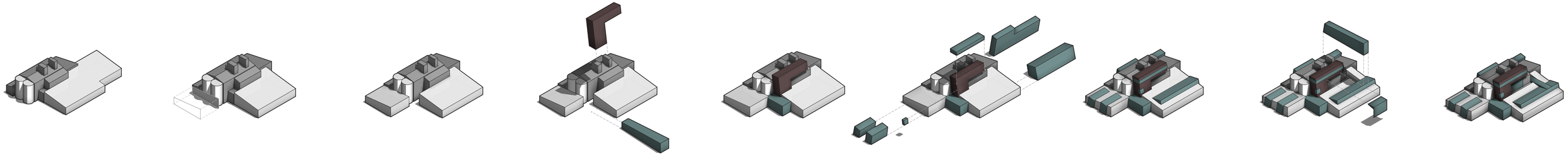
Old + New

How can buildings that no longer serve their original purpose be reused for a new typology?



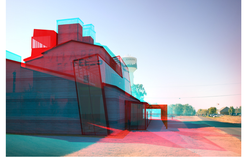
Lake Wobegon Trail

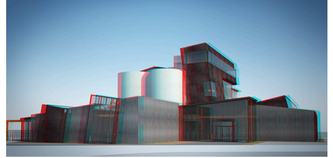
Saint Joseph, Minnesota

The site for this thesis project is in Saint Joseph, Minnesota, along eastern end of the Lake Wobegon Trail. Extending from Saint Joseph to Osakis, the trail is 62 miles long and connects to other trails such as the Soo Line Trail and the Central Lakes Trail. These trails were formed from old, defunct railways which were paved over to create recreation paths through the rail banking legislation.

The site is an old feed mill building from 1890 that has been sitting vacant for at least a decade. Made of timber and metal panels, the building is a collage of different additions throughout the years.

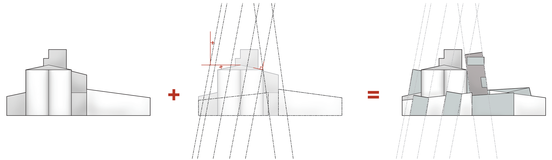
Nearby the site in Saint Joseph, there is a growing community of businesses, homes, and schools. There are two nearby colleges, College of Saint Benedict and Saint John's University.





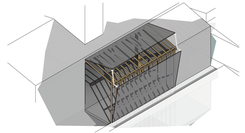
Binocular Rivalry

(Above). Binocular rivalry is a visual phenomenon when a different image is visible in each eye. When the above images are viewed wearing red/blue anaglyph glasses, the left eye sees a photograph of the original building and the right eye sees a rendering of the new additions to the building. The observer struggles to resolve the two images. The images can be viewed separately by closing either eye or they can be observed with the binocular rivalry. The far image is the resolved, finished design with the stereoscopic 3D effect.



Similar Design Language

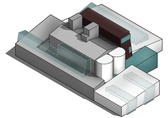
The design takes geometries from the original building and uses them to create the additional elements of design. The profiles of the lower sections of the original building are extruded to create the masses of the additional spaces. The angle of the roof slope is used to create an array of reference lines for the glazing masses that create the openings for light and views. The observation tower uses the same angle as the glazing, but it is mirrored horizontally.



Peeling and Revealing

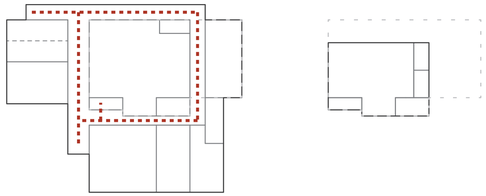
In areas the original skin of the building is peeled away to create openings for views and light while diffusing the light. The original balloon frame that is revealed creates a sun screen while revealing the original structure in the new design.

The timber frame is visible in the design and the additional spaces use a similar structure.



Increase Glazing

The original building had no openings for light to get in. Its typology didn't require much light to begin with. In order for a new typology to inhabit this space there must be increased glazing for light and views. The masses of glazing are placed to create the views over looking the trail and increase light penetration. The light is mostly diffused by either being on the north facade or through screens. This light quality works well for the program elements of offices, exhibit spaces and workshops.



Spatial Planning

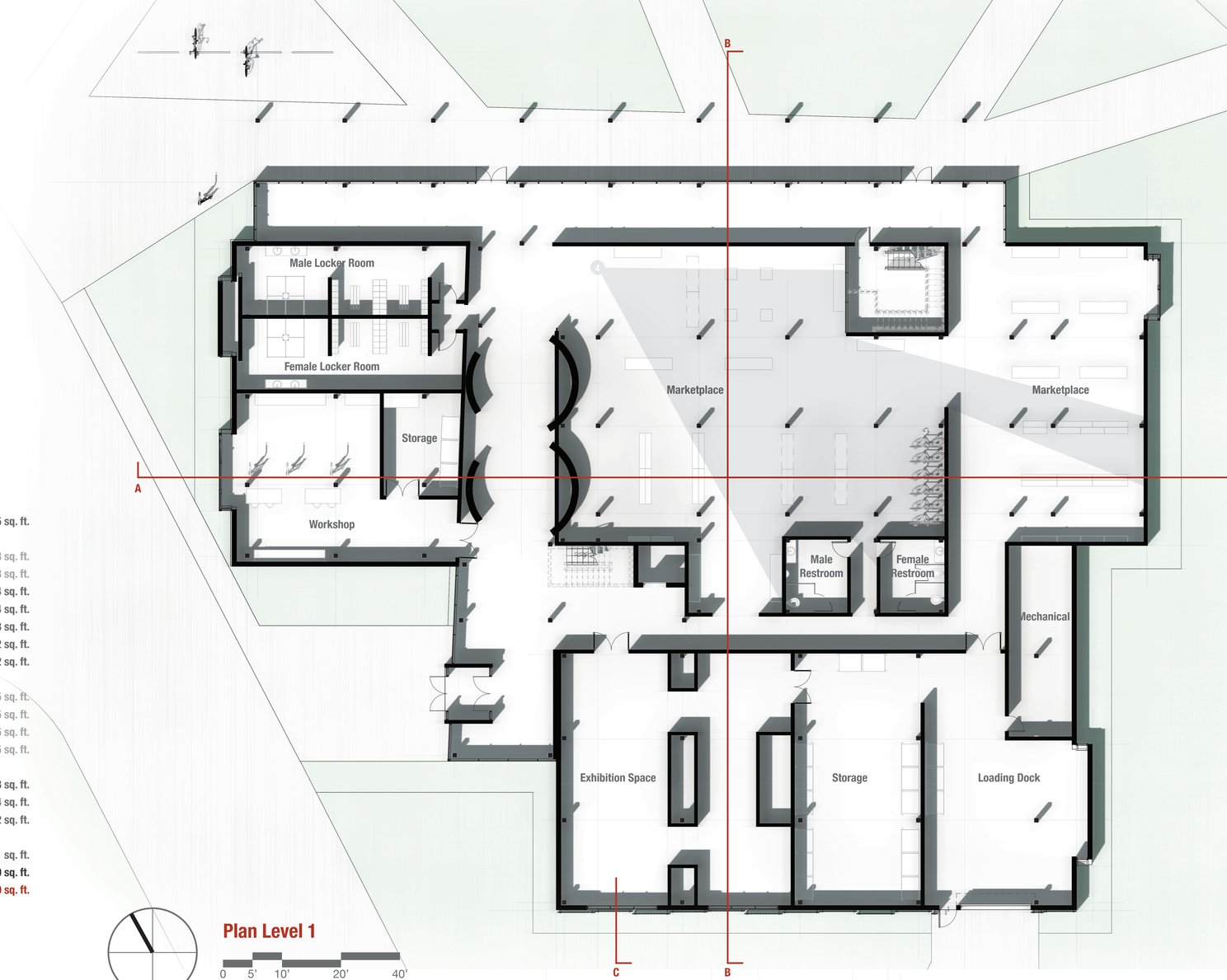
The program for the building contains a workshop, locker rooms, a market, exhibition space, office space, and an observation tower. The typology is to serve the trail and community as a depot for users of the trail and create more awareness of the trail.

The workshop and locker rooms need quick access to the trail and be some what separate from the rest of the spaces. The offices that house the trail association are on the second floor since they are a less public space. The market place is below the offices and is also close to the trail for easy access from the trail. The market may sell items for people using the trail, for example, snacks or bicycle gear.

There is an exhibit space for displaying local art, informational exhibits, or for holding events with storage and a loading dock attached to it.

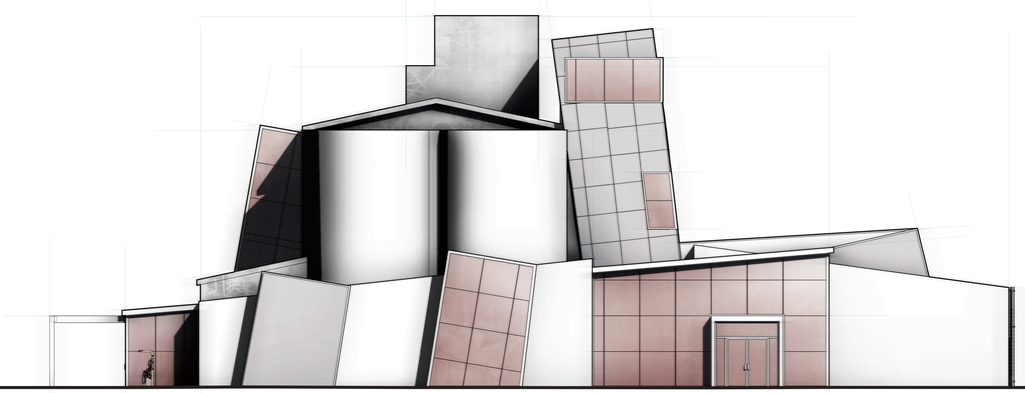
The observation tower extends vertically from the main circulation stair to create views over the city of Saint Joseph. The tower makes visual connections with the other high points in the city; the catholic church's tower and the water tower. These are prominent components of the skyline.

Level 1	
Marketplace	4,395 sq. ft.
Locker Rooms	
Male	463 sq. ft.
Female	463 sq. ft.
Workshop	874 sq. ft.
Exhibition Space	1,674 sq. ft.
Storage	923 sq. ft.
Loading Dock	962 sq. ft.
Mechanical	352 sq. ft.
Restrooms	
L1 - Male	135 sq. ft.
L1 - Female	135 sq. ft.
L2 - Male	105 sq. ft.
L2 - Female	105 sq. ft.
Level 2	
Office Space	2,108 sq. ft.
Break Room	184 sq. ft.
Conference	222 sq. ft.
Level 3	
Observation	701 sq. ft.
Circulation	4,460 sq. ft.
Total	**18,440 sq. ft.**



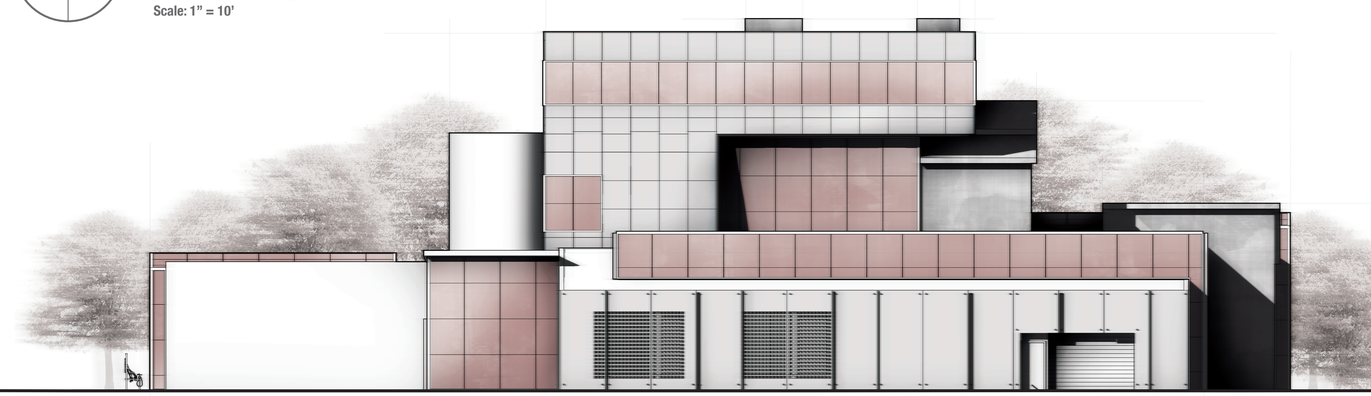
Plan Level 1

0 5' 10' 20' 40'
Scale: 1" = 10'



West Elevation

0 5' 10' 20' 40'
Scale: 1" = 10'



South Elevation

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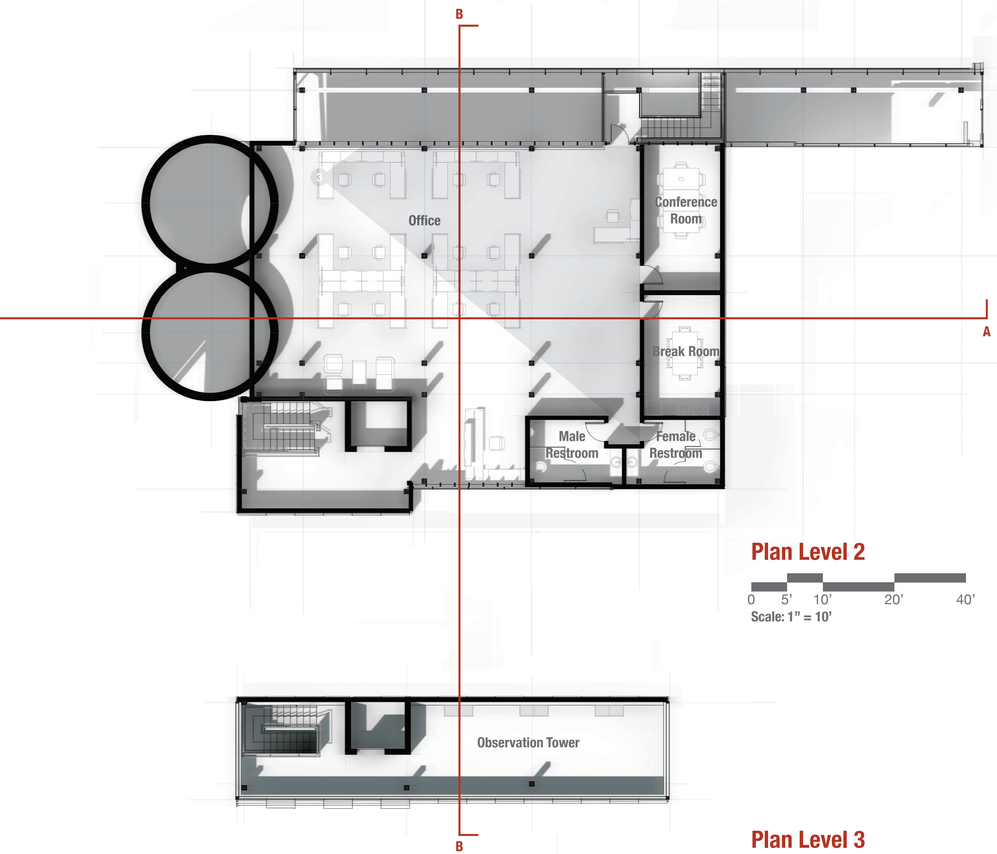
Scale: 1" = 10'

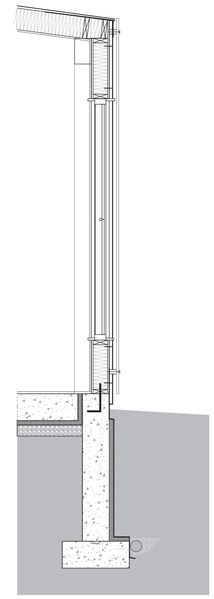


Plan Level 2

0 5' 10' 20' 40'
Scale: 1" = 10'

Plan Level 3

0 5' 10' 20' 40'
Scale: 1" = 10'



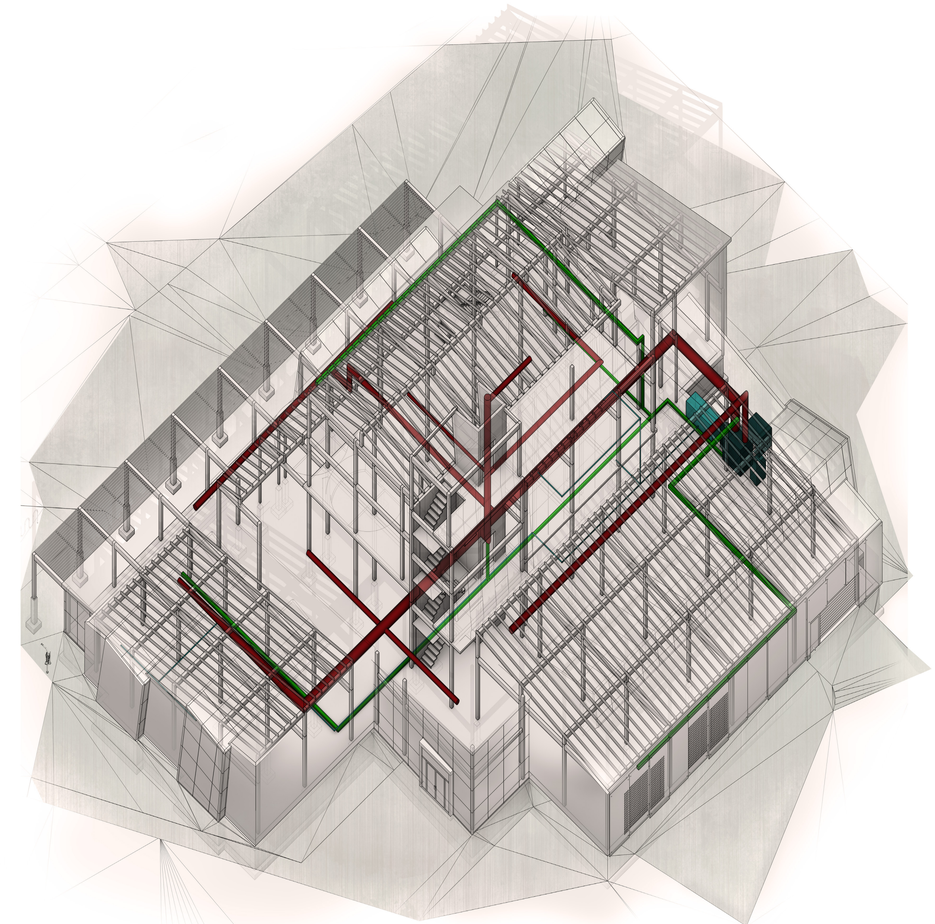
Wall Section C-C

0 1' 2' 5'
Scale: 3/8" = 1'

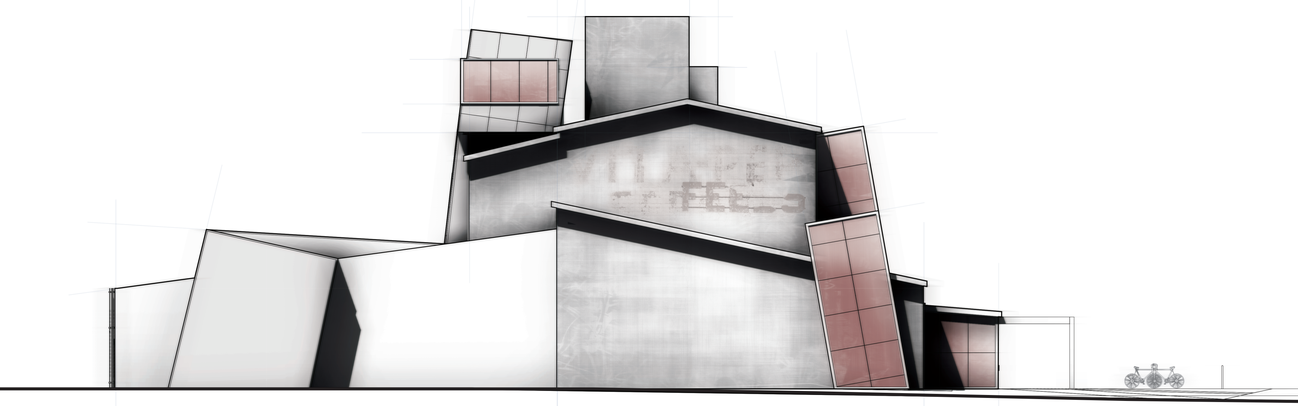
Building Components

The structure is a continuation of the original wood frame structure, then wrapped in a wooden frame skin with corrugated metal to match with the original skin. The metal panels on the original are a collage of different textures. The new spaces are wrapped in a consistent, new corrugated metal panel. The tower is clad in weathered steel panels.

The HVAC is housed in the mechanical room by adjacent to the loading dock. It is a forced air system. The plumbing is also distributed through the same paths as the air ducts to the restrooms and the locker rooms.



Mechanical Systems Plan Oblique



East Elevation

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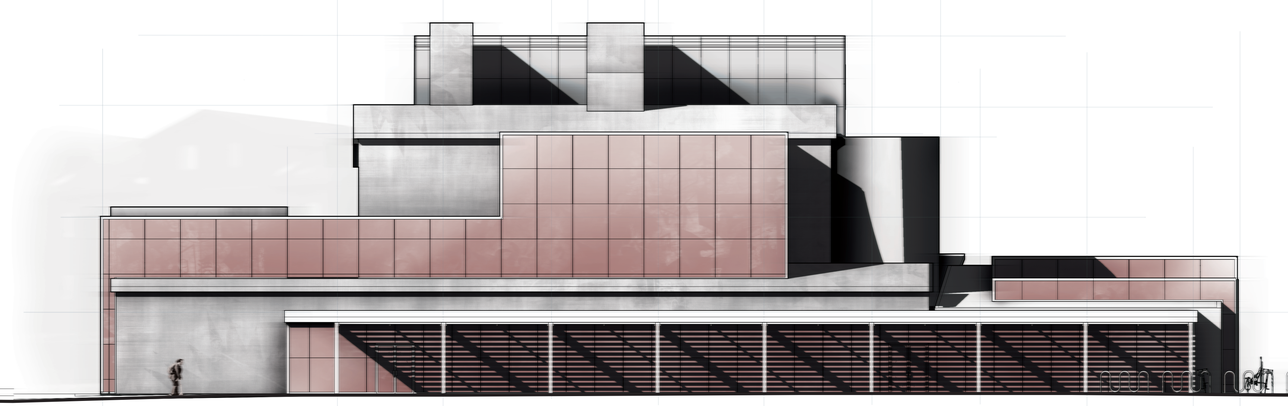
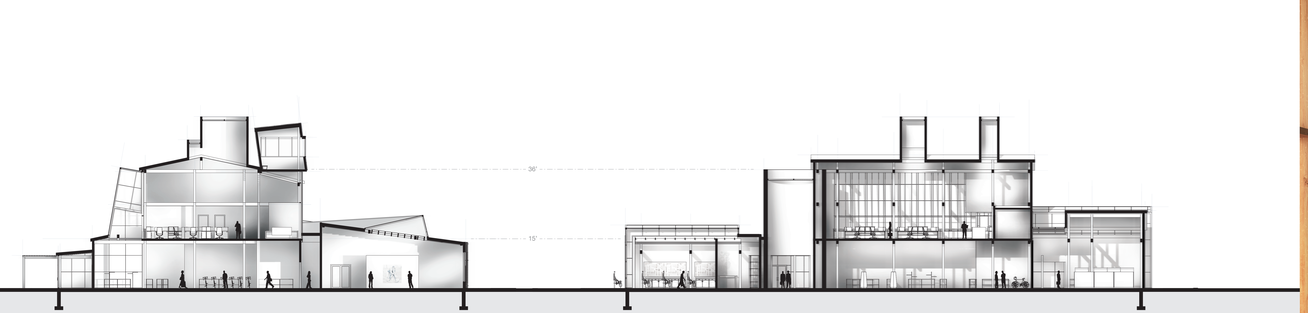
Scale: 1" = 10'



North Elevation

0 5' 10' 20' 40'
Scale: 1" = 10'



Old + New | Recreation Depot | 18,440 SQ. FT.
Department of Architecture and Landscape Architecture | NDSU
ARCH 772 | Design Thesis | Spring 2013
Michael Stark | Advisor: Ganapathy Mahalingam
Software: Adobe Creative Suite | Revit | AutoCAD | SketchUp | Cinema 4D

Section B-B

0 5' 10' 20' 40'
Scale: 1" = 10'

Section A-A

0 5' 10' 20' 40'
Scale: 1" = 10'