



Your CAD/BIM Solutions Provider

CASE STUDY: VERITY HOMES

With CG Visions and BIM Pipeline, Verity Homes Links Interactive Floor Plans Directly to Pricing and Purchasing

BIM and Workflow Software Let Verity Homes Scale Up 20% in Starts Without Adding Staff

"At Verity Homes, because of what CG Visions has done to 'BIM-up' our home plans, our interactive floor plans and options selection systems are light years ahead of our competition," said Verity Homes' Arthur Goldammer. "No one even comes close to our customer experience, and we shine by any comparison with interactive customizability."

Why did Verity Homes move to a BIM solution? First, some company background: Arthur Goldammer and his team at Verity Homes (a Red Door Homes licensee) build homes in the Bismarck and Minot, North Dakota markets. As an indication of how well the housing market is performing in North Dakota, look no further than Verity Homes numbers: The company will start 154 homes in 2012, up from 127 starts last year.

With operations that are far reaching across multiple geographic areas, Verity Homes builds in 17 neighborhoods and they are the anchor builder in four new-home communities. Like many builders who are trying to take full advantage of the rebound in housing, Verity Homes has positioned themselves as a semi-custom builder, and the Company has brought in a range of technology to help manage 38 base home plans.

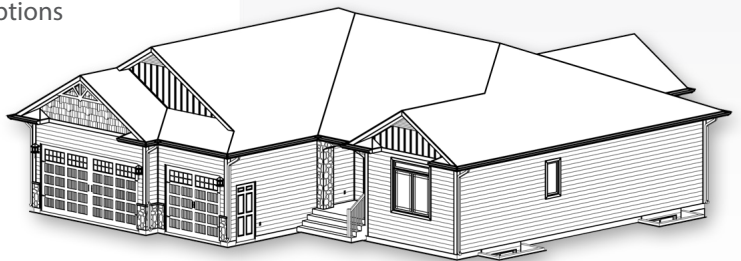
"At Verity Homes we are willing to accommodate nearly any option to make a sale, including structural options that materially change the design of the base plan," Art Goldammer explains. "When you tally up all our options and options on options across our 38 plans, we actually offer more than five million possible combinations. But realistically, we focus largely on around 300 options per plan. Our average home size is around 1,900 square feet, and we sell at an average \$220,000 price point," Goldammer adds. "We are able to consistently achieve between 4% and 8% net margins, depending on the product."

Bringing in CG Visions

The Verity Homes staff may be experts at building homes profitably, but they were equally skilled at bringing in the right technology partners and software to help manage operations.

"Even though BIM Pipeline is implemented, we still use CG Visions to create all of our plans, with options, and to create all the documentation for lot-specific job starts. With CG Visions, we are pulling super accurate bills of material from custom-optioned houses on a lot-specific basis."

Art Goldammer,
CEO, Verity Homes & Red Door Homes



"We knew that we wanted to take our home plans and make them digitally interactive on our website," Goldammer explains. "We brought in CG Visions, a CAD and BIM implementer, to link up the new-home renderings with the BIM and CAD models using CG Vision's BIM Pipeline product. With that linkage now in place, we can share options data with our Sage, BuilderMT, and Sales Simplicity programs. The process with CG Visions took around 18 months to fully complete, but much of system was operational almost immediately," Goldammer adds.

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About BIM Pipeline

CG Visions' BIM Pipeline is a web-based, rules-driven, material-management system that uses Building Information Modeling data to drive detailed take-offs through the workflow, estimating, and purchasing modules of Verity's various software programs. With BIM Pipeline, Verity Homes has a solution that efficiently and accurately bridges the wide gap between design and estimating, while allowing the design and estimating teams to focus on their core competencies.

With BIM Pipeline, Verity Homes can also leverage the BIM data to create full master plan estimates, along with "delta" bill of material reports for options. BIM Pipeline can also generate lot-specific, as-built reports that link directly to the purchase order system Verity maintains in its workflow solution, BuilderMT. BIM Pipeline will capture Verity Homes' customer-specific changes made to digital home plans during the option-selection process, so Verity can track client customizations, thereby enabling a remarkable production-custom building operation. (Although Verity Homes uses Vertex, BIM Pipeline can consume and refine BIM data from multiple BIM applications such as AutoCAD Architecture, Revit, Vertex BD, and VisionRez.)

BIM-Driven Fast Cycle Times & Lean Staff

Has BIM Pipeline made Verity Homes more efficient? You bet! Today the Company has only 22 employees, not including a framing company that Verity owns for its own projects. Almost all work is subbed out, and Verity Homes is able to manage quite well with only four supervisors and a vice president of construction. What's more, the Company builds homes quickly and accurately. Construction cycle times range from 105 to 140 days, depending on the size of the home and how much customization is involved. The Company's back office is run by three sales people, a selections coordinator, and a small team for purchasing and estimating. In addition to CG Visions BIM Pipeline, Verity Homes runs a full complement of modules from BuilderMT's Workflow Management Suite, including BuilderMT's Trade Portal for managing subcontractors. Verity Homes is now proceeding with a mobile data implementation through BuilderMT, so that all of the Company's workflow data – purchase orders, work orders, schedule updates – are automatically pushed to the right people at the right time, no matter where they are...all tied into the Verity's accounting and estimating system. For sales management and CRM, Verity uses Sales Simplicity, and for estimating and accounting, the Company elected to go with BIM integration with BuilderMT's WMS cost management.



At Red Door Homes, we combine a compelling sales price and a customizable plan portfolio, maximizing our clients' investment while minimizing the stresses commonly found when building a custom home. Red Door Homes of North Dakota is a custom portfolio home builder specializing in scattered site construction. The Red Door team of professionals continues to exceed industry standards by providing each client with exemplary customer service, while delivering innovative and beautiful homes at a compelling sales price. Our mission is to create a living environment that suits the unique lifestyle, location and budget of every client.

Red Door Homes is also a Certified Green Professional (CGP). As a CGP, we incorporate green building principles into each of our new custom homes, without increasing the cost of construction for our clients. We have a solid background in green building methods and lead the market-driven green building solutions in the custom building industry.

Learn more: www.RedDoorHomesND.com

Tying CAD to Estimating and Purchasing

“For the sake of efficiency and to optimize our margins, we knew that we wanted to tie our home plans directly to our estimating and purchasing departments, and that’s really the core reason we brought in CG Visions,” Goldammer explains. “With the team from CG Visions, and their BIM Pipeline product, we have tight integration between our CAD system and BuilderMT and Sage,” said Goldammer. “You can actually draw a virtual line directly from our web-based CAD-based interactive floorplans and option selection process – where we directly engage customers – all the way back through our construction workflow, to Sage estimating and BuilderMT’s purchasing. The model that the customers configure is the same model used to pull bills of material. With our Vertex system, because of CG Visions, we have linked the home plan ‘upstream’ to our options selection system and ‘downstream’ to our accounting and workflow. With those linkages, we are able to let a buyer option out a home, while in real time we simultaneously obtain solid costs for the home, along with the retail price we will charge the customers. So, as a buyer is optioning out the home, we are immediately generating price for what looks and feels like a custom home, yet we are able to price it out – and build it – as if it were a production home.”

Vendor Pricing

To obtain this real-time pricing, calculated as the home is optioned out, Verity has locked in vendor pricing and linked it to the Company’s purchasing and estimating systems. “We typically get 90-180 day lock-ins on pricing from our vendors,” Goldammer explains, “and when we update, we typically get a spreadsheet from the vendor which we upload into BuilderMT and the allied systems. It’s easy for us to update pricing. Plus, since the pricing is contained in our estimating system, which is integrated into BuilderMT and Sales Simplicity, CG Visions BIM Pipeline is directly tied to the contract created by Sales Simplicity, which is, in turn, tied to work orders and purchase orders in BuilderMT. With this tight approach, we are able to really stay on budget, and any variances are immediately noted and managed.”

Scale Up Without Staffing Up

“With CG Visions services, along with the BIM Pipeline integration to Sales Simplicity and BuilderMT, we are able to scale up without staffing up. We went up 25 starts this year, but we were able to keep the same staff. That’s a 20% volume scale-up. Given that we are achieving average margins of 6% on \$220,000 average sale, we were able to pickup well over \$300,000 net just with that capability.”

What’s next for Verity Homes? “We are working on our mobility, to push our efficiencies farther out to our staff and allied vendors and subs, no matter where they are or what device they are using. In North Dakota, there has been an increased demand for housing due to the demand for oil and natural gas and the reserves that have been discovered in this region. We intend to take full advantage of that growth,” Goldammer said.



Your CAD/BIM Solutions Provider

For the home building industry in North America, CG Visions is the leading provider of turn-key outsource CAD and “Building Information Modeling” (BIM) solution implementation and consulting. As a “technology agnostic” systems-integrator, CG Visions offers BIM software consulting, back-office software integration, panelization, home plan input, training, media services, option management, digital marketing services, and its flex floor plan configurator, eHome.

CG Visions is also the developer of “BIM Pipeline” which provides the critical bridge between various BIM software tools and back office systems.

Learn more: www.CGVisions.com