

Section 2 – Business Model and Relationships

Lane Framing is a regional residential and light commercial framing company, who works on both steel and wood framed buildings. Lane Framing specializes in fabricating steel wall panels on-site with cold-formed steel studs and tracks. The studs and tracks are purchased from a third-party provider selected through a competitive bidding process.

Lane Framing enters into contracts with builders to frame homes and provide all the necessary materials and supplies. Lane Framing employs the framing crew and provides the tools, equipment, and supplies, including studs, tracks, and screws, necessary to bring a building from the top of the foundation to finished framing.

Lane Framing was formed to take advantage of the Lane Framing software program. The Lane Framing program creates material take-off sheets and develops the framing layout, but doesn't create structural drawings. Lane Framing is contracted by numerous builders in the region, not just Craftsmen Homes.

Framing Software

Lane Framing's first task after securing a contract with a builder is to enter the home's floor plan and elevations into the Lane System software program. This is a unique computer application developed by Lane Framing to design the wall panel layout, improve efficiency, and optimize framing material.

The program strategically places the window and door openings in locations that reduce the need for back-to-back studs or takes advantages of the increased load-bearing capacity of required back-to-back studs.

Lane Framing's lead layout person evaluates the preliminary wall panel layout produced by the software and makes any necessary adjustments. These adjustments are entered into the program to produce the layout for a model home.

The software produces material take-off sheets for each home. These sheets are sent out to cold-formed steel providers for bids. This way the supplier knows the quantity of studs and tracks to provide and their respective lengths.

Model Home

Lane Framing will build a model home for each floor plan using the wall panel layouts produced by the Lane System software. During the model home's construction, special attention is given to the fabricating and framing processes to identify areas that can be improved. When the model home is fully framed, Lane Framing conducts a walk-through of the home to discover and address potential issues.

After the walk-through is complete, the recommended framing modifications are re-entered into the Lane System to produce cut-sheets and panel layout designs that are used throughout the production of the remaining homes in a given development.

Layout Coils

Two coils are produced for each home, one for the bottom track and one for the top track. Made from 1 ¼ inch steel strapping, each coil is labeled with the panel's design characteristics. After the construction of the model home, the lead layout person creates the coils using the home's dimensions as the guide. The coils are then secured in a plywood spool box and unrolled as needed. The fabrication crew builds the steel wall panels using these top and bottom track coils as a guide.



The size of the fabrication area determines the length of the coil unrolled at one time. The fabrication crew prefers to build at least two panels at time by unrolling thirty to forty feet. The coil system was developed by Lane Framing to easily accommodate and adjust to changing size constraints associated with on-site fabrication areas.

Panel Fabrication

Lane Framing has developed long term relationships with suppliers who can meet their specific needs. Thus, they are able to secure studs and tracks that are pre-cut to length by the supplier. Most suppliers have a four week delivery time from confirmation of order.

The fabrication crew frames the wall panels on an empty home lot or on a nearby vacant foundation pad with a total area of at least a quarter acre needed for fabrication and storage. The builder typically furnishes the area for fabrication.

Lane Framing's crew does not use framing tables, jigs, or similar devices. All panels are built on the ground.

All the wall panels associated with one floor of a home are stacked together. Once a stack is finished it is moved out of the way until it is needed at the construction site. An all-terrain forklift is used to move the wall panel stacks to the waiting area.



Individual wall panels are carried by hand at both the fabrication area and construction site. The wall panels are taken off the wall panel stack by the framing crew as needed.

On-site Transportation



Off-site versus on-site fabrication considerations are analyzed for smaller housing projects and model home construction in order to arrive at the most cost effective fabrication strategy. The framer prefers on-site fabrication for developments over five homes. Ideally, the fabrication area is located within the housing development in an area where fabrication can continue for a prolonged period of time.

For this case study, the panels were fabricated at another location and transported to the construction site because only three model homes were built.

Lane Framing secures the flatbed trailer and hauling permits, if necessary, when an off-site fabrication strategy is employed. However, off-site fabrication always occurs at another job-site in a similar manner. Lane Framing doesn't fabricate wall panels in a warehouse or any other permanent structure.

Joists

The steel floor joists were purchased from a third-party provider and installed and sheathed with OSB by the framing crew. The duct layout was designed to run parallel to the joists to permit the use of standard C-section floor joists.



Trusses

The wood trusses were purchased from a third-party provider. Bids were accepted from both steel and wood truss providers. Ultimately, wood roof trusses were selected based on price. The trusses were installed and sheathed with OSB by Lane Framing.

Framing Innovations

Lane Framing began stick-building steel homes and gradually adopted a wall panel framing method. Throughout this evolution Lane Framing has experimented with all steel homes and with combinations of steel and wood. For the last six years, Lane Framing has been using the described on-site wall panel fabrication process and estimating projects with the Lane System software program.

Component Assembly

For larger projects a component assembly station is developed, near the panel assembly area to speed up panel fabrication times. Crew members are dedicated to assembling headers, footers, and back-to-back studs at the component station, effectively creating an inventory of these items for panel fabricators to integrate into panels as needed.

Crew Members

The framing crew consists of eleven individuals; one supervisor, one assistant, and nine crew members while the fabrication crew has ten crew members. Lane Framing's framing crew is highly experienced, with the supervisor having over twenty years of experience. The assistant has twelve years of experience; and the crew has an average of twelve years of construction experience.

The fabrication crew operates separately from the framing crew. The fabrication crew consists of ten crew members, but the crew size fluctuates slightly depending on production level.

Archways

Wood archways were built and installed to accommodate curved architectural features. The arches were built on-site and slid into place once the walls were up and secured. Pictured here is a wood frame for an arched interior doorway.



Engineer Design

All new homes in La Quinta require a structural design by a registered professional engineer regardless of the framing material used. Lane Framing didn't provide the structural engineering design for these homes.