



YOUR  
VISIONS.  
PERFECTLY  
REALIZED.

**Vectorworks® 2014**  
FIND OUT WHAT'S NEW



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## COLOR KEY

Please refer to the guide to discover what features are in your Vectorworks product.

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# WHAT'S NEW IN VECTORWORKS 2014

We believe the art of design drives the entire creative process and, to that end, we are constantly striving to provide software solutions that enable designers to capture their ideas, develop them, and communicate them ... easily, accurately, and efficiently. Our tools will help you express your creative freedom while finding efficiencies to satisfy the growing demands on your time, your workflow, and your business.

For 2014, you'll find a host of improvements and new capabilities addressing the wide variety of design-oriented decisions and workflows. Whether it's better collaboration, more powerful 3D modeling, better rendering tools, more 2D graphic control, or the flexibility to automate or customize production work, Vectorworks® 2014 software will help you balance it all, on your terms.

## BETTER 3D MODELING

More and more designers not only visualize in 3D, but they model in 3D, too. Built on the industry's leading modeling kernel, Parasolid®, Vectorworks offers combined NURBS and solid modeling and allows users to spend less time working on tedious details, such as verifying accuracy and completeness, and more time actually designing. We continue to add to our 3D modeling capabilities in this release with a series of improvements. From persistent rendered 3D navigation and fast walkthroughs, to new twist and taper modeling tools and new X-ray Select technology, we're confident that if you model in 3D, you will love these latest capabilities.

### Fast Interactive Display

3D model interactions in Vectorworks software were typically performed in "wireframe" mode before, so you could enjoy the speed of walkthroughs, panning, zooming, etc. However, this render mode wasn't realistic enough for larger, and more complicated, models. With version 2014, navigation in all 3D views looks amazing with OpenGL, and you get real-world 3D feedback in all-solid rendered modes. The cache generated in OpenGL also improves navigation in other render modes. Plus, with our integrated rendering application, Renderworks®, you will enjoy interactive light aiming and faster OpenGL shadows by default. Now you can enjoy the rendered look of your model without sacrificing performance and speed.

F A L S D R

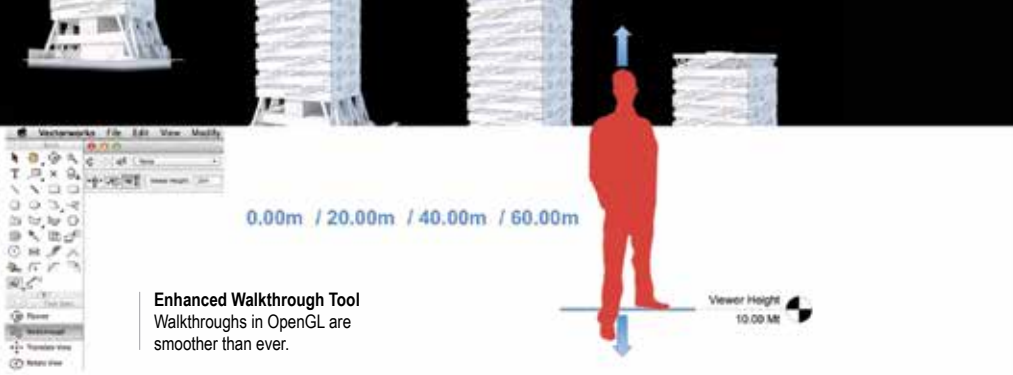


### Fast Interactive Display

Enjoy walking through, panning, zooming, selecting, moving, modifying, and more in rendered modes without sacrificing performance and speed.

### Taper Face Tool

Taper your 3D objects in one single step.



**Enhanced Walkthrough Tool**  
Walkthroughs in OpenGL are smoother than ever.

**Enhanced Walkthrough Tool**

Walkthroughs in OpenGL are smoother than ever; you can set the height of the viewer, and the tool modes are streamlined.

**F A L S D**

**X-ray Select (patent pending)**

The new X-ray Select shortcut enables you to temporarily see through solid objects in the area around your cursor.

**F A L S D**

**Rotated Plan and 3D Views**

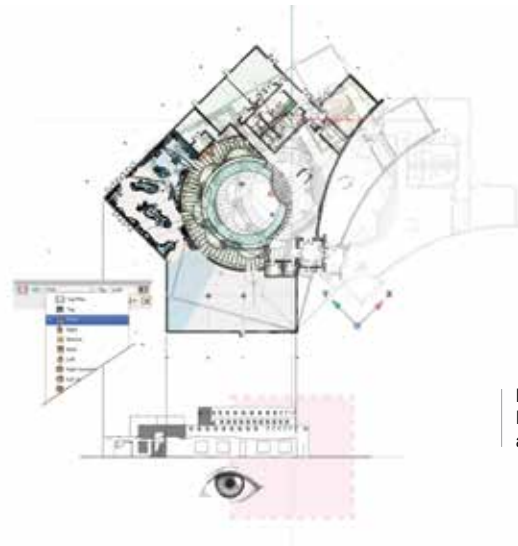
A new option now exists in 3D views, so you can easily switch between 3D and rotated Top/Plan views. This enhancement makes navigation faster and easier.

**A L S D**

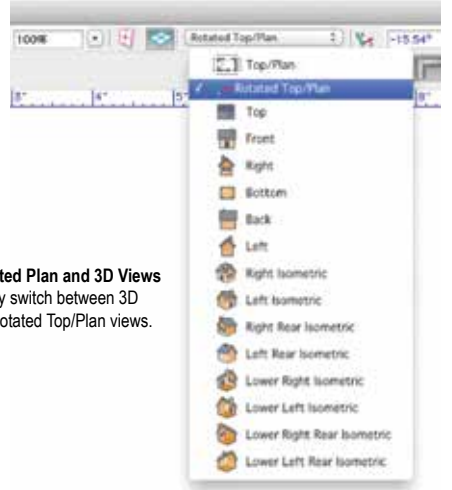
**Taper Face Tool**

With this new tool, you can taper the faces of 3D objects in a single step.

**F A L S D**



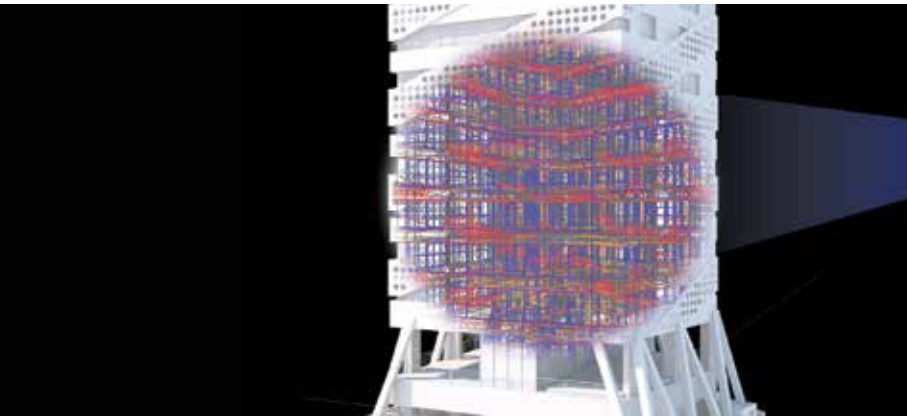
**Rotated Plan and 3D Views**  
Easily switch between 3D and rotated Top/Plan views.



**Twist Tool**

Use this amazing new tool to twist entire solids, solid faces, or NURBS surfaces to a specified angle.

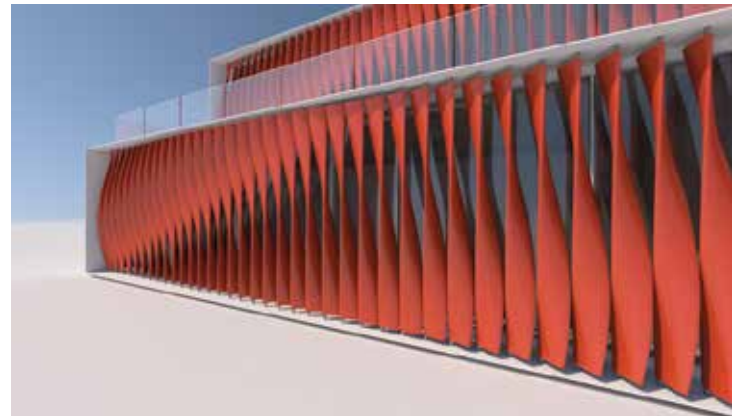
**F A L S D**



**X-Ray Select**  
See through solid objects in 2D or 3D, and select, modify, and interact with the model with this new technology.



**Twist Tool**  
Twist entire solids, solid faces, or NURBS surfaces to a specified angle.



## BETTER BIM

Building Information Modeling (BIM) brings together design, analysis, collaboration, and documentation for the benefit of all parties involved in a building project. While other programs force creative constraints upon the design, Vectorworks Architect software allows you to find your balance—to stay true to your artistic visions while making it easy for everyone involved in the project to efficiently work together. Through our modeling improvements, we continue to give you the best in creative freedom, and with version 2014, we've placed an emphasis on giving you greatly improved functionality for model documentation, drawing annotation, and drawing coordination.

### Option to Flatten Design Layer Section Viewports

This new option displays a flattened view of a section viewport on a design layer, similar to a section viewport on a sheet layer. This provides a snappable background for creating section drawings or details.

**A L S D**

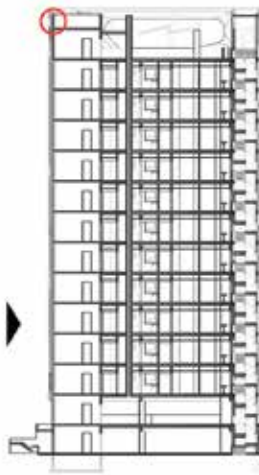
### Connection of Duplicated or Moved Walls

Preserve wall connections after editing. Wall connections are now maintained after a duplicate array, move by points, move, or nudge operation.

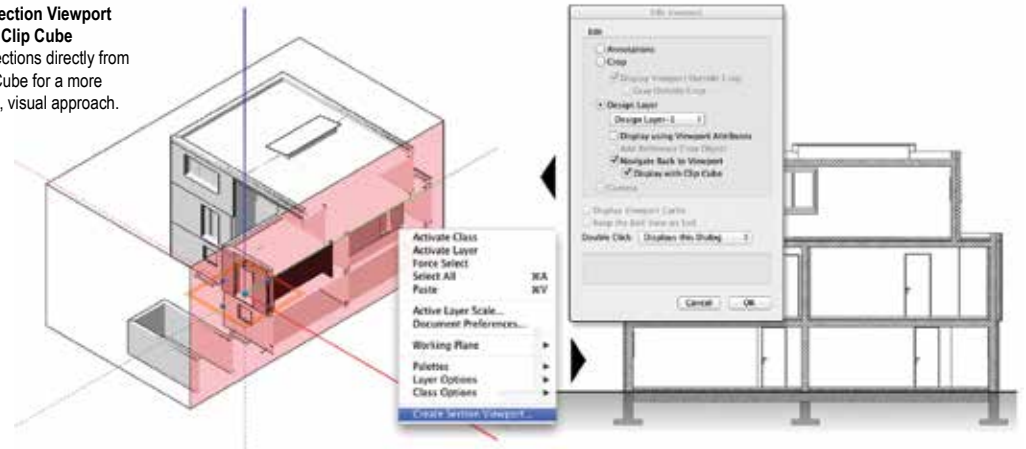
**A L S D**

### Option to Flatten Design Layer Section Viewports

Display a flattened view of a section viewport on a design layer.



**Create Section Viewport from the Clip Cube**  
Create sections directly from the Clip Cube for a more hands-on, visual approach.



### Create Section Viewport from the Clip Cube

You now have the ability to immediately create either design layer or sheet layer section viewports directly from the interactive Clip Cube. You can create these viewports, as well as edit them using the Clip Cube. This enhancement allows for a more hands-on, visual approach to creating specific sections from your model.

**A D**

### Roof Improvements

The Clip Surface command and the Clip tool now add holes directly to roof faces and roof objects. Additionally, you now have individual settings for each roof edge, giving you greater customization of gable configurations.

**F A L S D**

### Transfer Space Label Properties

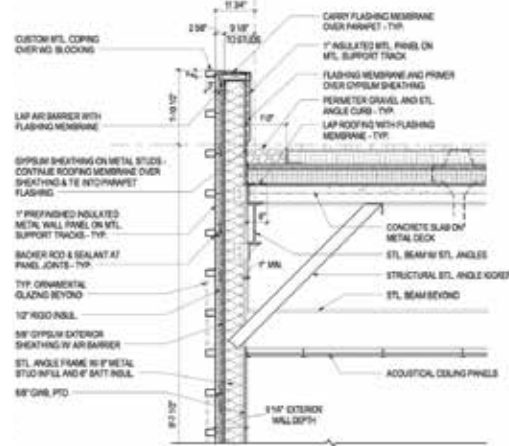
This feature is a huge time-saver in larger projects when needing to quickly copy and paste space label properties or create new spaces with the desired default properties.

**A D**

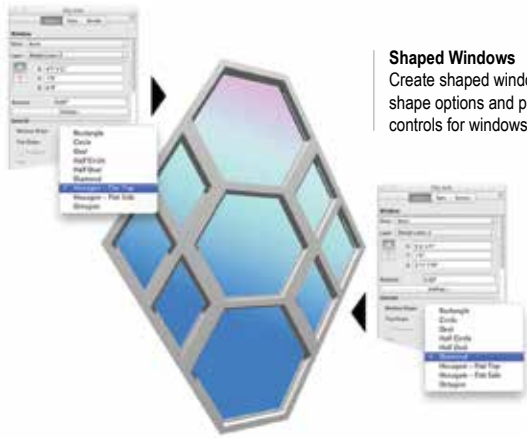
### Viewport Marker Settings

This feature lets you select your default section marker properties before you create the section viewport, removing an extra step in the process.

**A L S D**

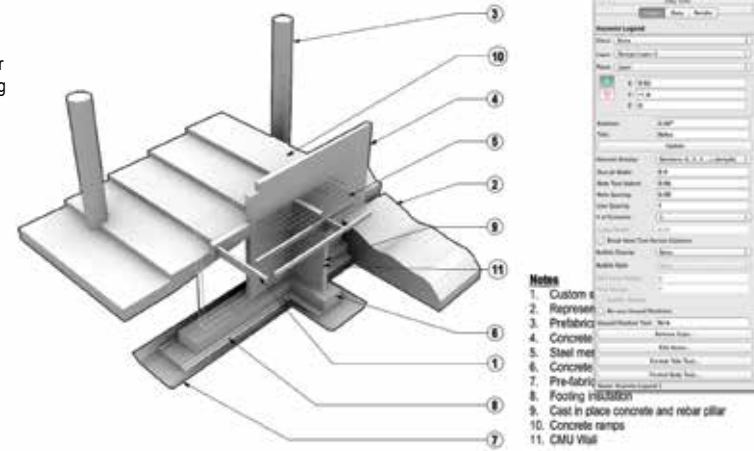






**Shaped Windows**  
Create shaped windows with new shape options and parametric controls for windows.

**Improved Keynote Legend Renumbering**  
You now have control over the automatic renumbering of the keynote legends.



**Third Stringer for Stairs**

Wide stairs may require a middle support under the risers. With this new capability, you can configure your stair objects with a third stringer.

**A D**

**Shaped Windows**

We've expanded our options to include a wide variety of window shapes. New shape options and parametric controls are available directly from the window settings.

**A L D**

**Vision Panels for Doors**

You now have control over top panels and vision panels for doors. If you need to create customized doors or replicate commercial-grade door configurations, you'll love this feature.

**A L D**

**Door and Window Hinge Direction Marker Option**

This new option in the door and window settings enables you to choose which way the hinge direction marker points, so you can comply with regional standards.

**A L D**

**Different Arrow Directions on Upper and Lower Floors for Stairs**

We know that different standards are required in different parts of the world. Some countries add stair arrows only when indicating the "up" direction, but many other countries require arrows pointing up or down in order for permits to be granted. Now you can do both.

**A D**

**Auto Hybrid Hidden Line Options**

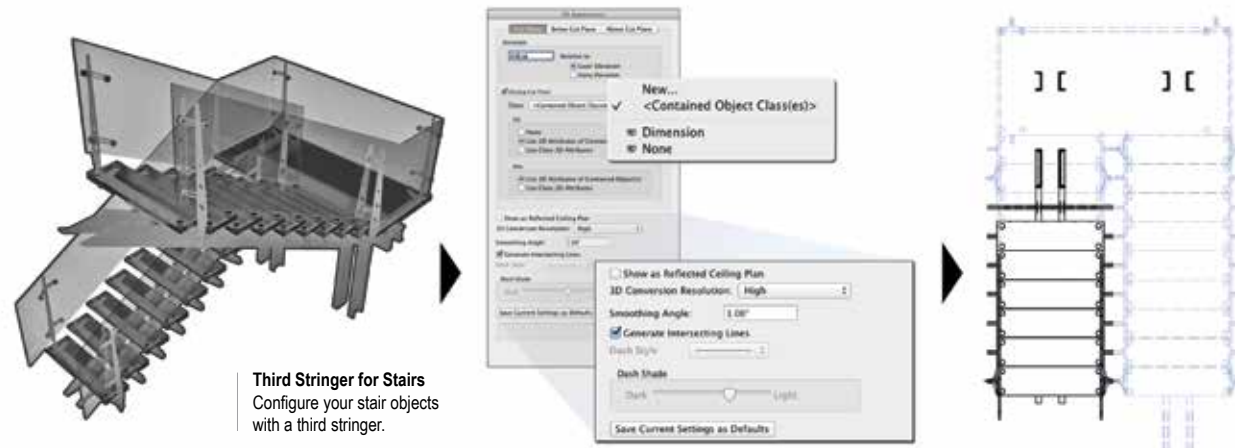
An auto hybrid object can create a hidden line representation of the object above or below the cut plane in plan view. New options have been added to the auto hybrid object to control the smoothing angle, intersection lines, and dash styles, resulting in better-drawn objects and overall improved performance.

**A L S D**

**Improved Keynote Legend Renumbering**

You now have control over the automatic renumbering of the keynote legends. New options keep placeholders in the legend when keynotes are deleted, preventing undesirable renumbering. The placeholders can easily be removed if needed.

**A L S D**



**Third Stringer for Stairs**  
Configure your stair objects with a third stringer.

## IMPROVED EFFICIENCY

With the 2014 version of Vectorworks software, we've introduced several feature enhancements that will greatly improve your efficiency by simplifying interfaces, exposing more options in context menus, providing improved dimensioning support for all objects, and delivering other requested improvements that add speed to your workflows.

### Crop Support for Bitmap Objects

For presentation layouts, this feature sells itself. You won't have to import an image into Vectorworks only to realize that parts of it need some trimming and masking. Instead, just use the Edit Crop command, and you're done.

**F A L S D**

### Visibility Tool Improvements

This new shortcut key gives you a temporary look at all layers or classes—even ones set to be invisible—without losing your current visibility settings.

**F A L S D**

### Select Similar Objects by Plane

The Select Similar tool has been improved to provide new benefits when working in 3D. Now you can easily select items on the same plane.

**A L S D**

### Font Preview

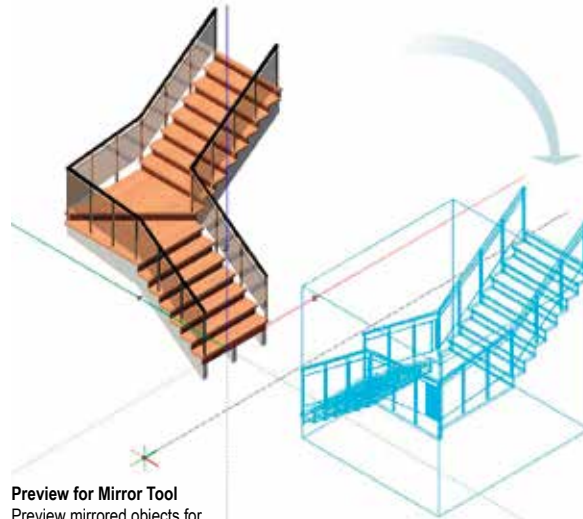
The Format Text and Create Text Style dialog boxes now preview the selected font, letting you explore different possibilities for text. Now you can save directly as a text style from the Format Text dialog box.

**F A L S D**

### Preview for Mirror Tool

The Mirror tool now displays a preview of the mirrored item for easy and quick placement.

**F A L S D**



**Preview for Mirror Tool**  
Preview mirrored objects for easy and quick placement.

### Align Leader Line Command Improvements

The Align/Distribute Leader Line command has been improved by giving you the option to align the leader line text without moving the shoulder points, making it easier to neatly display and align your notes. It also now supports alignment of the detail bubble object.

**F A L S D**

### Attributes Palette Opacity Preview

With the addition of a preview button in the Attribute palettes, you can preview and experiment with opacity to enhance your graphical presentation of 2D objects.

**F A L S D**

### Simplify 2D Polys Command

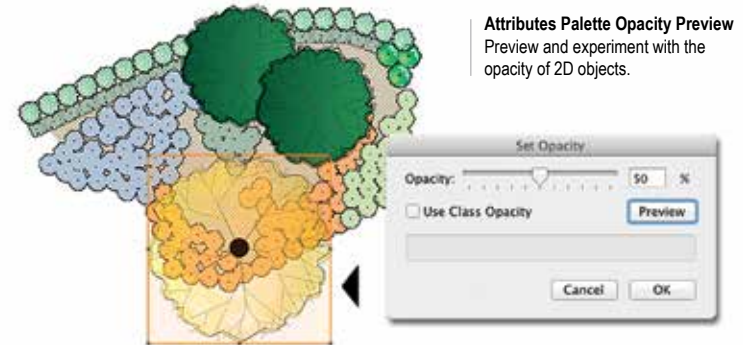
Simplify polylines, and 2D or 3D polygons from imported DWG files or polys with too many corner vertices.



### Simplify 2D Polys Command

The new Simplify Polys command will enable you to simplify polylines, and 2D or 3D polygons in the Vectorworks application. This command can be incredibly useful after importing complex site data, simplifying imported DWG files, or dealing with any polys with too many corner vertices.

**F A L S D**



**Attributes Palette Opacity Preview**  
Preview and experiment with the opacity of 2D objects.

### Reshape Tool Enhancements

Many incredible projects start with basic shapes and evolve into more intricate and interesting forms. The Reshape tool has been enhanced with a new mode that allows you to move an object's edge without changing the adjacent angles. Plus, you can now reshape rectangles.

**F A L S D**

### Context Menu for Faster Editing of Vertex-Based Objects

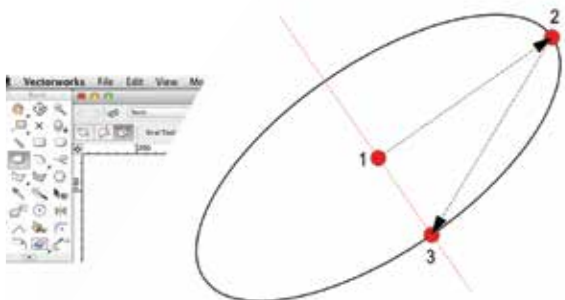
A new context command speeds up editing of vertex-based objects by letting you directly select a vertex in the Object Info palette rather than scrolling through multiple vertices to find it.

**F A L S D**

### Oval by Center Mode

The Oval tool's new mode allows you to draw ovals by the center point, as well as with the existing modes (by box or height/width).

**F A L S D**



**Oval by Center Mode**  
Now you can draw ovals by the center point.

### Flipped Symbol Show Others Alert

When you try to edit a symbol from a flipped instance, an alert message notifies you that you won't be able to show other objects in the editing window.

**F A L S D**

### Nudge Warning

Did I just nudge an object? Did I mean to do that, or was it an accident? Now, an optional, on-screen message alerts you when you nudge an object, and you can completely disable nudging, if you wish.

**F A L S D**

### Offset Nonaligned Dimension Text

Dimensions carry critical information about your drawing. With a new option for text offsetting, you can make certain that all dimension text is legible.

**F A L S D**

### Hide Out-of-Date Viewport Borders

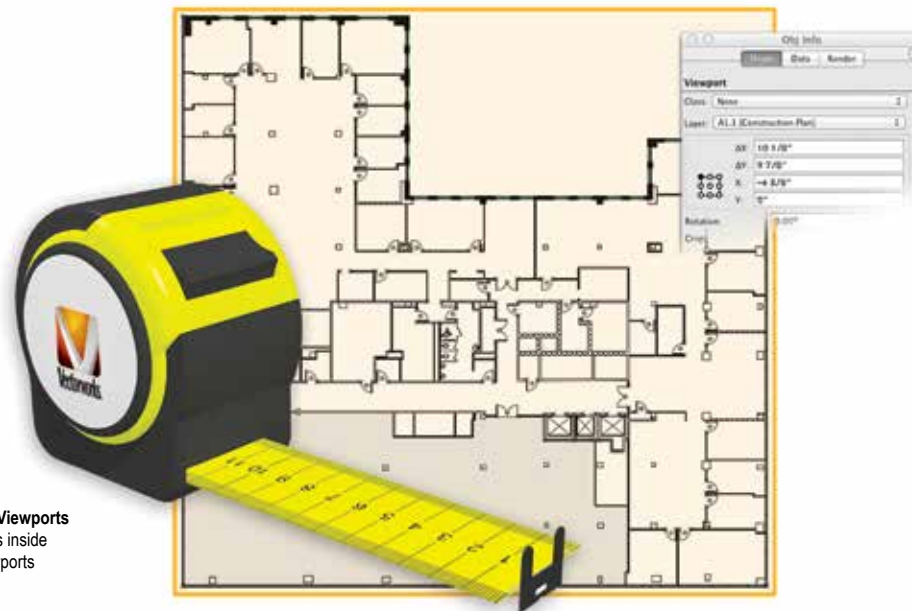
You can hide indicators you do not want visible during client discussions or presentations simply by turning off the out-of-date viewport border.

**F A L S D**

### Model Space Measurement for Sheet Layer Viewports

Now, you can easily make use of the Tape Measure tool in your construction sheets. Measure objects in sheet layer viewports, and the tool automatically displays both the true measurement of the object and its actual scale, even though sheet layers are always at a 1:1 scale.

**F A L S D**



**Measure Over Viewports**  
Measure objects inside sheet layer viewports at actual scale.

### Floating Datum Heads Up Display

A datum is one of those useful drawing anchors that provide temporal information. The floating datum heads up display provides this information on the fly.

F A L S D

### Symbol Dialog Box Improvements

Assign a class to your symbol at the time of creation.



### “New” Option for Classes and Layers

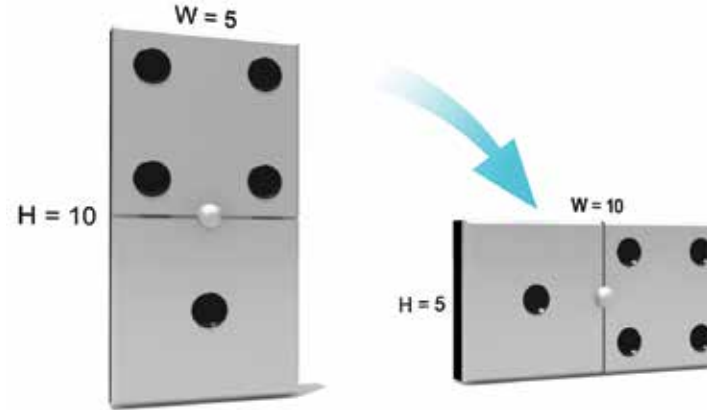
You can now add a new class or layer to your document directly from certain drawing operations. There is no need to pause what you are doing and open the Organization dialog box to add a class or a layer.

F A L S D

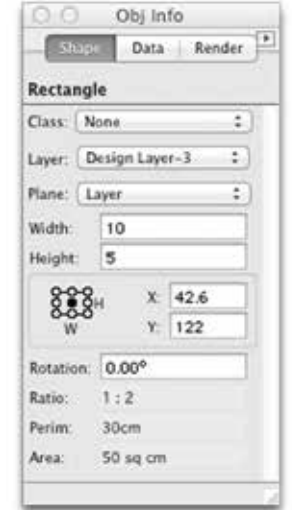
### Symbol Dialog Box Improvements

Doors, windows, spaces, and symbols can now be assigned to a class at creation.

F A L S D



**Rotation Sensitive Height and Width Labels**  
Easily identify correct height and width with rotation-sensitive labels in the Object Info palette.



### Consolidate Dimension and Chain Dimension Objects

To simplify dimensioning workflows, we've combined the Dimension and Chain Dimension objects into a single Dimension object that allows you to generate your dimensions with a single tool. There are also consistent options for modifying Dimension objects and related text in the contextual menu and Object Info palette.

F A L S D

### Rotation Sensitive Height and Width Labels

The “H” and “W” labels for the height and width of an object in the Object Info palette now rotate along with selected ovals, rectangles, and rounded rectangles, making it easier to identify the correct assignment for height and width values.

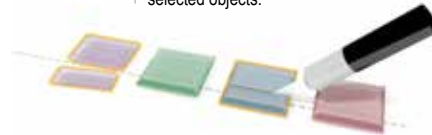
F A L S D

### New Criteria for Object Selection States

Now you can search Vectorworks objects by their visible selection state on the drawing.

F A L S D

**Selected Objects Mode for Split and Trim Tools**  
Trim or split only the currently selected objects.



**Selected Objects Mode for Split and Trim Tools**

A new mode in the Split and Trim tools allows you to trim or split only the currently selected objects. This improves selection accuracy when using these tools in your workflow.

F A L S D

**Show Z for 2D/3D Symbol on Object Info Palette in Top/Plan View**

The Z height of 2D/3D symbols and hybrid plug-in objects is now visible in the Object Info palette from both 3D and 2D views. This means you no longer have to guess or switch views to know the Z height of objects when in plan view.

F A L S D

**Mac Hidden Line Multi-Threading**

For Macintosh users, version 2014 now supports multi-threading for hidden line rendering, increasing speed by more than 40%.

F A L S D

**Help Menu Access to Online Resources**

Even more learning resources can be accessed directly from the Vectorworks Help menu. We've added links to the Getting Started Guides, Vectorworks Knowledgebase, and, for subscribers, links to the Vectorworks Service Select and Vectorworks Cloud Services web portals.

F A L S D R

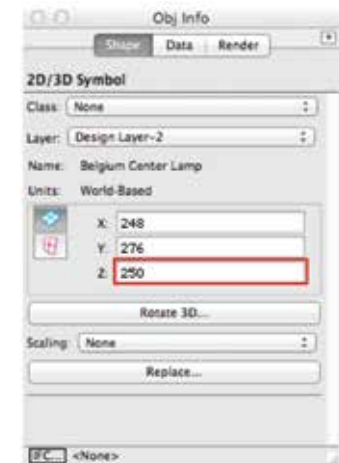
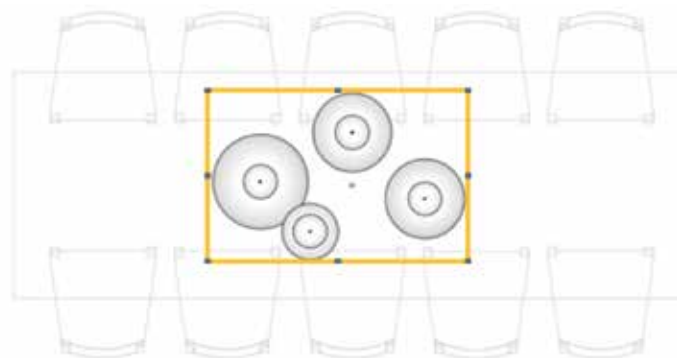
**Features Expanded to Additional Vectorworks Products**

The following features and functionality in Vectorworks have been expanded into more of our products:

- The Unified View command and Visibility tool are now available in Vectorworks Fundamentals.
- The Replace with Symbol command is now also available in Vectorworks Architect and Vectorworks Spotlight.
- IFC is now supported in Vectorworks Landmark.
- The Dimension Exterior Walls command is available in Vectorworks Landmark and Vectorworks Spotlight.
- The Choose Schedule command is now available in Vectorworks Spotlight.



**Show Z for 2D/3D Symbol on Object Info Palette in Top/Plan View**  
You no longer have to guess or switch views to know the Z height of objects when in plan view.



## GREATER FILE INTEROPERABILITY

One of the most significant factors in balancing your workflows is the need to share and collaborate with clients, contractors, engineers, and other stakeholders. A great strength of Vectorworks software is its unmatched dedication to having high-quality import and export capabilities with a long list of file format interoperability. With version 2014, you'll find new capabilities and improvements to help you balance the demand for collaboration and sharing, from a robust new Publish command to direct referencing support for AutoCAD® files.

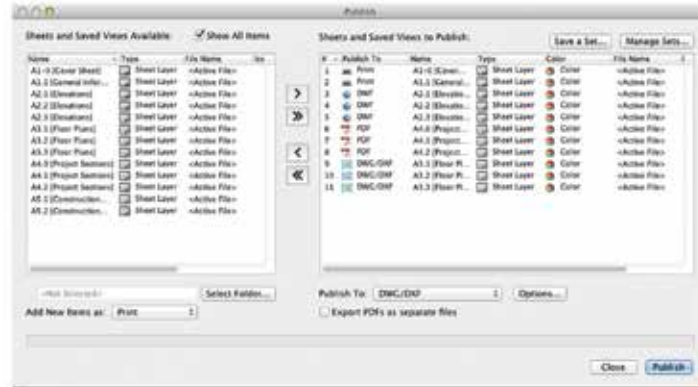
### Publish Command

A new Publish command gives you tremendous flexibility to customize and save drawing sets for when you need to issue them. With this new command, you can select specific views and sheets from files along with PDF, DXF/DWG, and DWF files, and save them as a named set for export or printing (Design Series required for batch printing and PDF export). Managing your publishing settings has never been easier.

F A L S D



**Publish Command**  
Managing your publishing settings has never been so easy.



### IFC Enhancements

Vectorworks offers BIM practitioners added interoperability through improvements to IFC-based workflows. This includes certification of the product to deliver high-quality architectural models and the ability to receive IFC models from structural and building services design partners with the highest fidelity.

- More workflows are automatically supported with two new IFC model view options for use with building energy simulation and analysis from IES VE.
- IFC data is now an integral part of Vectorworks' database worksheets, allowing users to search for, and report on, Vectorworks BIM objects with IFC data already assigned.
- Vectorworks 2014 has enhanced support for IFC zones with a new command.
- With ifcXML support, Vectorworks 2014 users are able to exchange BIM data with even more applications and workflows in the building industry.

**F A L S D**

### Recalculate Worksheets Prior to Printing

A new print and PDF export option automatically calculates worksheets prior to printing and exporting (PDF export requires Design Series).

**F A L S D**

### Option to Export from All Visible Objects in Layers in Export 3DS and Export Parasolid X\_T Commands

You now have even more control over what objects get exported to 3DS (Design Series required) Parasolid X\_T.

**F A L S D**

### New Commands to Split and Merge Record Formats

Two new commands allow you to manipulate the data inside a Vectorworks document, giving you more control over the information associated with complex data files such as shape files. With the merge and split options, you'll never lose any record data during the operation.

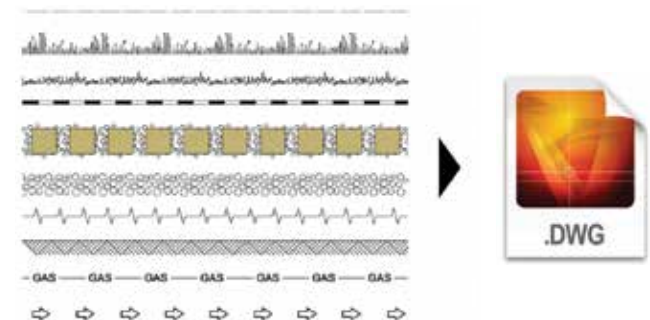
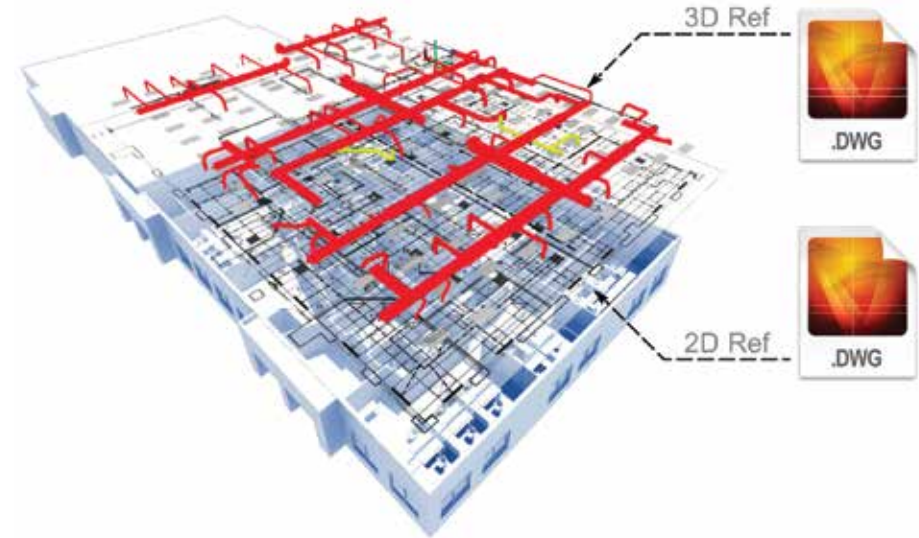
**F A L S D**

### DXF/DWG Improvements

- **Direct Referencing DXF/DWG or DWF Files**  
You can now directly reference DWG/DXF or DWF files in your Vectorworks project, making collaboration and team workflows that much simpler.
- **DXF/DWG and DWF Export of Complex Line Types**  
The Export DXF/DWG and Export DWF commands now support complex and custom line types when exporting from Vectorworks, resulting in a cleaner and more accurate experience for your collaborator.
- **DXF/DWG and DWF Support for Named Colors**  
This new capability enables the color names to match in Vectorworks and AutoCAD software.
- **Save DXF/DWG and DWF Preferences in the Import Log File**  
The new log file provides a record of your DXF/DWG and DWF import settings to assist you in achieving consistent results with respect to your DXF/DWG and DWF imports.

**F A L S D**

**Direct Referencing DXF/DWG or DWF Files**  
Directly reference DWG/DXF or DWF files in your Vectorworks project.



**DXF/DWG and DWF Export of Complex Line Types**  
There is a cleaner and more accurate experience for your collaborator with support for exporting custom line types.





## SITE DESIGN

As a landscape professional, balancing your design process and your technological needs has never been easier than with Vectorworks Landmark software. The 2014 release can help you achieve a custom appearance for your 2D site designs while simultaneously constructing a 3D site information model. Plus, improvements such as enhanced plant shadows will help you create impressive client presentations.

### Plant Shadow Improvements

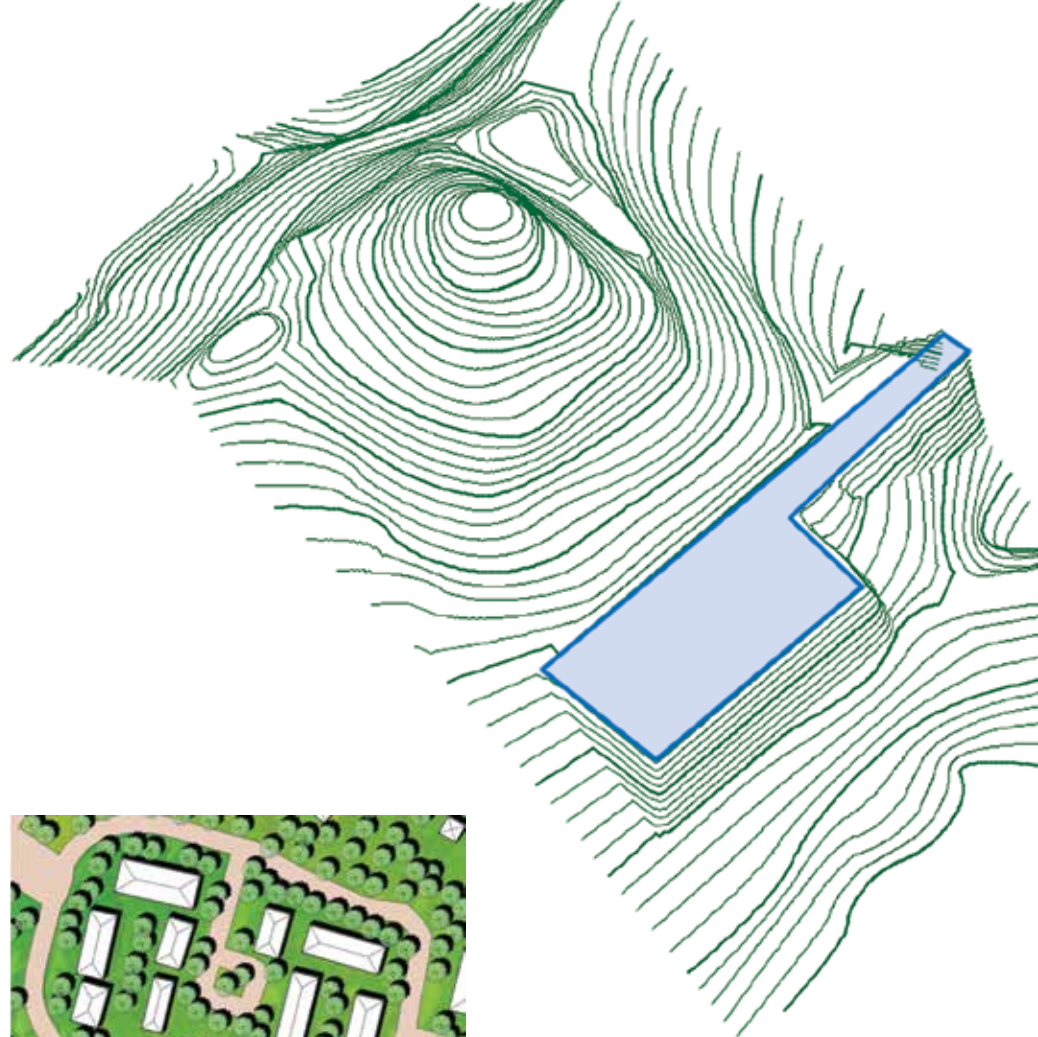
With the enhanced plant shadows, you'll find it faster and easier to create presentation-level site plans with interactive, dynamic shadows on your plant objects. You can apply a document-wide shadow style to all plants on your drawing while also creating custom shadow settings for individual plants, as needed.

**A L D**

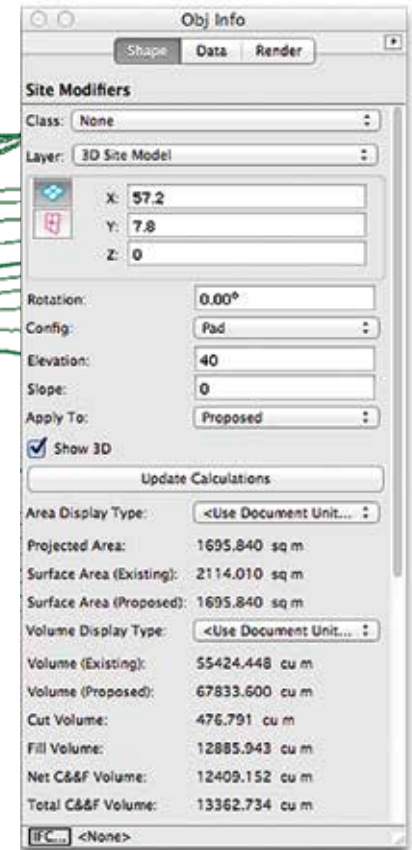
### Site Modifier Area and Volume Display

The site modifier now has an option for obtaining specific area and volume information as a complement to the overall site information. This new option is beneficial for focusing a query on an isolated area or region of a site model.

**A L D**



**Site Modifier Area and Volume Display**  
Obtain specific area and volume information on an isolated portion of a site model.



**Plant Shadow Improvements**  
Create presentation-level site plans with interactive, dynamic shadows on your plant objects.

### Custom Plant Tag Edit

The custom plant tag can now be created by selecting predefined tag field values instead of having to remember keywords for the plant record fields.

**L D**

### Fit Walls to Site Model Objects

The process for accurately fitting walls to the site model is simpler and very fast with this new option.

**A L D**

### More Accurate Send to Surface Command

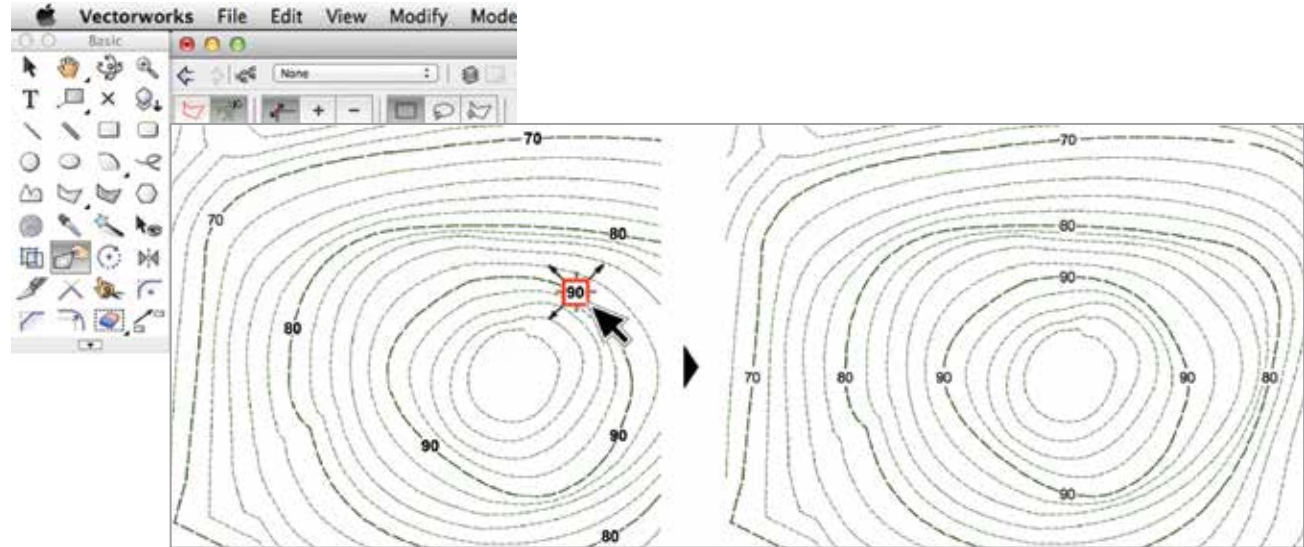
The Send to Surface command has been improved to provide greater accuracy when placing pads and site walls upon the site model surface.

**A L D**

### Plant Definition Access Improvement

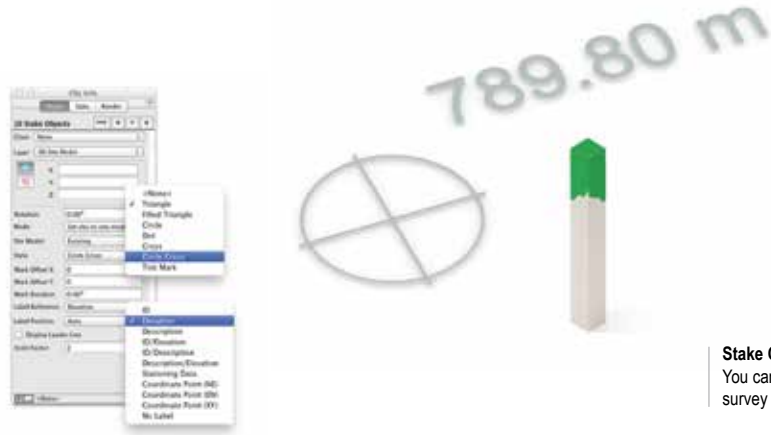
You now have easy access to edit plant definitions from every pane in the Plant Settings dialog box.

**L D**



### Site Model Contour Label Position Edit

Position and reposition contour labels at will with the Reshape tool.



### Stake Object Improvements

The stake object has been improved to provide you with increased graphic representation and support for additional surveying conventions. You can sequentially track IDs for survey points and spot elevations.

**A L D**

### Stake Object Improvements

You can sequentially track IDs for survey points and spot elevations.

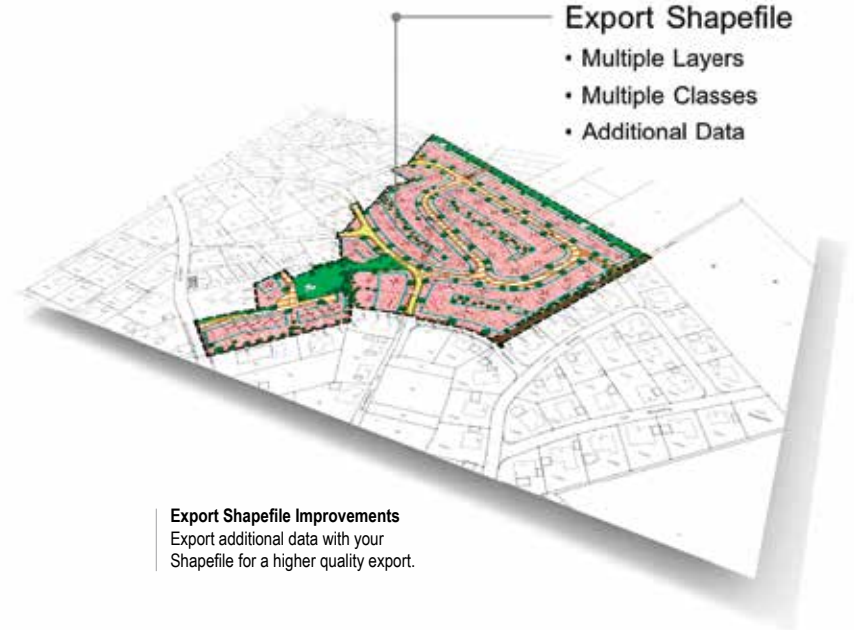
### Site Model Contour Label Position Edit

The new site model contour label position functionality gives you the freedom to position and reposition contour labels at will with the Reshape tool for legibility, annotation, and office standards. This new addition can be applied to drawing types such as site surveys, grading plans, site plans, and planting plans.

**A L D**



**Massing Model Improvements**  
Apply both document-wide and individual custom shadow settings to massing models.



**Export Shapefile Improvements**  
Export additional data with your Shapefile for a higher quality export.

**New Option to Suppress the Location Adjustment for Georeferenced Data**

This new option provides greater selectability and power in sharing data from a .VWX file, and it allows for an increased number of layers and classes with record formats in a single .SHP file. This may benefit GIS users, planning departments, land use planners, and urban designers who are fulfilling and/or enforcing jurisdictional requirements.

**A L D**

**Massing Model Improvements**

With support for massing model shadows, you can work with smart objects in 3D while simultaneously achieving the desired visual results for 2D plan representation. And like plant shadows, you can also apply both document-wide and individual custom shadow settings to massing models. Additionally, you now have the ability to specify floor usage data in a massing model record. The floor usage data can be reported by using a new worksheet sub-string function, giving you the ability to use massing models for early design analysis in urban planning.

**A L D**

**New 2D Polys to 3D Contours Mode in Modify by Record Command**

A new mode in the Modify by Record command allows you to convert 2D polygons or polylines to 3D contours based on record data attached to the source polygons, giving you an efficient method of converting shapefiles into useable site modeling elements.

**A L S D**

**Export Shapefile Improvements**

The Export Shapefile command now supports the export of:

- Objects in multiple classes
- Objects in multiple layers
- Additional object data such as object location, layer name, class name, color attributes, and object name

**L D**



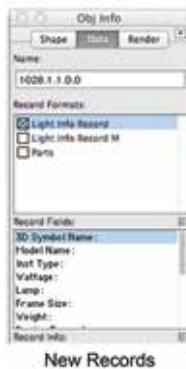
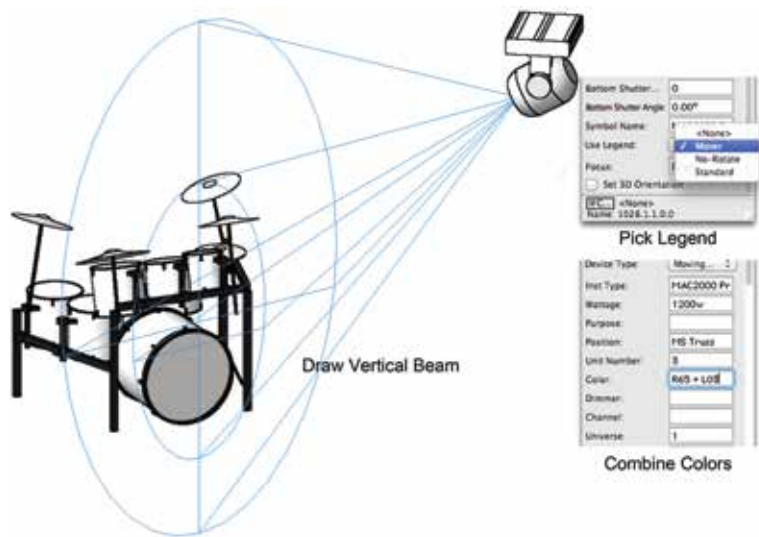
## ENTERTAINMENT DESIGN

In the entertainment world, the most successful performances are the result of teamwork, when all of the designers collaborate on an equal footing and contribute to the same goal. With Vectorworks Spotlight 2014 software, we can help you be a key component of that team. New capabilities and improvements to lighting devices, documentation features, and graphic controls for event plans all help you balance the need for individual creativity with the requirement for synchronized and accurate design information.

### Lighting Device Improvements

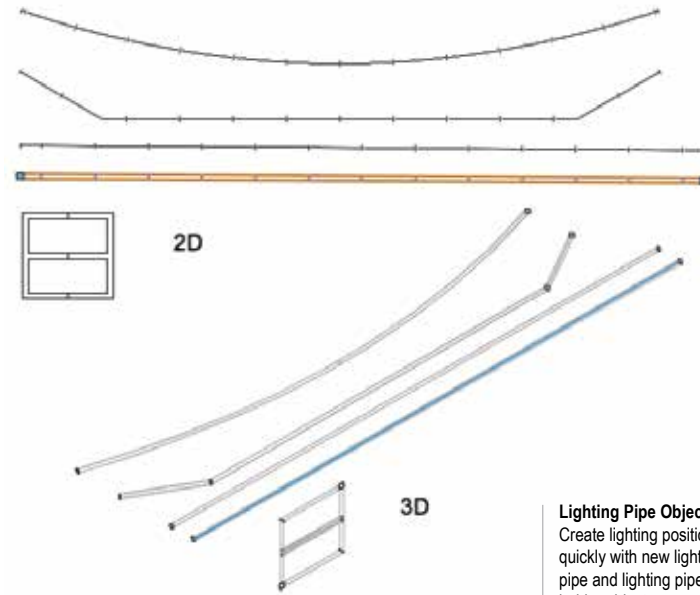
The lighting device object has received a serious boost with features that are sure to make you more efficient. It's no longer necessary to try to remember label names when assigning a label legend. Instead, use the new pop-up on the lighting device. See the full height of the beam clearly at the focus point. Freely mix your own information with the built-in information using customized data records. See the simulated color of multiple gel "sandwiches."

S D



### Lighting Device Improvements

The lighting device object has received a serious boost with features that are sure to make you more efficient.



**Lighting Pipe Objects**  
Create lighting positions quickly with new lighting pipe and lighting pipe ladder objects.



### Lighting Pipe Objects

We teamed up with Joshua Benghiat Lighting Design from our Vectorworks Developer Network to create new lighting pipe and lighting pipe ladder objects to bring you exciting new options and facilitate the creation of lighting positions.

S D

### New Instrument Summary Object

Based on the original tool designed by Joshua Benghiat Lighting Design, enjoy the flexibility to efficiently create and format instrument and position summaries with this amazing new plug-in object.

S D

### Select Focused Lighting Devices

Right-click on a focus point to select all the lighting devices assigned to the point.

S D

### Change Label Legend Reference Symbol

Change the label legend reference symbol directly from the Label Legend Manager.

S D

### Increased Precision for Secondary Angle Fields in Light Info Records

More precisely represent the beam angle of two axis beams with the draw beam feature.

S D

### Automatically Assign the Lighting Position Height When Converting

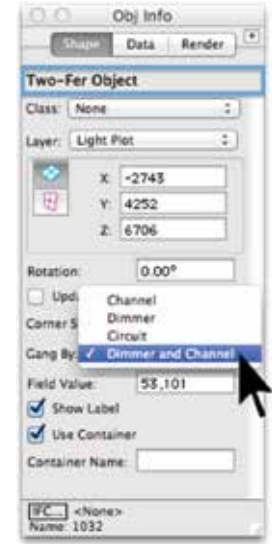
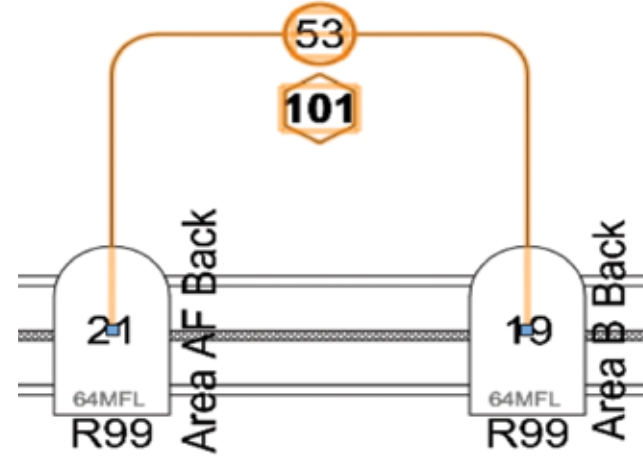
Vectorworks now assigns the trim height of lighting positions when converting a plug-in or symbol.

S D

### Create New Label Legend from Existing Lighting Device

Use this new command to create a label legend from any example that you made on an existing lighting device.

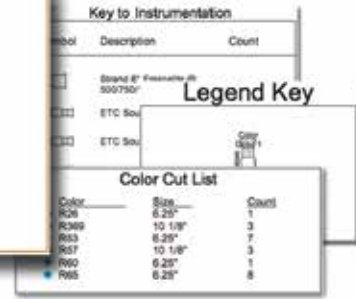
S D



**Two-Fer by Dimmer and Channel**  
Automatically sync the dimmer and channel on your two-fered lighting devices.



**New Instrument Summary Object**  
Efficiently create and format instrument and position summaries.



### Locate Label Legend in Resource Browser Context Menu

Quickly display the label legend in the Resource Browser by right-clicking on a lighting device and using this new context menu option.

S D

### Auto-Association for Convert to Accessory Command

Associate placed accessories to the lighting device with this new command.

S D

### Focal Point Selection Support for Create Event Seating Command

We've added a new option to the Create Event Seating command, so you can accurately lay out seating with rows aimed at a focal point. The focal point option is also available when editing a seating layout.

S D

### Two-Fer by Dimmer and Channel

On your dimmer per channel shows, automatically sync the dimmer and channel on your two-fered lighting devices.

S D

## SUPERIOR SCRIPTING

Using a generalized CAD application to address the unique circumstances of your design process or express your signature vision can require some patience. Scripting has always given some of our customers a way to balance their budgeted time and expenses while realizing their visions. It has also given our Vectorworks Developer Network the chance to provide specialized tools for our most creative designers. Now, Vectorworks offers the Python 3 programming environment for scripting, with its libraries extending far into the operating system, the Internet, analysis, visualization, and much more. Look forward to new dynamic, connected design tools from our developer network and the ability to create in-house helper apps for your own needs.

### Vectorworks Scripting with Python 3

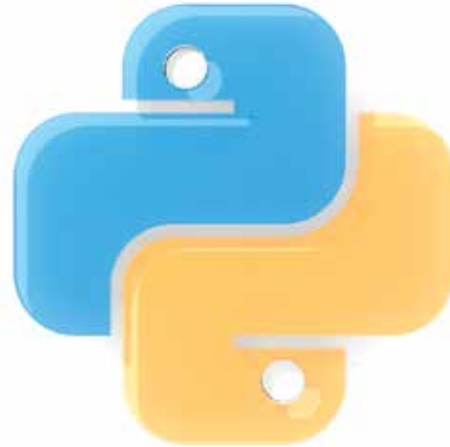
This new feature is setting the foundation for future generations of innovative Python scripters. With Python scripting, developers can create document scripts, as well as external plug-in parametric objects, tools, and commands.

**F A L S D**

### Plug-In Manager

You'll appreciate this organized and redesigned plug-in manager that offers consistency in managing Vectorworks-based scripts and plug-ins.

**F A L S D**



**Vectorworks Scripting with Python 3**  
Enjoy creating custom scripts, objects, and commands with the support of Python 3.

```

import vs
import sys
import os
import urllib.request
import urllib

import vglutils.libutils

vs.kibjobjectOverride = 1
vs.kibjCustomObjectCapabilities = 0

vs.kibjObjectCapabilities = 1
vs.kibjObjectProperties = 1
vs.kibjObjectData = 1
vs.kibjObjectEvents = 1
vs.kibjObjectMethods = 1
vs.kibjObjectHooks = 1
vs.kibjObjectHooks2 = 1

class CustomObject:
    def __init__(self):
        self.name = 'CustomObject'
        self.category = 'CustomObject'
        self.parameters = {}
        self.properties = {}
        self.data = {}
        self.events = {}
        self.methods = {}
        self.hooks = {}
        self.hooks2 = {}

    def setCustomObjectInfo(self, name, category, parameters, properties, data, events, methods, hooks, hooks2):
        self.name = name
        self.category = category
        self.parameters = parameters
        self.properties = properties
        self.data = data
        self.events = events
        self.methods = methods
        self.hooks = hooks
        self.hooks2 = hooks2

    def setProperty(self, name, value):
        self.properties[name] = value

    def setData(self, name, value):
        self.data[name] = value

    def setEvent(self, name, value):
        self.events[name] = value

    def setMethod(self, name, value):
        self.methods[name] = value

    def setHook(self, name, value):
        self.hooks[name] = value

    def setHook2(self, name, value):
        self.hooks2[name] = value

    def getCustomObjectInfo(self):
        return self.name, self.category, self.parameters, self.properties, self.data, self.events, self.methods, self.hooks, self.hooks2

    def getProperty(self, name):
        return self.properties.get(name, None)

    def getData(self, name):
        return self.data.get(name, None)

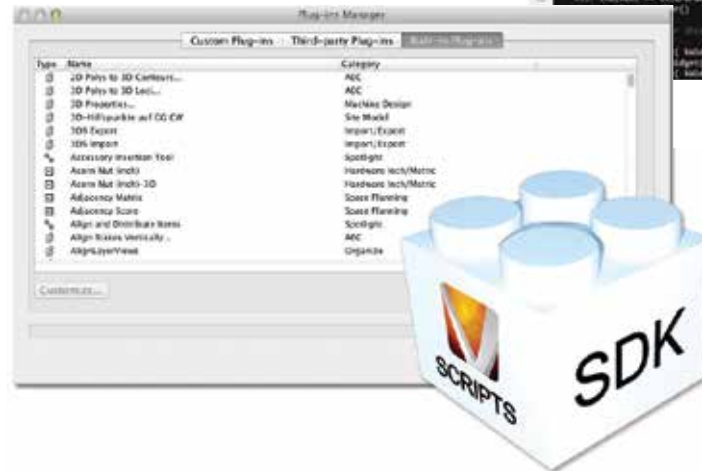
    def getEvent(self, name):
        return self.events.get(name, None)

    def getMethod(self, name):
        return self.methods.get(name, None)

    def getHook(self, name):
        return self.hooks.get(name, None)

    def getHook2(self, name):
        return self.hooks2.get(name, None)

    def __str__(self):
        return 'CustomObject: %s' % self.name
    
```



**Plug-In Manager**  
We've organized and redesigned the plug-in manager for easier access to your plug-in information.





## ROBUST RENDERING

In your business, you must often compete for work or present visualizations of your designs at various stages of the project lifecycle. A great advantage of the Vectorworks platform's integrated rendering application, Renderworks®, is that you can quickly create high-quality visualizations out of the box without having to be an expert or requiring extra time. And, with version 2014, we have two great new additions that will take your visualizations to a whole new level of quality.



### Displacement Mapping

Make even more realistic interior and exterior renderings with the new displacement mapping.



### Displacement Mapping

Current Renderworks users have never before seen rendering quality like what they'll get in version 2014. The new displacement mapping option gives you the ability to make even more realistic renderings with materials like grass, carpet, water, bricks, or stone.

R

### Images for Brick Shaders

Many great new images of bricks come with Renderworks and are ready to use and edit for texturing your designs. In addition, there are also new shaders, which enable you to control multiple images representing multiple bricks, along with having granular control over the gaps/grout between bricks or tiles.

R

## VECTORWORKS SERVICE SELECT

We've continued to invest in many improvements to the benefits our subscribers receive as members of Vectorworks Service Select to meet the ever-growing need for learning materials, Vectorworks content, and mobile computing. With version 2014, you'll notice a number of improvements, so log in to the Vectorworks Service Select portal today to begin taking advantage of these great benefits, or contact us to learn more about becoming a member.

### New Vectorworks Libraries

We've added a large variety of new Vectorworks symbol libraries and premium-quality texture libraries to help you augment your designs:



- Artinox & Franke Sinks
- **Arroway Textures™** Wood volume 1
- **Arroway Textures** Concrete volume 1
- **Arroway Textures** Tiles volume 1
- **Arroway Textures** Wood Flooring volume 1
- **Arroway Textures** Bricks
- **Arroway Textures** Stonework 1
- **Arroway** Image Fills 1
- B&B Italia Bend Sofa
- Bradley Fixtures and Accessories
- Girsberger Office Furniture
- Greenscreen® Trellising System
- Japanese Residential Appliances



- Landscape Rocks and Boulders
- Residential Kitchen Appliances
- RINN Textures
- Scaffolding
- Updated Altman lighting
- Updated DTS lighting
- Updated ETC lighting
- Updated Martin® lighting
- Updated Mole-Richardson lighting
- Updated Robe lighting
- Updated Wybron lighting
- Vitra Eames Furniture
- New VBvisual plants



### New Learning Materials

In the Training section of the Vectorworks Service Select portal, you will find more than 190 learning resources including videos and written material tailored to the different industries that Vectorworks software serves. Certain materials are focused on new users and teach the basics from the Vectorworks interface to how to use common tools and commands. Additionally, we offer a variety of in-depth topic tutorials that teach you recommended methods for applying efficient workflows. Whether you are a new user or are on your way to becoming an intermediate or expert user of Vectorworks software, you are sure to find something for you.

## VECTORWORKS 2014 FEATURE MATRIX

|  | F Fundamentals | A Architect | L Landmark | S Spotlight | D Designer | R Renderworks |
|--|----------------|-------------|------------|-------------|------------|---------------|
| <b>BEST IN 3D MODELING</b>                                     |                |             |            |             |            |               |
| Fast Interactive Display                                       | ✓              | ✓           | ✓          | ✓           | ✓          | ✓             |
| Enhanced Walkthrough Tool                                      | ✓              | ✓           | ✓          | ✓           | ✓          |               |
| X-ray Select (patent pending)                                  | ✓              | ✓           | ✓          | ✓           | ✓          |               |
| Taper Face Tool  | ✓              | ✓           | ✓          | ✓           | ✓          |               |
| Twist Tool   | ✓              | ✓           | ✓          | ✓           | ✓          |               |
| Rotated Plan and 3D Views                                      |                | ✓           | ✓          | ✓           | ✓          |               |
| <b>BETTER BIM TOOLS</b>  |                |             |            |             |            |               |
| Option to Flatten Design Layer Section Viewports               |                | ✓           | ✓          | ✓           | ✓          |               |
| Create Section Viewport from the Clip Cube                     |                | ✓           | ✓          | ✓           | ✓          |               |
| Connection of Duplicated or Moved Walls                        |                | ✓           | ✓          | ✓           | ✓          |               |
| Roof Improvements  | ✓              | ✓           | ✓          | ✓           | ✓          |               |
| Transfer Space Label Properties                                |                | ✓           |            |             | ✓          |               |
| Viewport Marker Settings                                       |                | ✓           | ✓          | ✓           | ✓          |               |
| Shaped Windows   |                | ✓           | ✓          |             | ✓          |               |
| Vision Panels for Doors  |                | ✓           | ✓          |             | ✓          |               |
| Door and Window Hinge Direction Marker Option                  |                | ✓           | ✓          |             | ✓          |               |
| Third Stringer for Stairs                                      |                | ✓           |            |             | ✓          |               |
| Different Arrow Direction on Upper and Lower Floors for Stairs |                | ✓           |            |             | ✓          |               |
| Auto Hybrid Hidden Line Options                                |                | ✓           | ✓          | ✓           | ✓          |               |
| Improved Keynote Legend Renumbering                            |                | ✓           | ✓          | ✓           | ✓          |               |

**F** Fundamentals**A** Architect**L** Landmark**S** Spotlight**D** Designer**R** Renderworks

## GREATER FILE INTEROPERABILITY

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| Publish Command   | ✓ | ✓ | ✓ | ✓ | ✓ |
| IFC Enhancements  |   | ✓ | ✓ |   | ✓ |
| Recalculate Worksheets Prior to Printing  | ✓ | ✓ | ✓ | ✓ | ✓ |
| DXF/DWG Improvements  | ✓ | ✓ | ✓ | ✓ | ✓ |
| Option to Export from All Visible Objects in Layers in Export 3DS and Export Parasolid X_T Commands | ✓ | ✓ | ✓ | ✓ | ✓ |
| New Commands to Split and Merge Record Formats  | ✓ | ✓ | ✓ | ✓ | ✓ |

## INTEGRATED, ROBUST RENDERING TOOLS

|                          |  |  |  |  |   |
|--------------------------|--|--|--|--|---|
| Displacement Mapping     |  |  |  |  | ✓ |
| Images for Brick Shaders |  |  |  |  | ✓ |

## IMPROVED EFFICIENCY

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| Crop Support for Bitmap Objects                         | ✓ | ✓ | ✓ | ✓ | ✓ |
| Visibility Tool Improvements                            | ✓ | ✓ | ✓ | ✓ | ✓ |
| Select Similar Objects by Plane                         |   | ✓ | ✓ | ✓ | ✓ |
| Font Preview  | ✓ | ✓ | ✓ | ✓ | ✓ |
| Preview for Mirror Tool                                 | ✓ | ✓ | ✓ | ✓ | ✓ |
| Align Leader Line Command Improvements                  | ✓ | ✓ | ✓ | ✓ | ✓ |
| Attributes Palette Opacity Preview                      | ✓ | ✓ | ✓ | ✓ | ✓ |
| Simplify 2D Polys Command                               | ✓ | ✓ | ✓ | ✓ | ✓ |
| Reshape Tool Enhancements                               | ✓ | ✓ | ✓ | ✓ | ✓ |
| Context Menu for Faster Editing of Vertex-Based Objects | ✓ | ✓ | ✓ | ✓ | ✓ |
| Oval by Center Mode                                     | ✓ | ✓ | ✓ | ✓ | ✓ |
| Flipped Symbol Show Others Alert                        | ✓ | ✓ | ✓ | ✓ | ✓ |
| Nudge Warning   | ✓ | ✓ | ✓ | ✓ | ✓ |
| Offset Nonaligned Dimension Text                        | ✓ | ✓ | ✓ | ✓ | ✓ |

**F** Fundamentals    **A** Architect    **L** Landmark    **S** Spotlight    **D** Designer    **R** Renderworks

## (IMPROVED EFFICIENCY CONTINUED)

|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| Hide Out-of-Date Viewport Borders                               | ✓ | ✓ | ✓ | ✓ | ✓ |   |
| Model Space Measurement for Sheet Layer Viewports               | ✓ | ✓ | ✓ | ✓ | ✓ |   |
| "New" Option for Classes and Layers                             | ✓ | ✓ | ✓ | ✓ | ✓ |   |
| Symbol Dialog Box Improvements                                  | ✓ | ✓ | ✓ | ✓ | ✓ |   |
| Floating Datum Heads Up Display                                 | ✓ | ✓ | ✓ | ✓ | ✓ |   |
| Consolidate Dimension and Chain Dimension Objects               | ✓ | ✓ | ✓ | ✓ | ✓ |   |
| Rotation Sensitive Height and Width Labels                      | ✓ | ✓ | ✓ | ✓ | ✓ |   |
| Selected Objects Mode for Split and Trim Tools                  | ✓ | ✓ | ✓ | ✓ | ✓ |   |
| Show Z for 2D/3D Symbol on Object Info Palette in Top/Plan View | ✓ | ✓ | ✓ | ✓ | ✓ |   |
| Mac Hidden Line Multi-Threading                                 | ✓ | ✓ | ✓ | ✓ | ✓ |   |
| New Criteria for Object Selection States                        | ✓ | ✓ | ✓ | ✓ | ✓ |   |
| Help Menu Access to Online Resources                            | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

## THE LEADER IN ENTERTAINMENT DESIGN

|  |  |  |  |   |   |  |
|--|--|--|--|---|---|--|
| Lighting Device Improvements   |  |  |  | ✓ | ✓ |  |
| Select Focused Lighting Devices                                      |  |  |  | ✓ | ✓ |  |
| Lighting Pipe Objects  |  |  |  | ✓ | ✓ |  |
| New Instrument Summary Object  |  |  |  | ✓ | ✓ |  |
| Change Label Legend Reference Symbol                                 |  |  |  | ✓ | ✓ |  |
| Increased Precision for Secondary Angle Fields in Light Info Records |  |  |  | ✓ | ✓ |  |
| Automatically Assign the Lighting Position Height When Converting    |  |  |  | ✓ | ✓ |  |
| Create New Label Legend from Existing Lighting Device                |  |  |  | ✓ | ✓ |  |
| Locate Label Legend in Resource Browser Context Menu                 |  |  |  | ✓ | ✓ |  |
| Auto-Association for Convert to Accessory Command                    |  |  |  | ✓ | ✓ |  |
| Focal Point Selection Support for Create Event Seating Command       |  |  |  | ✓ | ✓ |  |
| Two-Fer by Dimmer and Channel  |  |  |  | ✓ | ✓ |  |

**F** Fundamentals**A** Architect**L** Landmark**S** Spotlight**D** Designer**R** Renderworks

## THE LEADER IN SITE DESIGN

|   |  |   |  |   |  |   |   |
|---|--|---|--|---|--|---|---|
| Plant Shadow Improvements   |  | ✓ |  | ✓ |  | ✓ |   |
| Massing Model Improvements  |  | ✓ |  | ✓ |  | ✓ |   |
| Site Model Contour Label Position Edit                                |  | ✓ |  | ✓ |  | ✓ |   |
| More Accurate Send to Surface Command                                 |  | ✓ |  | ✓ |  | ✓ |   |
| Custom Plant Tag Edit   |  |   |  | ✓ |  | ✓ |   |
| Plant Definition Access Improvement                                   |  |   |  | ✓ |  | ✓ |   |
| Stake Object Improvements   |  | ✓ |  | ✓ |  | ✓ |   |
| Site Modifier Area and Volume Display                                 |  | ✓ |  | ✓ |  | ✓ |   |
| New Option to Suppress the Location Adjustment for Georeferenced Data |  | ✓ |  | ✓ |  | ✓ |   |
| Fit Walls to Site Model Objects                                       |  | ✓ |  | ✓ |  | ✓ |   |
| New 2D Polys to 3D Contours Mode in Modify by Record Command          |  | ✓ |  | ✓ |  | ✓ | ✓ |
| Export Shapefile Improvements   |  |   |  | ✓ |  | ✓ |   |

## SUPERIOR SCRIPTING

|                                     |   |   |   |   |   |   |  |
|-------------------------------------|---|---|---|---|---|---|--|
| Vectorworks Scripting with Python 3 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |
| Plug-In Manager                     | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  |

## VECTORWORKS SERVICE SELECT

|                           |   |   |   |   |   |   |   |
|---------------------------|---|---|---|---|---|---|---|
| New Vectorworks Libraries | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| New Learning Materials    | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |



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SmartCursor and VectorScript are trademarks of Nemetschek Vectorworks, Inc.; X-ray Select (patent pending)

### **System Recommendations**

Mac OS X 10.6.8 or later operating system

QuickTime 7.7.0 to 7.7.3

Intel Core 2GHz or better processor

Windows XP SP3 | Vista SP2 | Windows 7 SP1 | Windows 8 operating system

QuickTime 7.7.0 to 7.7.3

Pentium 2GHz or better processor

DVD-ROM drive (dual layer)

### **RAM\***

4GB or greater highly recommended

8GB recommended for large files and complex renderings

### **Graphics**

1280x800 or greater recommended

512MB VRAM minimum, 1GB+ VRAM recommended for high-quality rendering

Support for OpenGL v2.1 or greater for the best video card performance

\* Vectorworks 2013 and Vectorworks 2014 contained improvements that placed significantly higher demand on the graphics hardware. The performance and quality of the graphics provided by accelerated navigation and improved OpenGL shadows depend directly on the speed and memory of the graphics card. These new features have the potential to provide a very fast and fluid experience when used on capable hardware, and a noticeably slower experience when used on older or incompatible hardware. In general, the more powerful your video card is, the better your Vectorworks experience will be.

For the most current and update technical information,  
please visit our Knowledgebase at <http://kbase.vectorworks.net>.

See [www.vectorworks.net/sysreq/](http://www.vectorworks.net/sysreq/) for updated information.