



VECTORWORKS CASE STUDY



CONQUERING THE KAUAI FLOOD ZONE WITH VECTORWORKS DESIGNER



3D IS KEY FOR
FORMER POTTERY
BARN PRODUCT
DESIGNER WHO
DESIGNS HIGH-END
CONCEPT HOUSES
THAT EMBRACE THE
ENVIRONMENT FOR
CLIENTS IN KAUAI.

When former Pottery Barn product designer Pete Ward took off for Hawaii to design high-end concept homes, he took VectorWorks Architect and RenderWorks with him. A background in industrial design exposed him to several 3D software programs. But none really offered him the capabilities to achieve what he wanted in much detail. After doing extensive research, he concluded VectorWorks was the only program that could do everything he needed it to do. AutoCAD® didn't even come close.

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"After shopping around, I concluded that VectorWorks Architect is the most complete package out there," Ward says. "There's just no comparison. It became obvious to me that people got sucked into AutoCAD because it's the industry standard, and because they became tied to it after the steep investment and learning curve.

He continues, "But AutoCAD was just not an option. The tools in VectorWorks are much more artistic than those in AutoCAD and allow me to design creatively. The aesthetic qualities in designing a home are just as important as the engineering aspects. That's where AutoCAD is lacking and that's where RenderWorks rendering capabilities really kick in. VectorWorks was the way to go."

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While Ward was working alongside several draftspersons at one firm, they saw the renderings he created and bought VectorWorks Architect for themselves.

"Because AutoCAD is the industry standard, people are under the misconception that it's the best program out there, and that's just not the case," he says. "People looking over my shoulder as I design realize it's true. If they ever did want to switch to VectorWorks, it wouldn't be as difficult to learn as it was to learn AutoCAD from scratch."



3D IS KEY

Coming from a product design background, Ward acknowledges that it was easier for him to catch on to the benefits of designing in 3D than it might be for others who have been used to working in 2D. While he realizes 2D is the "bread and butter" of a lot of architectural firms, he believes the future will see a lot more 3D modeling and photorealistic rendering.

"When you're in 3D, you can toggle and solve so many problems that way, looking at things in different perspectives."

"Working in 2D is a very unnatural way to do things," he says. "Unless you're an architect or engineer, you can't visualize flat plans. When you have clients who are spending millions of dollars for their dream homes, they want to see what it's going to look like, and they might not understand what effect I'm trying to achieve in 2D."

Producing realistic renderings and presentations also leaves little room for interpretation. "When I produce 3D renderings that look realistic, I can see things I wouldn't be able to see in a 2D drawing. And when I apply textures and light, that's pretty much the way it's going to be. There's no room for miscommunication, which can get expensive when it comes time to build."

The benefits of working in 3D are endless, according to Ward.

From a designing standpoint, when troubleshooting, 2D just doesn't cut it, he says. "When you're working in 2D, you can't tell what it's going to look like in a different plan view. When you're in 3D, you can toggle and solve so many problems that way, looking at things in different perspectives."

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ALOHA, VECTORWORKS DESIGNER

When VectorWorks Designer was introduced, Ward got right on it. He says it's his mission as a designer to always keep current with technology.

"I'm not going to be like those AutoCAD guys that get left behind," he adds.

He attributes being able to secure his current work with a firm that designs high-end residential work and landscaping by showing them photorealistic output they were not capable of producing.

"When designing very high-end homes, you want a program like VectorWorks Designer that offers

the capabilities to do high-end detail work," says Ward. "Landscaping is a big part of the overall design, and it's a huge time and money-saving benefit to be able to take care of landscaping using the same software program. Plus, we can present to our clients the whole picture."

He also notes it's easy to import renderings from other 3D software packages he uses, such as Vue 5 Infinite® and OnyxTREE Pro®.

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FLOOD PRONE ZONE

Two recent designs Ward completed are located in tsunami zones on the island of Kauai. The fourth largest of the main Hawaiian Islands, Kauai is also one of the wettest places on earth with an average annual rainfall of 460 inches.

Ward designed one home on pillars to embrace its natural environment. According to Ward, a lot of houses on Kauai do not incorporate footings as part of the overall architectural scheme and effectively end up looking like cars up on blocks. The purpose of this concept home is to show that the foundation of a home in a flood or tsunami zone does not have to be just an afterthought.

"Driving around these areas I see very few houses that incorporate the foundation into the overall design scheme," he says. "Most homes in these areas sit on completely vertical columns and, as a result, tend to sway in high winds. By setting them at an angle, the building is locked into place and has a stance as if bracing for an impact. This is both practical and visually pleasing.

"Most of the curves and vertical angles in these designs were done with NURBS modeling and could not be done with the standard VectorWorks Architect tools alone," he continues. "In fact, in the case of the 'Waihina' home, it could not even have been perceived if I had not modeled it in 3D. The whole structure is composed of triangles and looks very weird in elevation view. But in 3D, fortunately people see it in perspective."



RIDING THE FREE-FORM MODELING WAVE

Ward used VectorWorks Designer to design another house that was also located in a flood zone. He incorporated a lot of curves into the 8,000 square-foot house on the Hanalei River to integrate it into its fluid environment.

"I took full advantage of the NURBS modeling capabilities in VectorWorks Designer to achieve the organic shape of this structure," he says. "When I first purchased the program, another colleague of mine went with Chief Architect®, because he didn't want all the extra tools VectorWorks Designer offers. But there's no way he could have designed something with this level of complexity with Chief Architect. In fact, I recently designed a house with batten walls and spent a few hours modeling these walls using NURBS. Now that I've upgraded to VectorWorks Designer, I can do this in a fraction of the amount of time, since the landscape tools already have batten walls built right in."

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Ward feels the free-form modeling capabilities found in VectorWorks Designer offer enormous potential to create more organic architecture.

"With current developments in the manufacturing of concrete forms and 3D modeling, the sky is the limit," he says. "It's going to be increasingly more important to use a program with no

restraints, such as VectorWorks Designer, as the world of drafting fades away and buildings move away from the linear forms it has confined them to. And VectorWorks Designer has all the ingredients for an architectural revolution."

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He concludes, "I haven't even begun to explore all the possibilities VectorWorks Designer has given me."

LEARNING AND USING VECTORWORKS

Ward learned VectorWorks over the course of one project and sharpened his skills with the VectorWorks training CDs.

"Believe it or not, I use the training CDs like I watch my favorite movies," he admits. "When I'm working on something and I get stuck, I know exactly where to go to find what I'm looking for, just like I can quote my favorite scenes in a movie."

He adds, "And if I really get stuck, the technical support for VectorWorks is excellent—it's one of the biggest benefits of the program. A lot of people complain about AutoCAD's technical support. That's just not the case for VectorWorks."