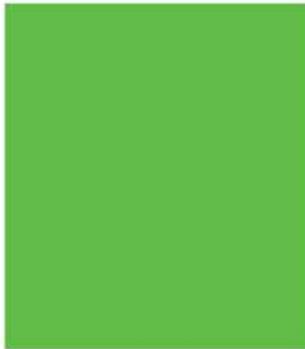


2009 ROADS AND BRIDGES CONFERENCE



MicroStation V8i for Civil Engineering Update

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Message for MicroStation V8i

Key Themes of MicroStation V8i

- Conceptual Design
- Drawing Composition and Dynamic Views
- Geo-Coordination
- Print Organizer
- Customization
- Rendering and Animation
- Workgroup Collaboration

Commercial Release Version number –
08.11.05.17

Complete What's New List

- **Application Window Layout Changes**

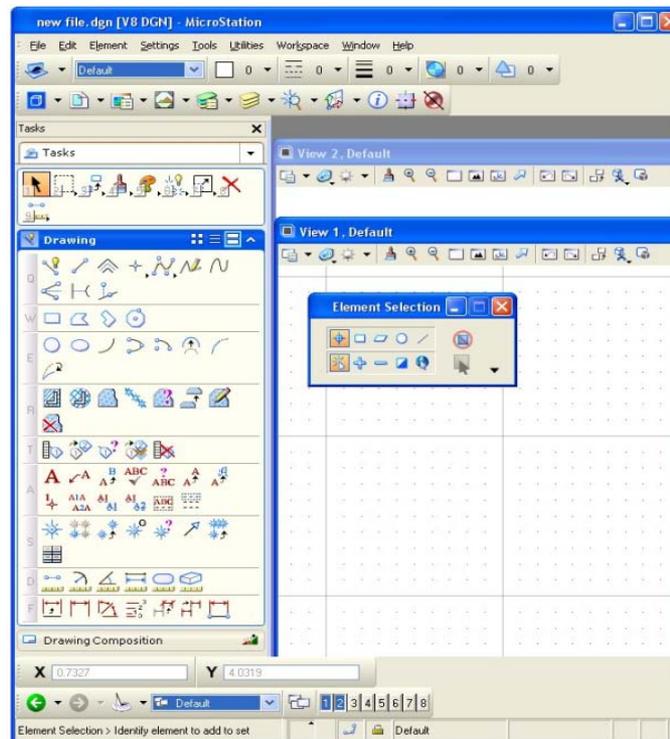
- Menu Changes
- 3D Modeling Enhancements
- AutoCAD Interoperability
- Auxiliary Coordinate Systems Update
- Change Attributes Enhancements
- Color Enhancements
- Detailing Symbols Enhancements
- Dynamic Views
- Format Interchange Enhancements
- Geographic Coordinate System Support
- Global Origin Enhancements
- Global Positioning System Device Support

- **Graphics Display Enhancements**

- Levels Enhancements
- Models Enhancements
- Named Expressions
- Printing Enhancements
- Project Explorer and Link Set Update
- Raster Manager Enhancements
- References Enhancements
- Selection Enhancements
- Sheet Composition Enhancements
- Task Navigation Enhancements
- Text Enhancements
- User Interface Enhancements
- User Preferences Enhancements
- Views Enhancements
- Visualization Enhancements

Application Window Layout Changes

- The Tasks dialog is the default task navigation interface. This dialog is docked to left-hand edge of the application window.
- The Main task is embedded in the Tasks dialog



Menu Changes

Settings menu changes

- Display Styles dialog.
- Locks > Depth Lock is removed. It is no longer used.
- The Rendering submenus reorganized.
- New Rendering > Maxwell Materials.
- Snaps > Tangent From has been renamed Tangent Point.
- Snaps > Perpendicular From has been renamed Perpendicular Point.

Tools menu changes

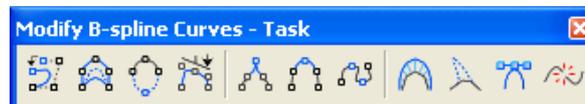
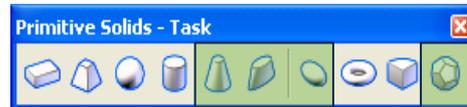
- The Tools menu has been reorganized.
- The Main submenu returns to provide more convenient access to child toolboxes
- The Geographic submenu provides access to geographic tools.

Utilities menu changes

- The Render has View, Fly Through, Solar Study, and Animation.

3D Modeling Enhancements

- Unified workflow for all 3D modeling tools
- Select edges and faces of solids and surfaces for modification
- Interactive handles to control 3D objects during creation
- 3D Primitives
 - Pyramid
 - Elliptical Cone
 - Ellipsoid
 - Polyhedron
- Dome Surface
- B-Spline Curve Tools
- Edit Weights
- Edit Kinks
- Edit Knots
- Edit Nodes
- Curve Handlebar
- Split Curve
- Dedicated creation tools for Solids and Surfaces
- Solid by Extrusion
- Solid by Revolution
- Solid by Extrusion Along
- Surface by Extrusion
- Surface by Revolution
- Surface by Extrusion Along
- Solid modeling creation and modification tools
- Linear Solid
- Replace Face
- Surface modeling creation and modification tools
- Loft Surface by Vertices
- Surface by Edge Curves
- Surface by Corner Points
- Surface Handlebar
- Twist Surface
- Planar Slice
- Unroll Developable Surface
- Mesh modeling creation and modification tools
- Place Grid Mesh
- Developable Mesh from Curves
- Convert Mesh to Surface



AutoCAD Interoperability

- In the MicroStation V8i Edition, support for reading and writing the DWG file format to AutoCAD 2009 is extended.

Color Enhancements

The following color books are provided in this edition:

- Natural Color Systems® (NCS)
- PANTONE® Goe

Detailing Symbols Enhancements

In the past, detailing symbols were controlled by the Detailing Symbols Settings dialog (Element > Detailing Symbols Settings). In this release, Detailing Symbols are now controlled by styles. The new [Detailing Symbol Styles dialog](#) replaces the Detailing Symbols Settings dialog (Element > Detailing Symbol Styles). This allows you to better control the level, symbology and use of cell bubbles, etc.

- **Some detailing symbol tools renamed**
- **Detailing symbol styles**
- **Detailing symbols integrated with dynamic views**
- **Detailing symbols integrated with saved views**

Dynamic Views

Dynamic Views is a general name that encompasses several related technologies which share a common goal of making model analysis and documentation more interactive and intuitive. One of these technologies allows clipping of models and generating section graphics on the fly. Section views, detail views, and elevation views are types of dynamic views.

Gone are the days when MicroStation designs were just static views, replaced by the ability to create live, intelligent sections of a design composition that update automatically (through the use of detailing symbols with smart fields and links) as the design evolves.

- **Create dynamic views from detailing symbols**
- **Control dynamic sections with detailing symbols**
- **Attach dynamic view as references for model and sheet composition**
- **Associate dimension to dynamic volumes and sections**
- **Control display of dynamic volumes and section using display styles**
- **Create dynamic views with clip volumes**

Format Interchange Enhancements

Open supported raster file formats directly

- Now you can open raster files the same way that you open DGN files, using the File > Open menu item and using the File Open dialog.
- You cannot have more than one raster file open at a time. If you open a raster file when another one is already open, the first file closes. When a multi-page raster file is opened, all pages of the file are displayed side by side.
- Raster files always open as read-only.
- To change the filter, select Common Raster Formats or Common Geo Ref Raster Formats from the Files of type list.

Geographic Coordinate System Support

MicroStation V8i contains new Geo-Coordination features. These features let you specify the position of your design contents on the earth's surface. Once that position is established, the design can be easily coordinated with other data for which the geographic location is known.

Apply geographic coordinate system from a coordinate system library

- A geographic coordinate system (GCS) can be selected from an extensive library of predefined GCS's. This is useful when you have already drawn data in a GCS and you want MicroStation to be aware of that GCS, or if you need to re-project data in a GCS to a different GCS. You can also use the library to designate the Geographic Coordinate System you intend to use for a new file.

Apply geographic coordinate system from a source DGN file

- The GCS used in a model of another design file can be used in your file, even if you don't have the source file attached as a reference.

Apply geographic coordinate system from an attached reference file

- A correctly oriented reference can be used to quickly select a GCS for your active model. The reference can have a standard GCS or a computed Azimuthal Equal Area GCS.

Apply master geographic coordinate system to attached reference files

- A GCS can sometimes be assigned to directly attached references based on the GCS assigned to the current model.



Geographic Coordinate System Support

Attach reference file using geographic coordinate system transform

- When MicroStation is aware of the geographic location of the data in a model, geographically aware data can be conveniently referenced. MicroStation knows the location and orientation of both models and can calculate the coordinates of any point in the reference model in the master model.

Attach reference file using AEC coordinate system transform

- The geo-referencing method Geographic – AEC Transform calculates the linear transform that gives the best approximation to the results you would get by performing the full re-projection algorithm. The approximation is acceptable for smaller scale data. The primary advantage of this geo-referencing method is that it gives the same performance as any other reference attachment since re-projection is not necessary.

Set geographic coordinate system as ACS

- When a geographic coordinate system is assigned to a model, that coordinate system appears in the Auxiliary Coordinate System dialog. When it is made the active Auxiliary Coordinate System, it is possible to enter data to MicroStation in Longitude, Latitude format, and you can set coordinate readout to show Longitude and Latitude.

Global Origin Enhancements

A new Global Origin dialog displays when you key in GO= or ACTIVE ORIGIN. Its two options let you define coordinates for a monument point, to relocate the global origin, or you can set it back to the default position at the center of the design plane.

Global origin settings by monument point

- The Monument Point option for Mode, in the Global Origin dialog, lets you input values for x, y, and z (for 3D), which are located at the monument point that you select in the model.

Global origin settings by design plane center

Global Positioning System Device Support

MicroStation contains an interface to Global Positioning System (GPS) devices. The Global Positioning System consists of a constellation of satellites in earth's orbit that broadcast radio-navigation signals from which GPS devices can calculate reliable positions on a cost-free, continuous, worldwide basis. Please refer to <http://www.gps.gov/> for more information.

- **Track GPS position in MicroStation**
- **Create line string based on GPS device input**
- **Place data point based on GPS device input**
- **Center View based on GPS device input**

Graphics Display Enhancements

A display style consists of a render mode and optional settings and overrides that you can specify. Display styles are created and managed in the [Display Styles dialog](#). Additional display modes are provided by default.

- **Display styles**
- **Display style options**
- **Set the display style of views, saved views, and dynamic views**
- **Create, copy, and delete display styles**
- **Standard display styles**
- **Improved hidden line display mode**

Levels Enhancements

Enhancements to the Level Manager include ways to simplify the use and manipulation of levels and level numbers.

- **Right-click jump to active level in Level Manager**
- **Auto(System)–generated verses user-assigned level numbers**

Models Enhancements

The enhancements to Models include additional viewing capabilities, Project Explorer integration with the Models dialog, and sheet name display in the Models dialog.

- **View different models from the same file in each view**
- **Project Explorer integration in Models dialog**
- **Models dialog displays the sheet name**

Printing Enhancements

- **Print Organizer**
- **Hierarchical organized print sets**
- **Individual print definition settings**
- **Print definition multi-edit**
- **Print styles**
- **Project Explorer integration**
- **Named expressions support**
- **PDF output with hierarchical bookmarks**
- **Print preview**
- **In-place print definition editing and set composition**
- **Print Set File (PSET)**
- **Replaces Batch Print functionality**
- **Single Sheet Printing**
- **Plot files migrated from PLT to PLTCFG**
- **Print Definition files**
- **Default TIFF monochrome compression is RLE**
- **Revised Print dialog preferences**
- **Additional print attributes**
- **Revised Print dialog preferences**
- **Additional print attributes**
- **Non-rasterized Hidden Line Removal**
- **Print configuration variables**

Raster Manager Enhancements

The changes and enhancements in Raster Manager are designed to improve the performance of Raster Manager's attachment and manipulation tools and options.

- **Attach raster from Web Map Servers**
- **Configure raster display to utilize independent process**
- **Geographic coordinate system support**
- **Drape raster images**
- **iTiff64 format support**
- **Configuration variables for IMG files**

References Enhancements

A major enhancement to references is the ability to edit a reference from within the active model. In addition, the active model's annotation scale applies to annotations in references.

- **Activate Reference for in-place editing**
- **References support active model annotation scale**
- **Detail scale**
- **Synchronize with saved view**
- **Drawing title**

Selection Enhancements

Enhancements to selection include additional options on the Element Selection tool and drag support on the manipulation tools.

- **Expanded Element Selection criteria**
 - Text Styles
 - Dimension Styles
 - Multi-line Styles
 - Transparency
 - Display Priority
- **Drag selection support during manipulate commands**

Sheet Composition Enhancements

Enhancements in this area allow you to create sheet models more easily and to manipulate their boundaries.

- **Drawing Composition workflow task**
- **Manipulate the Sheet Boundary**

Task Navigation Enhancements

The Tasks dialog has been updated to allow you to work with tasks and tools more easily.

- **Integrated Main tools in Tasks dialog**
- **Work flows**
- **Include tasks within tasks**
- **Each task can define a customized Main task**

Text Enhancements

- Placeholder fields
- Change Case by selection set or fence
- Text Style dialog enhancements
- Distances relative to text height
- Multi-select to edit styles
- Property pane on Advanced tab
- Advanced tab allows comparison between styles
- Word Processor enhancements
- Insert Field, Subscript, and Superscript icons
- Right-click to change case
- Font Enhancements
- Font configuration file
- Font configuration variables
- Edit Text tool retains text settings
- Find/Replace Text supports data fields
- ISOREC font #27 added

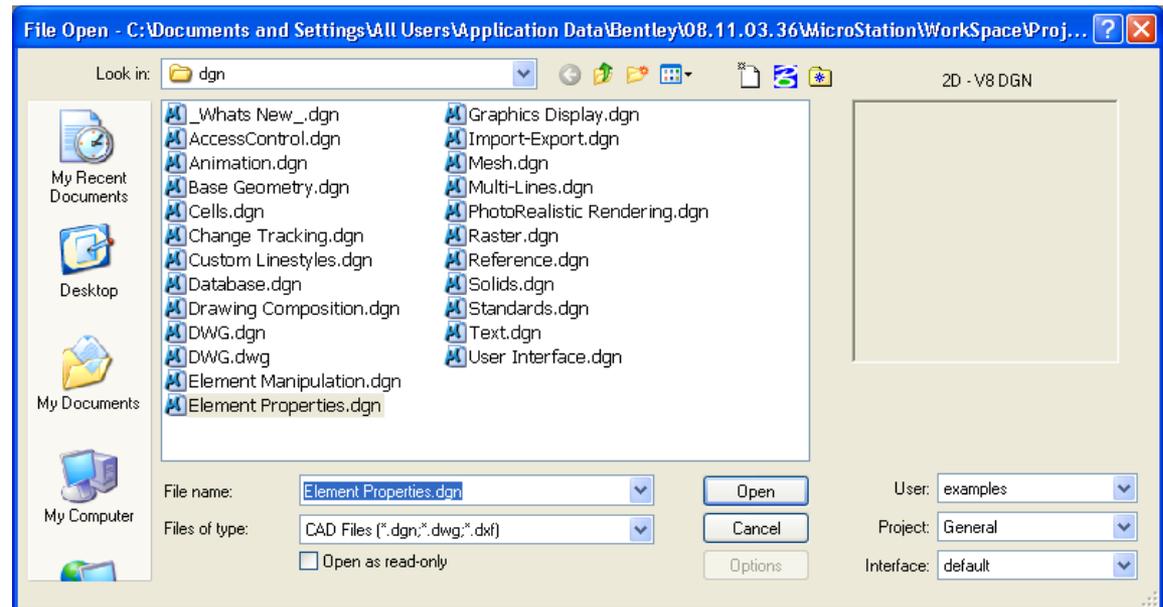
User Interface Enhancements

- **Right-click context menus based on named expressions**
- **Show / hide support in Tasks dialog**
- **Show / hide support in status bar**
- **Coordinates display in status bar**
- **Locks dialog**

User Interface Enhancements

MicroStation Manager is renamed

- The MicroStation Manager has been renamed to File Open



User Preferences Enhancements

Preference options for the Raster Manager, Reference and View Options categories have been added.

- **Raster Manager**
 - Disable Delete Element tool on Selected Rasters
 - Display Raster Using an Independent Process
 - Display Raster Border
 - Manage memory usage for raster files
- **Reference**
- **Control active reference override color**
- **View Options**
- **Design model background color**
- **Sheet model background color**
- **Element highlight color override**
- **Selection set color override**

Views Enhancements

Saved views can now be displayed as a graphical element within design and sheet models. Once displayed, a saved view can be selected and manipulated like a standard element. The View Attributes dialog is enhanced and expanded to include sections for Presentation and Clip Volume Settings.

- **Manipulate saved view with modification tools**
- **Modification to a saved view graphically**

View Attributes dialog

The View Attributes dialog allows you to apply a selected display style to a specific view or to all views. Added sections allow you to set global brightness, apply a saved view to a model, and view the forward, back, cut, outside clip volume.

- **Control presentation, view setup, and clip volume settings**
- **Display forward, back, cut, outside clip volume**
- **Apply display styles to clip volume**

Visualization Enhancements

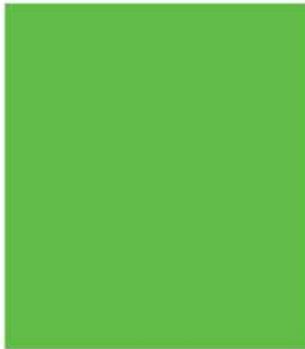
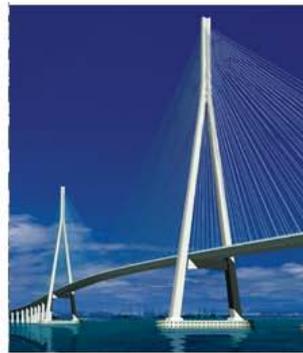
The Visualization section has revamped with all tools reorganized into six toolboxes that are accessed from the Visualization toolbox.

- Each of the Visualization toolboxes contain tools pertinent to an area of visualization.
- Render — to render a view, save images to disk, save panoramas, query illumination, or create render setups.
- Lights — to place lights or sky openings, manage lights, or create light setups.
- Cameras — to set up a view camera, or view, or to match a view to a photograph.
- Materials — to define, apply, manipulate, query, or preview materials, and to manage environment maps.
- Material Projections — to attach, manipulate, or remove, material projections.
- RPC tools — to place or edit ArchVision RPC cells.
- **Luxology. Luxology. Luxology ...**

Luxology

- <http://communities.bentley.com/photos/luxology-gallery/default.aspx>
- <http://www.luxology.com/>
- You can choose Luxology as the render method and launch a separate process that renders images. Because Luxology rendering occurs outside MicroStation, you can continue to work with MicroStation during the rendering process.
- The Luxology-licensed rendering engine will eventually replace the current rendering engine for all high-end photorealistic rendering.
- The Luxology renderer is a fast, photorealistic rendering engine. It lets you generate images with lifelike detail. No time is wasted transferring data sets between the design environment and a separate rendering system requiring special training

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Thank you!

Ron Gant, Global Marketing Director
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