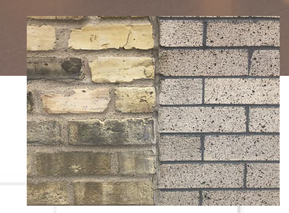
SUSTAINABLE CONVENIENCE:

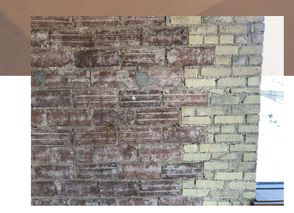
Designing a tomorrow tucked between consumerism and sustainability

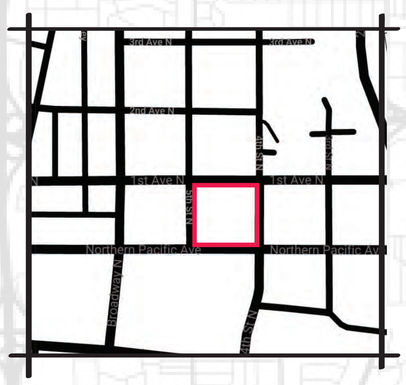
Globally, society is on the cusp of substantial environmental changes. These changes start with insight into the current state of the environment. mindset changes that need to be made, then the necessary lifestyle changes. Accordingly, this research began with asking why communities haven't been able to start making these changes, questioning what it is that is holding them back: Convenience. While convenience itself is not inherently bad, the issue arises when the goal is to create convenient consumerism, which subsequently leads to the accumulation of waste, polluting the world we live in.

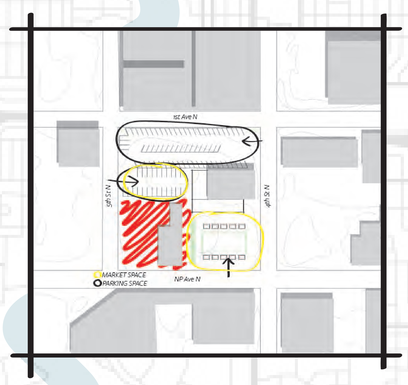
There's a dire need to switch this concept to convenient environmentalism. So how can architecture jumpstart a community to become more conscious about everyday environmental impacts? The easiest, or in this case, the most convenient place to start changes are at the grocery store, where the bulk of consumerism occurs. This thesis focuses on both consumerism and convenience but also the imminent need for sustainability, in all its forms. Through adaptive reuse, community education, package-free shopping, and locally grown produce, this typology has the ability to become a scalable mold in reducing our effects on climate change, there's no choice but to accept the environmental responsibility that's been ignored for far too long.

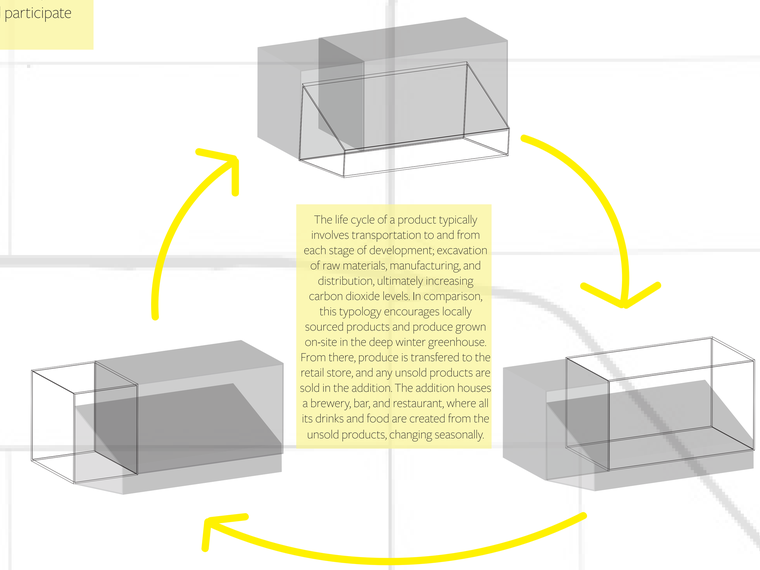
Considering the efforts being put forth to curb climate change, it is extremely important that this typology must completely represent the values of sustainability. Combined with adaptive reuse of Downtown Fargo's Loudon Building, the building values zero-waste shoppings, locally sourced products, and community education. Together, it creates a space to shop, learn, and participate in a sustainable future.



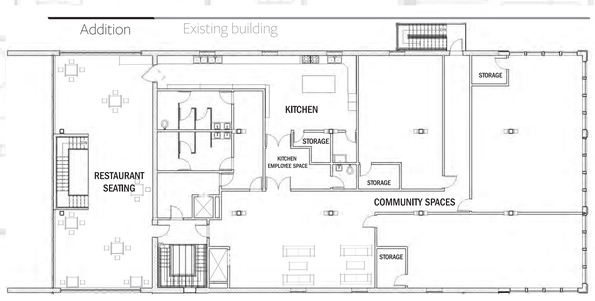




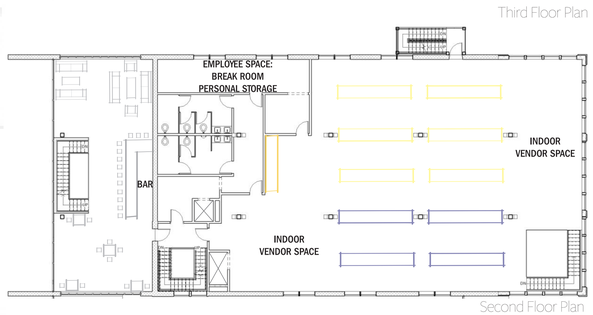




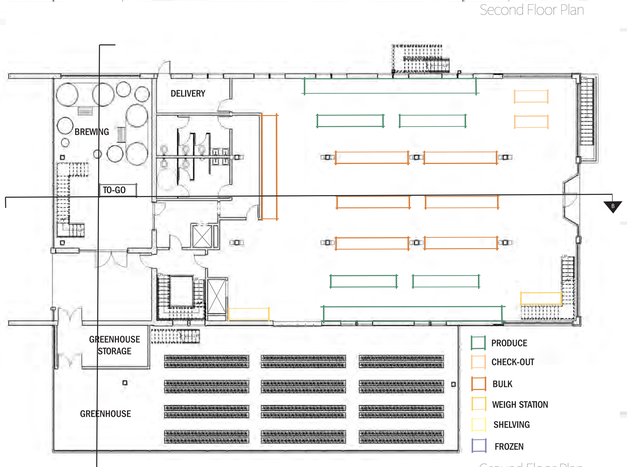
The life cycle of a product typically involves transportation to and from each stage of development; excavation of raw materials, manufacturing, and distribution, ultimately increasing carbon dioxide levels. In comparison, this typology encourages locally sourced products and produce grown on-site in the deep winter greenhouse. From there, produce is transfered to the retail store, and any unsold products are sold in the addition. The addition houses a brewery, bar, and restaurant, where all its drinks and food are created from the unsold products, changing seasonally.



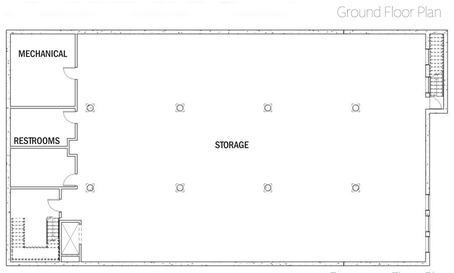
Third Floor Plan



Second Floor Plan



Ground Floor Plan



Basement Floor Plan

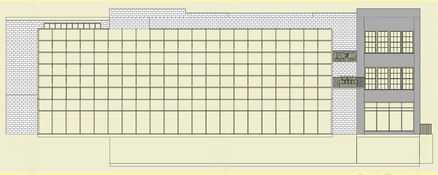
East Elevation | Existing

South Elevation | Existing

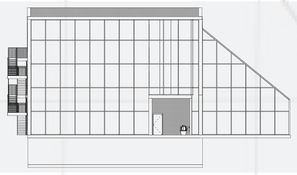
West Elevation | Existing

North Elevation | Existing

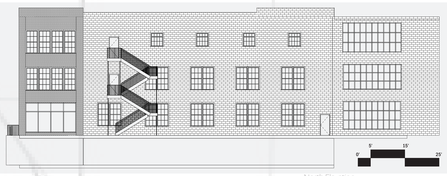
East Elevation



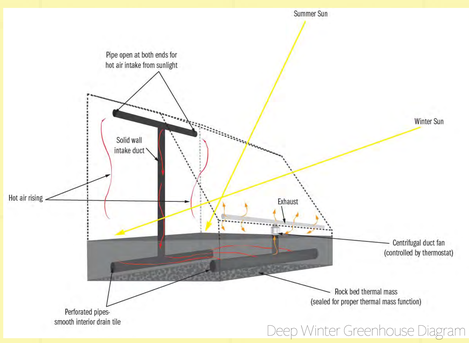
South Elevation



West Elevation



North Elevation

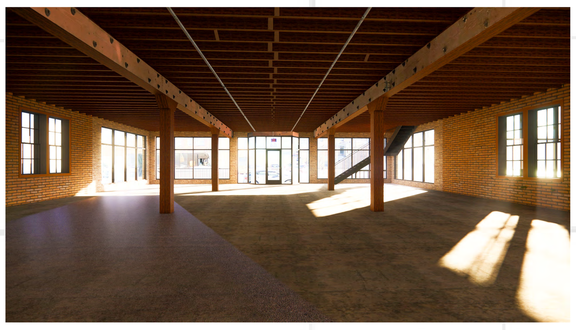


Deep Winter Greenhouse Diagram

Deep winter greenhouses create the ability to successfully grow produce through all season in any climate, including North Dakota's winters. They are powered on passive solar technology using no lights and little added heat. They are constructed as a lean-to, using a solid wall as its main structure system. During the day, the south glazed wall, angled at 60 degrees, collects the sun's energy. This heats up the air in the greenhouse, causing the hot air to rise and drawn into vents at the top. From there, the air is forced into an insulated thermal rock bed underground. As night comes around and temperatures drop, the heat is circulated back into the greenhouse aiding in plant growth. During extra cold nights and winter days, a gas heater is triggered to keep the temperature at a healthy level, keeping a constant temperature of 90 degrees.

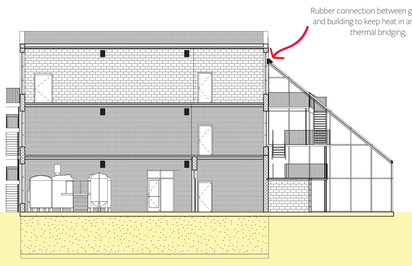
This system keeps running costs low, including the initial construction costs. Growing containers work best in this type of greenhouse because of the expected speed of crop cycles. Containerized growing also helps reduce water waste and unproductive soil surfaces. Thus, making deep winter greenhouses that much more sustainable.

Greenhouse Looking East

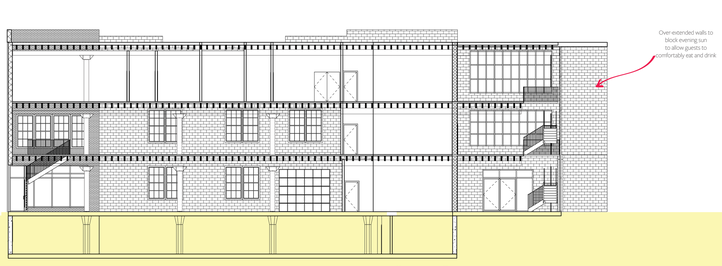


Existing Interior Structure

Recycled Materials on Addition



Section A



Section B