Case Study: Jolley Hall

Washington University - St. Louis, MO

TJ WIES PREFAB
Safety. Efficiency. Certainty.

Background & Context

Client: Washington University
Project Manager: Jake Moyers
Location: St. Louis, Missouri
Prefab Partner: TJ Wies Prefab
Timeline: 4-Day Panel Installation
Footprint: 5,000 SF

The Jolley Hall Penthouse project at Washington University involved enclosing upgraded mechanical equipment atop the existing structure. Due to the sensitive nature of the rooftop setting and the need for minimal disruption to campus operations, the project team opted for prefabricated wall panels to form the new enclosure.

Prefabrication was essential—not only for speed and sustainability—but also because duration of conventional was not an option due to exposing the building to weather elements, since the roof needed to be cut open for the new wall connection.. Opening the existing roof for stick-built construction was not fesible, making off-site panel fabrication the most practical and strategic choice.

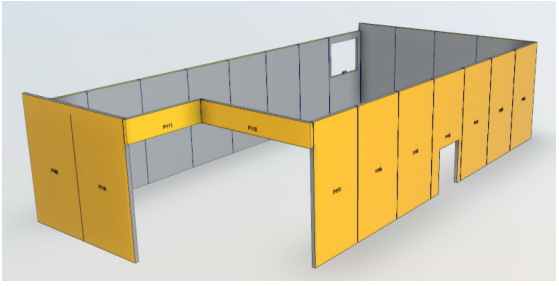
Design & Planning

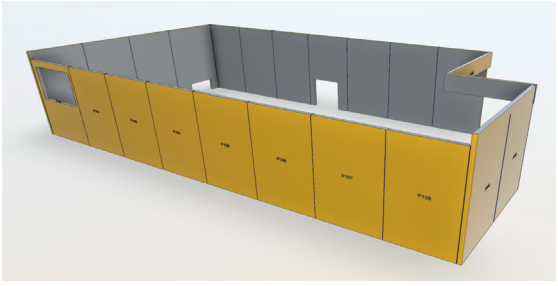
TJ Wies Prefab delivered **Sto Panel backup wall panels**, leveraging a panelized system optimized through **Building Information Modeling (BIM)** and detailed logistics planning. Early coordination ensured that the prefabrication design fit seamlessly into the site constraints, including crane access and transport paths.

Fabrication & Assembly

The wall panels were constructed off-site in the climate-controlled TJ Wies Prefab shop, ensuring high-quality fabrication standards regardless of winter weather conditions. Panels were loaded onto trucks and trailers for transport to campus, then lifted into place using a crane.

Installation was carried out in a **clockwise sequence**, allowing the crew to maintain uninterrupted access to the trailers below and avoiding crane congestion. This thoughtful sequencing was critical for maintaining momentum and keeping the site clear.





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Schedule & Efficency

Prefabrication enabled the enclosure to be completed **45% faster** than if traditional construction methods were used. The wall installation took only four days, significantly reducing site disruption and accelerating the overall project schedule.

No delays were encountered—another testament to the precision planning and collaboration across project teams.

Cost Implications

While prefabrication often requires a higher upfront investment, the **long-term savings** for this project were clear. Labor costs were reduced, and **material waste was virtually eliminated.** Additionally, prefabrication **prevented costly weather delays**, a major factor during winter construction in St. Louis.

Challenges & Solutions

Key challenges included:

- Mechanical coordination (ensuring all rooftop equipment was in place beforefinal wall panel set)
- Transporting panels in tight urban conditions
- Tolerance requirements for exact rooftop alignment

These were resolved through proactive planning, **close collaboration with the GC,** and advanced layout tools including **total station site deviation reporting.**

Sustainability & Quality

Prefabrication significantly supported Washington University's sustainability objectives. Benefits included:

- **Zero material waste**
- **Reduced energy usage**
- **Minimized environmental impact**

The climate-controlled fabrication environment also led to **superior quality control,** with tight tolerances and clean finishes that would have been harder to achieve on a cold, open rooftop.

Outcomes & Takeaways

The use of prefabrication delivered:

- Substantial time savings
- Lower field labor costs
- Improved quality and reduced rework

Mitigating the risk of water infiltration was a major benefit of prefabricating this vertical expansion. With a fast enclosure time, we prevented any damages to the occupied spaces below which greatly reduced risk of the owner and GC along the potential to reduce the General Contractor's Builder's Risk Policy on the project.

Alberici and Washington University continue to embrace prefabrication on future projects.

"Prefabrication of the penthouse helped minimize the amount of time the existing building's interior was exposed while making the roof tie-ins. It also minimized our footprint on a tight site"
- Cole Butcher, Project Director
Alberici Constructors, Inc.

For more info about TJ Wies Prefab or to schedule a time to review your upcoming project, please contact ***info@tjwiesprefab.com & dlakey@tjwies.com***.