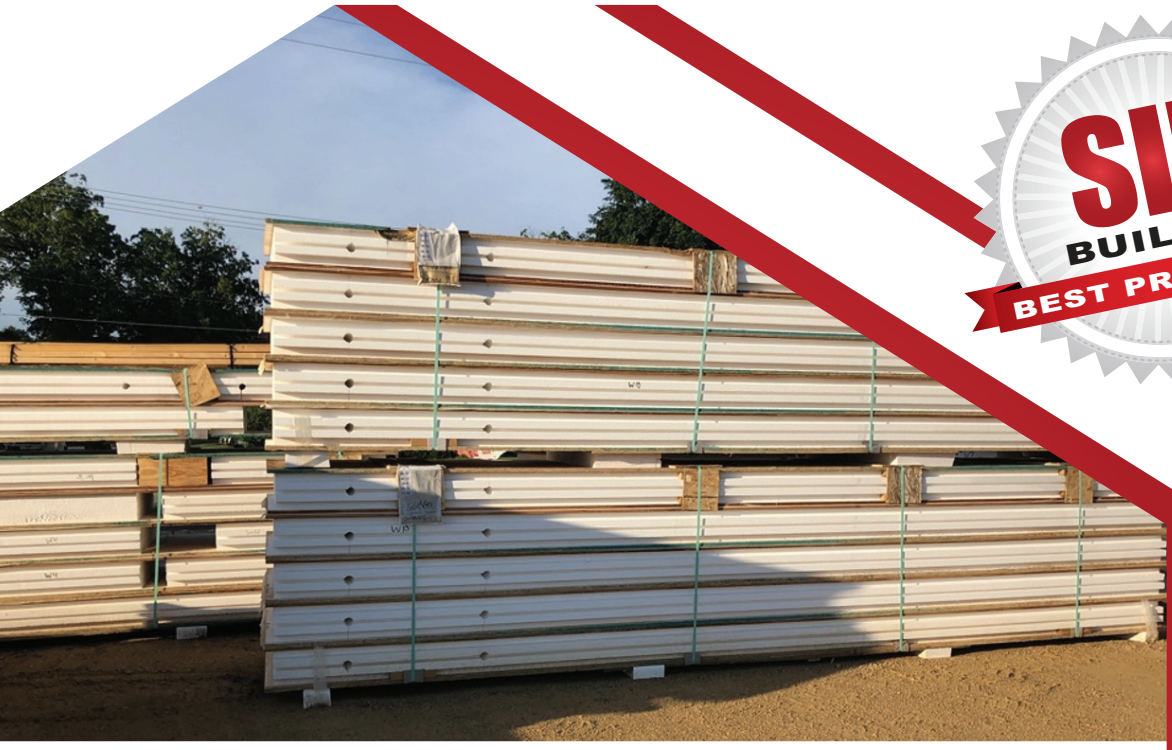
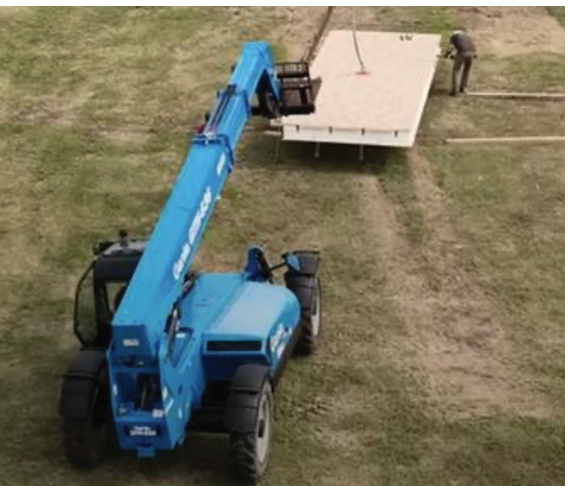
SIP BUILDER-BP 4:
SIP Sizes





SIP BUILDER BEST PRACTICES

SIPA
Structural Insulated Panel Association

SIP BUILDER-BP 4:

SIP Sizes

This document is created specifically for builders by the manufacturing members of the Structural Insulated Panel Association (SIPA). It dives deeper and provides more background into each of the summarized topics presented in the *Building with SIPs: NEED TO KNOW* overview which highlights important considerations during the construction phase of a Structural Insulated Panel (SIP) structure. Decades of combined knowledge from SIPA manufacturers will help reduce the learning curve and leverage SIPs' exceptional qualities to achieve the high-performance results owners expect when building with SIPs. The considerations of how and why the best practices were developed as the common industry platform for SIP construction are explored here.

The index below outlines eleven topical areas, listed in sequence to match the order of building considerations and construction. The details in each chapter provide a deeper understanding of the subject matter to facilitate successful SIP construction. The current chapter is highlighted in blue.

SIP BUILDER-BP 4:

SIP Sizes

SIP BUILDER-BP 4.1:

SIPs are large, and adequate room is needed for receiving, staging and lifting panels. 3-inch-wide supports are recommended every 8 feet minimum to keep SIPs off the ground and to keep them level.

SIPs are manufactured in sizes and configurations up to 8' x 24'. SIPs usually arrive on a flatbed trailer. Depending on the site, SIPs should be offloaded to a clean, flat area with sufficient maneuvering room to unload and sort the SIPs once unloaded. Mechanical equipment with forks will help speed up the off-load process.

Many times, SIPs do not come in any order when shipped by flatbed trailers. This allows for minimized shipping costs by taking full advantage of the space available on the trailer. Unload the SIPs as quickly as possible to minimize any unloading charges by the freight hauler. Two hours is usually allowed to unload a trailer. It is advisable to sort the panels once you have offloaded them, rather than during the offloading process. The sorting process will require room to shift and stack the SIPs accordingly.

Sort and stack the SIPs by panel ID number. Move the SIPs as close to their final location as possible. Place stickers, dunnage (2x4's are commonly used) a maximum of 8' on center under the panel stacks to ensure that the panels remain flat. The stickers should be a minimum of 3 inches wide and tall enough to accommodate the thickness of the forks used on the mechanical lifting device. Typically, 3 inches provides enough space to slide the forks under the stack.

RTA and prefabricated SIP packages are delivered with additional lumber and accessories that also need to be offloaded, sorted and staged. (See Image 4.5).

IMAGE 4.1:
FLATBED TRAILER DELIVERY TO JOB SITE

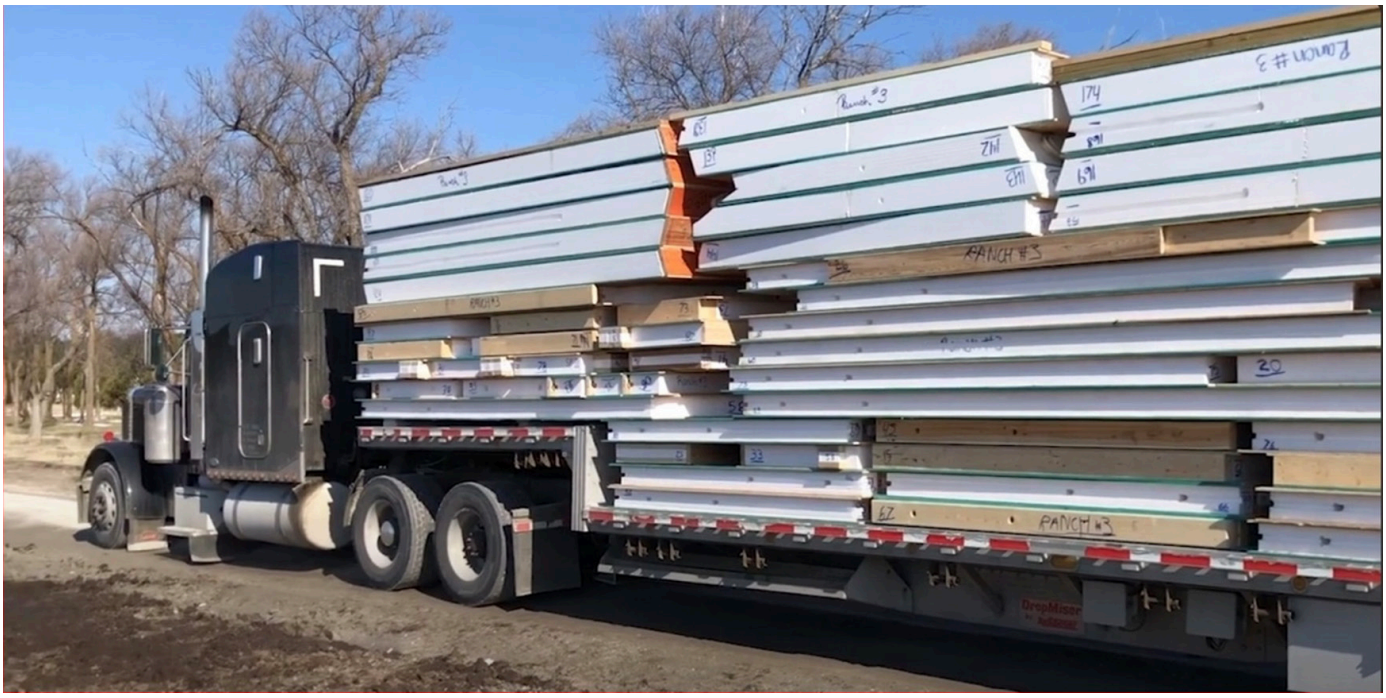


IMAGE 4.2:

OFFLOADED AND STAGED SIPS

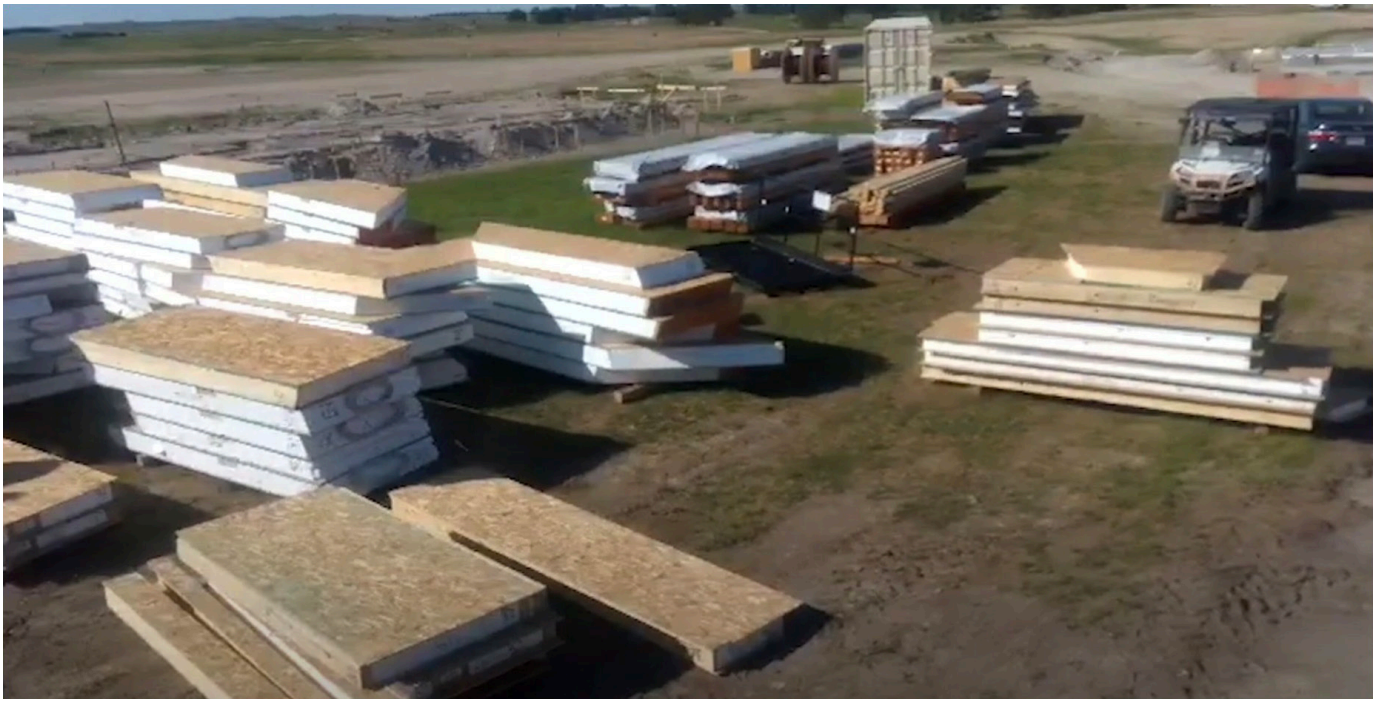


IMAGE 4.3:

SIPS STAGED FOR INSTALLATION

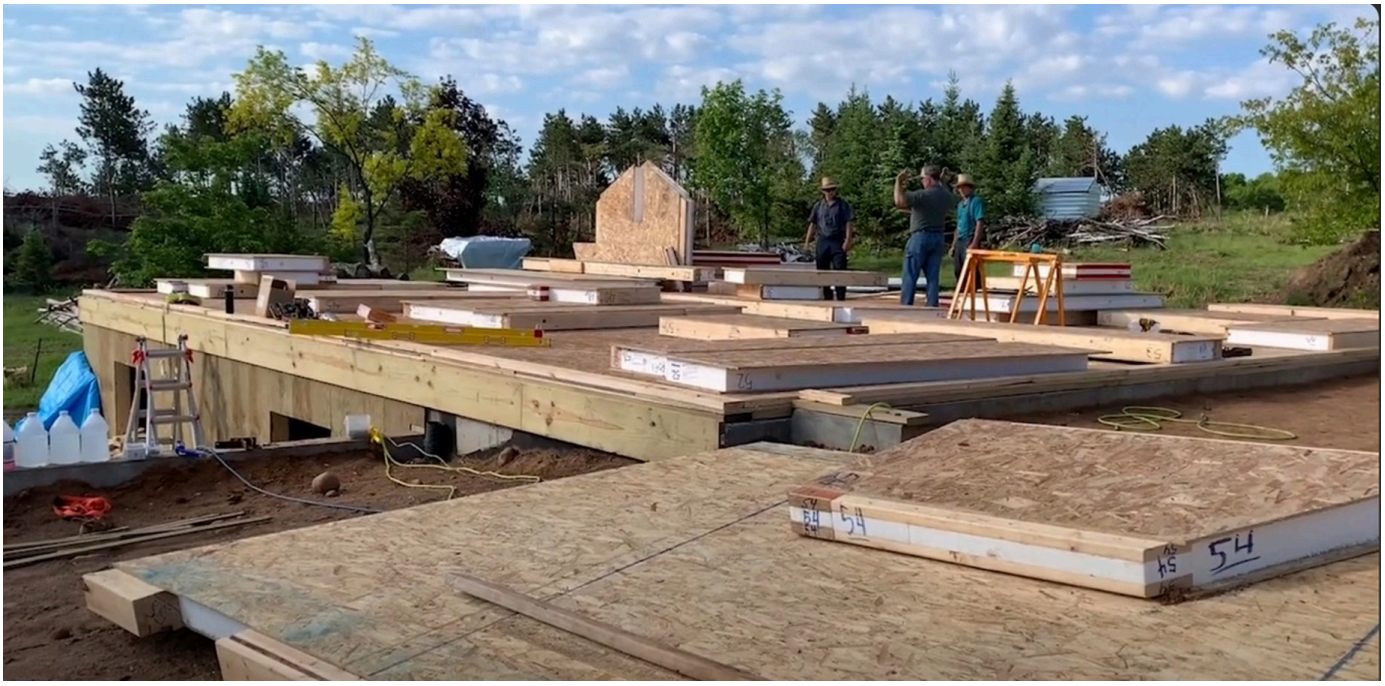


IMAGE 4.4:

STICKERS AND DUNNAGE UNDER SIPS

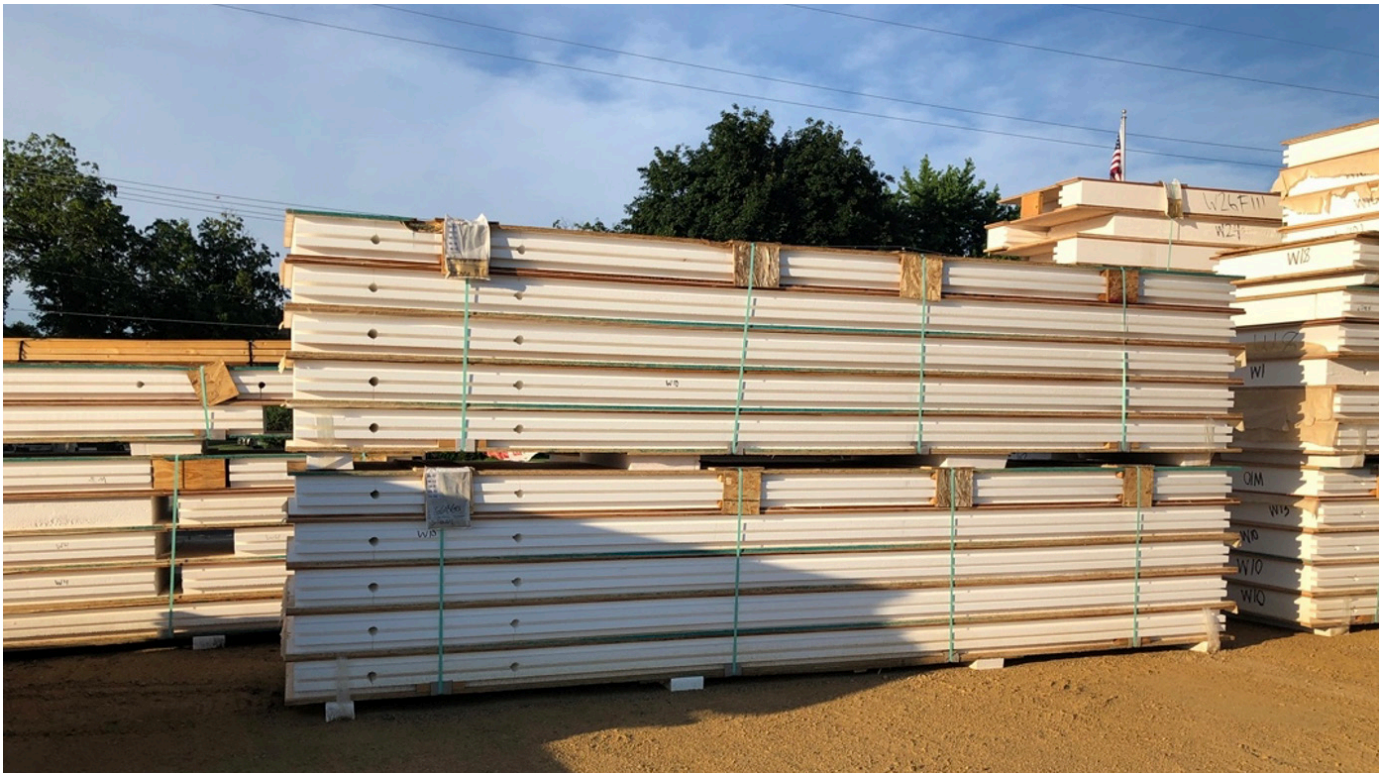
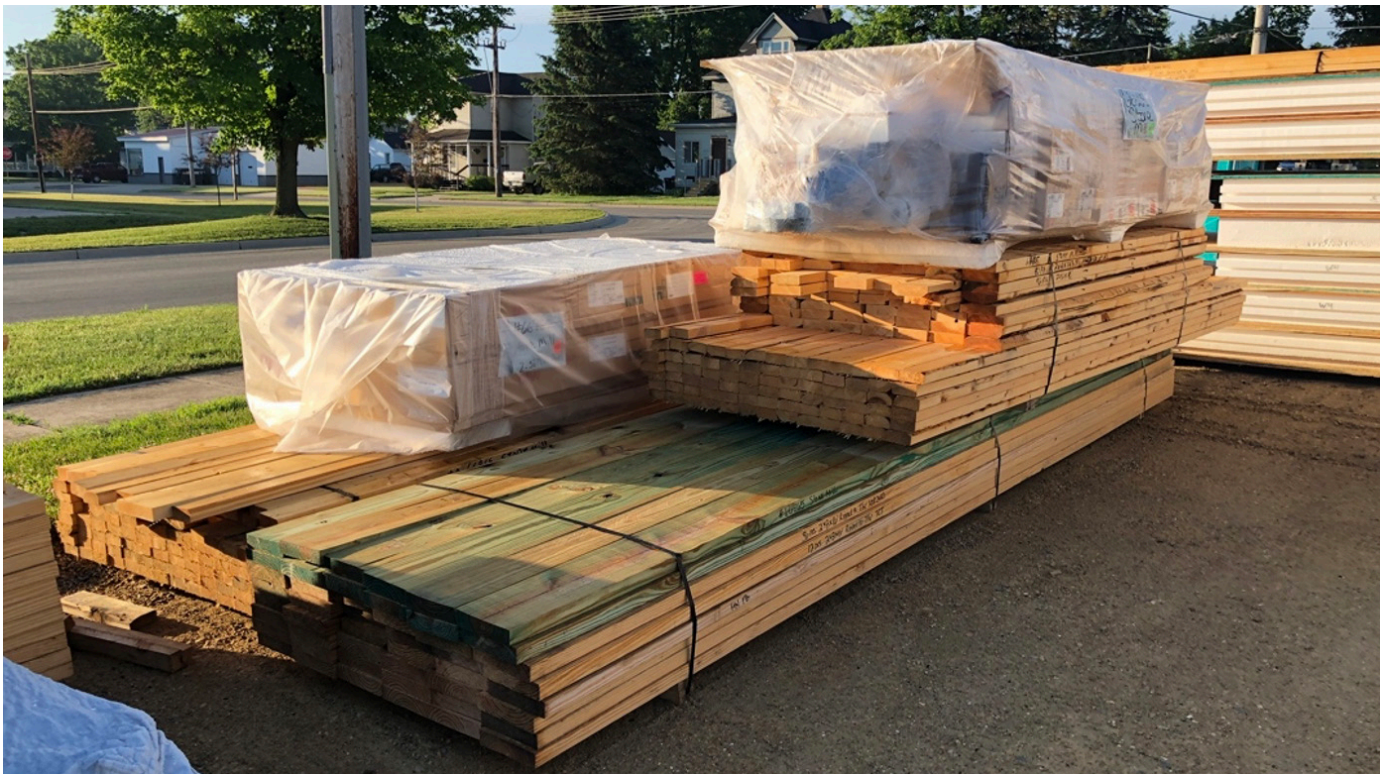


IMAGE 4.5:

ACCESSORY AND LUMBER PACKAGE



SIP BUILDER-BP 4.2:

Lifting equipment such as a SkyTrak or telehandler (all terrain forklift) is recommended for unloading and stacking SIPs. Fork extensions for 8-foot-wide SIPs should be used.

Typically, SIPs are fabricated in 4' and 8' widths and up to 24' lengths. SIPs are not particularly heavy (approximately four pounds per square foot); however, large panels are heavy for the construction crew to lift by hand (approximately 700 to 800 pounds for an 8' x 24' panel). SIPs are best offloaded by the use of mechanical lifting equipment like a skid steer (Bobcat, Kubota, John Deere, Gehl, etc.) or all-terrain forklift with an extending boom (SkyTrak, Lull, etc.).

Fork extensions should be used to offload the SIPs. 6' to 8' fork extensions are available for rent at local rigging or rental shops. If SIPs are a material you build with on a consistent basis, it is worth acquiring a set of fork extensions that can be used on any equipment with 4' forks.

IMAGE 4.6:

ALL TERRAIN FORKLIFT OFFLOADING SIPS

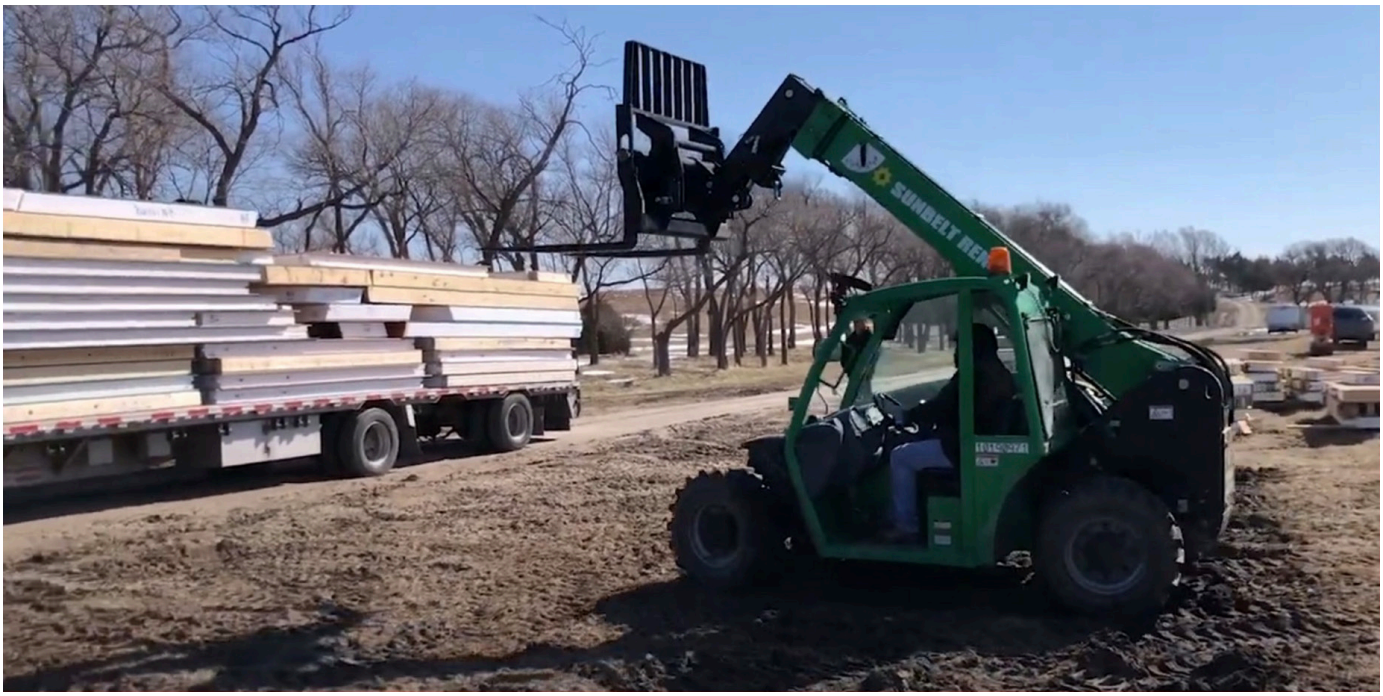


IMAGE 4.7:

ALL TERRAIN FORKLIFT, WITH FORK EXTENSIONS, MOVING SIPS

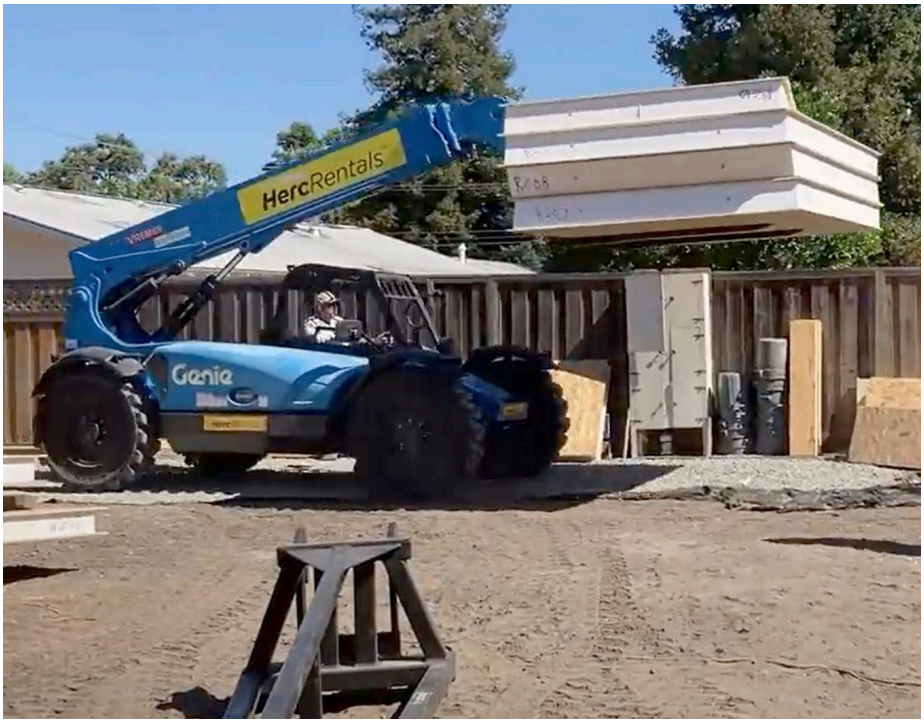


IMAGE 4.8:

ALL TERRAIN FORKLIFT, WITH JIB, RIGGING A ROOF SIP

IMAGE 4.9:

ALL TERRAIN FORKLIFT, WITH JIB, RIGGING A WALL SIP

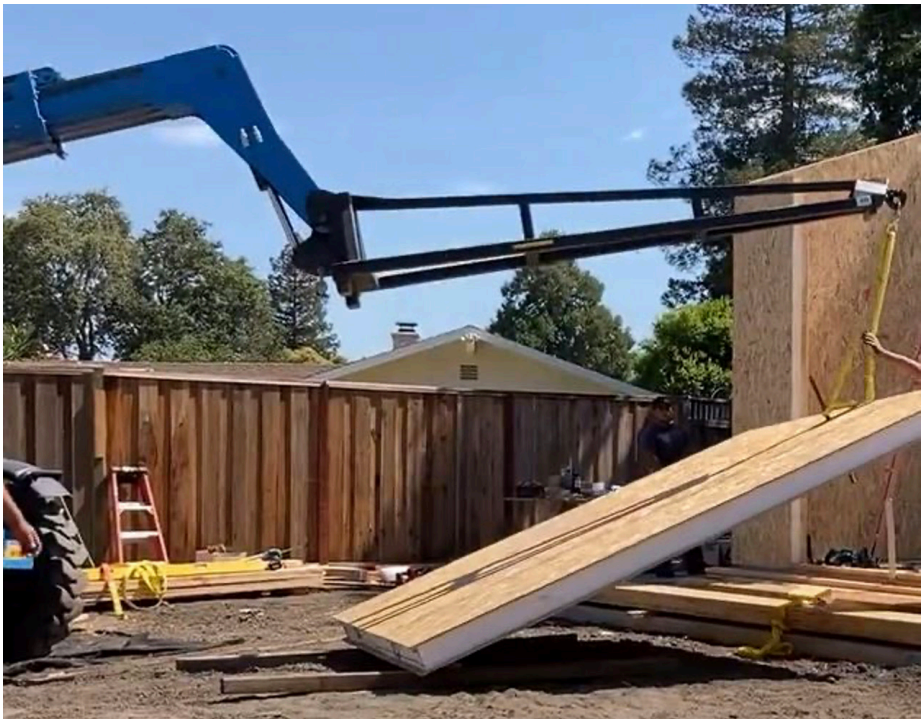


IMAGE 4.10:

ALL TERRAIN FORKLIFT, WITH JIB, LIFTING ROOF SIP

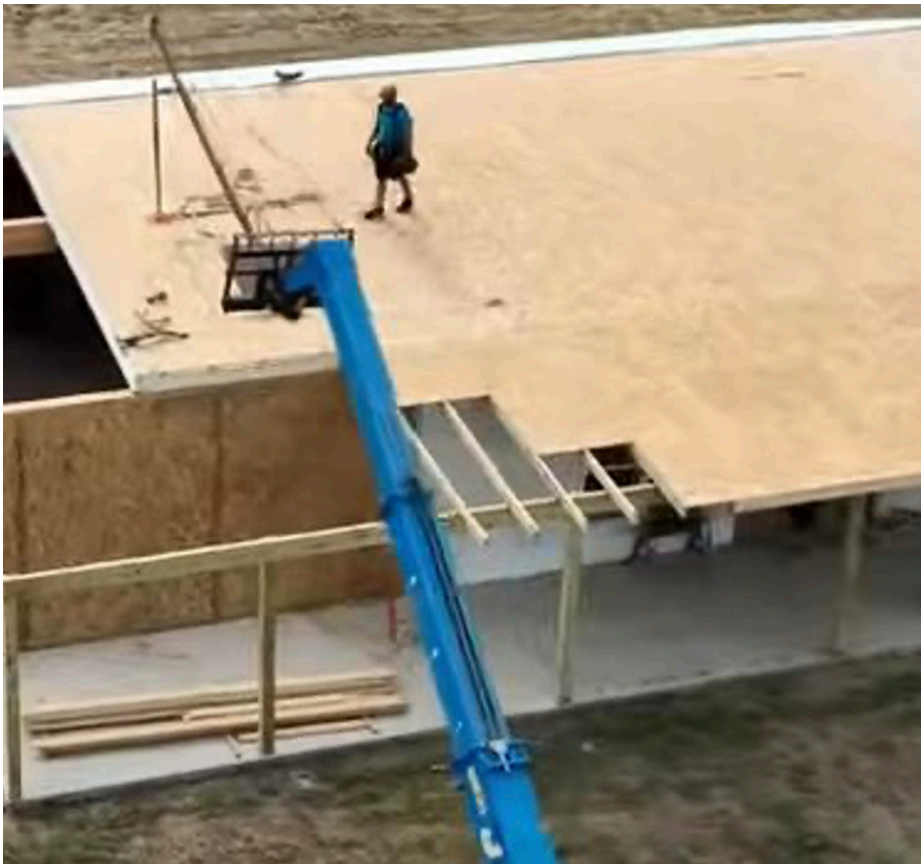


IMAGE 4.11:

SETTING A ROOF SIP

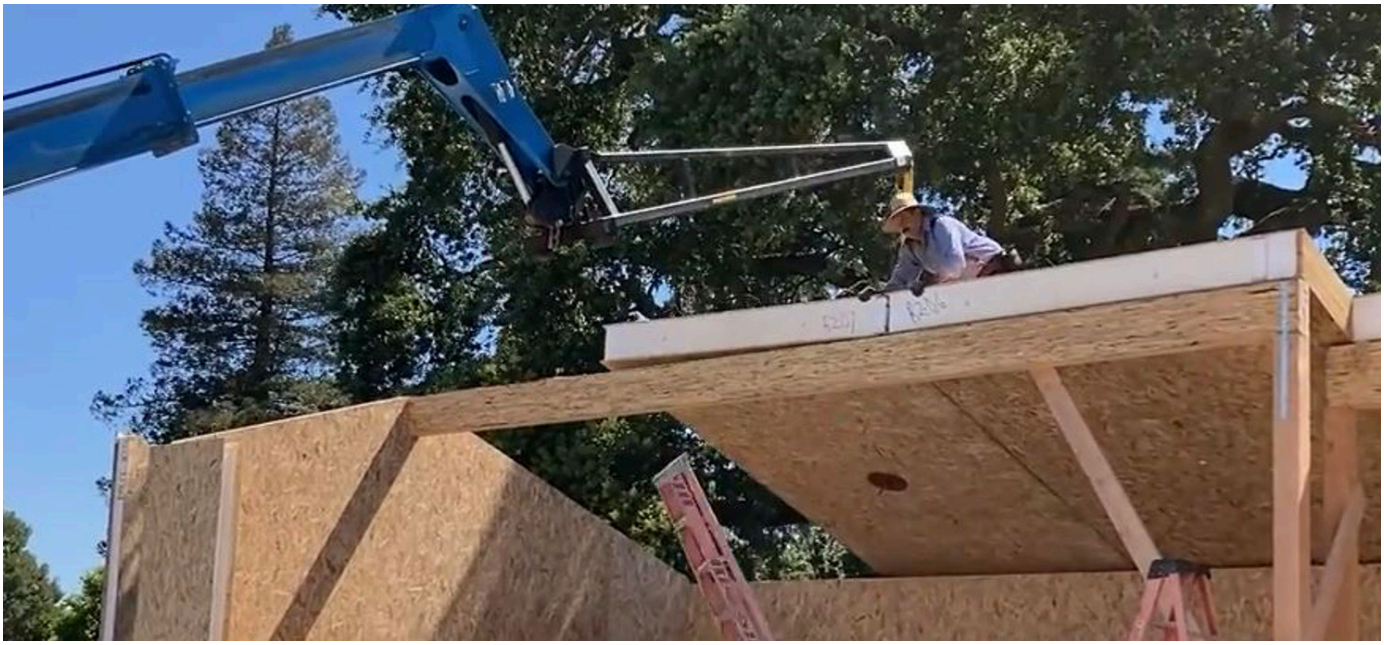
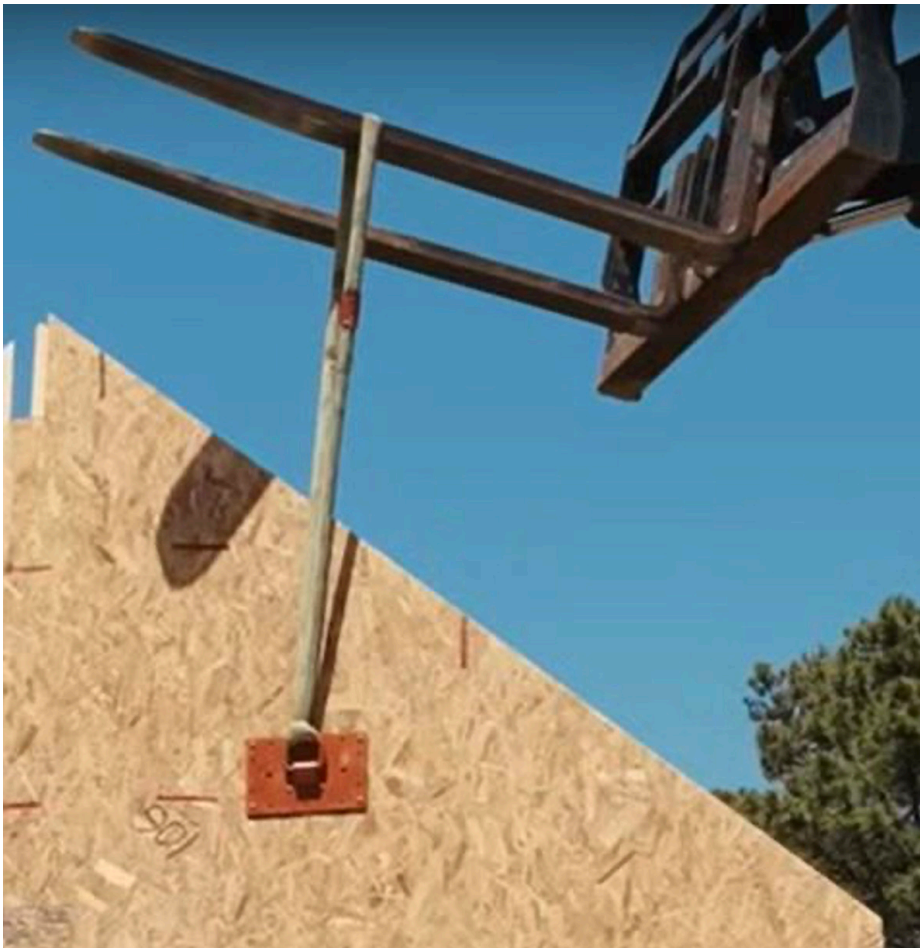


IMAGE 4.12:

HOISTING WALL SIP WITH LIFTING PLATE



SIP BUILDER-BP 4.3:

If the crew size or site conditions dictate smaller hand setting of SIPs is needed, be sure to make your manufacturer aware of limitations upfront.

SIPs are manufactured in sizes and configurations up to 8' x 24'.

If the crew size is small without access to mechanical lifting equipment, or the site conditions do not allow for the use of large jumbo sized (8' x 24') panels, be sure to have conversations with your SIP manufacturer early on in the “SIP Shop Drawing” process so narrower 4'-wide panels are used on your project.

IMAGE 4.13:
INSTALLING NARROW WALL SIP BY HAND

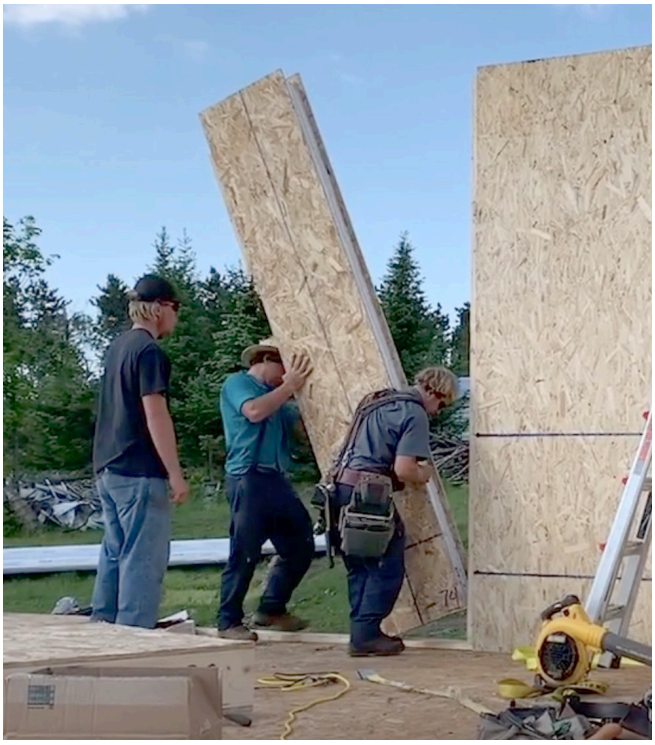


IMAGE 4.14:
INSTALLING WALL SIP BY HAND

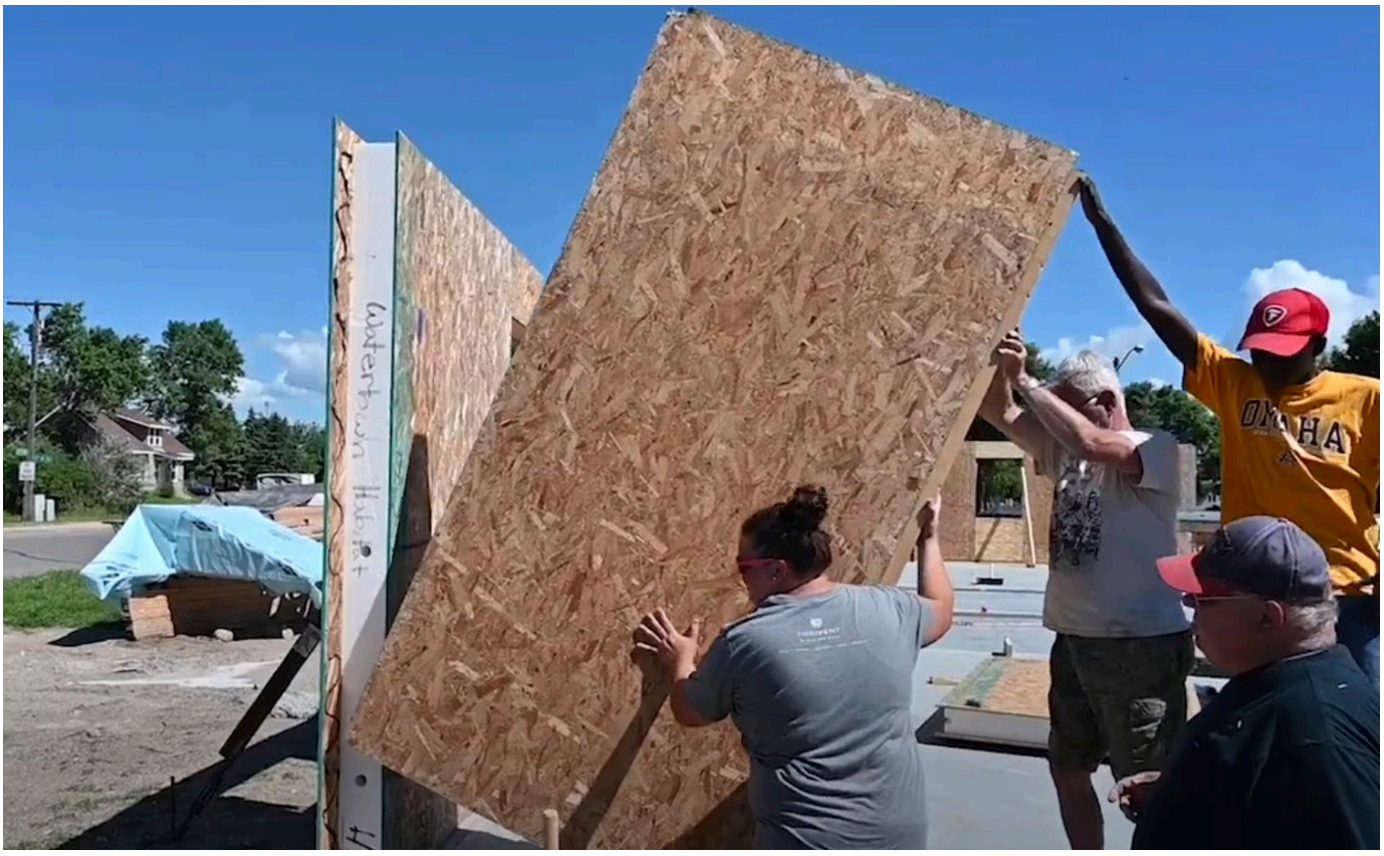


IMAGE 4.15:

INSTALLING WALL SIP BY HAND

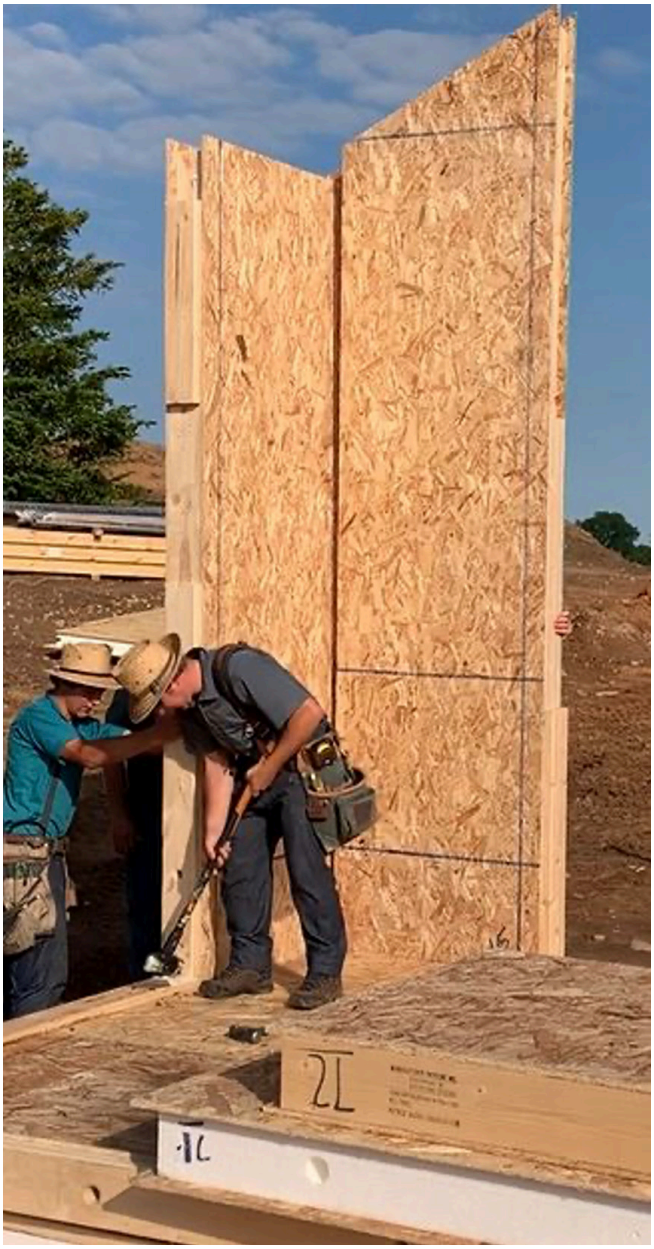
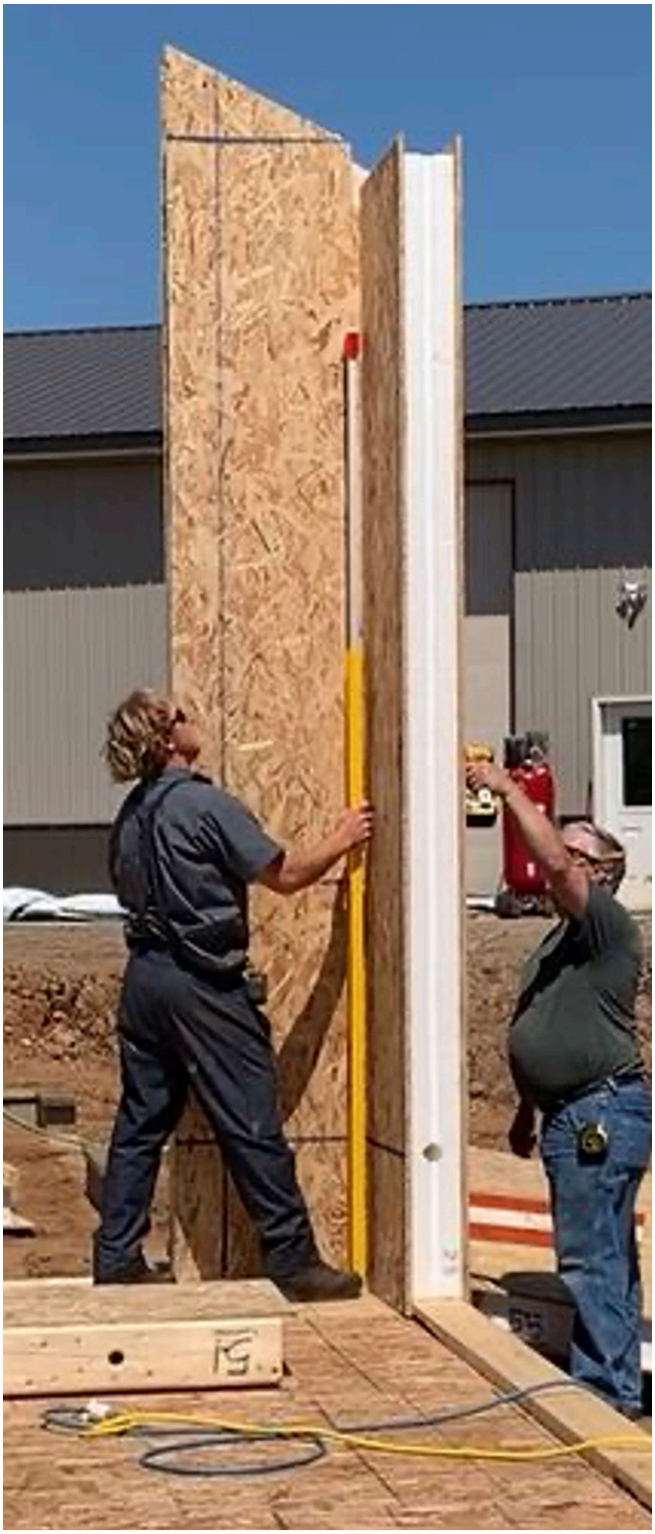


IMAGE 4.16:

PLUMB AND SQUARE WALL SIP



Glossary of Terms

SIPA: Structural Insulated Panel Association (www.sips.org), a non-profit trade association representing manufacturers, suppliers, dealer/distributors, design professionals and builders committed to providing quality structural insulated panels for all segments of the construction industry.

SIPs: Structural Insulated Panels, a high-performance building component for residential and light commercial construction.

Written and compiled by SIP Industry Professionals:

- Jeremy Dieken – Extreme Panel Technologies
- David Gould – PorterSIPs
- James Hodgson – Premier Building Systems
- Joe Pasma, PE – PGS Consulting LLC
- Bryan Walsh – R-Control SIPS, LLC
- Tom Williamson, PE – Timber Engineering LLC

Structural Insulated Panel Association Staff:

- Jack Armstrong, Executive Director
- Elaine Valby, Technical Coordinator

Structural Insulated Panel Association