MiTek®
A BERKSHIRE HATHAWAY COMPANY

SAVVY HOMES
CASE STUDY

Savvy Homes Cuts Framing Time in Half With Trusses, Lowering Risk, Cutting Labor, and Saving a Bundle

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Executive Summary:

Savvy Homes: A Top-100 Homebuilder, building in 31 communities in North Carolina and 9 communities in Alabama.

- Employees: 50 (including 13 supers)
- Closings 2011: 289
- Closings 2012: 450
- 2011 revenues: $70 million
- Rank on the *Builder 100* list: #88
- Average house size: 3,000 square feet
- Average prices: $300,000
- Building Cycle Time: 54 days

Roof Trusses That Are Digitally Prebuilt and Manufactured Offsite Drive Dramatic Savings for a Top-100 Homebuilder

Slow housing market? Looks like Savvy Homes never got that memo. The Company will start 450 homes in 2012, up from 289 in 2011, when they did $70 million in revenue and landed at #88 on the prestigious *Builder 100* list. Today, Savvy Homes' actively builds in an astounding 31 communities in North Carolina and 9 additional communities in Alabama.

Home sizes

The Company has found its sweet spot building homes that range from 2,200 to 3,200 square feet, with most of their homes settling in at the 3,000 square foot mark. With 40 total home plans in play, prices range from $200,000 to just over $400,000, depending on the foundation type, lot customization, or options and upgrades that the homeowner may choose.

Staff loads

For staff, Savvy Homes is a national leader in lean operations. 100% of Savvy's trade work is subbed out, from excavation to roofing…and everything in between. The Company carries a staff of just 50 people (most based in Raleigh, NC), including 13 superintendents, each of whom manages around 30 starts at any one time, sometimes covering as many as three neighborhoods at once.

Savvy Homes builds each of its homes in 54 working days, and that cycle time just grew shorter through the use of roof trusses. "Just with what we are saving in roof framing time, we are able to cut our overall framing time by 50%," said Savvy Homes' George Aiken.

Cycle times

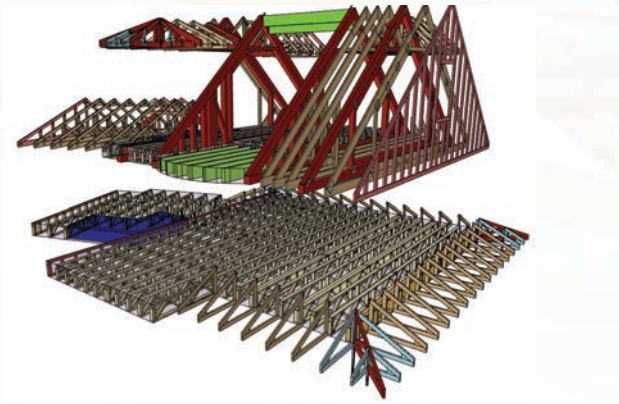
You can only imagine the data management challenges for managing the options and options-on-options for 40 house plans over 450 starts in 40 communities. But Savvy Homes – clearly an elite performer in any comparison with its peers, large or small – has mastered the process, as is evident by the numbers the Company is generating for its *building cycle times*. Savvy Homes builds each of its homes in 54 working days, a remarkably short time compared to national averages, which can easily range to twice that length of time. For CRM, options management, and sale automation, Savvy runs Sales Simplicity software. For its ERP system, Savvy runs Builder 360.

Semi-custom homes

The founding partners of Savvy Homes – George Aiken (with an engineering background) and Darell Daigre (with a marketing background) – are continually adjusting to changing dynamics in the homebuilding market. It's clearly a buyer's market, and it will be for the foreseeable future. That's no surprise to any observer. Savvy Homes has responded to that buyer's market by positioning itself as a semi-custom homebuilder that offers lots of options. Reaching far beyond offering just a range of tile and fixture types, Savvy Homes will move mountains to accommodate the buyer, customizing the home to their liking. Savvy Homes has optimized its sales and options-selection processes, so estimating and pricing the elements in the customized home can be done with minimum time and error. In this respect, Savvy Homes represents the vanguard of a new kind of builder. The Company is building semi-custom homes at production speeds and production efficiencies. Mastery of the production semi-custom approach to building is a feature seen in just the most successful homebuilders. Maybe that's why Savvy has moved from 289 starts in 2011 to 450 in 2012, even in a tough buyer's market.

Switching from sticks to roof trusses

A laser-like focus on cost control is a central aspect of Savvy Homes' success, and the Company has just moved into its most dramatic cost-saving effort to date: It is switching from stick-framed roofs to roof trusses. You may think it's counter-intuitive to assume a semi-custom homebuilding posture at the same time you switch to roof trusses over sticks. But trusses actually offer dramatic flexibility in custom design and today's truss-design software offers a remarkable ability to accommodate structural changes, even those made at the last minute in the buying process. The results of this stick-to-truss conversion for Savvy Homes have been nothing short of dramatic.



"With trusses, building the roof is more like putting the pieces of a puzzle together, because the engineering has already been done off site by the component manufacturer," said George Aiken. "You are piecing together a roof system that's already been configured; you are not framing the roof from scratch each time."

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"For our conversion to trusses, we are currently focused on trusses for above the top plate, and it's taught us some instructive lessons, all of which confirm our decisions. First, trusses require a lower level of overall supervision. They are quicker to install than rafters. That's obvious, but keep in mind that you are piecing together a roof system that's already been configured; you are not framing the roof from scratch each time. Plus, when setting trusses, we can choose from several generic framers, and not be tied to a high-priced custom roof framer. There is a labor shortage of these highly skilled guys anyway, so it's best if we can manage without them."

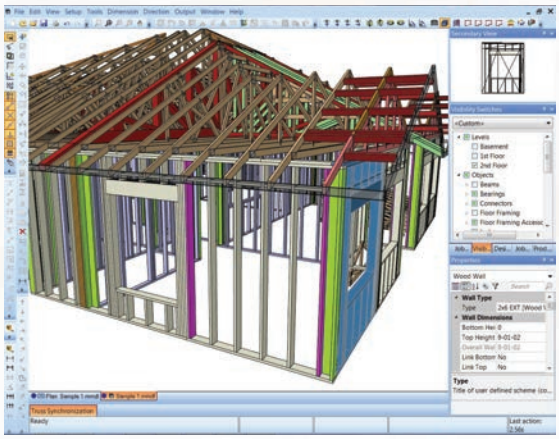
"There's another benefit to trusses," Aiken explains, revealing the true structural engineer within. "We use CAD and framing-design software that gives us a 3D view of the home, before it is built on site. So, at a glance, we can understand where the load paths are, and where the uplift is, yet we don't have to dig through 30 pages of truss profiles to determine that."

"Trusses can also handle complicated roof lines very easily, because you are not depending on on-site labor to figure out the geometry. We recently put up a double hip roof that was fairly complicated, and we were surprised to finish the truss framing in six hours. A comparable stick-framed roof like that would have taken us three to four days, and it would have required more workers." Aiken observed.

"Just with what we are saving in roof framing time, we are able to cut our overall framing time by 50%. And we are also running smaller crews above the sill. They are spending less time above ground – lowering our risk – and we've eliminated two cut guys down low, which you need when you're stick framing. Also, we don't have material hanging around the jobsite, lowering our damage and theft. Trusses get delivered, and we set them right away."

Truss design

When framing with trusses, the house geometry is solved largely on the front-end, during the design phase of the project. Savvy Homes uses its CAD system, but once the files are created in CAD file formats like .DWG and .DWF, they can be imported by CMs' truss design software, opening a file-sharing collaboration that makes the design process remarkably easy and accurate.



"The design collaboration with our component manufacturers has been made simple, because they all use MiTek's SAPPHIRE Suite, which is a truly open system that accepts any CAD file type we work with. We are able to make changes up until the last minute of the house design, and SAPPHIRE can then sweep through the framing and truss design to sniff out problems before truss components are manufactured," said George Aiken.

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are manufactured. All of our supers working with trusses on site use iPads. They are running an Autodesk product called Design Review which allows them to view 3D models on site, further easing the visualization of the project as it is being assembled."

"Bottom line: With trusses, the complexity of our roofing operations are about 10% of what they were when we were stick framing, to say nothing of what trusses offer us in flexibility, while saving us labor costs, lowering our risk, lowering our waste, and making us a better and more efficient homebuilder." -- George Aiken

About Savvy Homes

Savvy Homes is a residential building company founded by two entrepreneurially spirited men who share a common goal -- to create a uniquely positioned, North Carolina-based home building company. These men come from distinctly different backgrounds: George Aiken has over thirty years of experience in professional engineering and construction, while Darrell Daigre is a veteran consumer goods marketing professional. They share a vision about what homebuyers will expect from new home builders in the future, and now lead a company with these particular ideals in mind.

The goal at Savvy Homes is to build a better home at a better price than anyone else in the market. Learn more: www.SavvyHomes.com