

# SKYVUE APARTMENTS LANSING, MI

Project Completion: 2017

Wall Panelizer: Rick Gilchrist Co., Inc.

Architect: Niles Bolton Associates

Engineer: PES Structural Engineers

General Contractor: Wolverine Building Inc

Developers: RISE and EdR (joint)

418,000 square feet



## CASE STUDY

# HOW RICK GILCHRIST CO., INC. SAVED 4 MONTHS OF SCHEDULE AND \$1.1M IN BUDGET

When a project start date slippage meant a potential 4 month delay due to winter, wall panelizer Rick Gilchrist Co., Inc. relied on Vulcraft's Ecospan Structural Floor System to help get things back on schedule and save budget. Due to Ecospan's lack of required shoring, the building was dried in a month early, and Ecospan's LDM saved \$1.1M in materials costs.

## BACKGROUND

Skyvue Apartments is a 9-story, 116 foot tall, 418,000 square foot student housing building. A P3 (public-private partnership) project, Skyvue is located in Lansing, MI near Michigan State University. The wall panelizer, Rick Gilchrist Co., Inc. is a design-build partner for design and construction, with many of its projects being mixed use. Rick Gilchrist Co., Inc. prefers design-build construction because it can be faster and less expensive. That's important because while the start date may slip, the completion date can't.

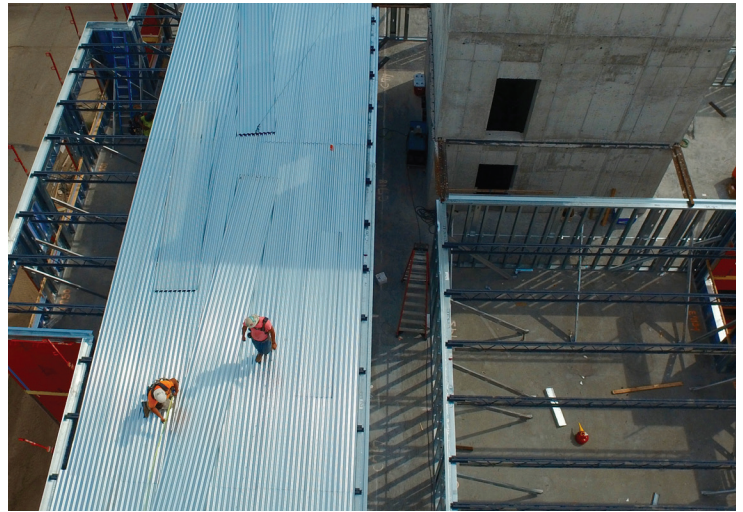


Choosing Ecospan meant we finished the project early, despite a month delay in starting. That gave the construction manager an extra 4 months to complete the project because they didn't have to wait until the end of winter to finish the building, and that took pressure off of everybody.

**Michael Booth, Director of Pre-construction  
Rick Gilchrist Co., Inc.**

## WEATHER DELAYED START

The issue Rick Gilchrist Co., Inc. faced wasn't necessarily job-site challenges. Instead it was Michigan winters, which have too much snow and wind and can halt construction. The project was scheduled to start building in the middle of April, but was delayed until mid-May. But the project still needed to be dried in and topped out by winter so the interior could be worked on in a sealed, heated building. Otherwise completion would be delayed by at least four months, risking hefty delay damages.



Ecospan is installed quickly and easily, with the decking providing a safe surface for construction crews without the need for shoring.  
Photo courtesy Rick Gilchrist Co., Inc.

## HOW DID RICK GILCHRIST CO., INC. CHOOSE A STRUCTURAL FLOOR SYSTEM?

There are only about 5 structural floor systems in the marketplace, so Rick Gilchrist Co., Inc. can closely analyze each of its options. When choosing a structural flooring system for a project, they list pros and cons of each choice. According to Michael Booth, Director of Pre-construction at Rick Gilchrist Co., Inc., Ecospan has a long list of positives, one of which is having enough interstitial space for ductwork. With most apartments, like Skyvue's student housing, ductwork is needed throughout.

Ecospan allowed enough interstitial space for ductwork, MEP, etc for units that are above or below.

Another key factor when schedule is critical is disruption to trades caused by shoring. Other composite deck options require a minimum of 3 floors of shoring. That leads to no room for drywallers to build partitions or constant re-shoring, which means MEP trades are delayed in their rough-ins.

## KEY BENEFITS OF USING ECOSPAN

- › Reduced floor-to-floor height means savings on building material costs
- › No shoring required allows for easier trade access and faster construction
- › Fewer load bearing walls offers more flexibility for future use of the interior space
- › Fewer structural pieces required to distribute the loads across the CFS walls due to Ecospan's integrated Load Distribution Member (LDM)
- › MEP can be run easily through interstitial space
- › 1, 2 and 3 hour UL fire rated assemblies without sprinklers
- › All parts, including closure plates, are supplied, making it easy for the contractor to get the floor in place



Ecospan joists span from the corridor wall to the building exterior. Photo courtesy Rick Gilchrist Co., Inc.

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Ecospan is clean in its detailing, so installation is neat, simple, and fast.

**Michael Booth, Director of Pre-construction - Rick Gilchrist Co., Inc.**

## WHAT VULCRAFT DID

Based on the engineer's drawings, the NDC (Nucor Detailing Center) detailed the joists and deck needed for the project and how they would interact with the rest of the structure. According to Booth, "Ecospan is clean in its detailing, so installation is neat, simple, and fast." A total of 3,270 Ecospan floor joists, 369,000 square feet of floor decking, and 46,800 square feet of composite corridor deck were manufactured and delivered according to schedule.

Vulcraft also delivered pour stops, Z-closures, E-closures, Shearflex® fastener screws, and sidelap screws, along with 449 roof joists and 57,800 square feet of roof deck.

The use of Ecospan's Load Distribution Member (LDM) allowed for joists to bear on cold form steel (CFS) walls without the use of large steel tubes typically used for this purpose. This represented a saving not only in weight but also cost, while also eliminating the complexity and handling of large tube LDMs.



## THE RESULT

Despite a one month delay in construction, thanks to Ecospan not needing to be shored or requiring installation of large amounts of steel tube LDMs, the structural work was actually completed ahead of schedule. This allowed the building to be dried in before the onset of winter, helping keep the project on schedule.

Thanks to the much smaller LDMs used with Ecospan, the developer saved \$1,093,000 in costs (1.4% of the project's \$77M budget) in load distribution components alone. This represents the costs of well over \$1.4M in potential steel tube LDM and related components compared to the total with Ecospan's LDM as part of the system.



## ASK AN EXPERT

For more details about Ecospan, visit [vulcraft.com](http://vulcraft.com). Details on engineering and sales contacts for your area can be found on the site.

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