD)	Unknown	Unknown (P)	1-79	Pittsburgh	. (
Deleted bildges	4 PCITrainin	gBridge1 P	CI TrainingBridge1(LFD)					
	5 PCITrainin	gBridge2 PG	CITrainingBridge2(LRFD)					
	6 PCITrainin	gBridge3 Po	CI TrainingBridge3(LFD)					
		A.	W ()					

Open the **BrM Bridge Rating** window by clicking on the **Update Ratings** button from the **BrM** group of the **RATE** ribbon (or by right-clicking on the selected bridge and selecting the **Update BrM Ratings** button).

Br							AASHTOWare Bridge	e Design and Rating	
BRIDO	SE EXPLORER BRIDGE	FOI	DER	RATE	TOOLS	VIEW			
Rate			Mar	nage Analysis			outed Load Rating		
Rate		s Result	ts.	Events	Route Routing	Dat	a Tool Rating Tool		
	Favorites Folder	-	E 🛋	B	ridge ID		-	Name	1
0	Recent Bridges	•	1	000002	linge in	_ (OLINITRY CILLIR RRIDGE		1
0	All Bridges		2	TrainingBrid	ae2		Open	Ctrl+O	1
±	Templates Deleted Bridges		3	TrainingBrid	-	O	Сору	Ctrl+C	1
-	Deleted bridges		4	PCITraining	Bridge1	1	Delete		
			5	PCITraining	Bridge2		Rate		
			6	PCITraining	Bridge3	200	Rating Results		
			7	PCITraining	Bridge4	=	Manage Analysis Even	ts	
			8	PCITraining	Bridge5		Update BrM Ratings		
			9	PCITraining	Bridge6	N	Report Tool		
			10	Example7		10	Attachments	-	
			11	RCTrainingB	-		General Preferences	-	
			12	TimberTrain				0.11.11	
			13	FSys GFS Ira	ainingBridge1	F	loorSystem GFS Training	Bridge 1	
Br	BrM Bridge Rating						- 0	×	
	BrM NBI load rating vehicles	B	rDR	vehicle	Default F	Ratin	g Method		
) ► [HS-20 Operating	H	S 20)-44	Operatin	g		-	
1	HS-20 Inventory	н	s 20)-44	Inventory	,			

Operating

Inventory

Inventory

HL-93 (US)

HL-93 (US)

Type 3

Click **OK** to close the **BrM Bridge Rating** window and the **Analysis Settings** window will open. Select the BrDR vehicles currently assigned to each BrM rating vehicles for the appropriate analysis method and run the analysis. For this example, select **LFR** as the **Rating method** and include **HS 20-44** vehicle in **Inventory** and **Operating** and **Type 3** in **Inventory** as shown below.

OK

Cancel

HL-93 Operating

HL-93 Inventory

H-TRUCK

Analysis Settings	
O Design review Rating	Rating method:
Analysis type: Line Girder	Apply preference setting: None
Vehicles Output Engine Description	
Traffic direction: Both directions	Refresh Temporary vehicles Advanced
Vehicle selection	Vehicle summary
 Vehicles Standard -Alternate Military Loading -EV2 -EV3 -H 15-44 -H 20-44 -HS 15-44 -HS 20 (SI) -HS 20 (SI) -HS 20 (SI) -SU4 -SU4 -SU4 -SU4 -SU6 -SU7 -Type 3-3 -Type 3-3 -Type 3S2 -Agency User defined -Temporary 	Add to
Reset Clear Open template	Save template OK Cancel

Click **OK** to run the analysis. When the analysis is complete, click **OK** to close the **Analysis Progress** window and the **BrM Rating Summary** window will open as shown below:

Analysis Progress		>
 Analysis Event O00002 STRUCTURES GIRDER-SYSTEM MEMBERS GI [Plate Girder] G3 [Plate Girder] G4 [Plate Girder] 	Finished finding maximum stresses in the unbraced lengths Checking pier compactness STAGE 1 - STAGE 2 - STAGE 3 - Location - 0.0000 (ft) - Location - 16.1000 (ft) - Location - 32.2000 (ft) - Location - 64.4000 (ft) - Location = 64.4000 (ft) - Location = 06.6000 (ft) - Location - 112.7000 (ft) - Location - 112.7000 (ft) - Location - 144.9000 (ft) - Location - 144.9000 (ft) - Location - 144.9000 (ft) - Location - 161.0000 (ft) Completed Specification Check. Info - LFR analysis successfully completed! Info - Populating dead load results for non-composite (stage 1) Info - Populating live load results for composite (long term) (stage 2) Info - Populating live load results for composite (short term) (stage 3) Info - Populating LFR rating summary Info - Analysis completed!	
Finished processing 1 of 1 bridges:	ΟΚ	Cancel

After the analysis is complete, click **OK** to close the Analysis Progress window and the **BrM Rating Summary** window will open.

For each of the BrM vehicles included in the analysis, the calculated BrDR rating capacities are displayed as shown below. Users can choose between Accept all, Accept bridge, Accept vehicle, or selectively Accept new rating and select **Push to BrM** to update the BrM database with the current rating event.

na	lysis metho	d: D LFD (MS18)	✓ Rating date: 1	1/18/2023	15 BrM	rater initials: t	oridge				
	Bridge ID	Bridge completly defined	Accept new rating	BrM vehicle	BrDR vehicle	Analysis type	Rating	Capacity (tons)	Notes		
ſ	000002	\checkmark	V	HS-20 Operating	HS 20-44	Design	1.46	52.71			
	000002	\checkmark	V	HS-20 Inventory	HS 20-44	Design	0.88	31.56		1	
	000002	V	\checkmark	H-TRUCK	Type 3	Design	1.32	33.00		1	

Select D LFD (MS18) from the Analysis method dropdown menu.

Click the Accept all button to check all the Accept new rating boxes in the window.

Click the **Push to BrM** button to create a new load rating event in BrM with the values from the **BrM Rating Summary** window.

Select the first row with Bridge ID **000002** and click on the **View rating results...** button to open the **Bridge Rating Results** window and view the rating results as shown below:

						vels per row	\sim				
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	oj r
)2	HS 20-44	0.877	1.464						LFR	LFR	
)2	Type 3	1.320							LFR		
	12	2 HS 20-44	Bridge ID Vehicle rating factor 12 HS 20-44 0.877	Bridge ID Venicle rating factor rating factor 12 HS 20-44 0.877 1.464	Bridge ID Vehicle Inventory rating factor Operating rating factor operating rating factor 2 HS 20-44 0.877 1.464	Bridge ID Vehicle Inventory rating factor Operating rating factor operating rating factor operating rating factor 2 HS 20-44 0.877 1.464	Bridge ID Vehicle Inventory rating factor Operating rating factor operating rating factor Legal rating factor inventory rating factor 2 HS 20-44 0.877 1.464	Bridge ID Vehicle Inventory rating factor Operating rating factor operating rating factor Legal rating factor inventory rating factor operating rating factor 2 HS 20-44 0.877 1.464	Bridge ID Vehicle Inventory rating factor Operating rating factor operating rating factor Legal rating factor inventory rating factor operating rating factor 2 HS 20-44 0.877 1.464	Bridge ID Vehicle Inventory rating factor Operating rating factor Legal operating rating factor inventory rating factor operating rating factor Legal rating factor inventory rating factor Permit rating factor Inventory rating factor 2 HS 20-44 0.877 1.464	Bridge ID Vehicle Inventory rating factor Operating rating factor Legal operating rating factor inventory rating factor operating rating factor Legal rating factor inventory rating factor Permit rating factor Inventory rating factor Operating rating factor 2 HS 20-44 0.877 1.464

Click on the View structure ratings results button to view the Structure Rating Results window.

Structure Rating Results										-		×
System of units Lane/impact loading type Display format: US customary SI / metric												
Bridge id	Bridge id Structure		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	
▶ 000002	▶ 000002 Single Span Structure		0.877	1.464						LFR	LFR	
4	111										1	•
Show up-to-date resu	ults only											
View member rating res	sults									Print	Close	2

Click on the **View member ratings results** button to view the member rating results.

Br	Member Rating Results											×
	System of units Lane/impact loading type Display format: US customary SI / metric As requested Detailed Multiple rating levels per row Y											
	Bridge id	Structure	Member	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	
)	000002	Single	G1	HS 20-44	1.376	2.298						-
	000002	Single	G2	HS 20-44	0.877	1.464						
	000002	Single	G3	HS 20-44	0.877	1.464						
	000002	Single	G4	HS 20-44	1.376	2.298						
				-								Ŧ
	◀)	*
¥	Show up-to-date results only									Print	Close	e

Click Close on the Member Rating Results window to return to the Structure Rating Results window.

Click Close on the Structure Rating Results window to return to the Bridge Rating Results window.

The Save All button on the Bridge Rating Results window saves all the rating results to the database.

Click Close on the Bridge Rating Results window to return to the BrM Rating Summary window.