

# GEOPAK<sup>®</sup> BRIDGE<sup>™</sup>

The  
**v8**Generation

## The most powerful, intelligent bridge modeling and analysis software for bridge designers

Bentley's GEOPAK<sup>®</sup> Bridge<sup>™</sup> is object-oriented software for modeling bridges. Intelligent bridge components enable you to design quickly and dynamically and make changes in record time. You can use the software to model virtually any type of bridge structure with an easy toolkit of bridge modeling options.

GEOPAK Bridge runs on MicroStation<sup>®</sup>, enabling powerful, interactive bridge modeling in a familiar environment. GEOPAK Bridge is fully integrated with the GEOPAK Civil Engineering Suite to provide unlimited access to essential transportation design information.

### Intuitive Access to Project Data

GEOPAK Bridge includes a Bridge Project Explorer that intuitively works with bridge components, sub-components and their properties. The Bridge Project Explorer's hierarchical tree-structure makes it easy to view and access your entire bridge project at any level. You can directly edit all bridge components and bridge properties from the Bridge Project Explorer. Project properties are stored in a Properties Manager—also accessed via the Bridge Project Explorer.

The software conveniently stores all bridge information in a single project database, creating and automatically updating the information. You can create multiple bridges within a single DGN file.

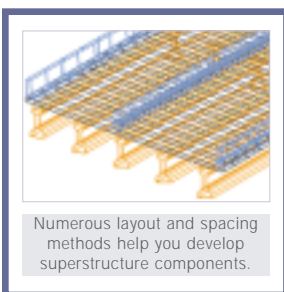
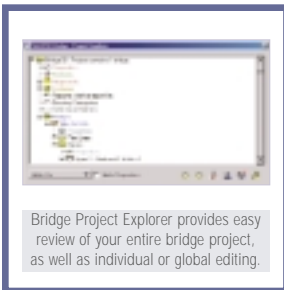
### Fast Creation of Bridge Sections

Section Generator provides a unique environment for generating typical bridge sections. You build a custom library of intelligent 2D sections. Each section is scanned from simple MicroStation elements contained in a DGN file. Using the software's dynamic dimensions, you can resize any part of the cross section simply by adding or changing dimensions. Section Generator enables you to create any arbitrarily shaped cross section for beam sections, deck sections, barriers and segmental boxes. Internal holes (voids) and ducts can be included in a section.

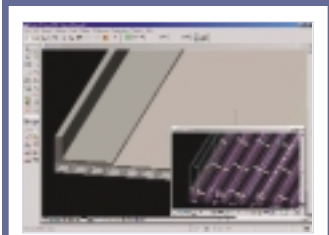
The section data you create is readily available in the bridge-modeling environment. All section data is stored in XML format for easy storage and installation. Section data can be viewed by XML viewers, such as Windows<sup>®</sup> Explorer.

### Design Assistance with GEOPAK tools

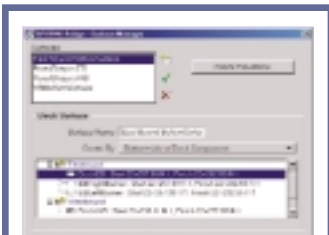
GEOPAK Bridge offers additional tools to round out the bridge design process. These include coordinate geometry, superelevation management tools, geotechnical tools, a full digital terrain modeling package and more.



## GEOPAK BRIDGE AT-A-GLANCE



Easily create a visual representation of your model using MicroStation rendering tools.



Bridge Surface Manager helps you create and check bridge deck surfaces.

### Bridge Project Explorer

- Explorer-like viewing of all bridges and their sub-components within a project
- Bridge component lists displayed as icons in a tree hierarchy that can be expanded and contracted
- Editing of all bridge properties via the Bridge Project Explorer
- Ability to redraw single components or list of components from the Bridge Project Explorer

### Modeling

- Modeling of solid elements via Bentley's SmartSolid® with b-spline curves generated using Parasolid modeling
- Easy calculation of volumes and surface areas of concrete and steel
- Modeling support for decks, beams and single-span girders

### Deflection Manager

- Support of five different deflection methods for deflection analysis
- Reporting of failures and automatic adjustments to comply with haunch requirements
- User-defined deflection rules can be applied per user instruction

### Section Generator

- Created from basic MicroStation elements
- User-defined Section Library for recall on subsequent bridge projects
- Sample Section Library
- Viewing of section data stored in XML format with XML viewers

### Alignment Manager

- Assignment of horizontal and vertical design to bridge alignment for modeling and analysis
- Application of horizontal and vertical offsets to an alignment
- Allowance for modifications at any time during the design process
- Ability to use multiple coordinate geometry databases in the workflow

### Surface Manager

- Seamless integration of surfaces generated from roadway design into the bridge design process
- Bridge surface generation from one or multiple surface definitions – top/bottom of deck, graphic shapes or a combination
- Tools for generating the deck surface elevations

### Properties Manager

- Management of all bridge component properties
- Levels, line & text symbology as well as solid and materials properties
- User-definable reporting templates for project, beams, pier lines and more
- User-definable visualization parameters for bridge model

### Continuous Span Modeler

- Creation of a 3D model of bridge components that extend across multiple spans
- Decks (all types of cross sections), continuous-span beams and girders, barriers, segmental boxes, post-tensioning ducts
- Multiple methods for defining pier locations are provided

### Reports Manager

- Variety of text file formats, including ASCII and CSV file format
- User-defined report templates for output control
- Sample report templates for easy startup

## GEOPAK BRIDGE SYSTEM REQUIREMENTS

- Prerequisites: MicroStation v8.1 or higher
- Processor: Intel® Pentium® 400 Mhz minimum, 500 Mhz recommended
- Operating System: Microsoft® Windows® XP Professional, Microsoft Windows 2000, Microsoft Windows NT® (SP6 recommended)
- Memory: 128 Mb minimum, 256 Mb recommended
- Disk Space: 115 Mb minimum, 175 Mb or more recommended
- Input Device: Mouse

## CALL TODAY FOR MORE INFORMATION

Bentley Systems, Incorporated, is a global provider of collaborative software solutions that enable our users to create, manage and publish architectural, engineering and construction (AEC) content. As a part of those solutions, Bentley provides professional services including implementation, integration, customization and training.

Visit us on the Web for more information about Bentley solutions and services. [www.bentley.com](http://www.bentley.com)

**Bentley North American Headquarters**  
Bentley Systems, Incorporated  
685 Stockton Drive  
Exton, PA 19341 USA  
Phone: +1 800 BENTLEY (+1 800 236 8539)  
Outside the US +1 610 458 5000  
Fax: +1 610 458 1060

**Bentley International Headquarters**  
Bentley Systems Europe B.V.  
Wegalaan 2  
2132 JC Hoofddorp  
THE NETHERLANDS  
Phone: +31 23 556 0560  
Fax: +31 23 556 0565

To find a local Bentley office, please visit [www.bentley.com/corporate/contacts](http://www.bentley.com/corporate/contacts).

