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VESTERHEIM

The National Norwegian-American
Museum and Folk Art School

vesterheim.org



Winneshiek Energy District Lunch and Learn

- Brief Description of Vesterheim Commons.
- Efficiency and sustainability as a priority.
- Recognitions and Awards.
- What went well?
- What would Vesterheim have done differently?
- Questions?





Snøhetta 



A man in a dark suit and glasses is leaning over the table, looking at the documents and sticky notes. He appears to be leading the discussion or providing input.

A woman with short dark hair is sitting at the table, looking towards the man in the suit. She has her hands clasped in front of her.

A woman with blonde hair and glasses is sitting at the table, gesturing with her hands as if explaining something. She is wearing a dark green patterned top.

A man in a maroon sweater is sitting at the table, resting his chin on his hand and listening intently to the woman with blonde hair.

A whiteboard is visible in the background, with some faint writing on it. A man in a grey jacket is standing near the whiteboard, possibly writing or erasing something.

A bottle of SYNERGY water is on the table.

A white cup is on the table.

A roll of blue tape is on the table.

Several markers are on the table.

Sticky notes and a diagram are on the table.



TATTOO
Identity Through Ink



2017 APRIL 26, 2017

and Country

VESTERHEIM
NORWEGIAN
AMERICAN
MUSEUM

The National
Region American



Strong Roots
Bold Future

THE CAMPAIGN TO
GROW VESTERHEIM









Vesterheim Building



Dayton House



Cary Garage



Cary Building



Arthaus

Westby-Torgerson Education Center

(Cary Blacksmith Garage Behind)



Oculus Open to Mezzanine

Oculus Ring Beam & Structural Support

Mech Equipment Providing Tight Thermal Control





Embodied Carbon Emissions and Massed Timber Construction

What is Embodied Carbon? Embodied Carbon is defined as the greenhouse gas emissions that result from the manufacture, transportation, installation, maintenance, and disposal of building materials. A sustainability goal of this project is to use construction materials and strategies that lower embodied carbon emissions. One key construction material being used in Vesterheim Commons is a massed timber framework.

The use of a massed timber building component not only fits with Vesterheim's narrative and the extensive use of wood in its historic buildings and in the Folk Art School, but it also allows for the ability to use sustainably harvested wood as the primary building framework.

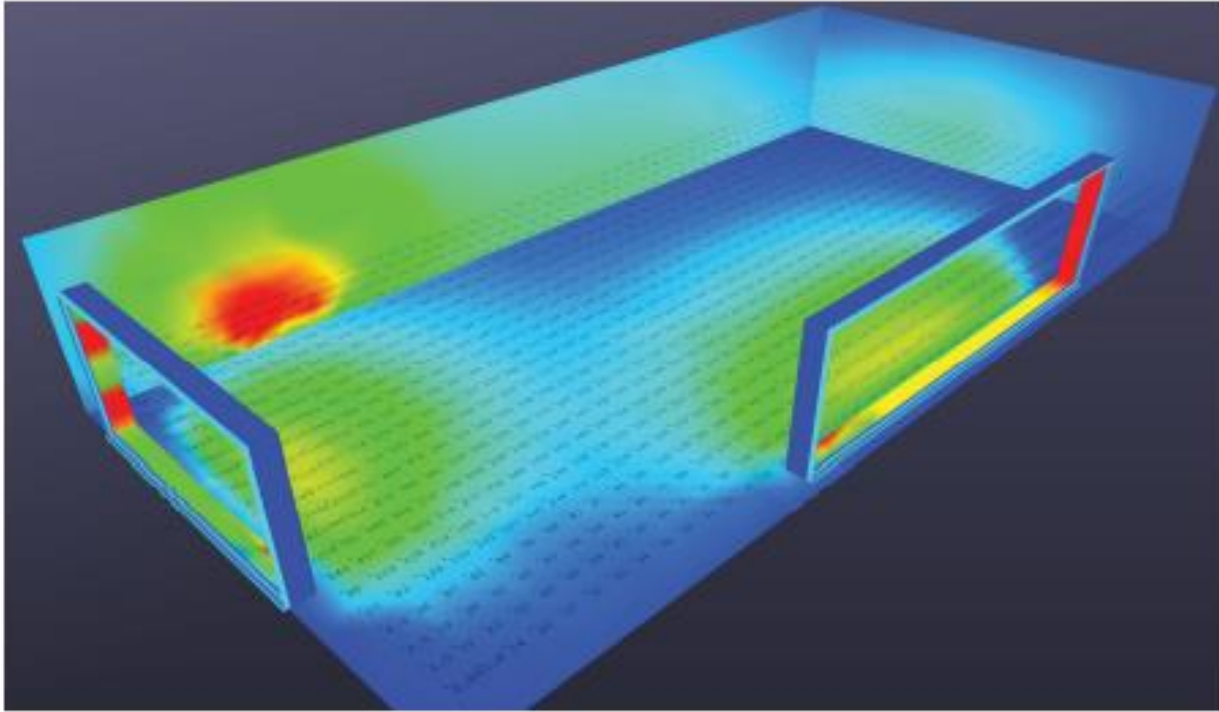
The exposed structure of a massed timber framework requires fewer interior finishes and chemicals, and therefore also has an impact on indoor air quality.



Massed timber construction offers improved insulation performance compared other structural materials, less energy in the manufacturing process, less transportation costs if sourced locally, and because of its relative light weight, requires a less-substantial foundation than other building methods.



Daylight Modeling Studies



The design of Vesterheim Commons used daylight modeling studies to evaluate daylight quality, quantity, and distribution through the building, and identified opportunities to better coordinate natural daylight with electric lighting for potential energy saving.

Operational Energy Efficiency

Vesterheim Commons is being designed to use both passive and active strategies to make for a high-performance building that uses energy wisely, and helps to lower operational costs in the long-term.

The building's distinctive marquee provides shading to help keep the first-floor spaces cooler in summer months. During winter, when the sun is at a low angle, natural daylight provides passive solar heat to this space.

Operationally the building will include high-efficiency HVAC systems, lighting, appliances, and building control strategies.



Strategic placement of windows within the building takes advantage of natural daylight in public spaces, while keeping collections areas at acceptable light levels.

Well insulated walls and high-performance glass helps to keep the building cool in the summer and warm in the winter.



Building Marquee

- Marquee keeps first-floor space cooler in summer and allows for passive solar heat in winter.

Window Placement

- Strategic placement of windows allows for natural daylight in public spaces while keeping collections areas at acceptable levels.



Site and Landscape



Vesterheim Heritage Park uses permeable paver systems in its design to capture and gradually release rainwater so as not to overwhelm Decorah's storm sewer system. This helps to protect the Upper Iowa River watershed.

Improved soils and the incorporation of native perennials and trees help Vesterheim Heritage Park to hold more moisture in the ground, thereby helping to control runoff and erosion.

The lighting systems in Vesterheim Heritage Park and around Vesterheim Commons are designed to provide safe illumination for evening events, while at the same time controlling light pollution to the nearby residential neighborhood.



Recognitions and Awards

2023 Low-Rise Buildings Category Award (Iowa Ready Mixed Concrete Association)

2023 Commercial/Industrial Decorative Category Award (Iowa Ready Mixed Concrete Association)

2024 Wood in Architecture Award (Woodworks Wood Products Council)

2024 Mies Crown Hall Americas Prize Nominee

2024 Excellence in Energy Efficient Design Award

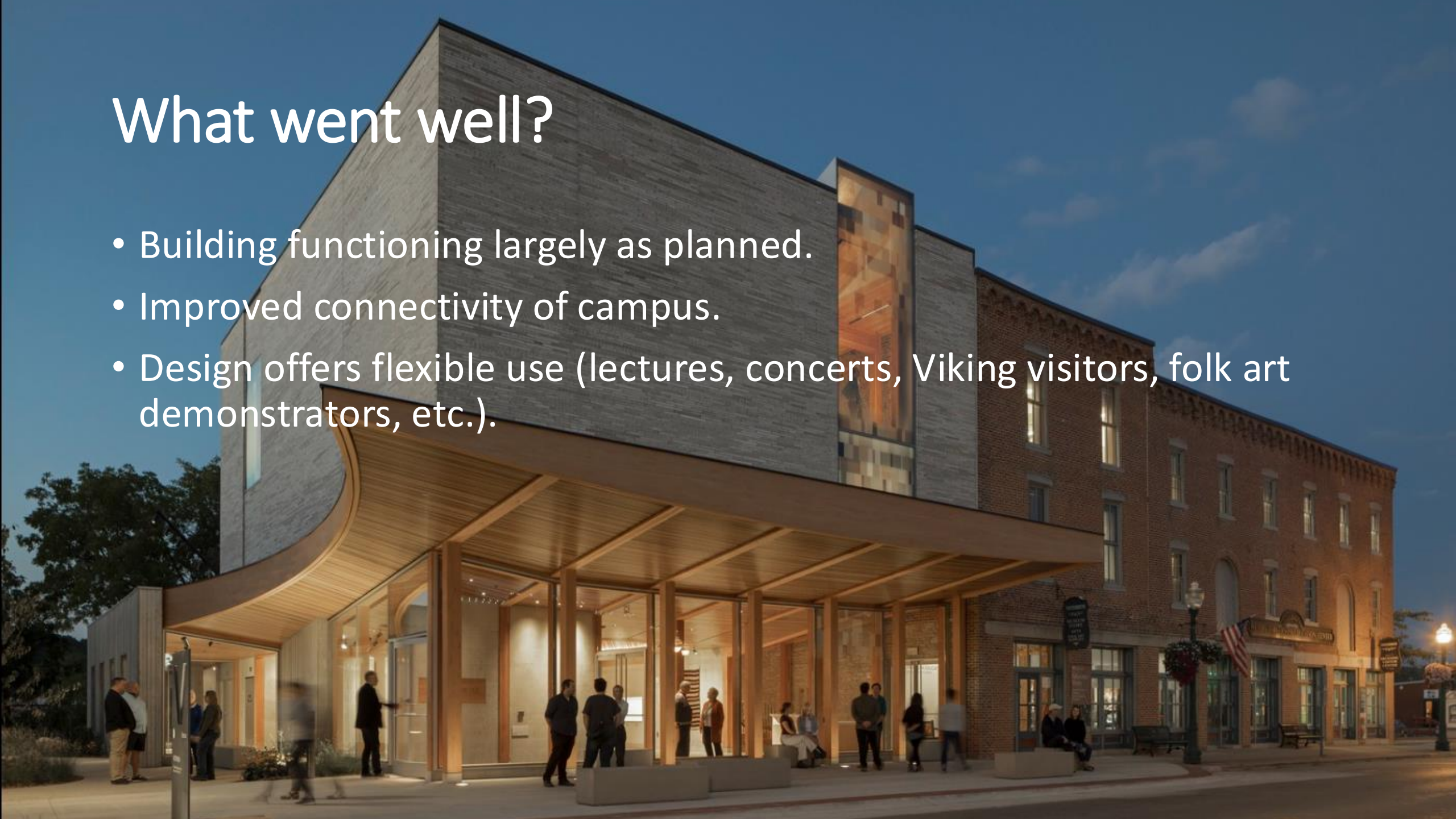
(Iowa AIA) for achieving

37% annual energy savings when compared to the Commercial New Construction (CNC) program baseline.



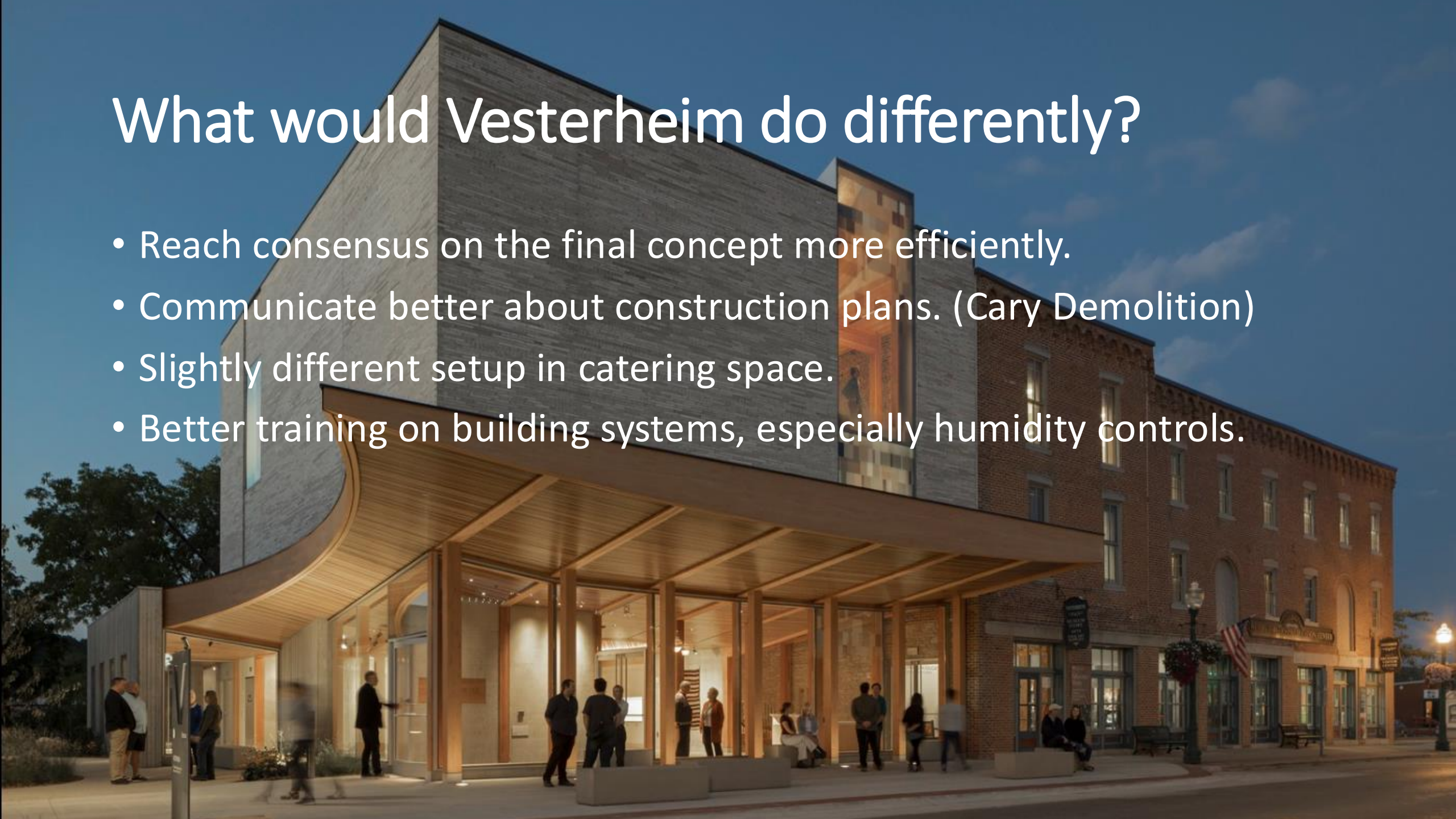
What went well?

- Building functioning largely as planned.
- Improved connectivity of campus.
- Design offers flexible use (lectures, concerts, Viking visitors, folk art demonstrators, etc.).



What would Vesterheim do differently?

- Reach consensus on the final concept more efficiently.
- Communicate better about construction plans. (Cary Demolition)
- Slightly different setup in catering space.
- Better training on building systems, especially humidity controls.



Questions?



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