

PODS AND MODS : MODULARITY AS A RESPONSE TO THE SKILLS GAP IN MANUFACTURING

THEORETICAL PREMISE

How can we equip our youth in schools, both urban & rural, with the technological & architectural resources needed to mitigate the growing skills gap while fostering mentorship?

CHALLENGES TO DEFINE

- 1) Future manufacturing technology
- 2) Adaptable building environments
- 3) Customizable building options
- 4) Rural vs. Urban serviceability

THE SOLUTION IS NOT

- 1) Site specific
- 2) Specific to one technology but a host for many

THE SOLUTION IS

- 1) adaptable to most sites, transportable and self-sustaining
- 2) a skeletal framework or system a kit of parts can affix to
- 3) similar to modern makerspaces currently rising in popularity

MY SOLUTION

Modular Shipping Containers

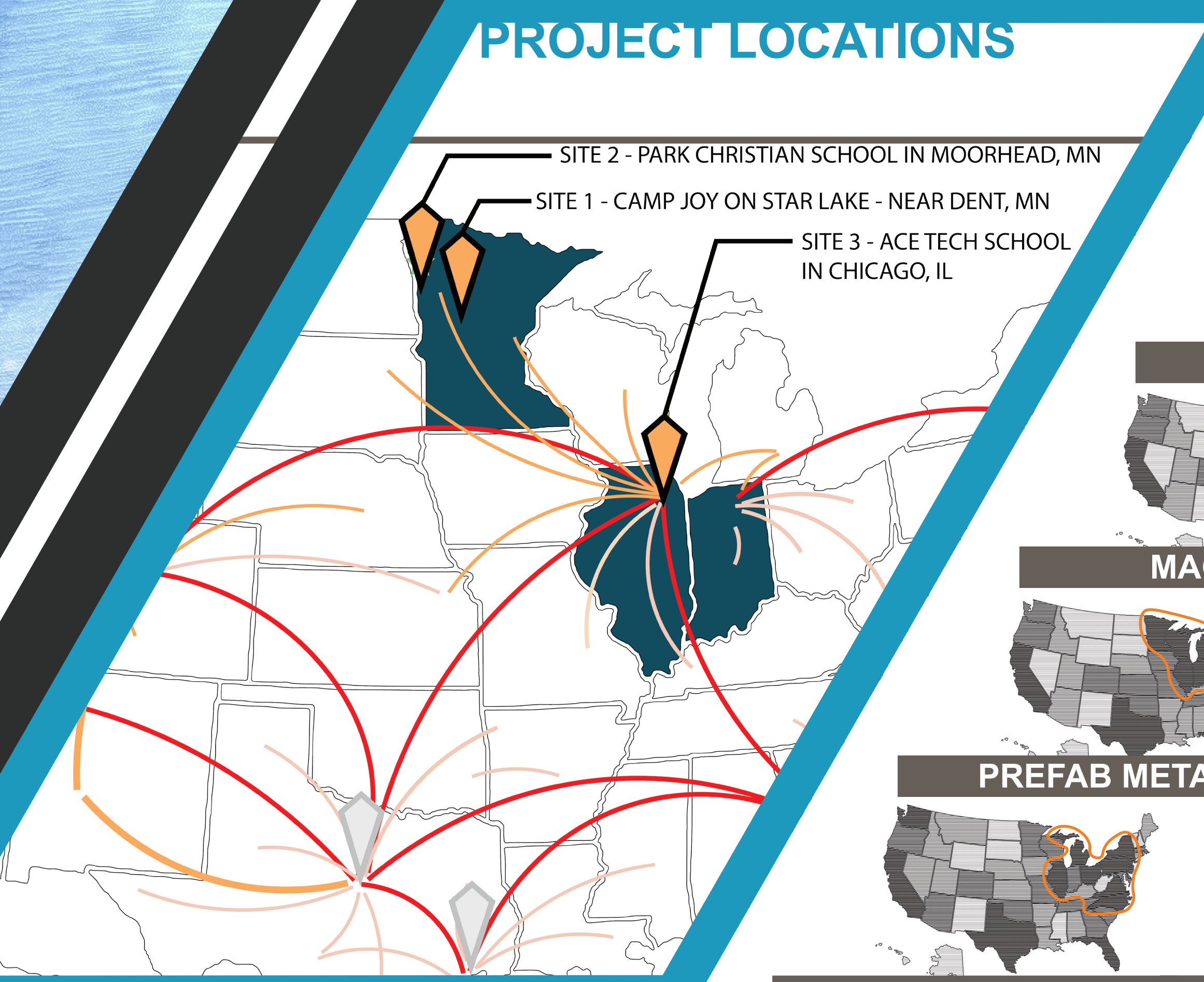
BENEFITS OF CONTAINERS

- 1) Scalable, Stackable, Structural
- 2) Affordable and currently in overstock
- 3) Shiftable & Transportable
- 4) Aesthetically relevant to manufacturing

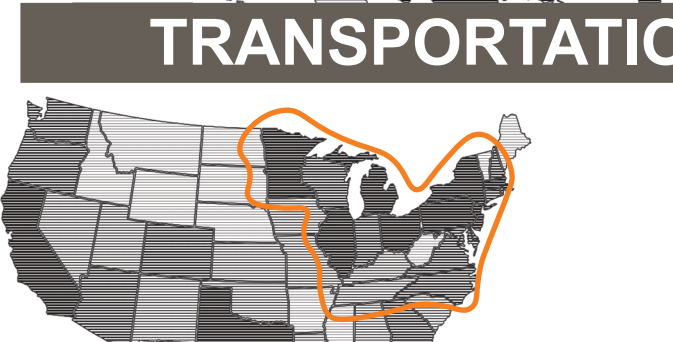


PROJECT LOCATIONS

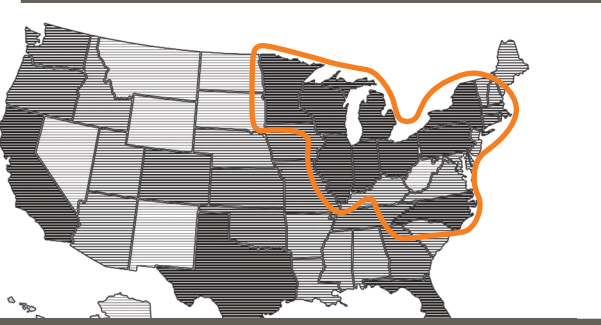
- SITE 2 - PARK CHRISTIAN SCHOOL IN MOORHEAD, MN
- SITE 1 - CAMP JOY ON STAR LAKE - NEAR DENT, MN
- SITE 3 - ACE TECH SCHOOL IN CHICAGO, IL



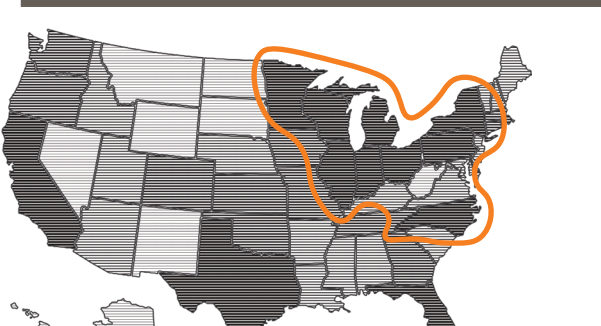
TRANSPORTATION



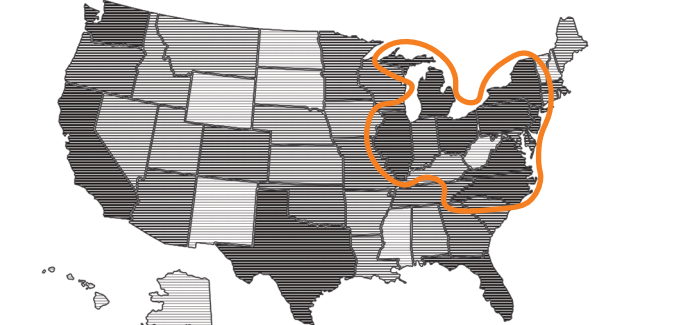
COMPUTERS



MACHINES



PREFAB METALS

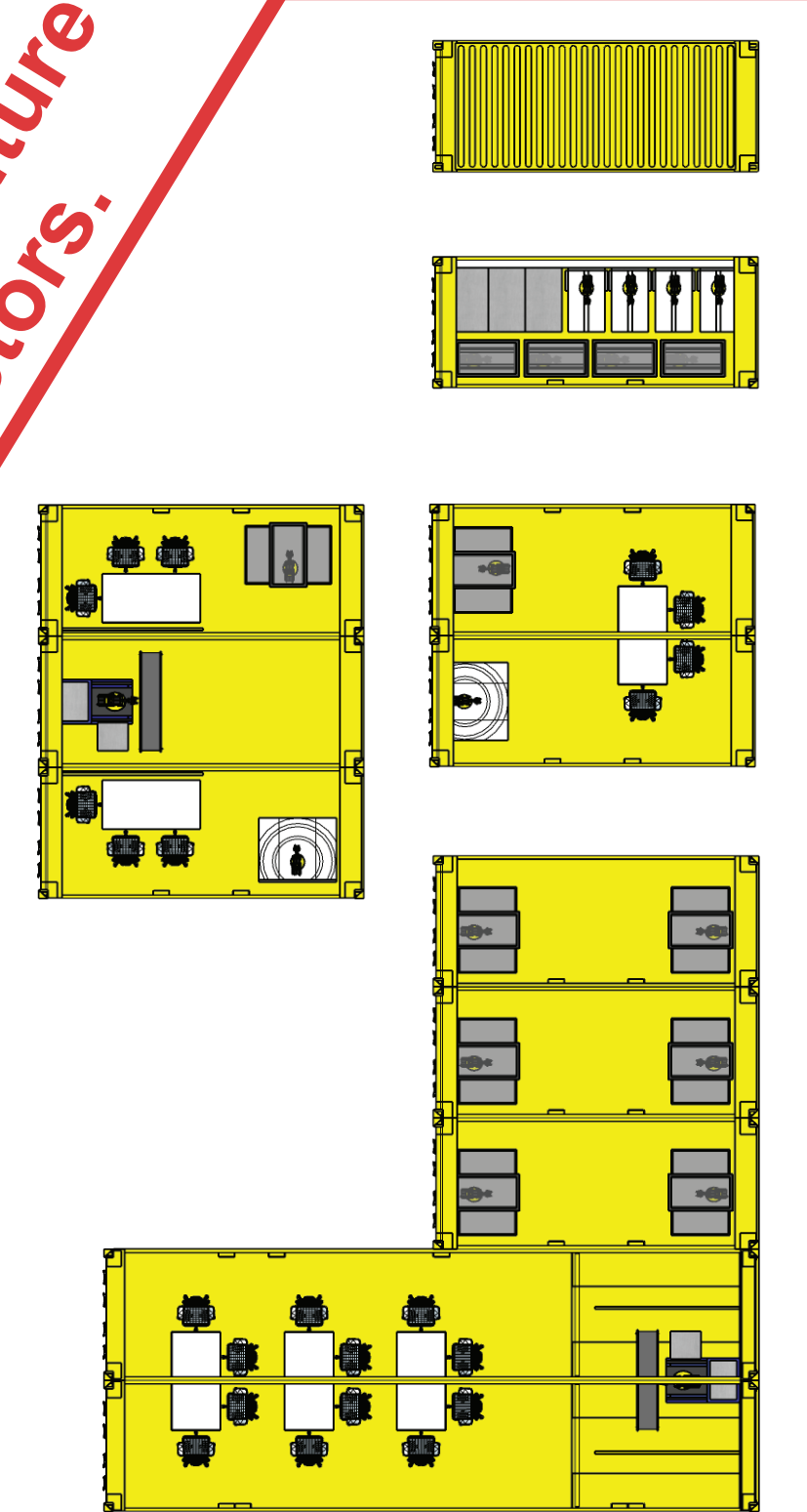


SPECIALTY TRADES

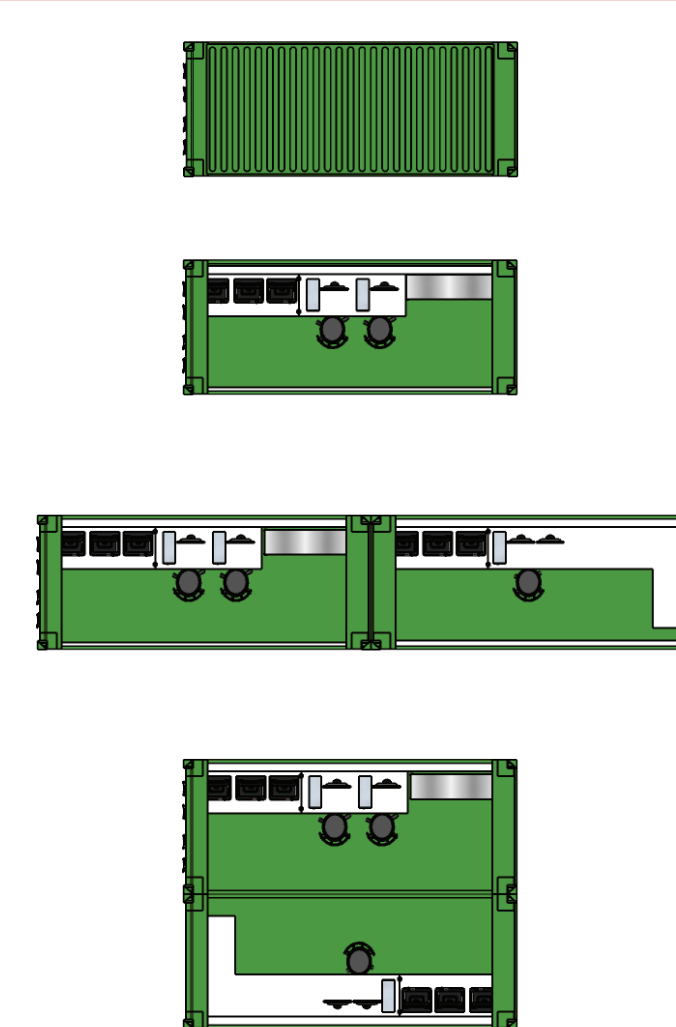
Five of the Top Ten manufacturing sectors with the highest employment, pay, & value shipments in exports.

Technology expected to shape the future in these top manufacturing sectors.

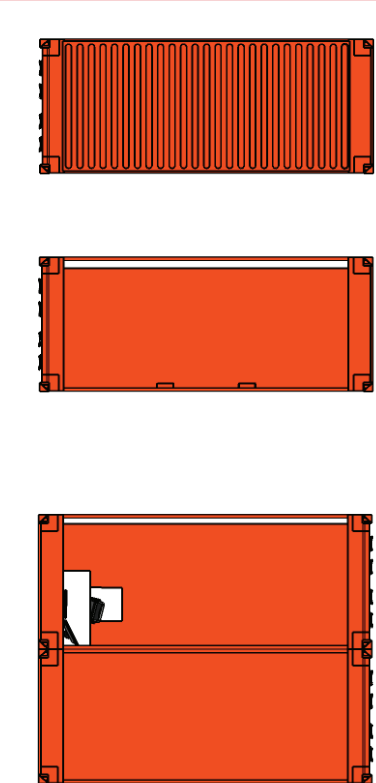
ADVANCED ROBOTICS



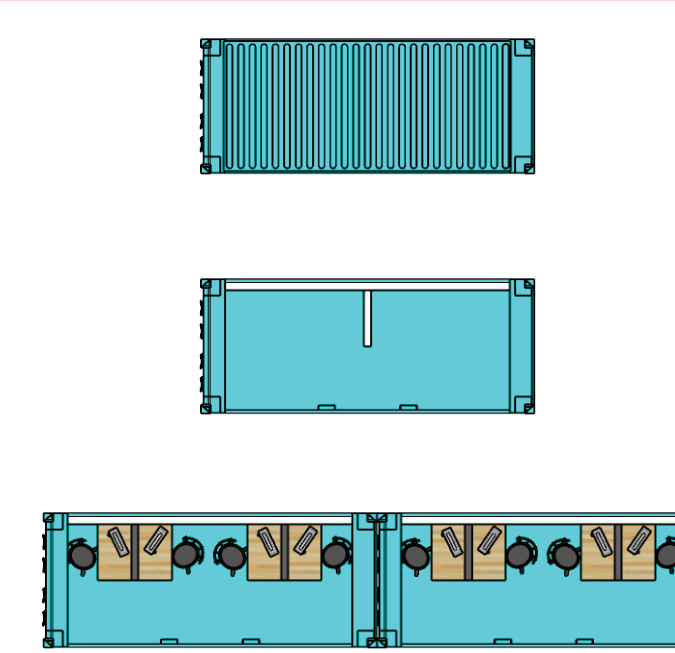
3D PRINTING



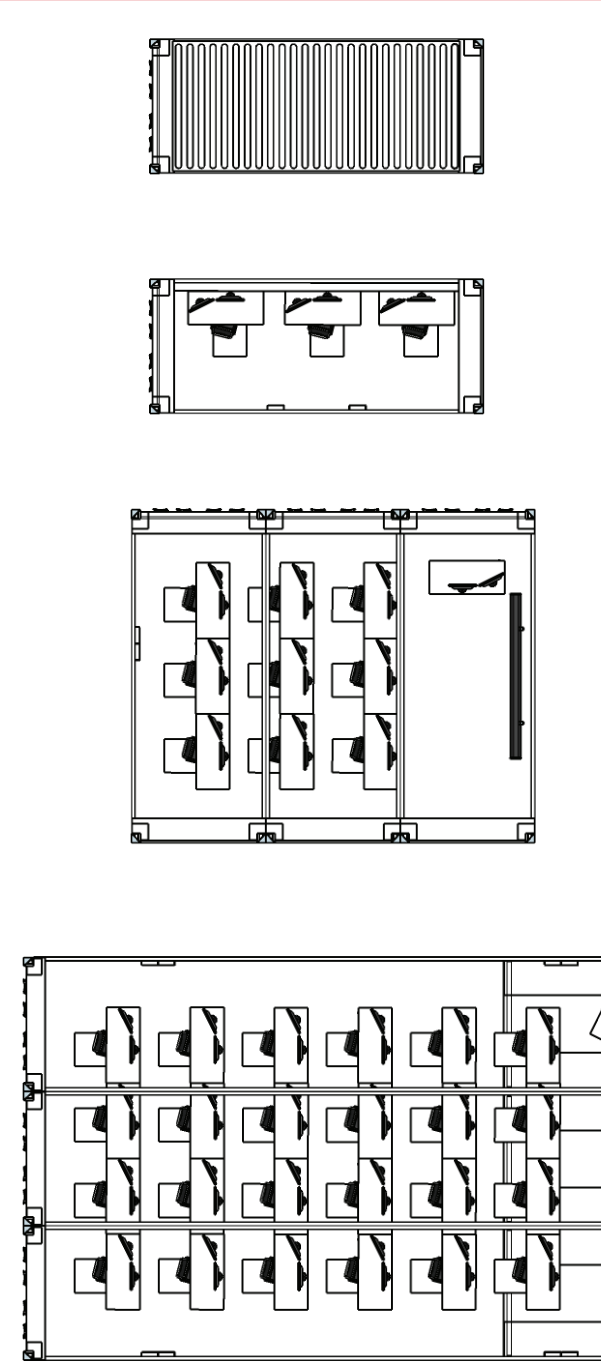
3D SCANNING



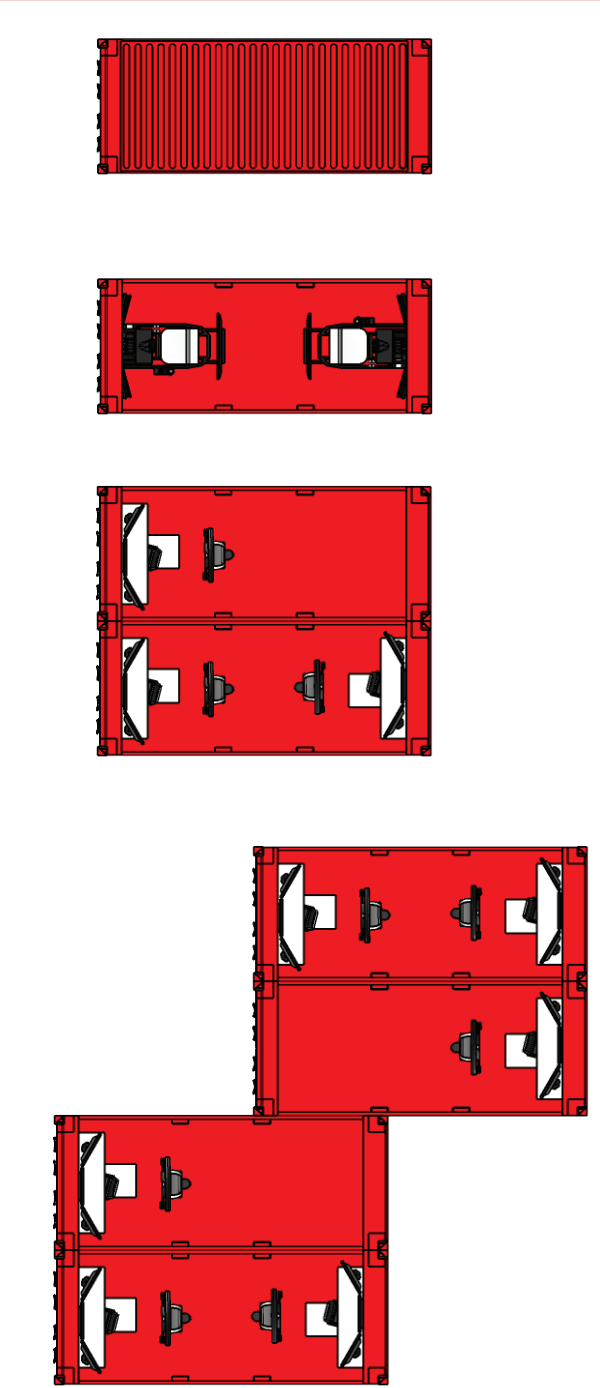
MANUFACTURING TRAINERS



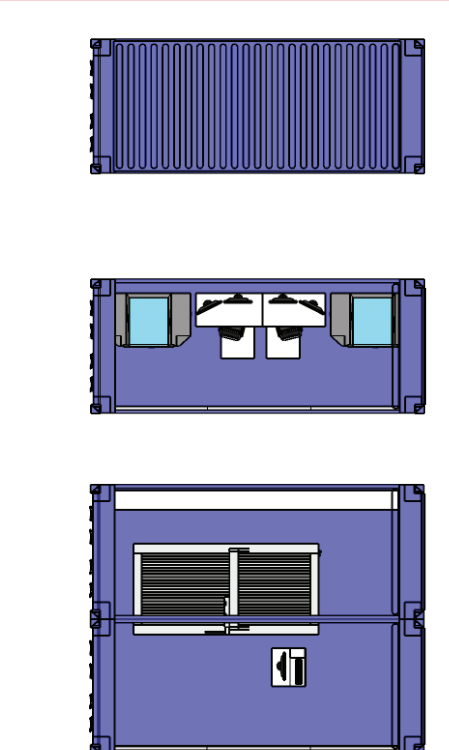
PREDICTIVE ANALYTICS



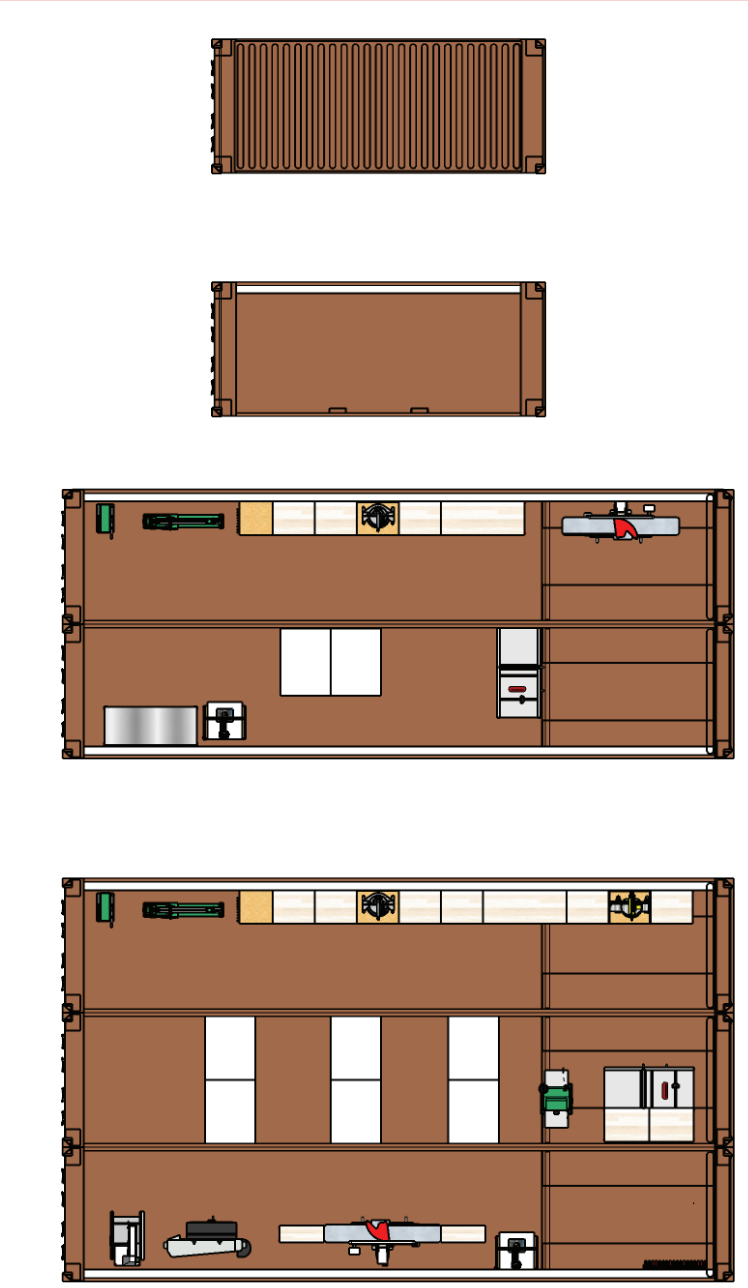
CONSTRUCTION SIMULATORS



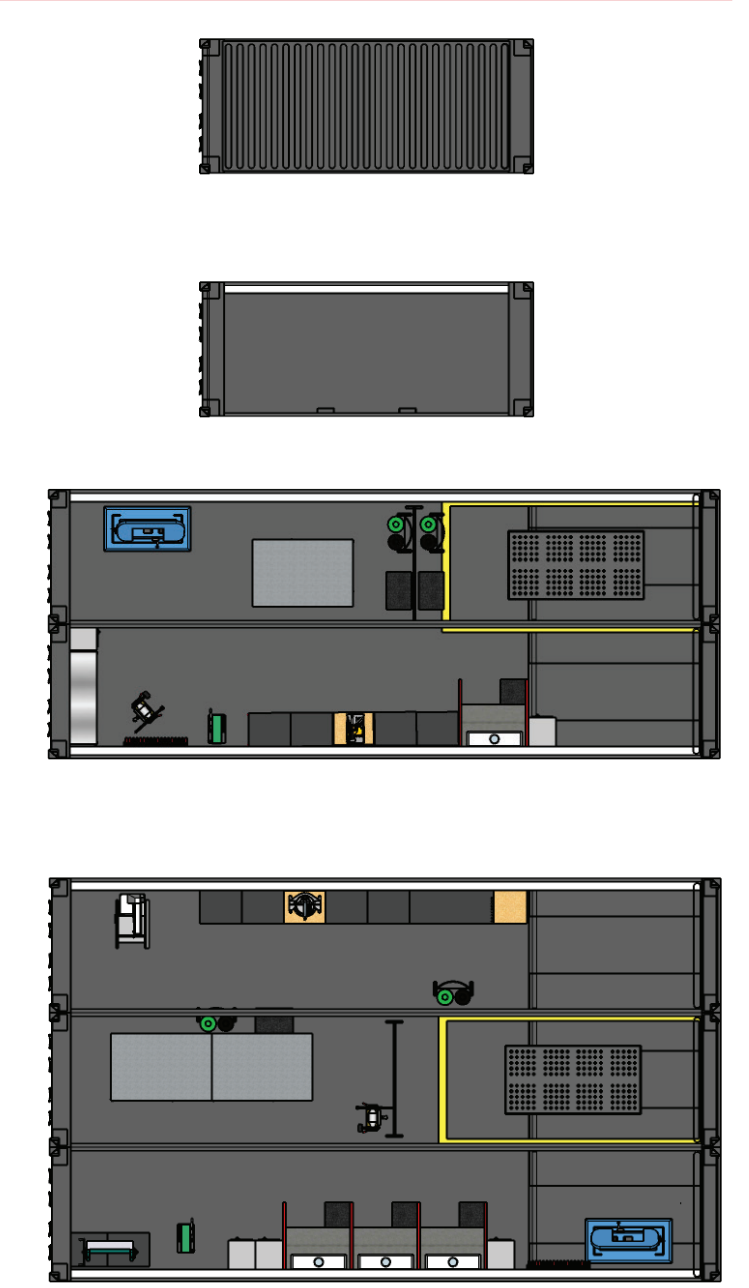
CNC & LASER CUTTING



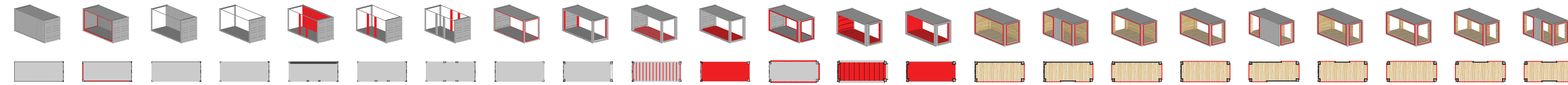
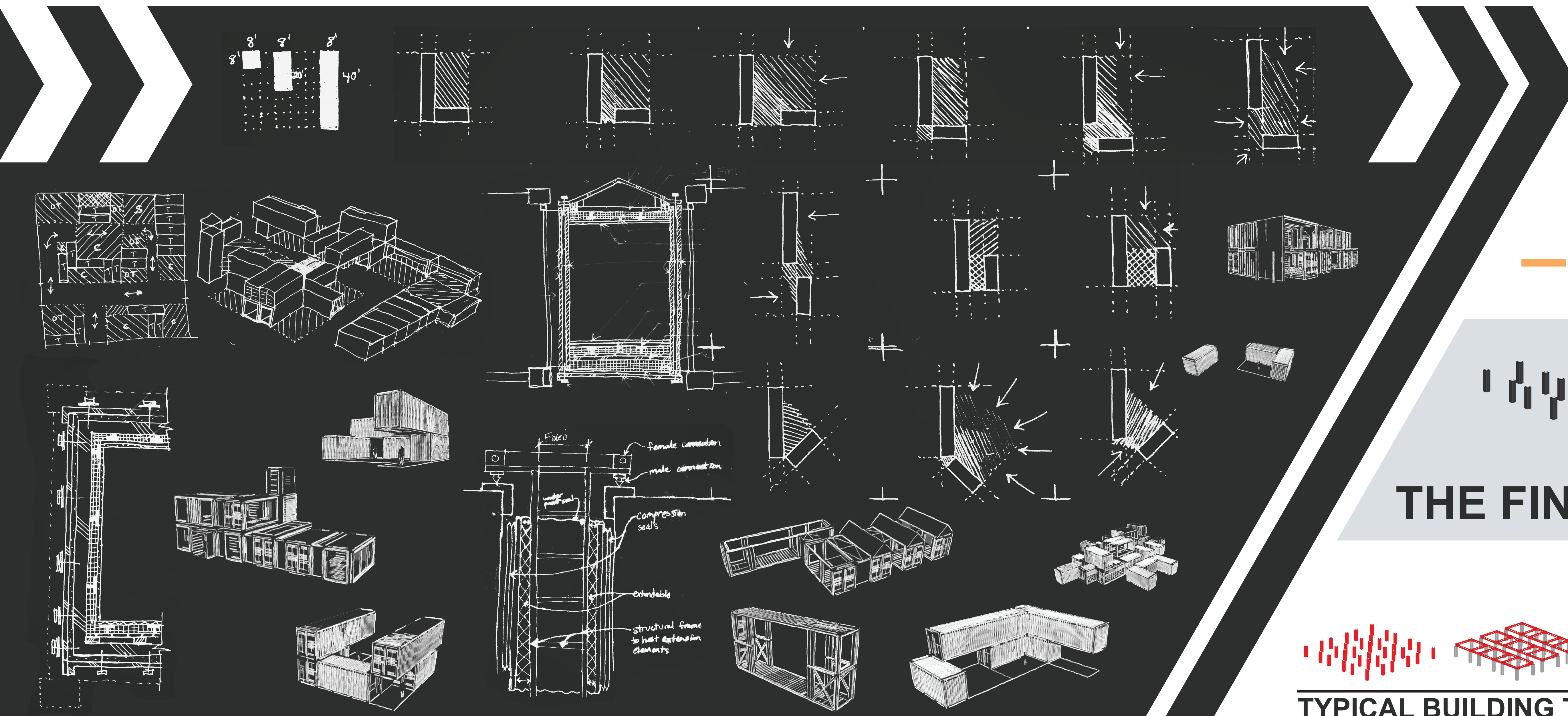
BASIC WOOD SHOP



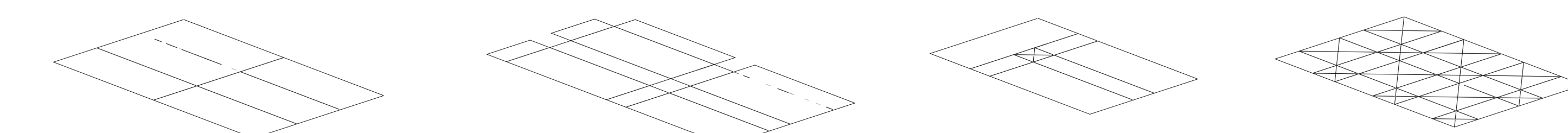
BASIC METAL SHOP



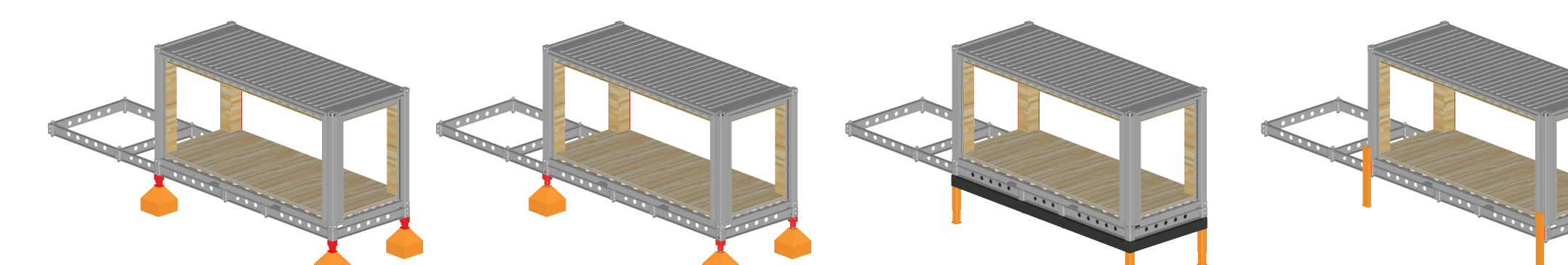
PROCESS



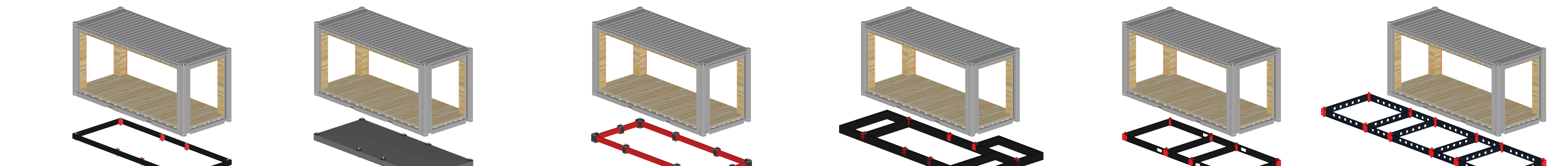
CONTAINER MODIFICATION ITERATIONS



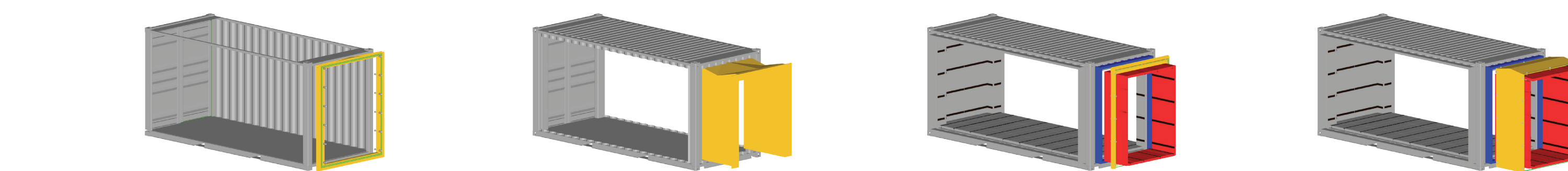
GRID ITERATIONS



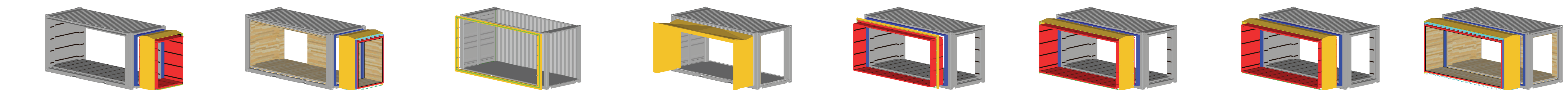
GROUND CONDITION ITERATIONS



LEVEL BUILDER ITERATIONS

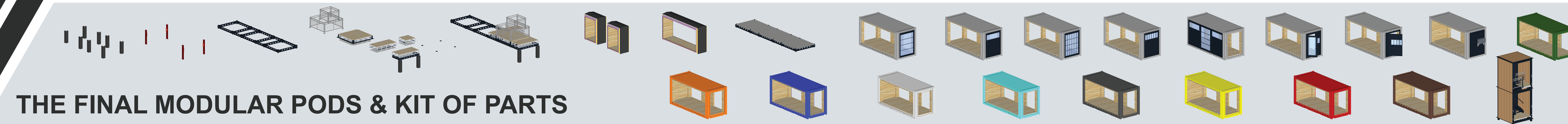


SMALL CONNECTOR ITERATIONS

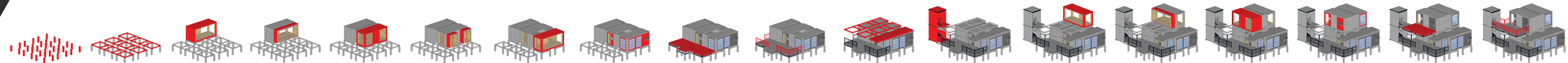


LARGE CONNECTOR ITERATIONS

FINAL
ITERATION
CHOSEN

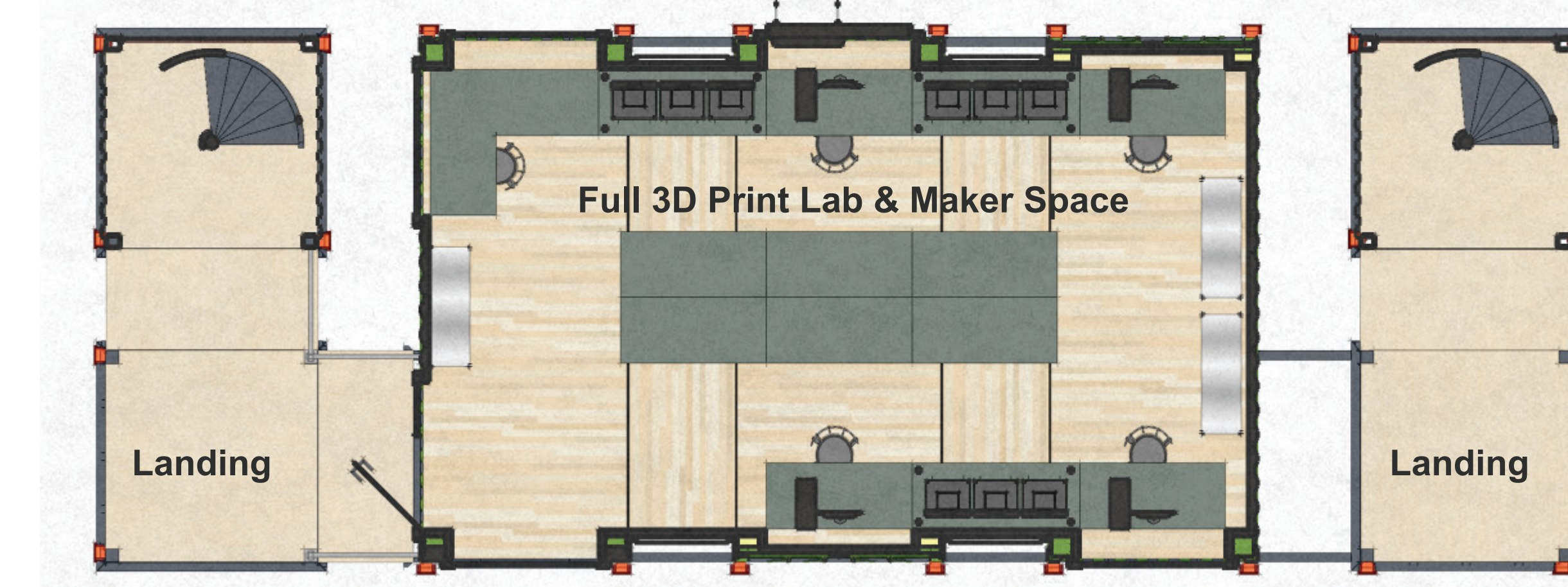


THE FINAL MODULAR PODS & KIT OF PARTS

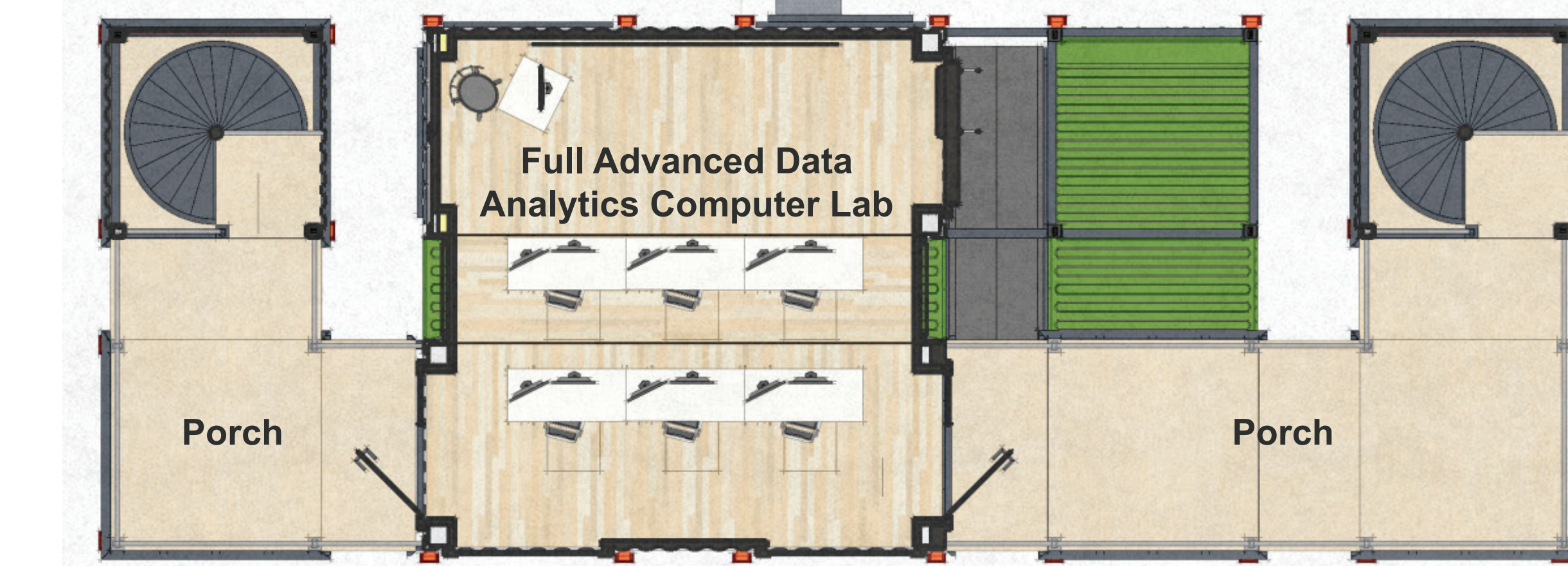


TYPICAL BUILDING TIMELAPSE

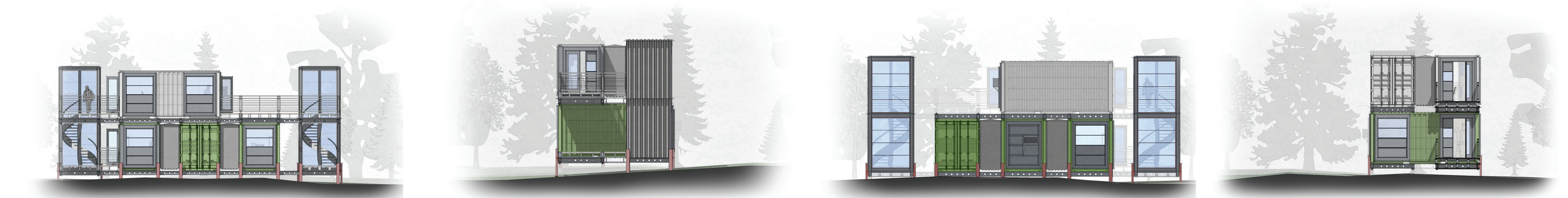
SITE 3 › ACE TECH SCHOOL CHICAGO, IL



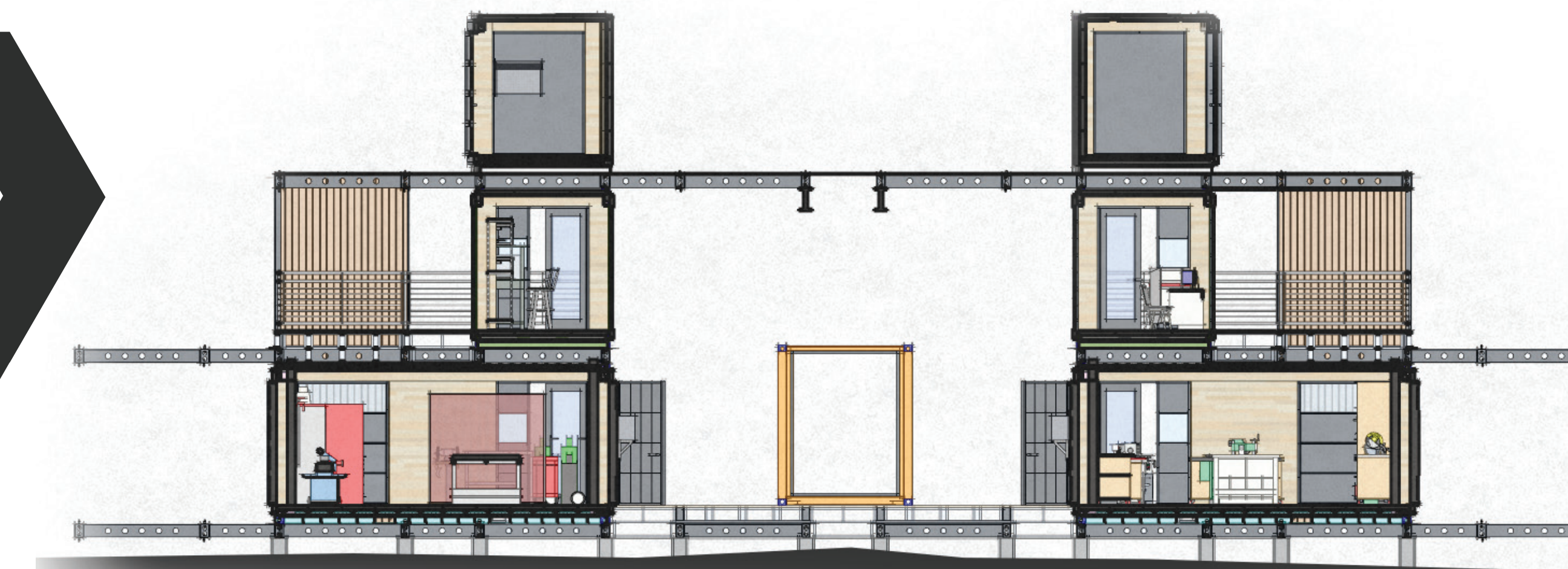
1st Floor



2nd Floor



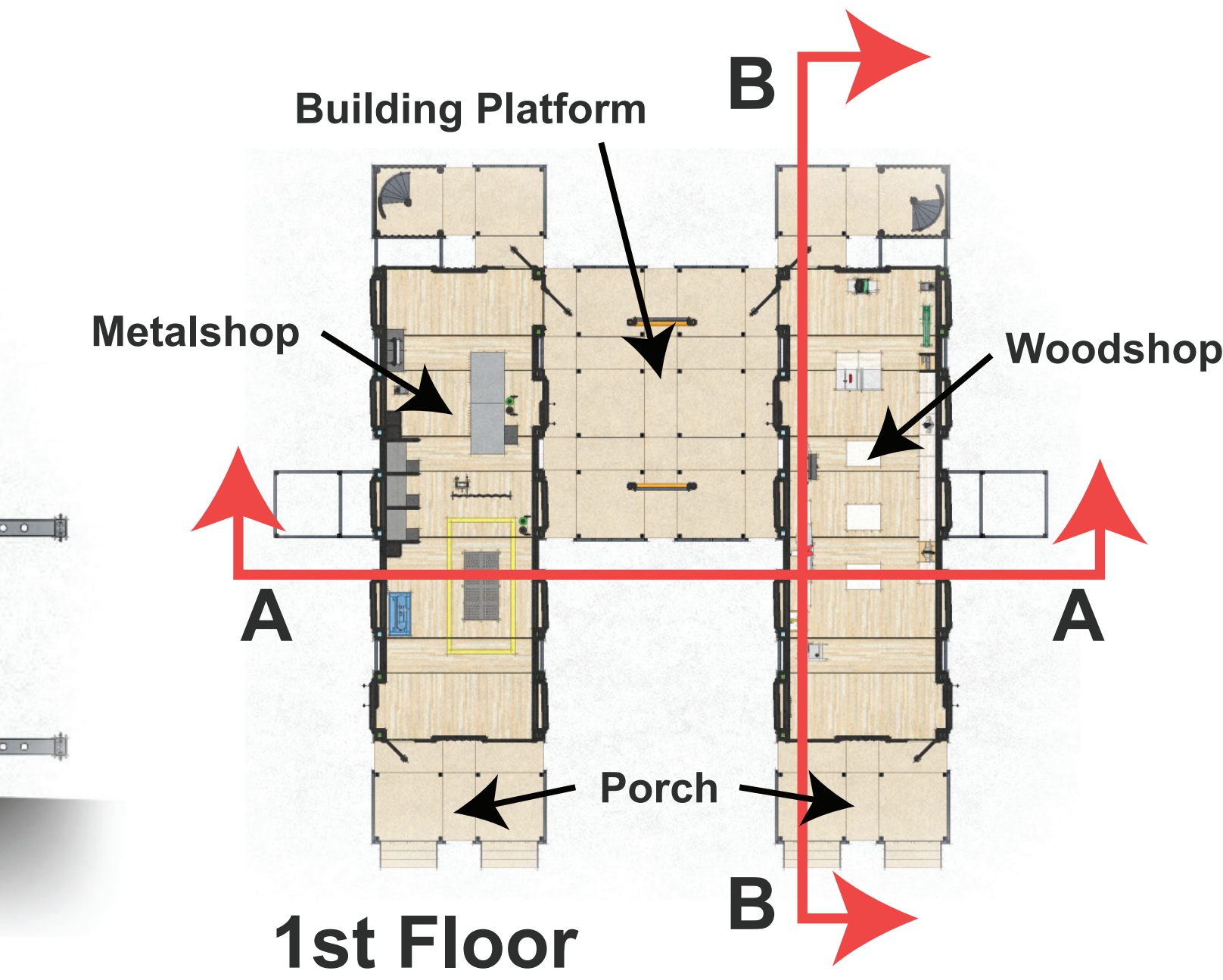
SITE 1 › CAMP JOY DENT, MN



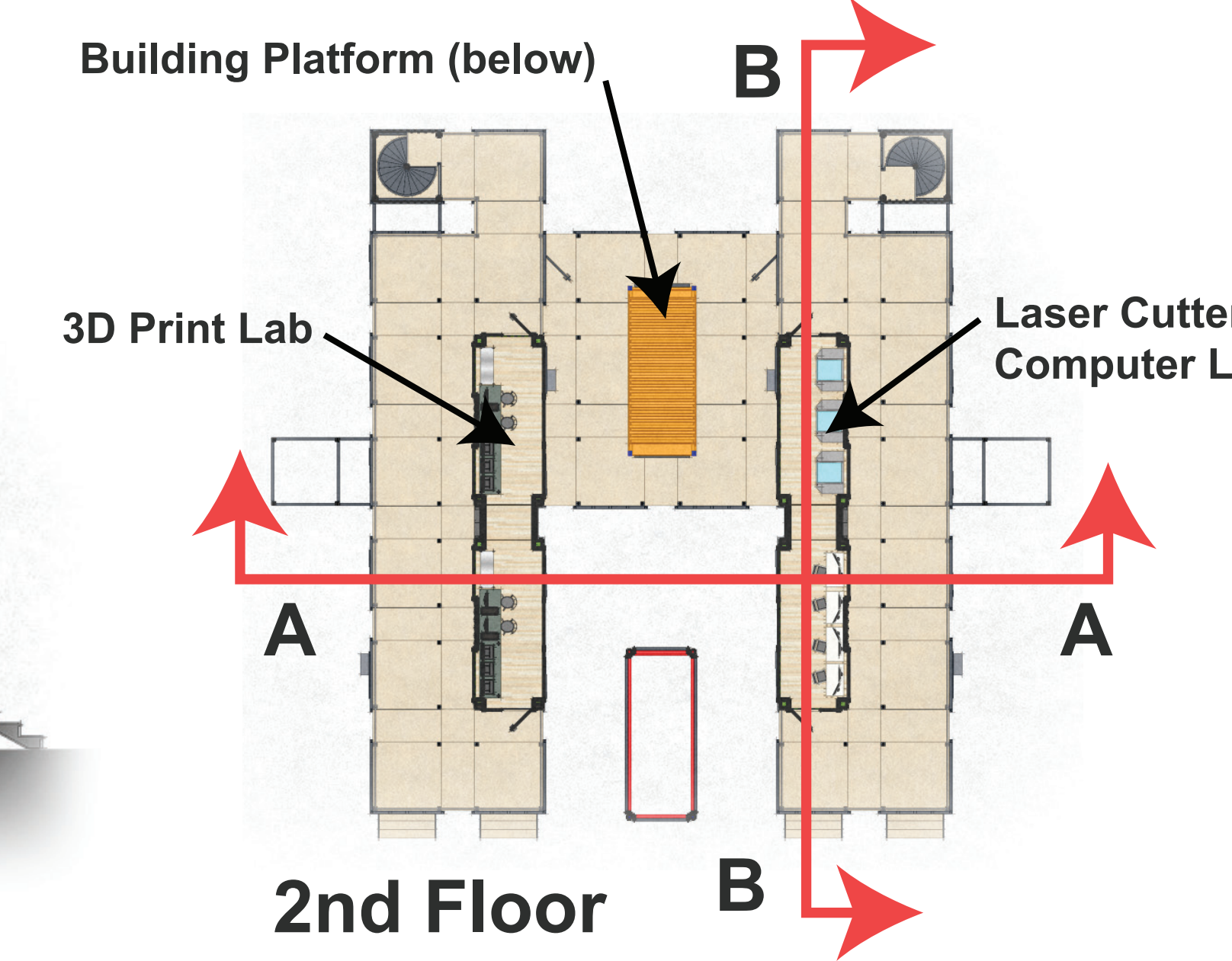
Section A



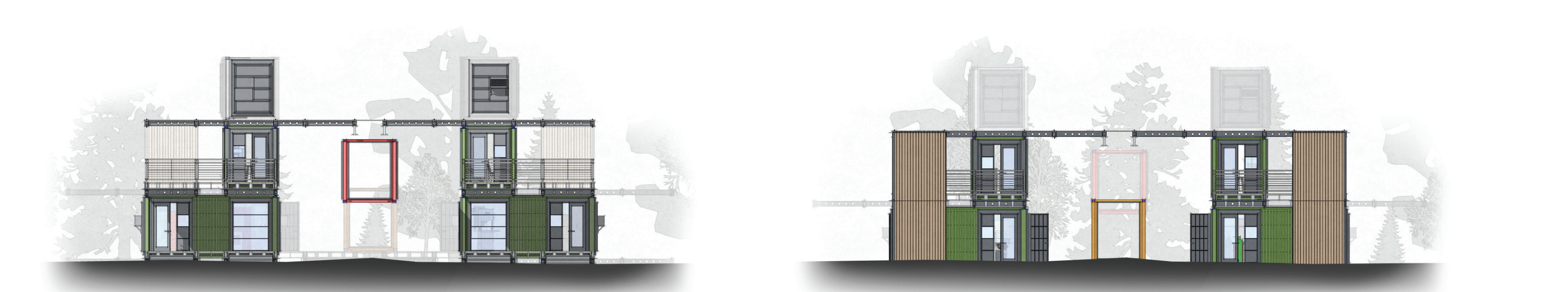
Section B



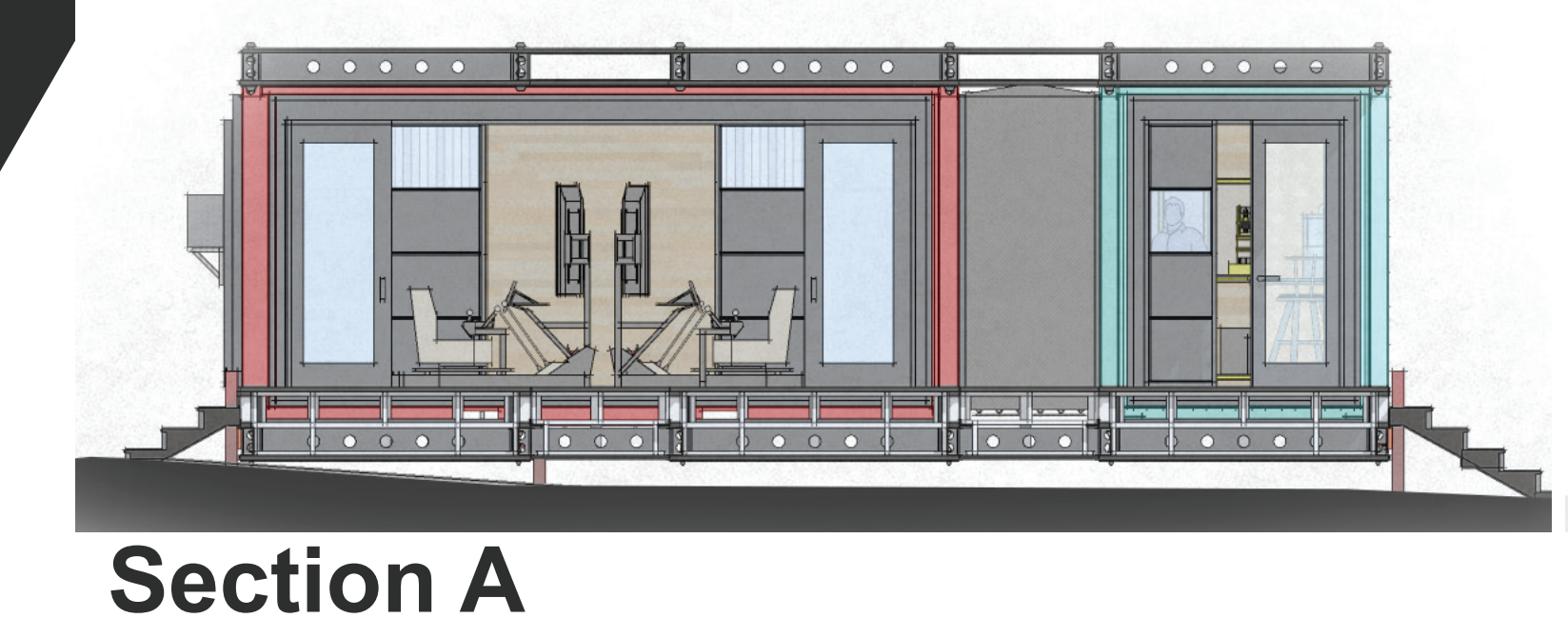
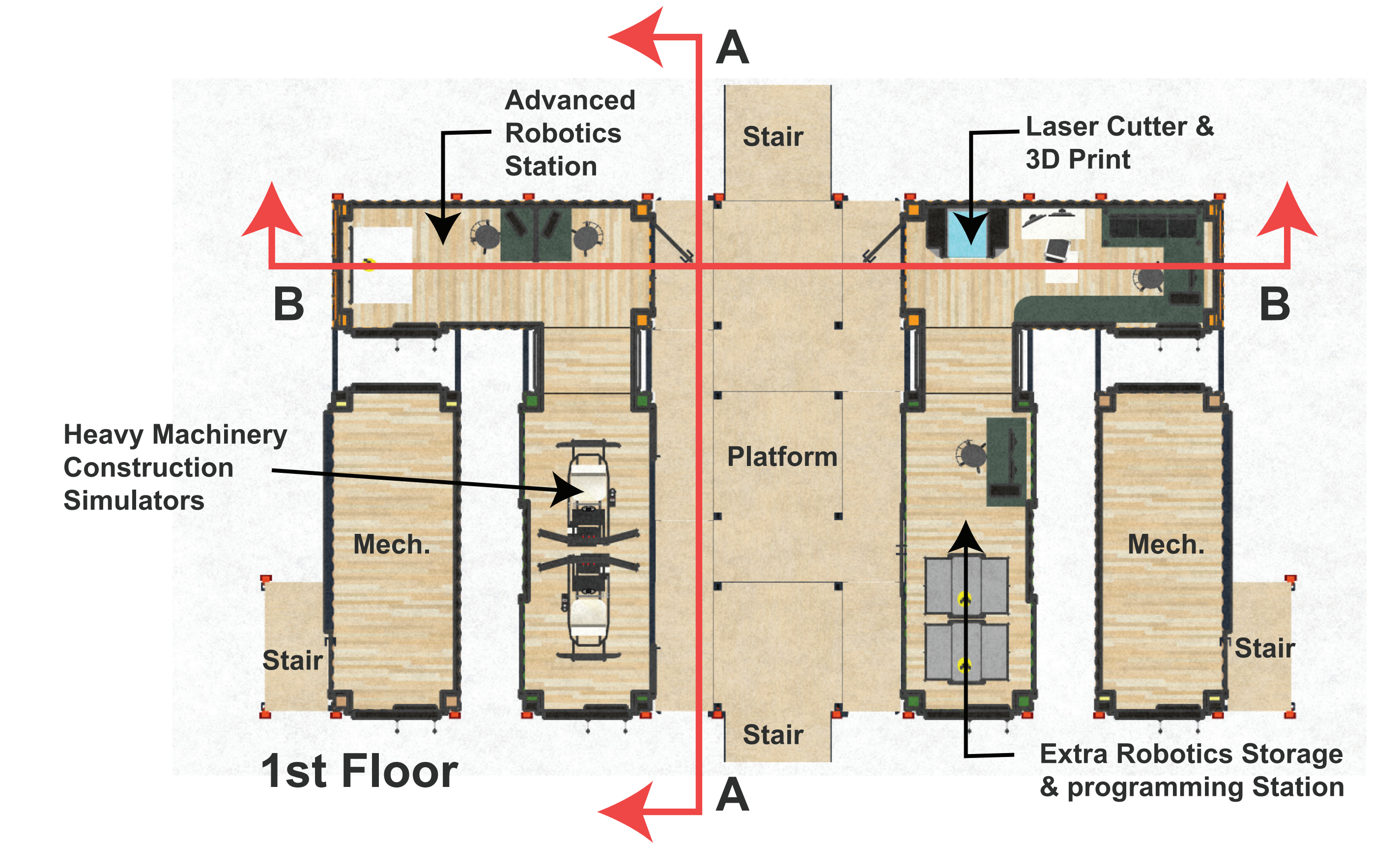
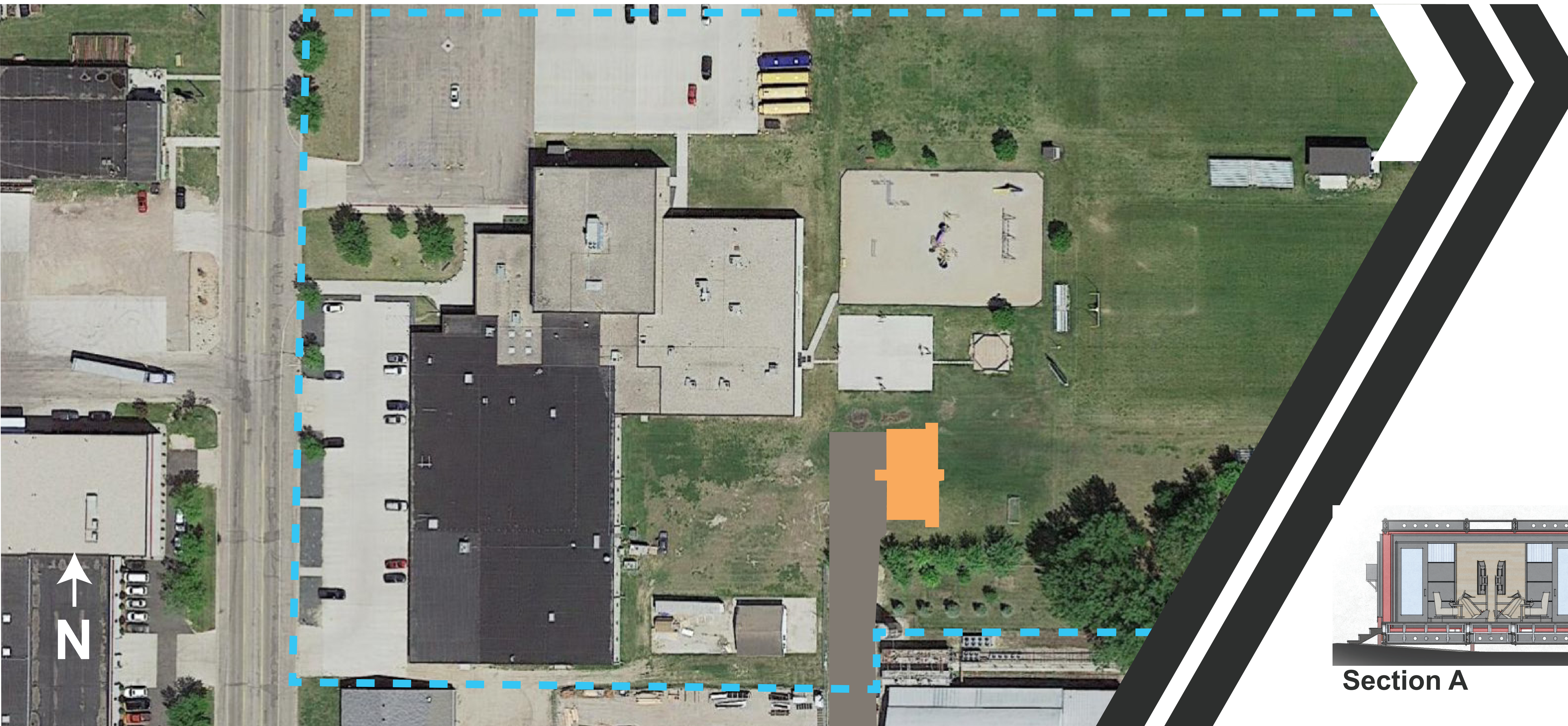
1st Floor



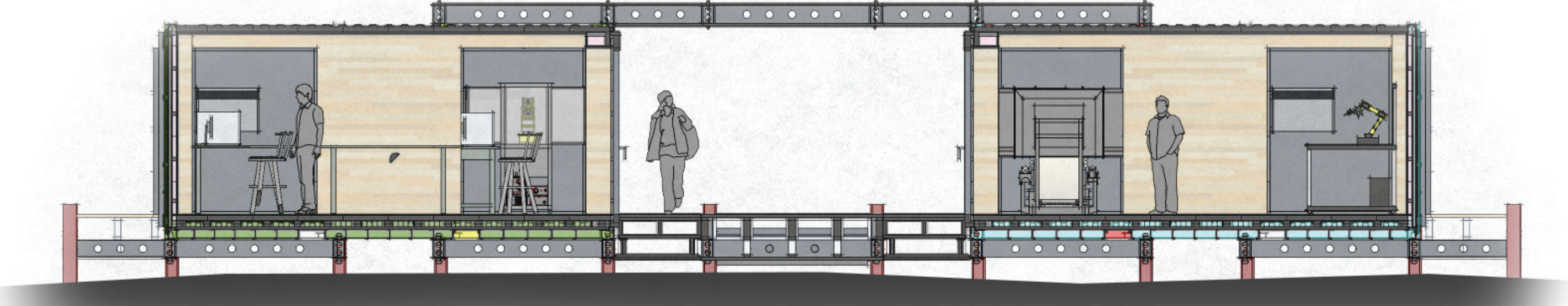
2nd Floor



SITE 2 › PCS SCHOOL MOORHEAD, MN



Section A



Section B



HOUSING UNIT AT SITE 1 (above)

