SANDFORD FLEMING FORUM

Structural Resilience - How Building Systems Improve Operational Resilience

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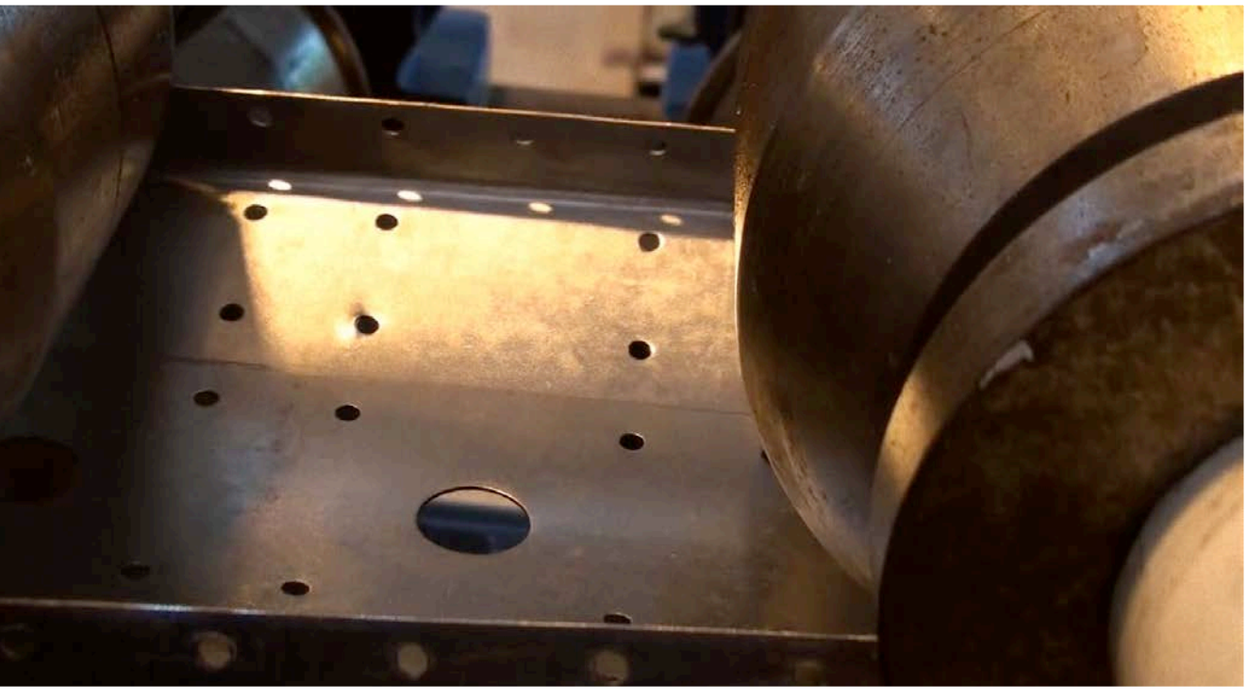
UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING

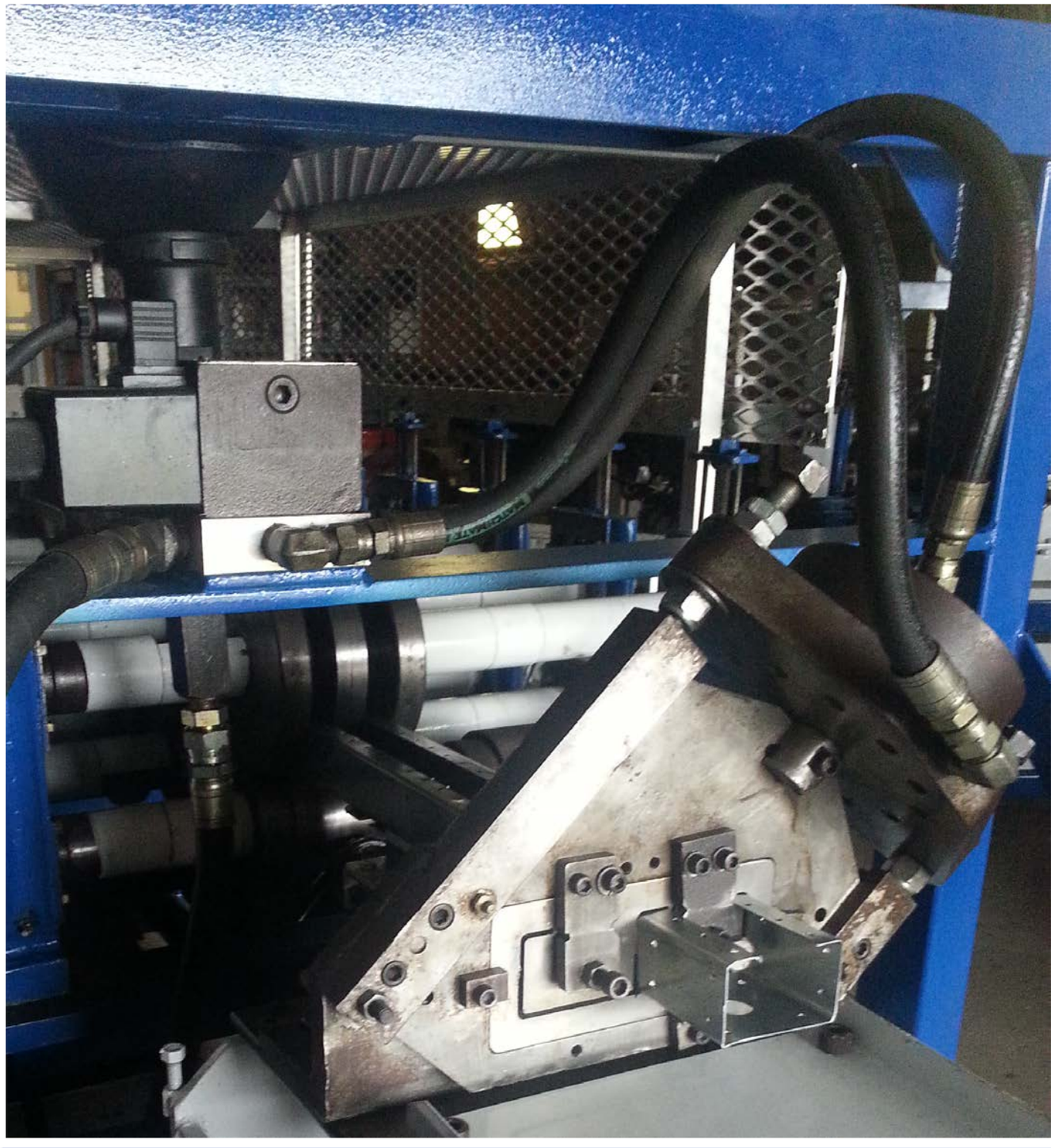
What is Light Gauge Steel (LGS) Framing?

Galvanized flat steel coils shaped by cold roll forming machines into studs (channel) and track.

REISA

What is Light Gauge Steel (LGS) Framing?





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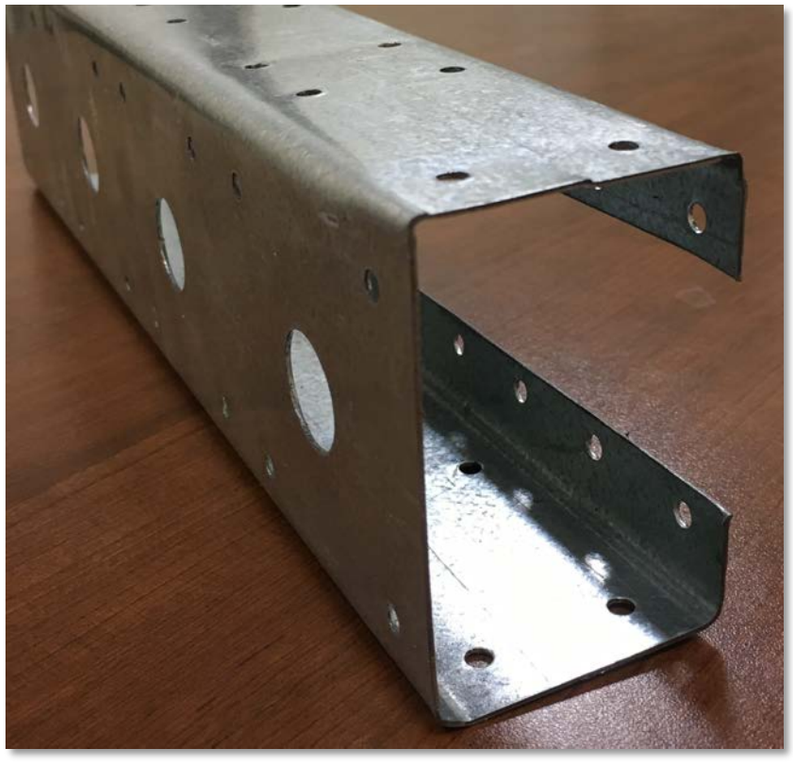

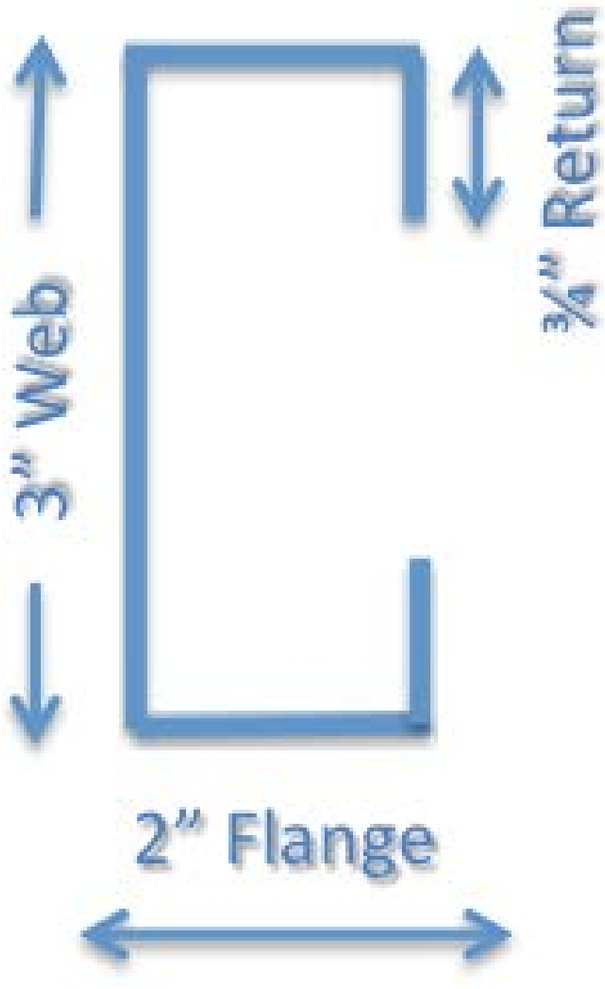

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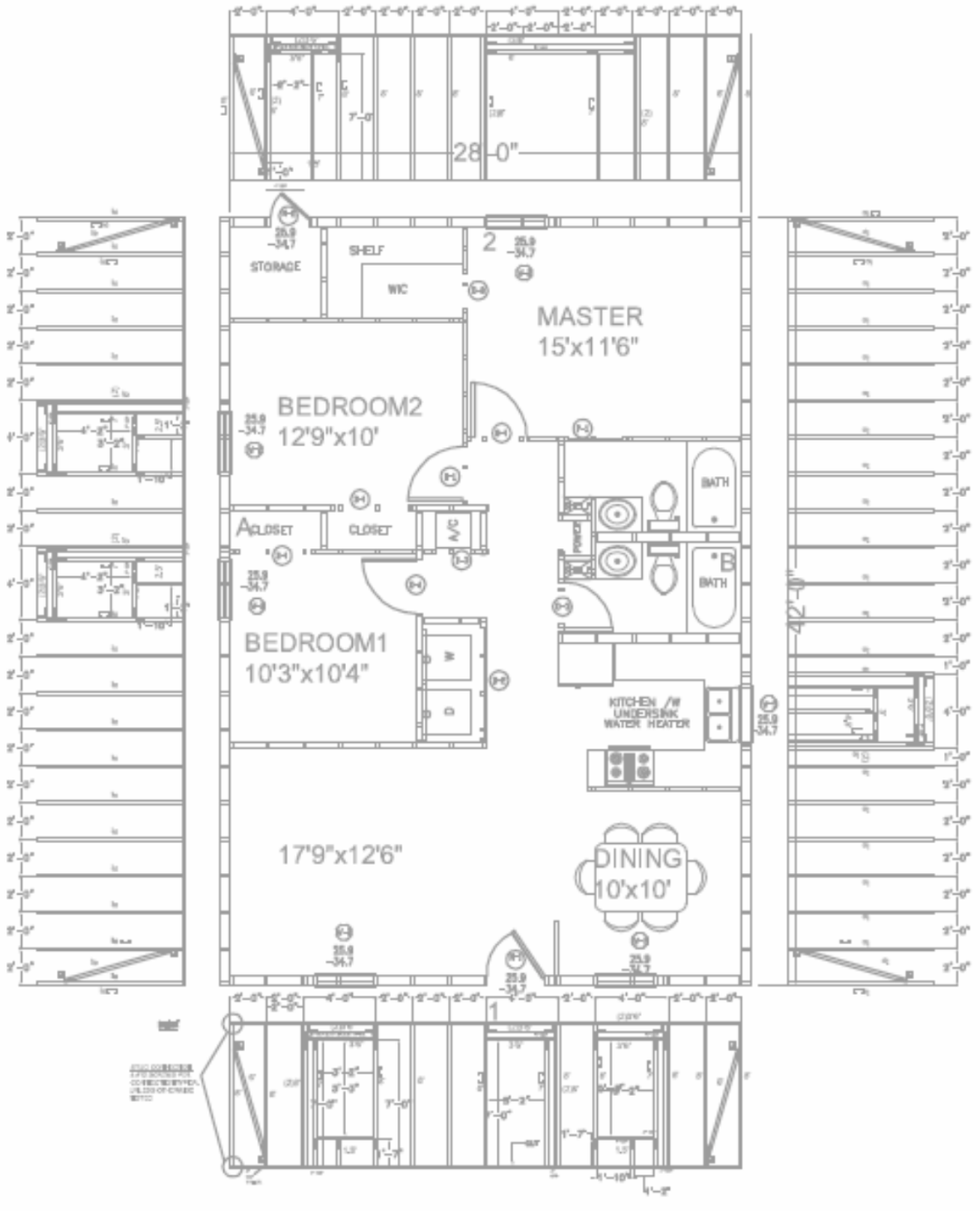
Resilience Begins with Design

Optimize LGS by integrating it at the forefront of design. What are the area conditions and building requirements?

- Repair/replacement resilience
- Seismic requirements
- Climate conditions
- Ecosystem



FLOOR PLAN, WALL SECTIONS, STUD PLACEMENT

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LGS Building Application Examples

Residential

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LGS Building Application Examples

Multi-Tenant

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LGS Building Application Examples

Hotels and Multi-Story Buildings

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LGS Building Application Examples

Industrial & Commercial

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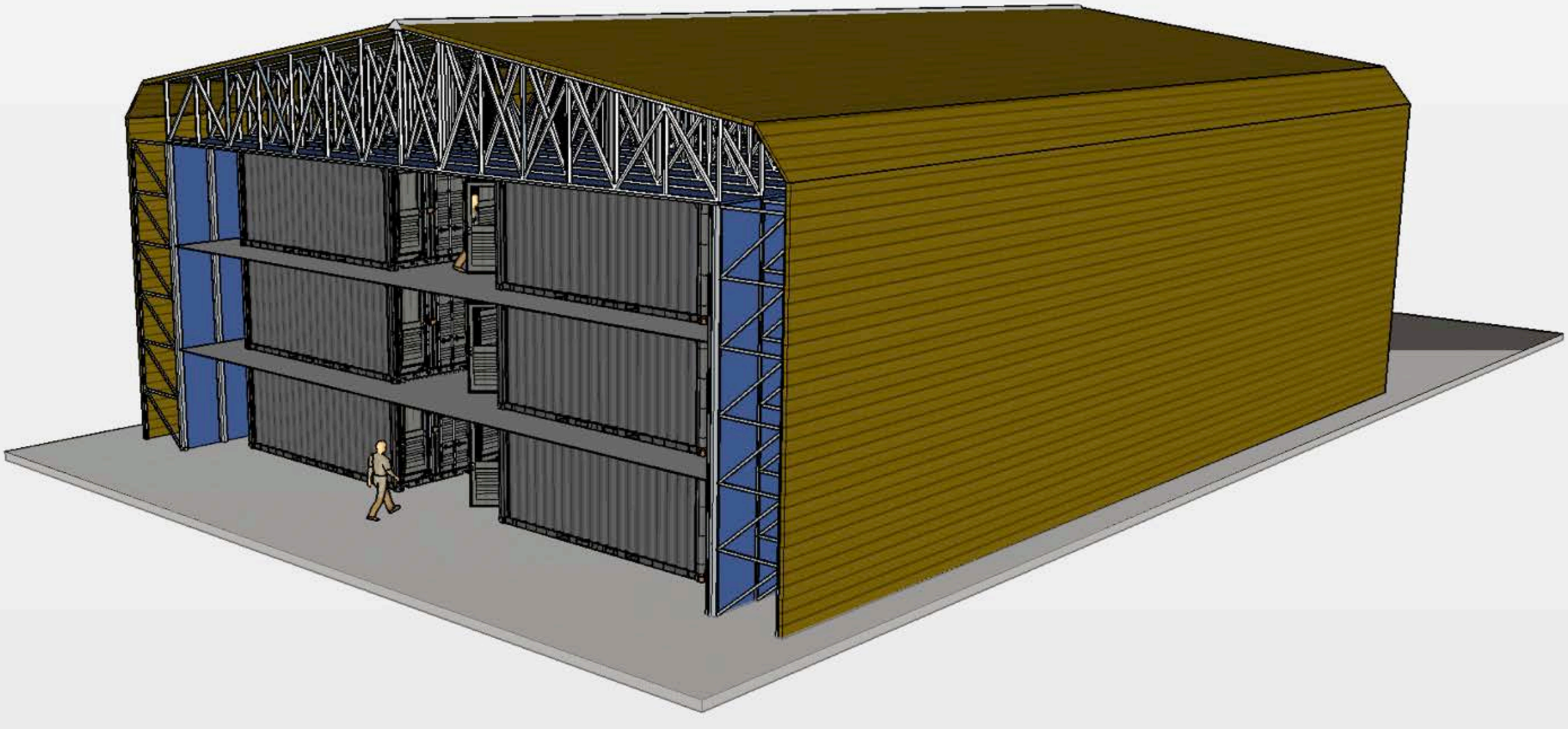
LGS Building Application Examples

Ballistics Protection



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LGS Building Application Examples

Interior Remodeling

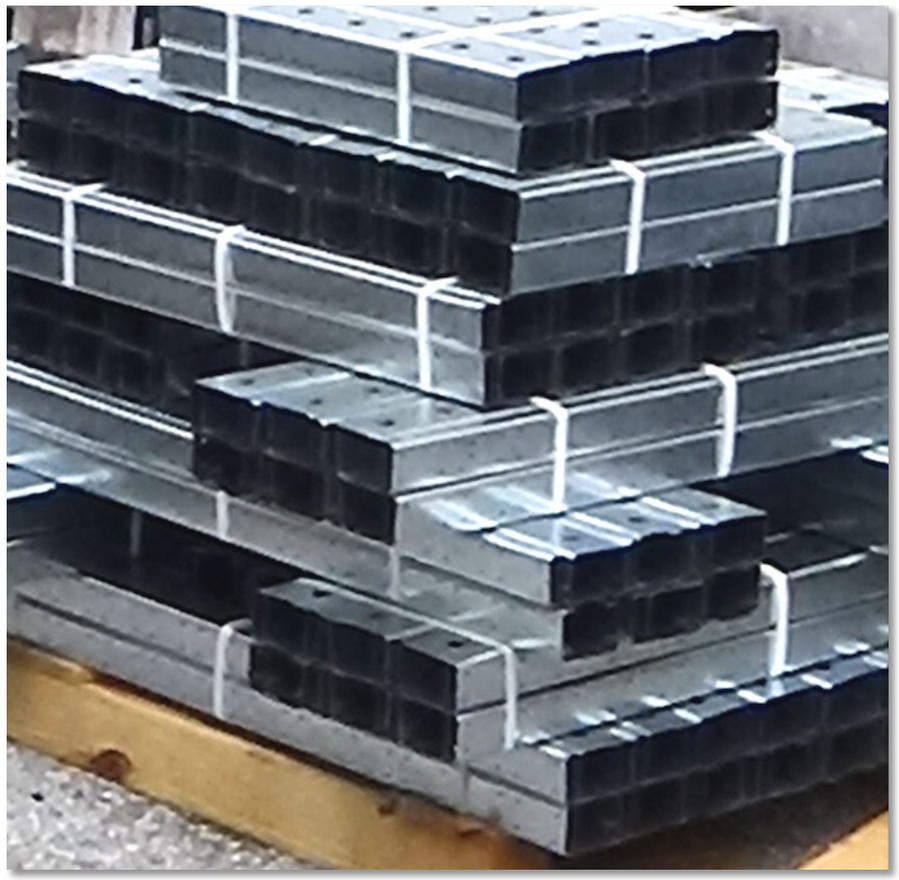
Resilience in Maintenance

- LGS does not attract insects such as termites.

- With no moisture absorption there is no warping, mold, or mildew.

Resilience in Quality Control

- Consistent material quality which also ensures a consistent quality of finishes.



Resilience in Speed of Construction

- Shorter construction time results in faster repairs after a disaster, earlier occupancies and lowered financing costs.

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Resilience in Strength

- LGS has the highest strength to weight ratio compared with other conventional materials such as wood and block.

Resilience in Logistics

- LGS components are lighter than wood and nestle together for compact shipping.

- LGS forming can be localized to a jobsite for large building projects.

Resilience in Eco-Consciousness

- Wood wastage on jobsites ranges from 10-20% and is higher in some cases due to the poor quality of wood.

- Precut steel framing minimizes jobsite waste. Any remaining material can be sold as scrap.

- Steel is 100% recyclable without losing its properties and can be magnetically separated from other

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Health and Life Safety
Indoor Air Quality (IAQ)

- **LGS is inert and does not effect air quality**

Health and Life Safety
Fire Protection

- Steel is non combustible and does not contribute to the spread of fire. It will begin to fail at approximately 1,100°F

- Wood combusts at approximately 450°F

Health and Life Safety
Earthquake & Hurricane Resistance

- REISA Steel can be engineered to withstand winds in excess of 150mph.

- REISA Steel is laboratory tested to withstand earthquakes of a 10+ magnitude on the Richter scale.

Health and Life Safety
Earthquake & Hurricane Resistance

- 28,000 homes were destroyed when hurricane Andrew hit the Miami-Homestead, FL area with wind gust up to 200mph.
- This home was built with REISA Steel in the same area and endured no structural damage during the hurricane.

Health and Life Safety
Reduced Insurance

- Structures framed with LGS qualify for a reduction in insurance premiums.

Thank You!

Thank you for your time!

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