

Dedication

To my parents, your love and support means the world to me. I truly would not have been able to finish this project without your encouragement. I never knew how much the phrase “Adapt, improvise, overcome!” would become my mantra during this time.

To my friends, thank you for keeping me sane during this process. The laughs shared over dinners provided a much-needed distraction and meant so much to me.

To my committee and professors, thank you. It’s been a joy and a privilege to learn about design from you all throughout my time at A&M. I appreciate you so much.

Table of Contents

1	History	... 8
2	Design	... 14
3	Experience	... 26
4	Drawings	... 52

Abstract

This project arose out of a visit to the Museum of the Southwest where I noticed a need. The house museum and library simply didn't have enough space to display all the pieces they had acquired throughout the years. The large majority of these pieces were agriculture and ranching related so the idea to design a museum specific to these interests was a natural fit. After this decision the next question that needed to be addressed is how to design a new building that relates to the existing buildings on the campus. This was a challenge that took a lot of thought and deliberation, especially considering the campus was already made up of a variety of building designs and styles.

The Fred Turner, Jr. Agriculture museum strives to integrate the exterior design with the material the museum highlights. With these thoughts in mind I researched agriculture and tried to find aspects of the industry that would translate into design features of the building. From this I landed upon the idea of designing features that would represent the four elements that are crucial to the agriculture industry; earth, water, wind and fire.



History 1



Museum of the Southwest History

The Museum of the Southwest was originally a private residence owned by Fred and Juliette Turner. Fred Turner was an independent trader in the oil business and also worked as a prospector which means he would sink test wells to find oil reserves. After a few years Fred found an extensive oil reserve that another Midland family tried to claim was part of their land. This led to a long legal battle concerning the unpatented land and eventually went to the Supreme Court. In 1933 Fred won the case and was now the owner of the largest known oil reserve at the time. Fred continued working in the oil and gas industry until his retirement. After his newfound success in the Supreme Court case, Fred decided to commission Anton F. Korn to design a large family home on the twelve plots of land he purchased close to downtown Midland. The home was finished in 1936 and built in the Eclectic style. It was easily the most luxurious private residence in town and drew a lot of attention. Fred and Juliette had two daughters, Dorothy and Fredda, and lived in the home until 1963 when a tragedy occurred. One night in October 1963 the house was robbed and Juliette Turner was murdered at the age of sixty-six. After this event Fred never set foot in the house again and died four months later in Brownwood at his pecan farm.

A few years after their parent's deaths Dorothy and Fredda decided to gift the home to the Museum of the Southwest to use as their primary location in 1968. The home and stables were added to the National Register of Historic Places in 1988. Today the Museum of the Southwest is a five-acre campus that also includes a gallery addition, planetarium and children's museum.

Timeline

1926

Fred and Juliette Turner, Jr. move to Midland.



1933

The Supreme Court ruled in Turner's favor.



1963

The Turner family home is robbed and Juliette Turner is murdered. Fred Turner never returns to the home.



1927

Fred Turner found the Yates oil field and the legal dispute of ownership began.



1936

Fred and Juliette Turner, Jr. commission Anton F. Korn to design a home for them in Midland, TX.



1964

Fred Turner, Jr. dies at his pecan farm in Brownwood, TX.

1968

Dorothy and Fredda Turner gift the home to the Museum of the Southwest.



1972

The Blakemore Planetarium was completed on the museum grounds.



1987

The Lissa Noel Wagner gallery addition adjacent to the home was completed.



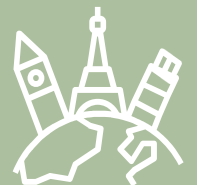
1970

A gallery addition was completed on the back porch of the home.



1986

Fredda Turner Durham donated land and money to complete the Children's Museum.



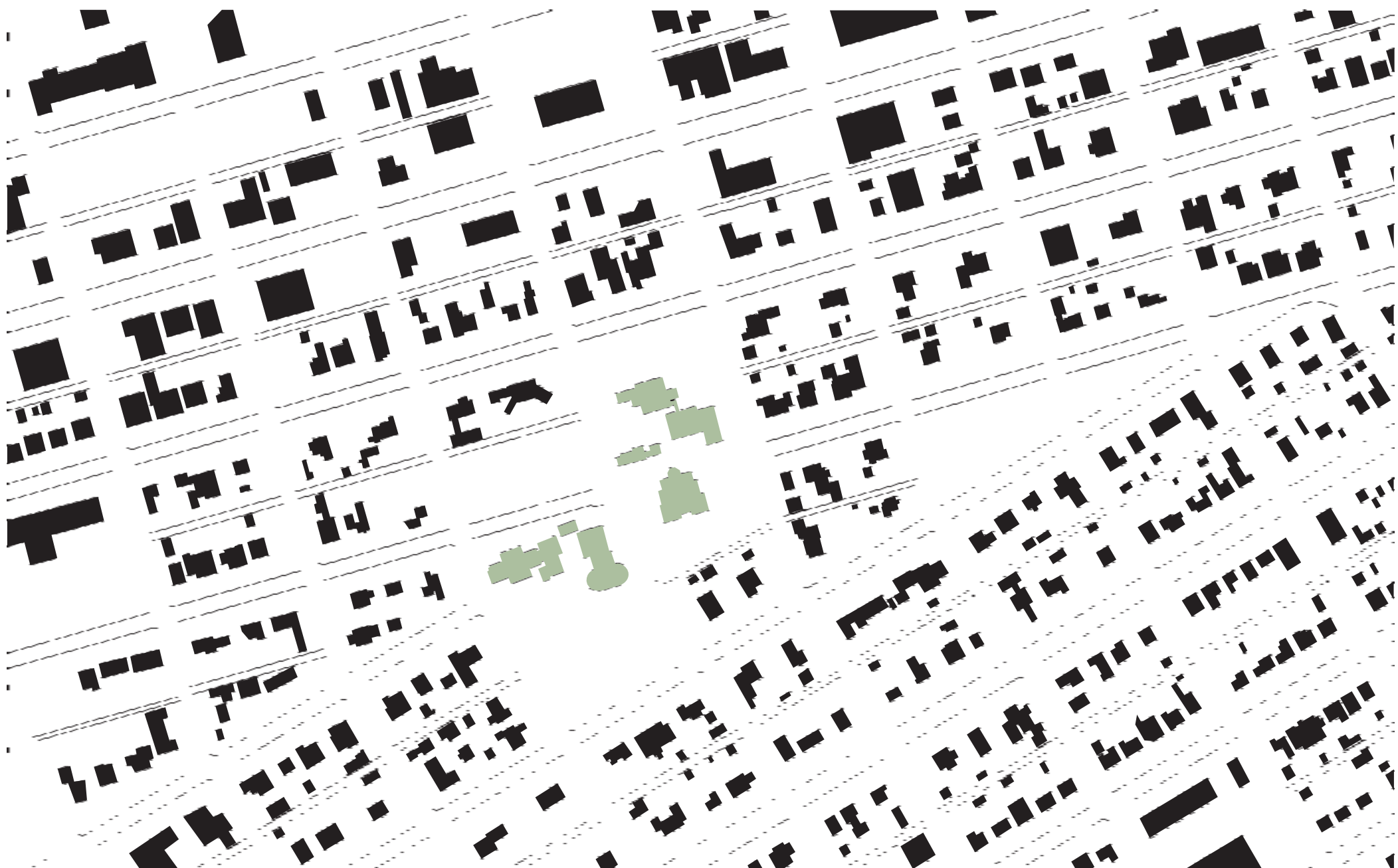
1988

The home and stables are added to the National Register of Historic Places.

Design 2

Site

The Museum of the Southwest is located a few miles from downtown Midland on a five-acre campus. The site is offset by one block from Wall Street, which is one of the busiest streets leading toward downtown. While this helps draw in visitors, being setback means that you have to know the museum is there. Its location doesn't allow people to stumble upon the museum naturally. The blocks surrounding the museum are exclusively residential while businesses are located along Wall Street. Some of the museum's amenities include a park with a playground and an outdoor sculpture garden. There is little to no shade on the grounds so these amenities aren't used to their full potential. The complex also includes half a block that is adjacent to the stables for visitors to park and walk to the exhibit of their choice. Visitors using public transportation can access the museum grounds from any of the four bus stops on Wall Street nearby.

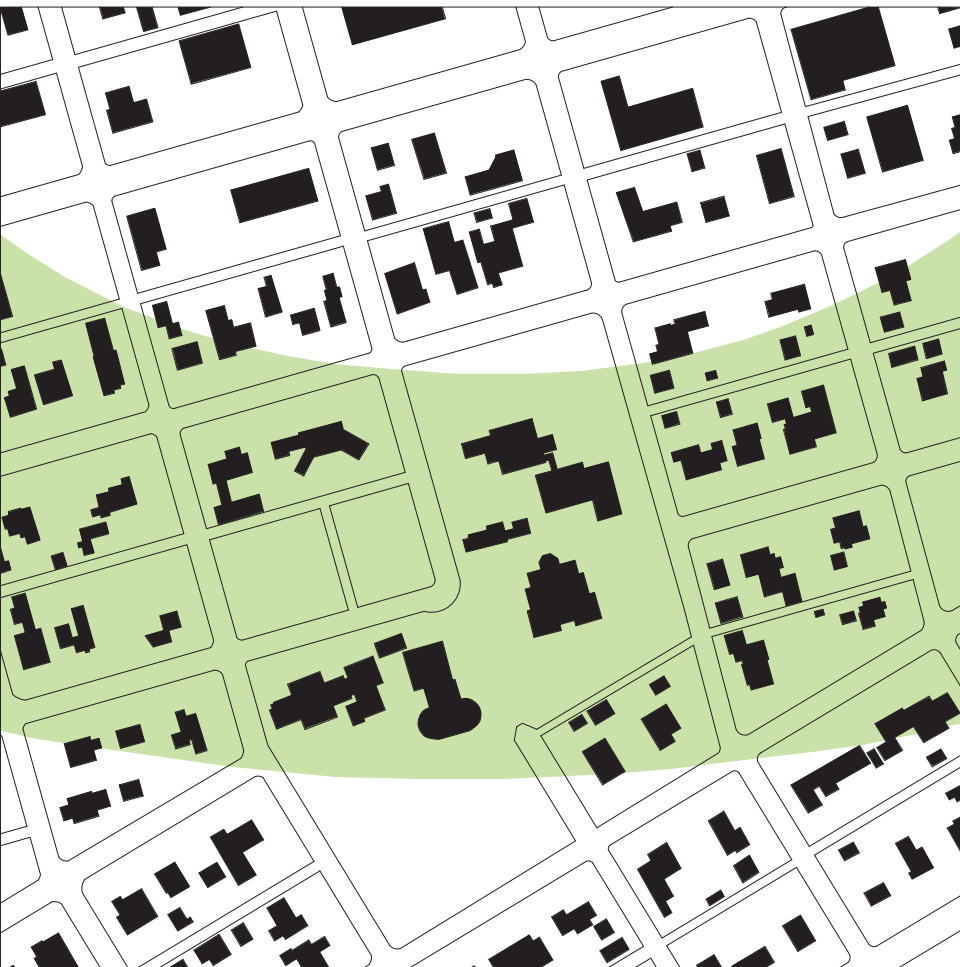




Map of the Museum of the Southwest, Wall Street and bus stops



Map of gray residential blocks and green business blocks



Map of sun path



Map of chosen site

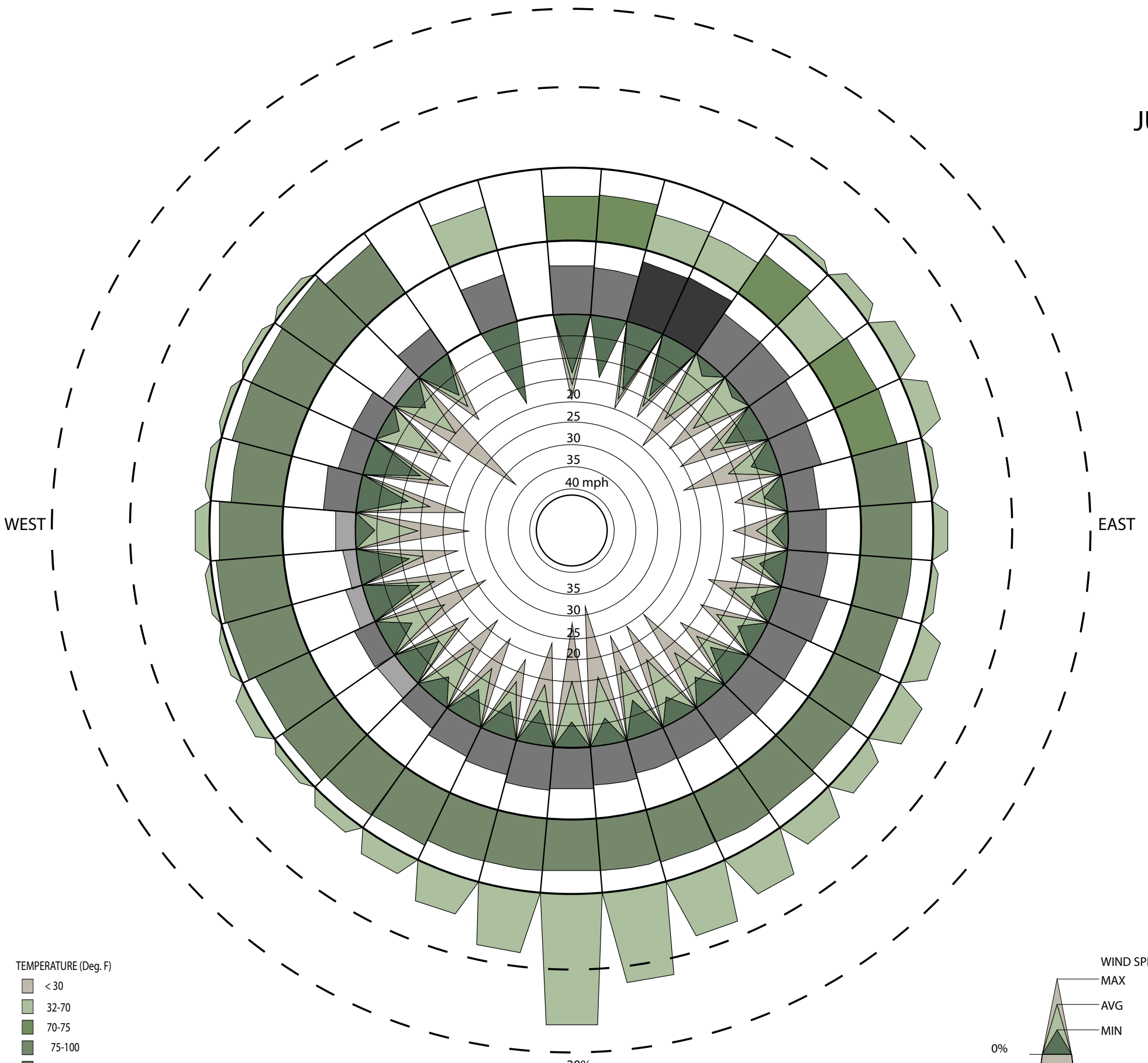
Chosen Site

After considering a few different spots near or on the museum grounds, I decided the best place for the museum to be located is the block that was previously blocking the museum from having access to Wall Street. This site has direct access to the main road that will alert people first to the agriculture museum and then to the rest of the museum complex. The site is big enough to hold a large museum, landscaping and additional parking for visitors. This site is also far enough away from the historic Turner house museum to respect its design and not compete with it.

Wind Rose

The wind rose on the following page gives information about the direction, temperature, humidity and velocity of the wind during the month of June in Midland, TX. The outermost circle displays the percentage of hours the wind is coming from each direction. In this particular month the wind went above the ten percent range twice which lead to the addition of the twenty percent dashed circle. The next interior circle shows the average temperature of the wind. The seventy to seventy-five range is the optimal comfort zone for people to be outside and is the majority of the wind temperature displayed. The next interior circle shows the average humidity of the wind and is displayed in shades of gray. Thirty to seventy percent humidity is the prime range and is shown with the middle gray color on a large majority of the graph. The innermost circle shows the minimum, average, and maximum velocity of the wind during the month. In this graph the peak wind speed is from the northwest and reached thirty-four miles per hour, however, the majority of strong winds come from the southeast.

N
↑
JUNE

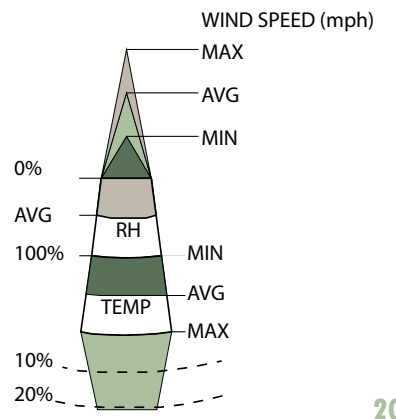


TEMPERATURE (Deg. F)

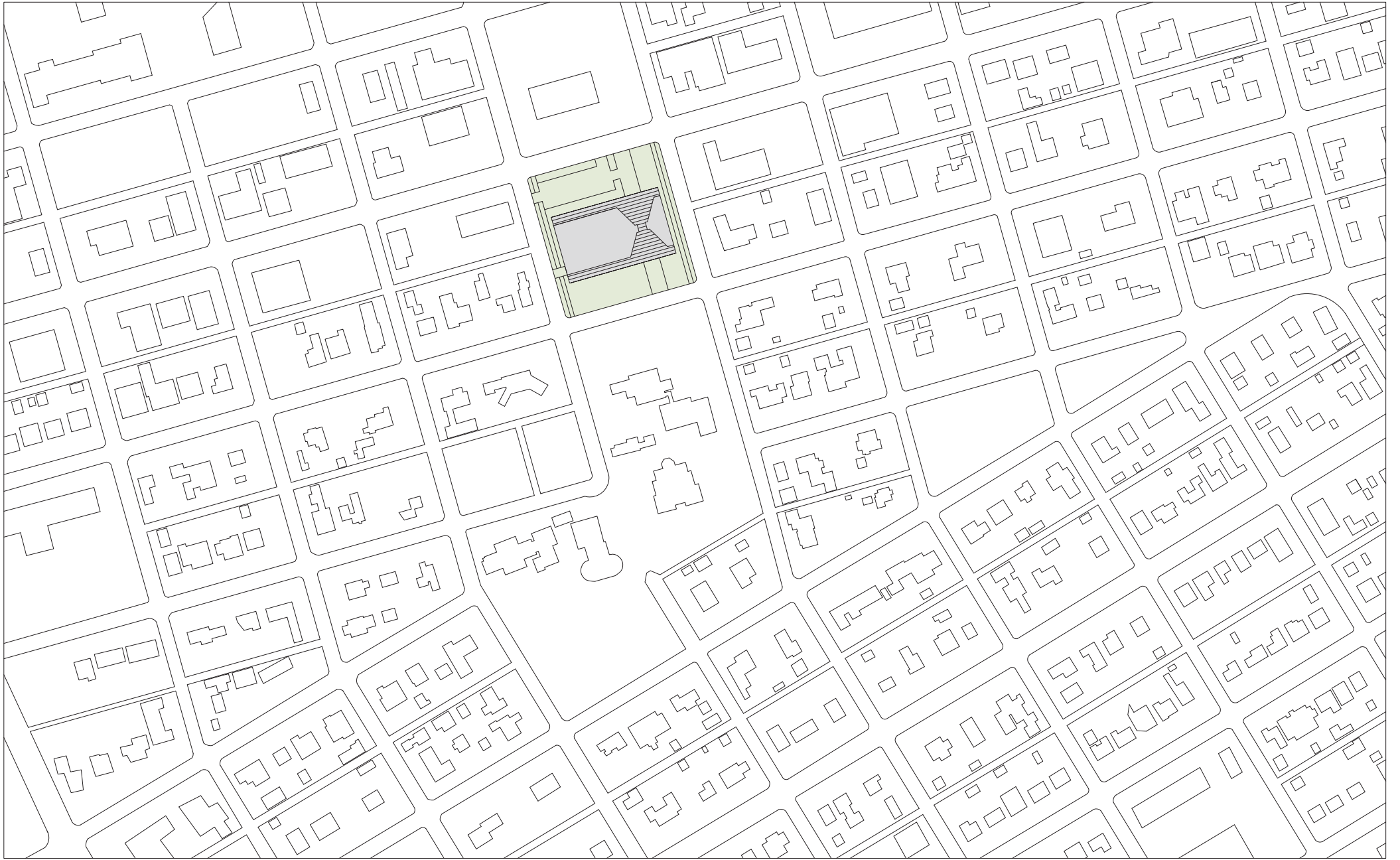
- < 30
- 32-70
- 70-75
- 75-100
- > 100

RELATIVE HUMIDITY (%)

- < 30
- 30-70
- > 70



20%



Concept

While considering what an agriculture museum should look like, I did a lot of research about the agriculture industry and looked into any precedents I could find. While a lot of the existing museums I found had some form of a barn or silo incorporated into the architecture, I wanted to be a little more subtle and abstract with the design of this museum. With this idea in mind I landed on creating design features to represent the four elements that have a large role in agriculture which are earth, water, wind and fire.

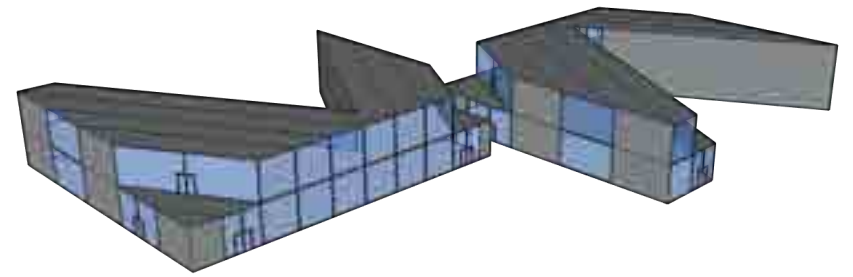
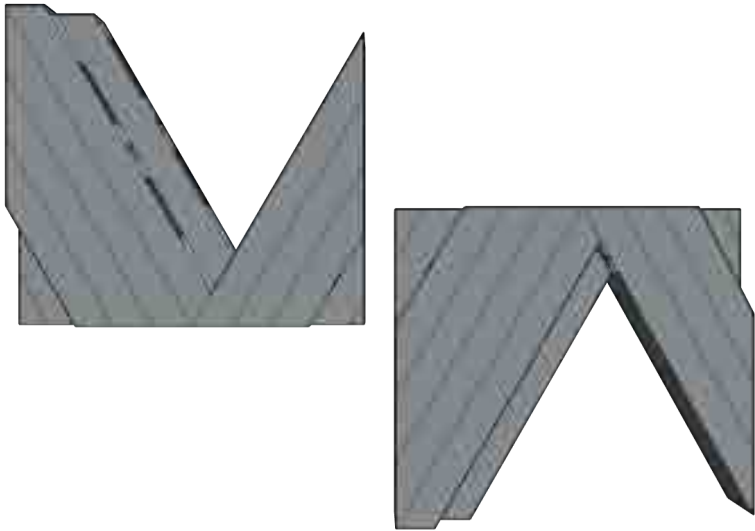
To represent earth, I looked into what crops are typically grown in the Midland area and found that they were alfalfa hay, cotton and pecans. After looking into the growth and production of all three I decided to incorporate the row spacing of cotton crops into the earth element, which is why the brick color changes in a 3 to 1-foot pattern. To represent water the windows were placed in a vertical design and tinted blue to give the feel of water flowing down. Wind is represented through the sun shading structure above the main entrance and is one of the largest features of the building. The individual sun shade elements are meant to look like the blades of wind turbines. Finally, fire is suggested by the light filtering through the large sunlight above the grand staircase.

Form Development

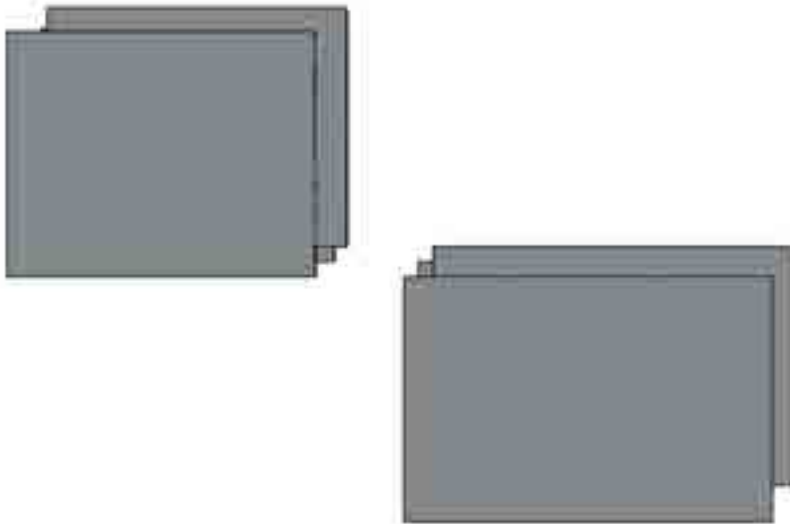
While deciding the site for the agriculture museum, I noticed an interesting converging of grids within the city directly around the museum. There are three different grid lines that come together at the Museum of the Southwest complex and I decided to incorporate those into the design of the building. I originally decided to keep the museum galleries and museum administration functions separate from each other, so both preliminary designs included two buildings.

For the first design I placed the grid pattern that included a horizontal line, vertical line and a line at a 60-degree angle on a rectangle to see how they could influence the shape. The grid line on an angle created an interesting pattern that I decided to use to cut through the rectangle to create a harsh V shape when looking at the design from above. After receiving comments that this shape would potentially cut out a lot of space and create awkward lines to deal with, I decided to go back to the beginning. However, the final concept has elements of this design because it also features a dramatic angle to welcome people into the building.

For the second design I decided to create a building with a noticeable stacking pattern. The building is a rectangle and each floor is shifted away from one another to create balconies on the second and third floor. The buildings were placed on the site so they would meet at the most dramatic corner of the shift but would be just far away enough from each other to create tension. This design was put aside after receiving comments that encouraged me to go in a bolder direction.

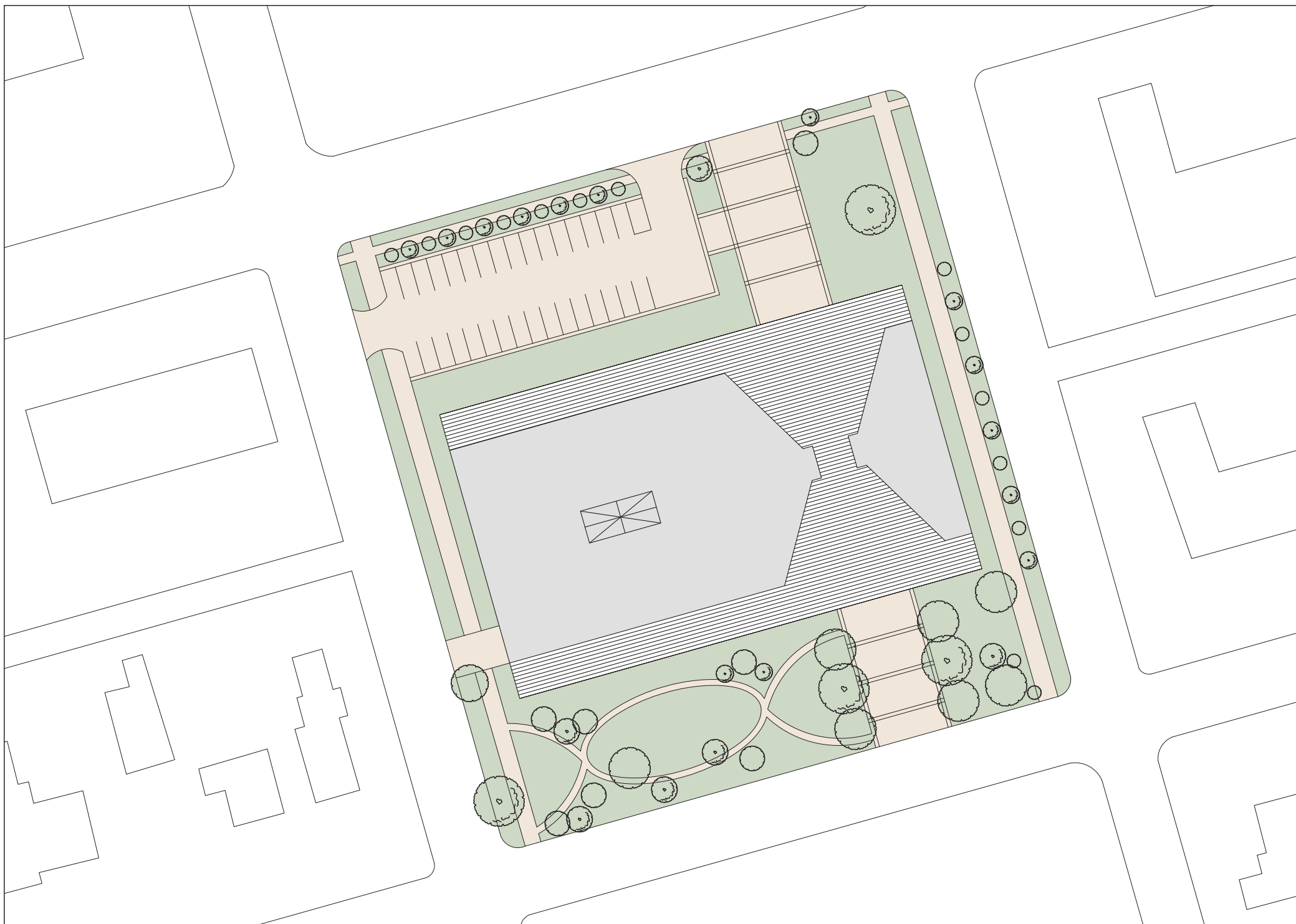


First Design Plan View and Perspective View



Second Design Plan View and Perspective View

Experience 3



Landscape Plan

The landscape of the site is meant to draw you in to the grand entrance. There is a dramatic pathway that cuts through the entire museum block that leads you to the entrance of the museum, on to the lawn and then towards the Turner family house museum. On the side of the lot facing the house museum there is a large lawn with a walking path that you can leisurely walk around and enjoy the site. There are also many trees on this side that you could read under or hang a hammock in the shade on a nice day.





Arriving

When arriving to the museum from Wall Street you will be able to park in front and walk to the museum. From the parking lot you are guided to a large pathway that will take you directly to the grand entrance. As you get closer to the agriculture museum you will enter the outdoor room between the buildings and be covered by the large sun shading device above. You can choose to enter the main museum building or the administration building if you have business to attend to or would like to join a lecture in the auditorium. From the grand entrance you can continue on the path toward the lawn or Turner family house museum.





Entrance Hall

When entering the museum building you are welcomed through a glass entryway and are met with options to choose where you would like to go. To your left you could stop at the café for a cup of coffee and enjoy the view through a wall of windows. To your right you could take the elevator up to the second floor or take a peek in the classrooms to see what classes are being taught that day. If you choose to continue forward you are greeted by a ticketing booth on the left side of the hall where you can see what is going on at the agriculture museum and the additional museums on campus.

Classroom

The classrooms in the museum all feature a similar layout and can each hold 16 students. The desks are made of a gorgeous maple wood and have seating for 4 students per table. The rooms also feature a large circular light fixture and the ceiling is made up of wood panels designed to look like corn crib structures.



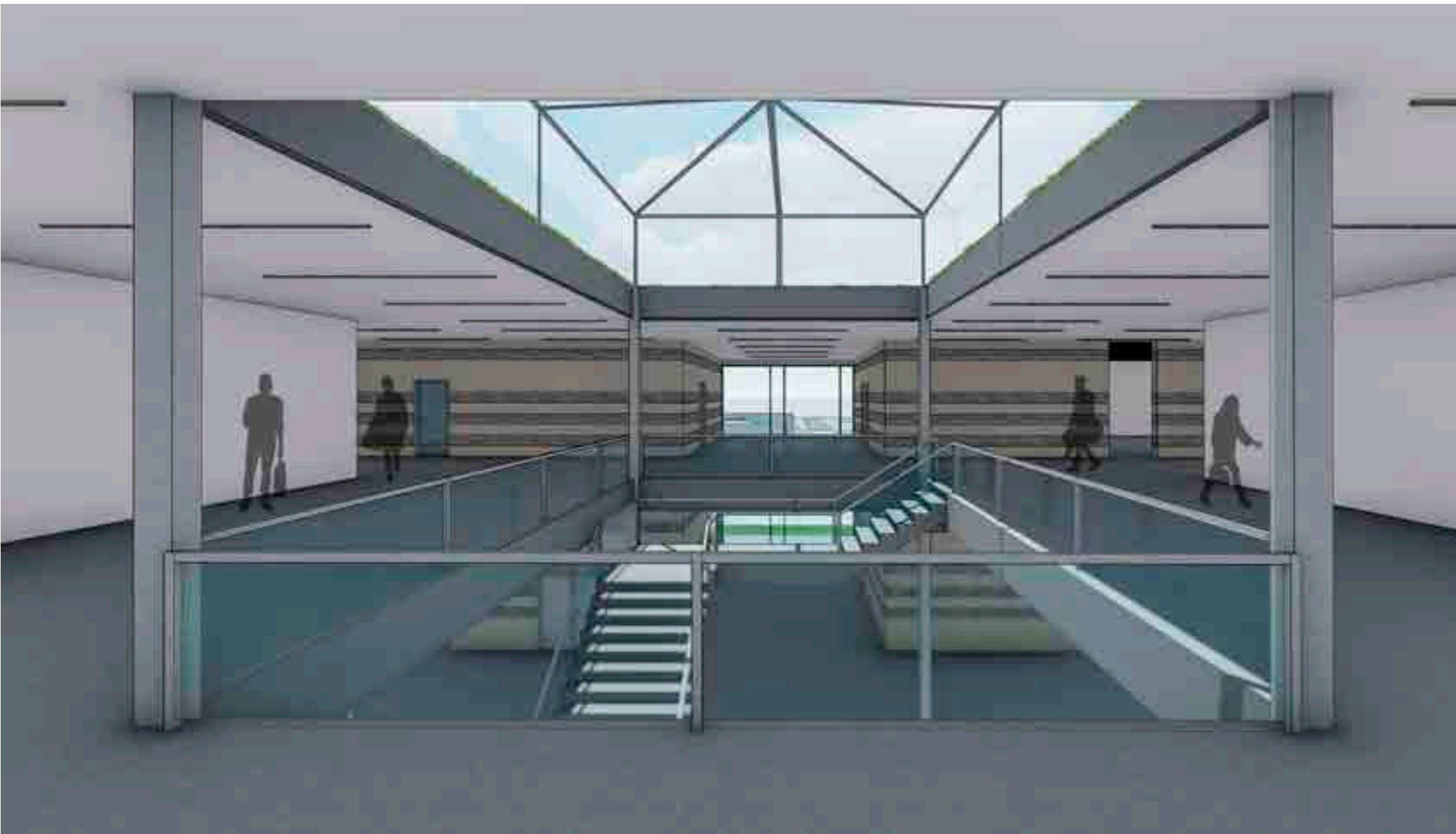


Main Floor

The main floor of the museum is dedicated to public space. Anyone is welcome to come enjoy the café, purchase a souvenir from the gift shop, or join a class being taught that day. The large lobby is a space where people can come to relax and enjoy a view of the outdoor walking loop and Turner Family house museum directly across the street. A portion of the main floor is used for museum business and is reserved for employees. These spaces include a reception area, receiving room and a storage space for art and artifacts.

Upstairs

After purchasing your tickets, you are invited to climb the grand staircase to the second floor. The staircase is cast in beautiful natural light from the skylight above and draws your eye upward. Once you've made it to the second floor you can visit any of the four galleries to learn more about the agriculture industry. There is also a large, rentable gathering space for any event you may want to hold at the museum. There are also employee only spaces on the second floor including archival storage, mechanical and electrical rooms.





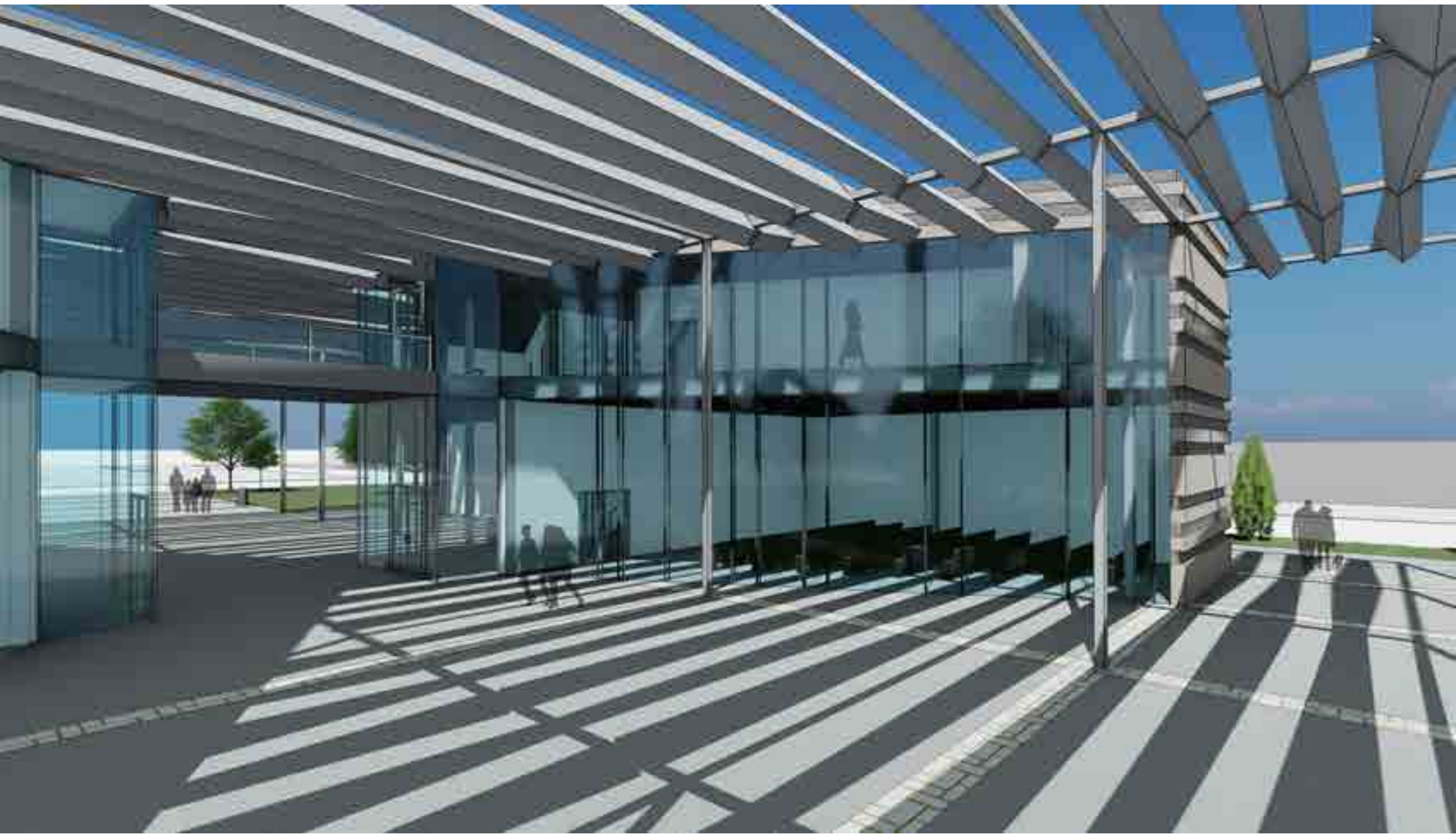
Gallery

The museum has several gallery spaces upstairs with each space focusing on a different aspect of agriculture in Midland. There are two galleries directly opposite each other that you see when you walk up the stairs. These two spaces are for farm equipment and art that can be exposed to some natural light. If you head towards the left corner gallery after you walk up the stairs you will be able to view more historic pieces of farm equipment and art that cannot be exposed to natural light. As you walk towards the bridge to the administration building there is a larger gallery on your left. This gallery space holds contemporary exhibits that focus on depicting the agriculture industry today and also has a wall of windows that are shaded from the West Texas sun.

Café

After coming in the main entrance to the museum building on your left is the café. The main feature of this space is a wall of windows to enjoy the view of the outdoor room between the museum and administration buildings. The café is the most relaxing space at the museum and cultivates an atmosphere that invites you to slow down and enjoy a cup of coffee.





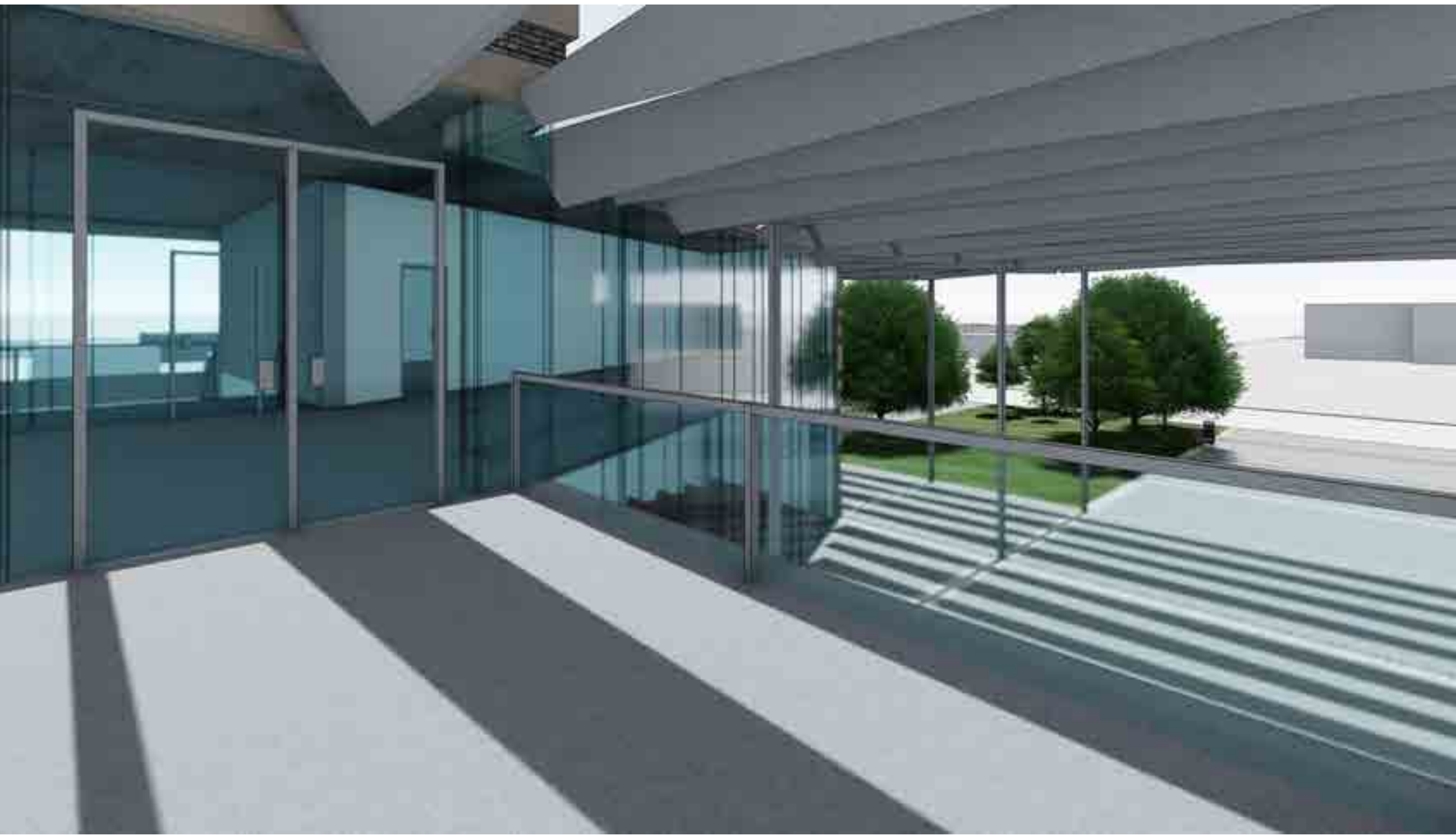
Administration

The museum's administration building holds the business functions for the whole Museum of the Southwest complex. The first floor rooms include the auditorium, bathrooms and stairway while the second floor is home to all the business offices. The director of the Museum of the Southwest has a private office while the other employees work in a large open concept space for greater communication. There is also a private break room for employees to relax when they need it.

Auditorium

Right after you walk into the museum administration building, if you look to your right you will see the entrance to the auditorium. The auditorium features a wall of windows that allow beautiful natural light into the space as well as seating for over 100 people. The greater Museum of the Southwest complex as well as the Hayley Memorial Library host frequent lectures over a variety of topics that will be held in this space.





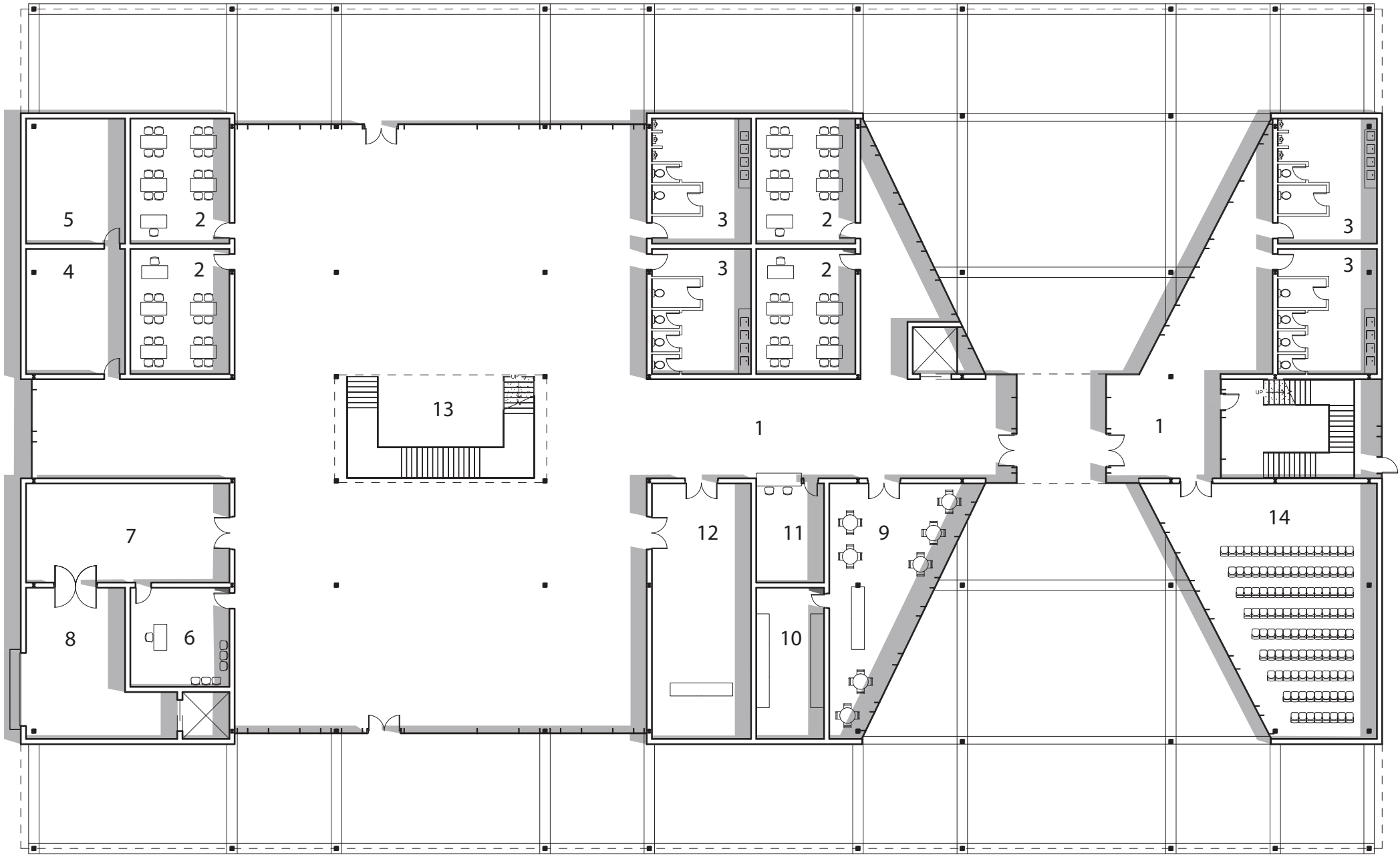
Bridge

The agriculture museum and administration buildings are connected on the second floor by a bridge that crosses over the entrance to both buildings. This bridge allows the business of the museum to be hidden from the visitor's eye on the second floor while still providing employee access to the museum. From one side of the bridge you will have a view of the agriculture museum's outdoor space and the Turner family house museum. From the other side of the bridge you will be able to see the front lawn of the museum as well as Wall Street.

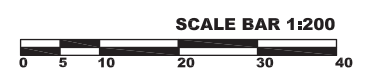
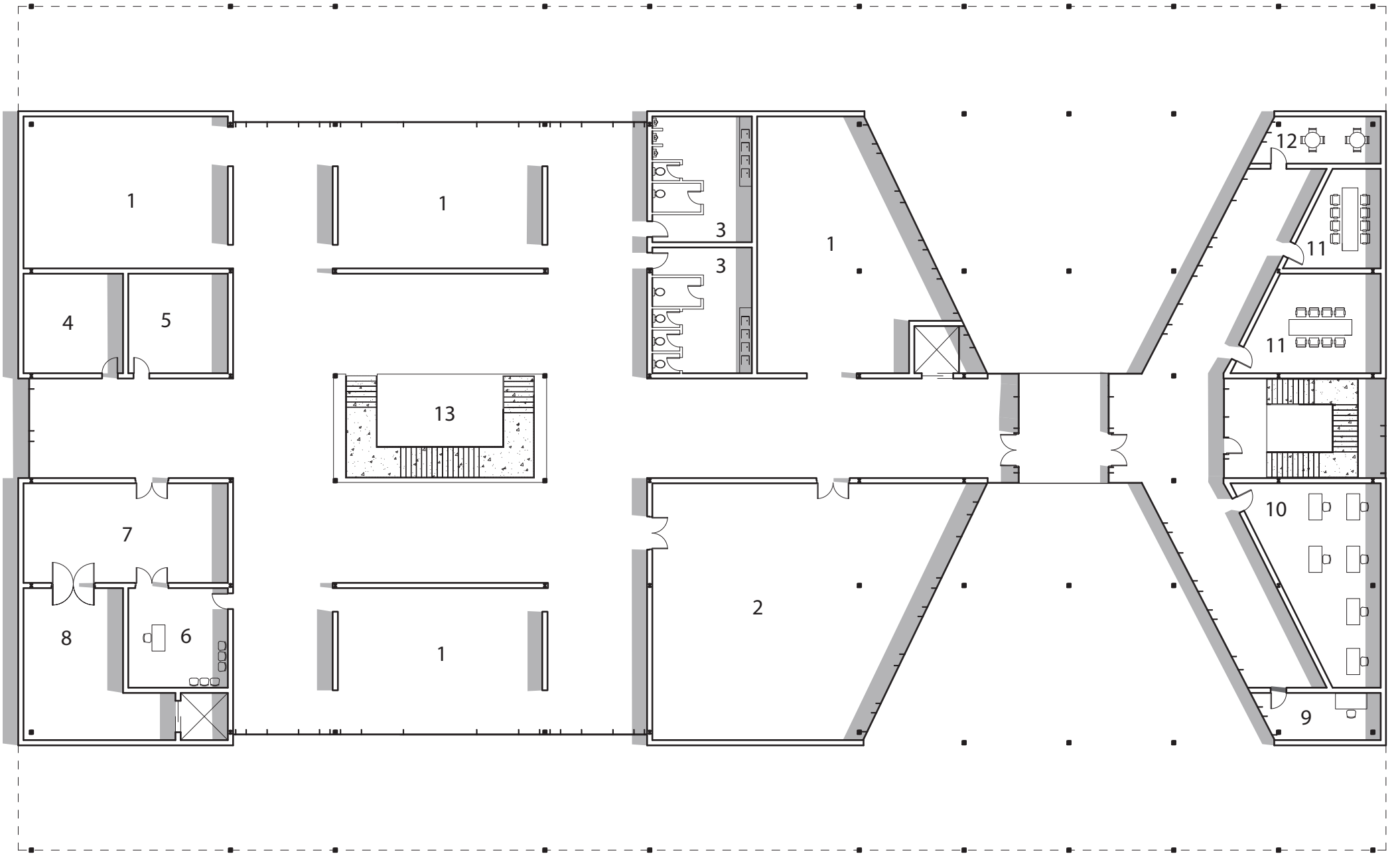
Drawings 4

First Floor

- 1** Entrance Hall
- 2** Classroom
- 3** Bathroom
- 4** Mechanical
- 5** Electrical
- 6** Artifact Lobby
- 7** Storage
- 8** Receiving
- 9** Cafe
- 10** Kitchen
- 11** Ticket Booth
- 12** Store
- 13** Grand Staircase
- 14** Auditorium



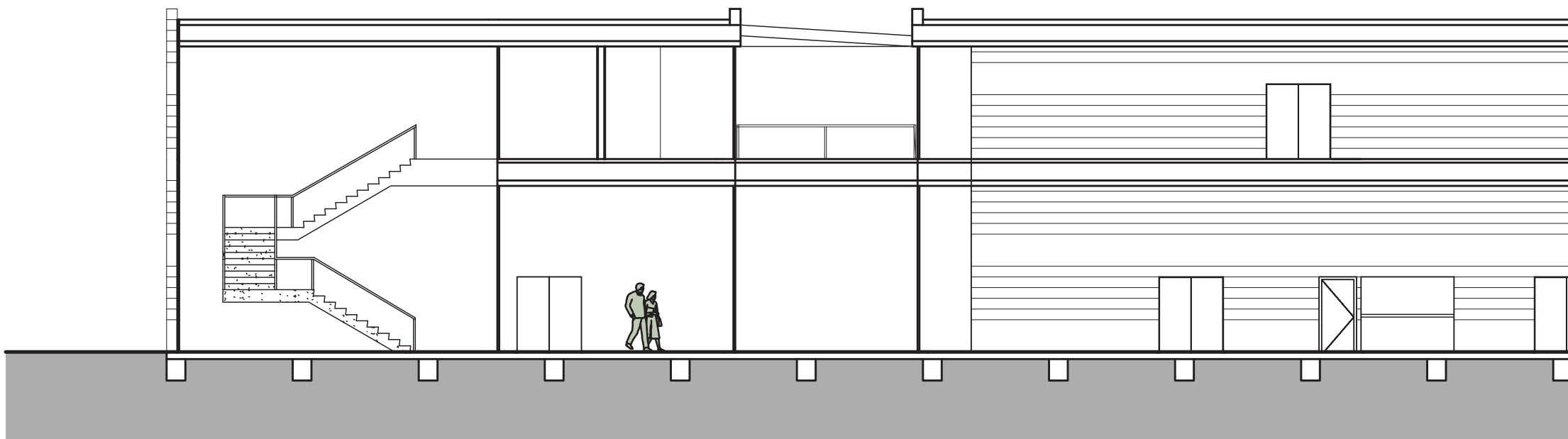
SCALE BAR 1:200
0 5 10 20 30 40



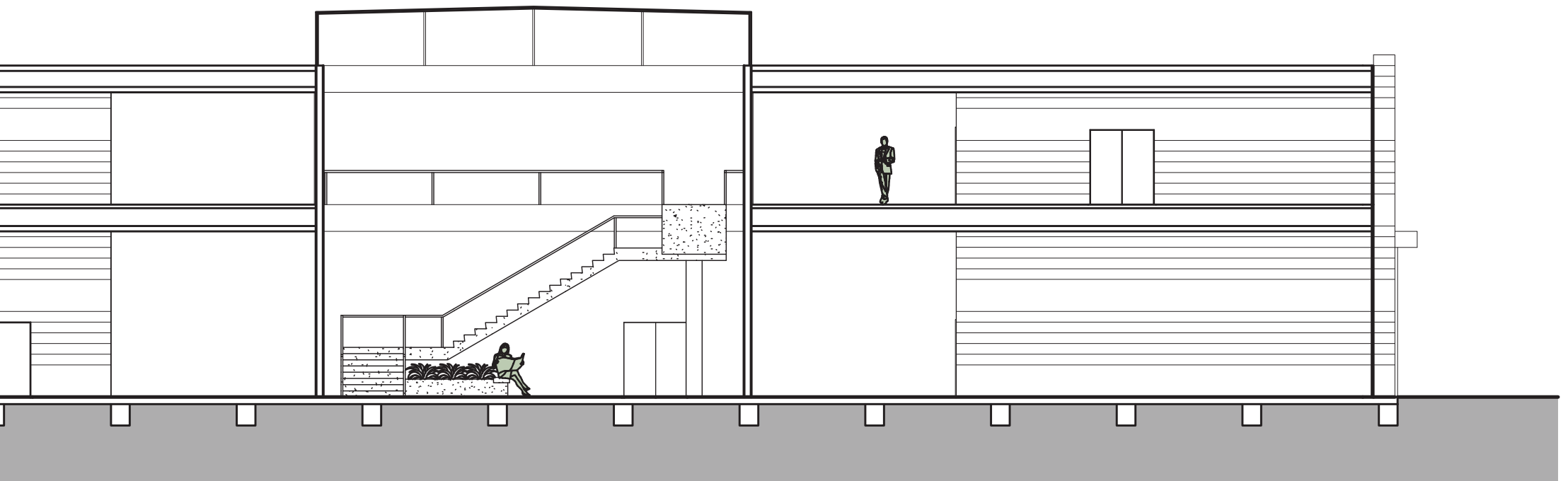
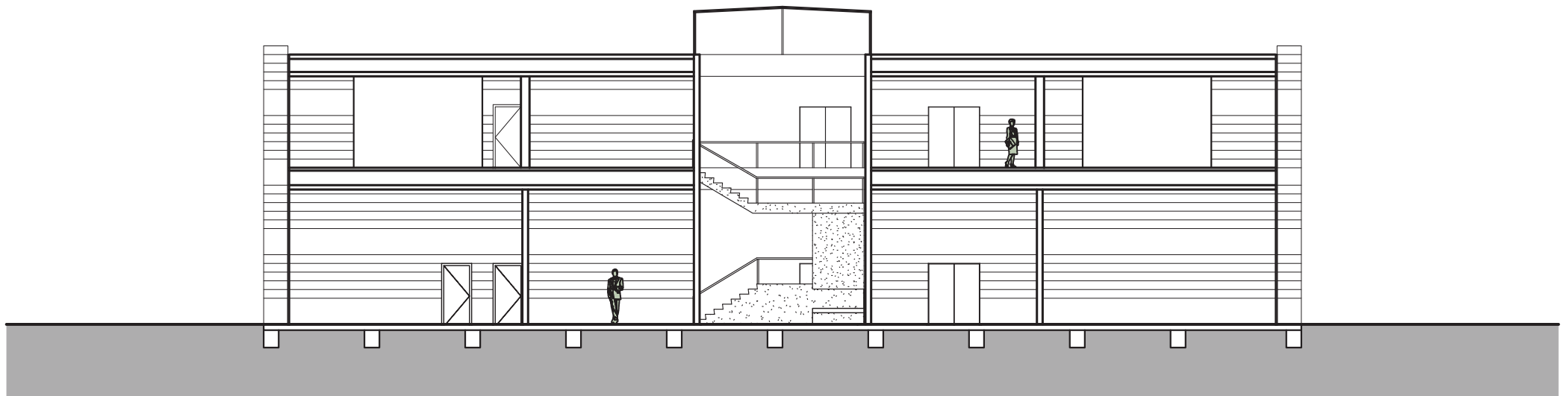
Second Floor

- 1 Gallery
- 2 Gathering Space
- 3 Bathroom
- 4 Mechanical
- 5 Electrical
- 6 Artifact Lobby
- 7 Storage
- 8 Receiving
- 9 Private Office
- 10 Community Office
- 11 Conference Room
- 12 Break Room
- 13 Grand Staircase

Full Section Cut

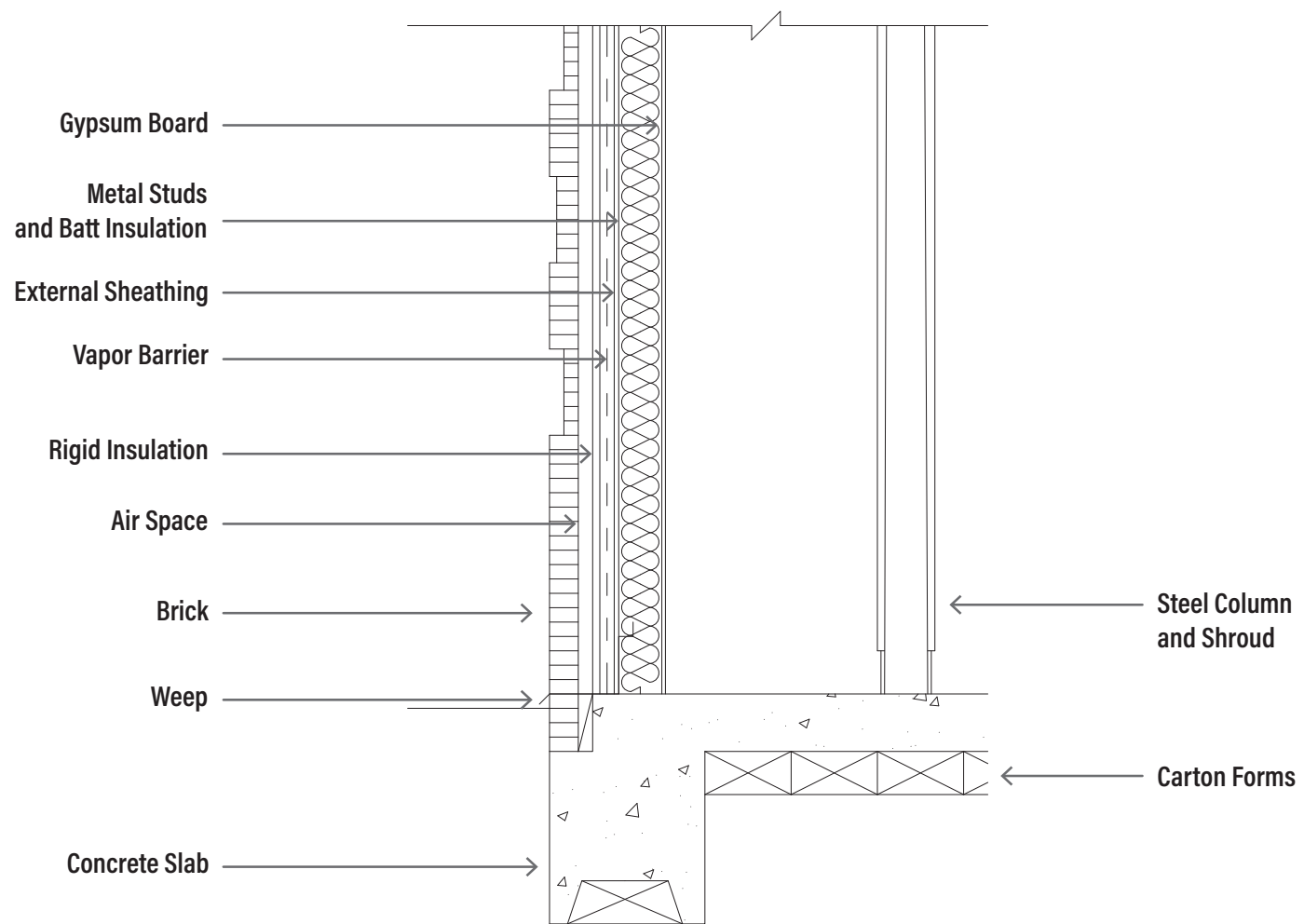
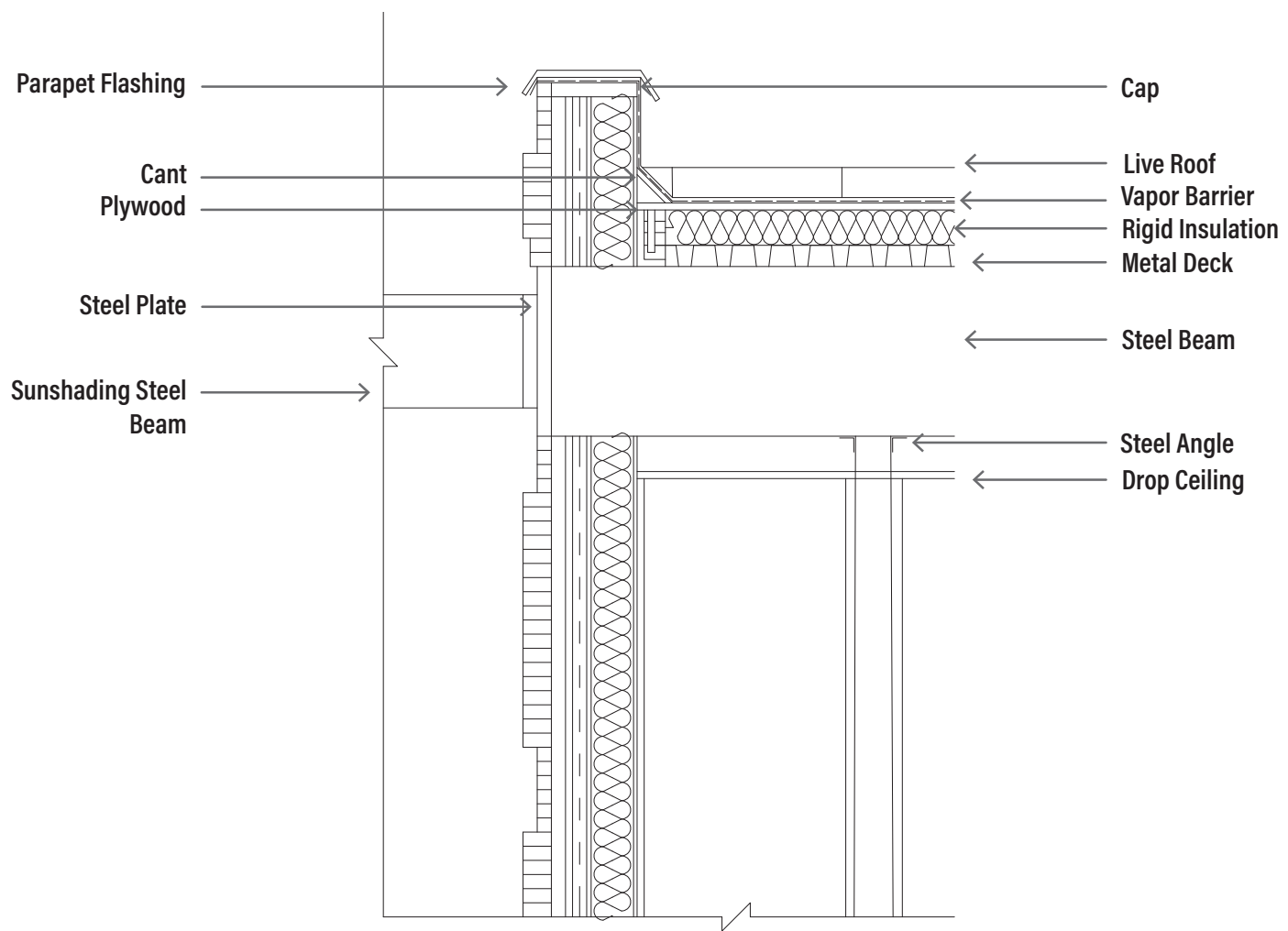


Museum Section Cut

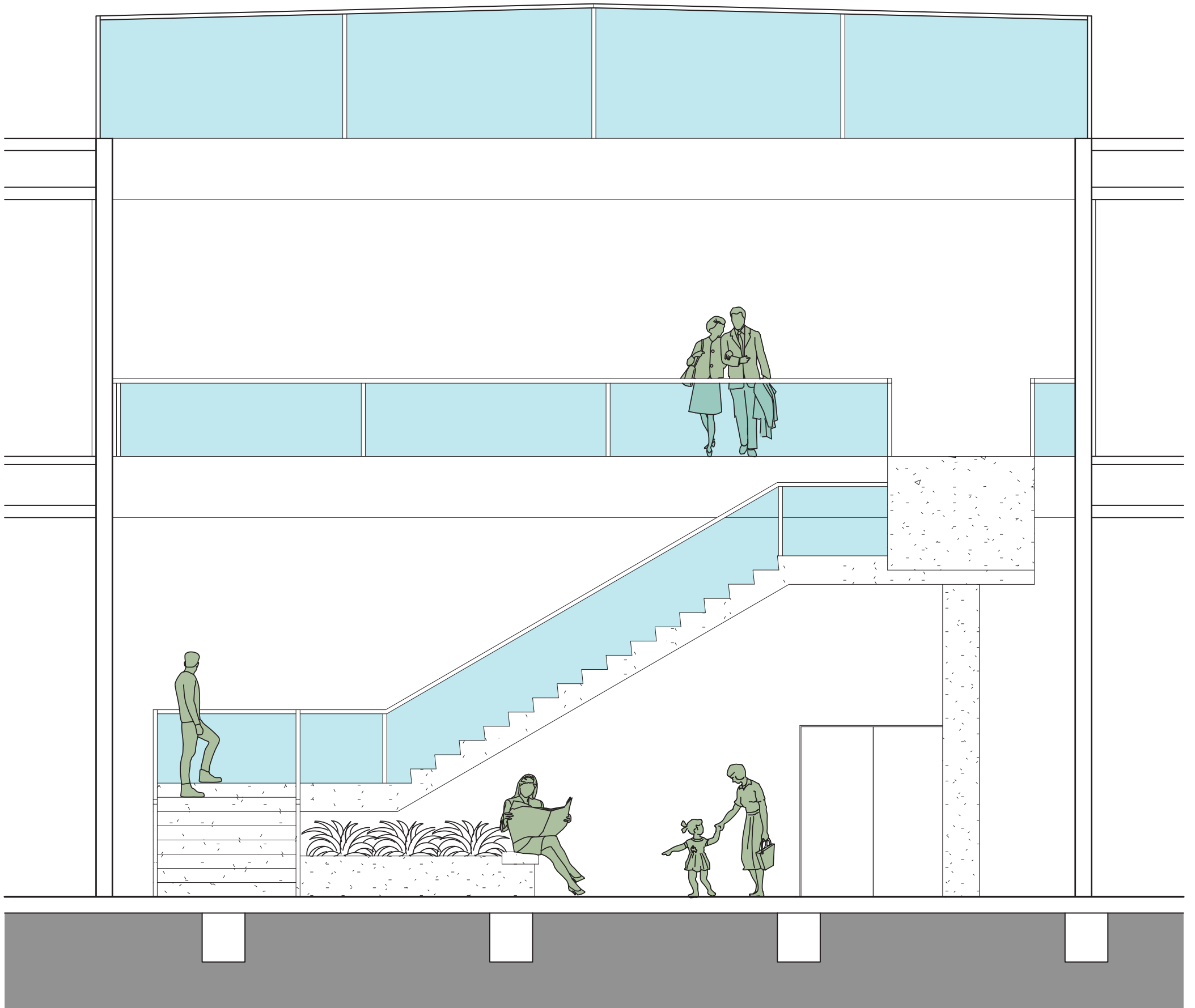


Details

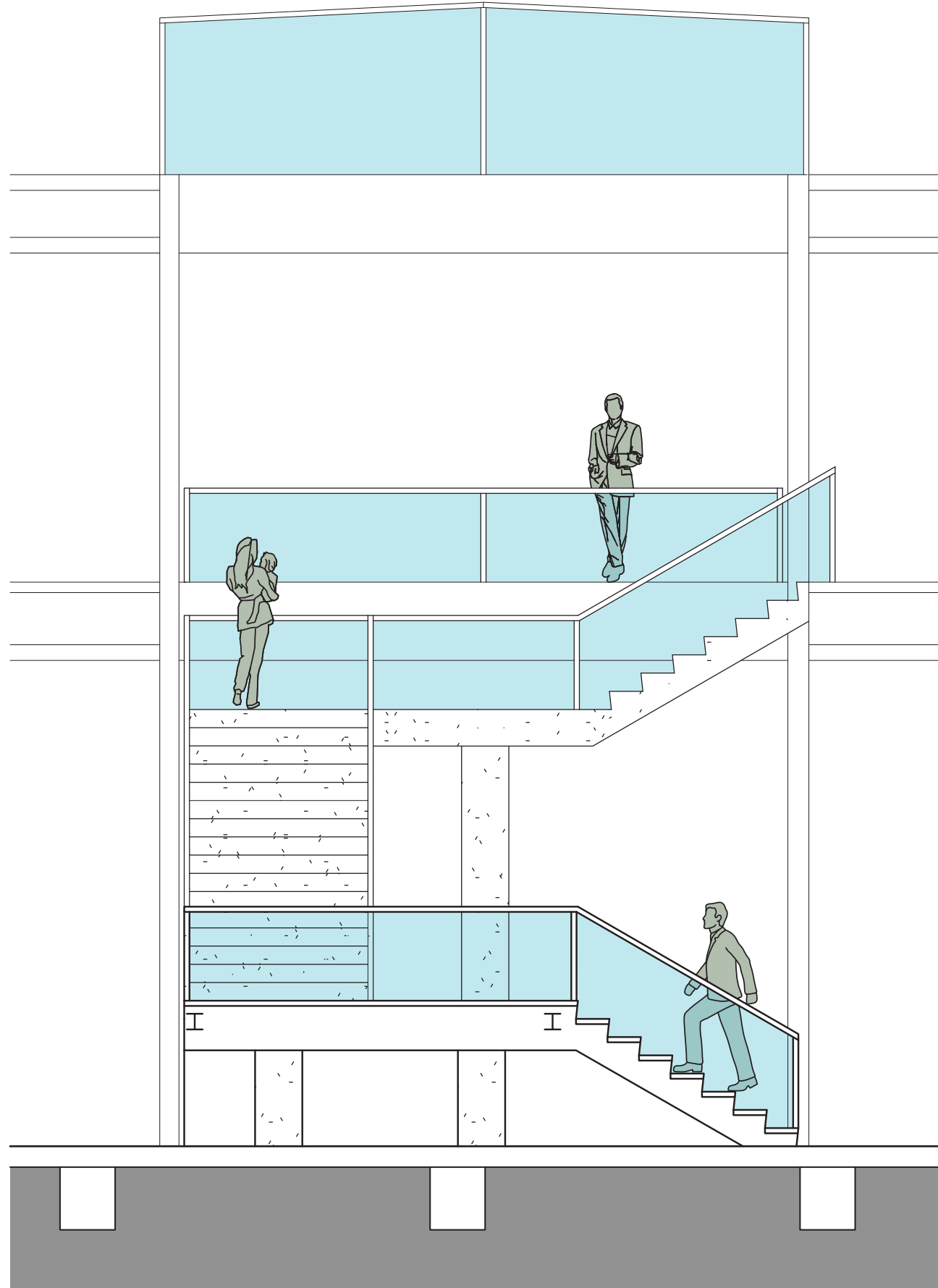
As a part of this project I have put together a few detail drawings of specific design features. These drawings include a wall detail, stair detail, ADA restroom plan and elevation. The wall detail is a section of the brick wall that also shows how the sun shading structure attaches to the building. The stair detail drawings include a view of the stairs as well as a section cut through the structure to show what they are made of. The restroom plan and elevation show that the restroom complies with ADA requirements and also shows some of the features in those spaces.



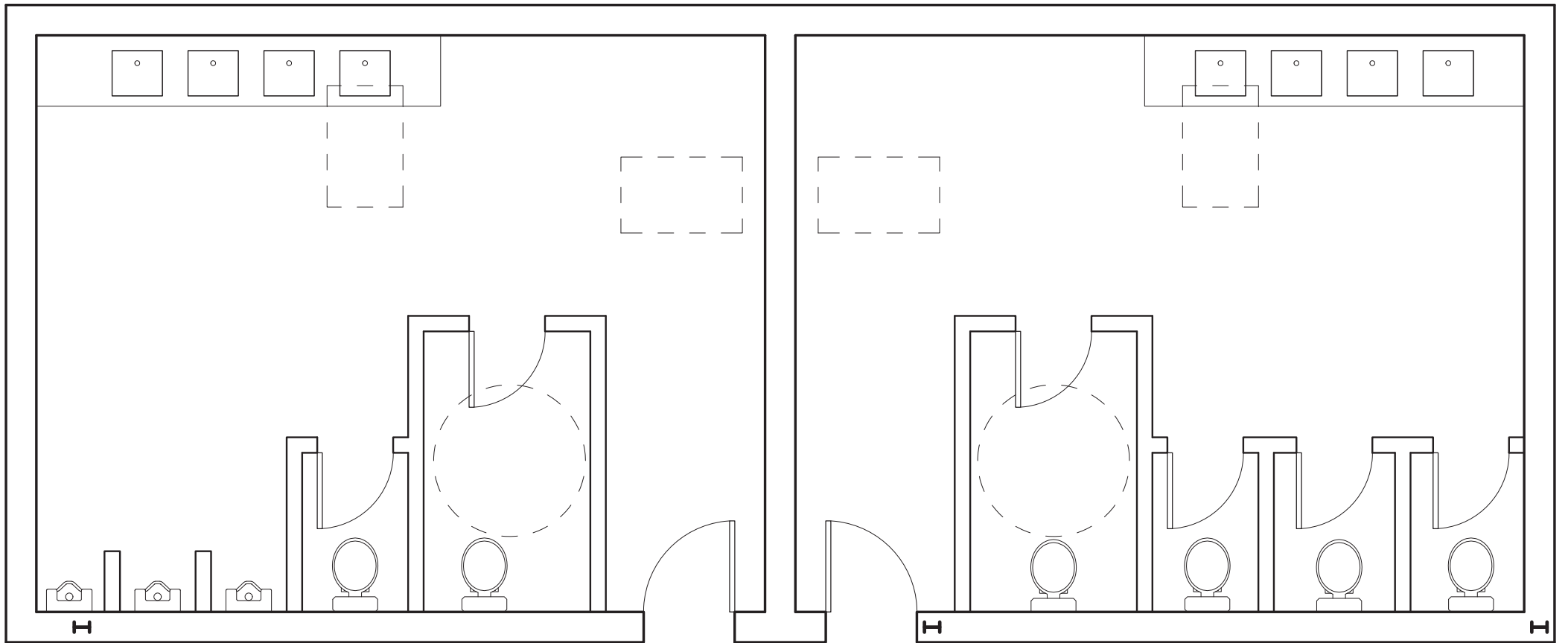
Stair View



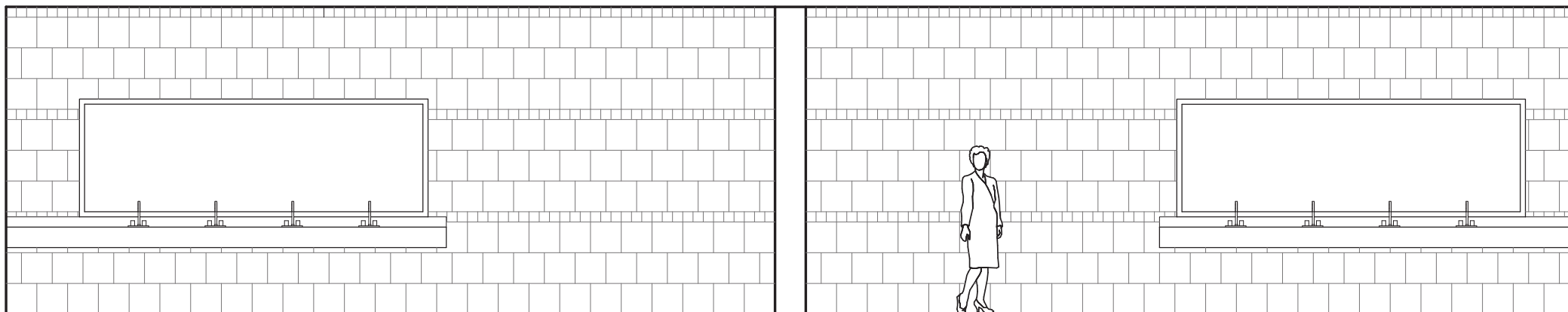
Stair Section Cut



Bathroom Plan



Bathroom Elevation



Northeast Elevation



East Elevation



Southwest Elevation



West Elevation







Sara Calvin
Texas A&M University
Final Study 2020

Priya Jain
Chair

Brent Fortenberry
Committee

Jane Winslow
Committee

Ray Holliday
Studio Professor

References

Museum of the Southwest

The Noun Project- You Are Here by Adrien Coquet

The Noun Project- Oil Derrick by BomSymbols

The Noun Project- Law by Tezar Tantular

The Noun Project- Hammer by Made by Made

The Noun Project- Thief by P Thanga Vignesh

The Noun Project- Flowers by Made by Made

The Noun Project- Gift by Corpus Delicti

The Noun Project- Picture Gallery by Kiddo

The Noun Project- Telescope by Vectors Market

The Noun Project- Family by Adrien Coquet

The Noun Project- Gallery by Made

The Noun Project- Tourism by Massupa Kaewgahyaw

NonScandinavia

Climate Consultant 6.0

