

## Index Table

### What's New at BSI

Page 2

FB-MultiPier v4.19.4

### Technical Corner

Page 2

### For Technical Support

Page 5

### Program Status

Page 5

FB-MultiPier v4.19.4

FB-Deep v2.04

Atlas v6.04

### Contact BSI

Page 6

Bridge Software Institute  
University of Florida  
PO Box 116580  
Gainesville, FL 32611

**Online:** [bsi.ce.ufl.edu](http://bsi.ce.ufl.edu)

**Email:** [bsi@ce.ufl.edu](mailto:bsi@ce.ufl.edu)

**Phone:** (352) 294-7837

**Fax:** (352) 392-3697



*In this issue's Technical Corner, we discuss the latest feature made available in the newly released FB-MultiPier 4.19.4: the Distributed Load Feature.*

The articles Technical Corner and Discussions are open for input from all readers. If you have a topic that you think should be discussed, let us know. Did you create a great model with features that you want to share? Everyone is welcome to submit articles for possible inclusion in subsequent issues.

Please contact BSI at [BSI@ce.ufl.edu](mailto:BSI@ce.ufl.edu) with your ideas.

FALL  
2015

## Index Table

### What's New at BSI

Page 2

FB-MultiPier v4.19.4

### Technical Corner

Page 2

### For Technical Support

Page 5

### Program Status

Page 5

FB-MultiPier v4.19.4

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## What's New at BSI

We are pleased to announce the release of FB-MultiPier v4.19.4. This program and other structural analysis software are available for download from the **BSI** website. The new version of FB-MultiPier contains fixes to the latest reported bugs and also includes a number of new features.

## Technical Corner - New Features

### Distribute Load Feature

A convenient new feature has been developed to facilitate generation and application of distributed loads to FB-MultiPier models. Namely, the new Distributed Load feature allows for the generation of constant value loads, uniform loads, or linearly varying loads, which can then be applied to piles, pile caps, columns, and pier caps.

As a demonstration of this new feature, consider **Figure 1**, which is a (solid) model view drawing of a bridge pier located in a stream bed. For this scenario, the AASHTO load case 'Water Load' would be taken into consideration as part of the design process. Accordingly, FB-MultiPier can be used to simulate the Stream Pressure (AASHTO LRFD - 3.7.3) applied to the bridge pier foundation components (the drilled shafts).

For this scenario, the new Distributed Load feature provides a fast and convenient means of generating and applying distributed loads to the model elements representing the drilled shafts. For the remainder of this article, the series of steps taken within the FB-MultiPier graphical user interface are listed to showcase how such loads are generated and applied.

Preliminaries:

Create a model (such as the one shown in **Figure 1**) and activate the 'AASHTO Combinations' in the 'Design Options' region of the 'Analysis' tab. Then, navigate to the 'AASHTO' tab and use the 'Load Case Manager' to populate a given set of AASHTO load types and limit states. For the scenario described in this article, water loading will be focused upon.

FALL  
2015

## Index Table

### What's New at BSI

Page 2

FB-MultiPier v4.19.4

### Technical Corner

Page 2

### For Technical Support

Page 5

### Program Status

Page 5

FB-MultiPier v4.19.4

FB-Deep v2.04

Atlas v6.04

### Contact BSI

Page 6

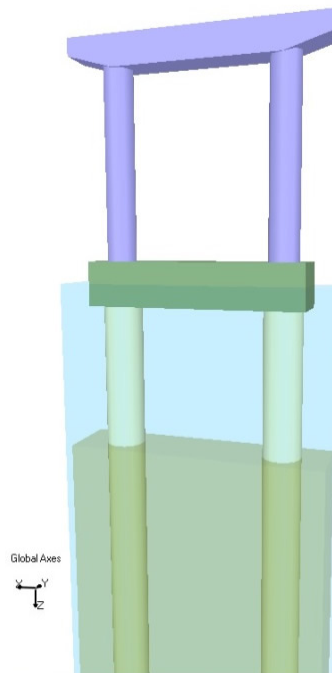
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University of Florida  
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Gainesville, FL 32611

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**Fig. 1 Solid model view of single pier model with drilled shafts and founded in a stream**

Step 1: Navigate to the 'Load' tab, and select the AASHTO Load case 'WA - Water Load', located in the 'Load Case' list.

Step 2: Select the 'Distributed Load' button to open the 'Distributed Load' dialog.

Step 3: Within the 'Distributed Load' dialog, select 'Pile' from the 'Member' pull-down list and 'Uniform' from the 'Load Types' pull-down list. Note that any piles (drilled shafts) in the model can now be highlighted by using the 'Highlight Member' pull-down list.

Step 4: Within the '3D View' window, select the starting node and ending node upon which the uniform distributed loads are to be applied. Nodes 140 (starting) and 149 (ending) are selected in this scenario.

Step 5: Within the 'Distributed Load' dialog, supply Xp and Yp load magnitudes at the starting and ending nodes. Xp loads (per ft) are input as 0.04 kip/ft, and Yp loads (per ft) are input as 0.02 kip/ft in this scenario.

FALL  
2015

Index Table

What's New at BSI

Page 2

FB-MultiPier v4.19.4

Technical Corner

Page 2

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Page 5

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Page 5

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Step 6: Click the 'Generate Load On Selected Member' button. The load vectors will then be seen in the '3D View' window for the selected member. Note that FB-MultiPier has generated these concentrated forces based on the uniform load magnitudes and the model-specific nodal spacing.

Step 7: The 'Generate Load On Other Members' button can then be selected, which for this case, automatically assigns the same load group to the respective nodes of the other drilled shaft.

Step 8: Click 'OK' to apply the loads that have been generated.

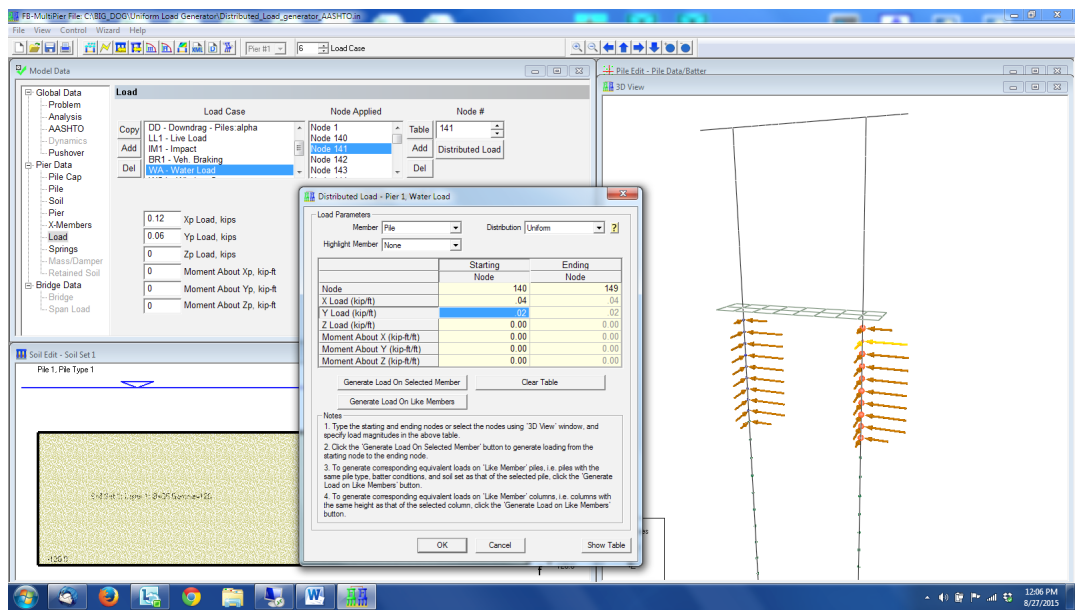


Fig. 2 Screenshot of the Distributed Load Dialog for applying distributed loads to FB-MultiPier models.

FALL  
2015

## Index Table

### What's New at BSI

Page 2

FB-MultiPier v4.19.4

### Technical Corner

Page 2

### For Technical Support

Page 5

### Program Status

Page 5

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# For Technical Support

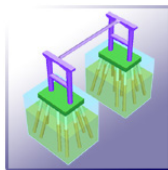
Cary Peterson

Technical Support, Bridge Software Institute

Technical support questions. When requesting technical support for any BSI software, it is recommended to email the input file (.in file for FB-MultiPier and Atlas or .spc file for FB-Deep ) to the BSI address [bsi@ce.ufl.edu](mailto:bsi@ce.ufl.edu) along with a brief explanation and any supporting documentation of the issue. This will allow the support staff to provide the users prompt technical support.

Identifying the program version. It is important that users have the current most up-to-date version of the BSI software. Thus we recommend that users regularly visit the home page of the **BSI** website. To identify the current version of program installed on your computer, open the program and go to Help > About to see the program version number.

## BSI Program Status



### **FB-MultiPier V4.19.4** Download a FREE demo today!

Released: September 25, 2015 - Continuing Development - Technical Support Available

FB-MultiPier allows for the modeling of a bridge that consists of multiple piers that are connected with bridge spans. In addition to the multiple load cases and the AASHTO coefficients that are available in FB-MultiPier, the program is also capable of performing dynamic analysis for the bridge. For more information about FB-MultiPier, click [here](#).

FALL  
2015

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Page 2

FB-MultiPier v4.19.4

### Technical Corner

Page 2

### For Technical Support

Page 5

### Program Status

Page 5

FB-MultiPier v4.19.4

FB-Deep v2.04

Atlas v6.04

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Page 6

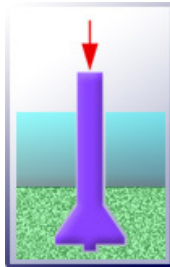
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### **FB-Deep V2.04** Download a FREE demo today!

Released: May 28, 2012 - Continuing Development - Technical Support Available

The FB-Deep computer program is a Windows based program used to estimate the static axial capacity of drilled shafts and driven piles. The methodology is based upon Federal Highway Administration (FHWA) reports. FB-Deep guides the user through pile and shaft materials data, shape and dimensional inputs, soil properties, and boring log info. FB-Deep presents the data analysis in both clear graphical and text form. For more information about FB-Deep, click [here](#).



### **Atlas V6.04**

Released: December 8, 2011 - Limited Web Support Available

Atlas is a finite element analysis program that is used for the design/analysis of cable supported traffic signal systems. The Atlas program models dual cable supported systems including single-point or two-point attachments and suspended box systems. For more information about Atlas, click [here](#).

## Contact BSI

If you need to contact BSI for any reason you can use any of the methods below:

**Online:** [bsi.ce.ufl.edu](http://bsi.ce.ufl.edu)

**Email:** [bsi@ce.ufl.edu](mailto:bsi@ce.ufl.edu)

**Phone:** (352) 294-7837

**Fax:** (352) 392-3697

### **Mailing Address:**

Bridge Software Institute  
University of Florida  
PO Box 116580  
Gainesville, FL 32611