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ARCH 4216 Honor's Thesis: Spring 2017

Other Options Food Pantry and LGBT Teen Center

During this year's 4216 comprehensive studio, our project was a food pantry and LGBT community center for Other Options, an organization that provides food specifically for families under the poverty line and affected by AIDS and/or HIV. The main challenge we faced while designing was a struggle between how to make the center open and inviting while also providing a level of privacy for both homeless teens and pantry clients. Additionally, something I personally saw as a design goal that the leaders of the organization were concerned with was sustainability. My design reflects my solutions to these problems and goals while expanding and developing them into design strengths.

Upon arriving at the current Other Options location on a site visit our arrival was lackluster, to say the least. The building they were currently occupying had been renovated from a dentist's office previously. The size of the building was slightly smaller than what was needed but the main problem was the organization of the spaces. While appropriately sized, the way the lobby connected to the pantry made for a chaotic pattern—clients attempting to check in or wait would have to dodge those who were trying to leave with their full shopping carts, all while everyone was still trying to allow for arriving clients to have enough room to stand in line. When clients were going through the pantry and collecting their groceries, the space was tight and occasionally made it difficult to turn the shopping cart the necessary 180 degrees to continue through the line. While the organization space in the front of house was annoying, it more or less was adequate.

In the back of house, things were a lot tighter and the building's flaws were more pronounced. When volunteering to help sort and put away food for home deliveries, the thing I found most frustrating was the width of the hallways. After filling a shopping cart with delivery packs, the cart and packs would have to be taken to a freezer approximately 75 feet away, down a hallway and into another room. The

problem with this was the width of the shopping cart took up all but six inches on either of its sides, preventing anyone else from using the hallway. Additionally, since so many appliances and equipment had to be crammed into the small spaces, there was not much room to maneuver this 100+ pound cart.

During this volunteering experience, I and a few others helped unload a shipment from a grocery store. The biggest problems with this were inconvenient access from the unloading zone to the back of house, the lack of space to store the new arrivals, and the pathway to get to the refrigeration room. The ground floor was about six inches lower than the floor level of the building which meant a ramp had to be used in order to get food from the truck to inside via a dolly. The problem with the Other Options location was that the ramp was very narrow and had no railing on the side, making it difficult and slightly dangerous to carry large loads up the ramp. The volunteers do the best they can with the limited amount of space they have but the amount of food they receive on a daily basis makes the place almost unnavigable and constricts their ability to provide for more clients. New fruits, veggies, and dairy products are set in the already narrow hallway until they are sorted, not only making it frustrating and hard to both sort and watch out for passing people, but also most likely making this arrangement a fire hazard.

These observations were mostly my own and centered around the flow and organization of the building. Jim, our Other Options tour guide extraordinaire, also pointed out specific things that he, the volunteers, and clients had found unmanageable in the pantry and would need to be addressed in our designs. On the top of the list were bigger hallways, better traffic flow of shopping clients, and generally a better organization flow. Since the current Other Options building does not currently cater to homeless teens, there was nothing to observe in regards to this part of the program. However, after listening to Jim's comments and conducting my own research, I concluded that the main concerns involving the teen center were privacy, accessibility, and a need for flexible space. On top of these design problems, these separate spaces had to balance themselves

Before starting any rough layouts, I considered how a visitor would experience these spaces. On the food pantry side of things, the clients need a certain level of privacy. Jim mentioned that while some shoppers are fine with having to go to a food pantry for those affected by AIDS/HIV, some understandably prefer to keep their situation under wraps. Visitors also need an organizational flow that makes sense--one that provides enough space for those waiting to shop and those leaving the pantry with their items. Their pathways should not overlap for ease of movement. In addition to this, Jim repeatedly brought up the idea of an outdoor space where shoppers could relax and entertain their children while waiting.

From the volunteer perspective, there needs to be as much space as possible to adjust for excesses of food but must be accomplished in a clear and effective circulation that makes sense. This extra square footage specifically needs to be added to the loading dock area, transportation pathways, and an addition of overflow spaces so as not to impede foot and food transportation traffic. In anticipation of growth, I also made certain that a forklift could navigate through at least the sides of the aisles.

The teen center should aim to be a space that is open and inviting while providing the occupants with privacy from the public. In the central part of the United States specifically, the overwhelming majority of homeless teens belong to the LGBT community, most often due to religious intolerance. Because of this, I believed the lounge should have a combination of spaces that encourage different levels of social interaction--furniture arrangements that advocate private time, small groups, and large groups--so that these teens feel welcome to share their trials and tribulations in a safe space. In talking with Jim and a few homeless LGBT teens I personally know, the people intending to use this part of the building really just want somewhere they can clean themselves, get the basic life necessities, and escape from the intense criticism the public throws towards their situation. So long as these boxes are checked, they will use the facilities.

After assessing what the users of these facilities would need, I came to the conclusion that the overall feel of the building should be welcoming and should not directly acknowledge the visitor's special circumstances. I felt it was my responsibility to create an environment that would encourage all who visited to feel uplifted and free and able to do whatever their heart desired. To accomplish this goal, I started thinking of high ceilings and letting in as much natural light as possible.

When touring the Other Options facility, something that kept jumping out at me was the director's insistence on composting and just generally making the most out of everything they received. Having recently obtained my LEED Green Associate, sustainability was fresh on my mind. I leapt at the chance to design this project in an environmentally-conscious way. Sustainability became my guiding concept.

What I focused on were two parts of sustainability that I felt were most relevant to this project: sustainability in an environmentally-conscious sense (materials, systems, processes, etc.) and sustainability as a building that could withstand the test of time (life cycle assessment, public opinion, etc.). Whenever a problem came up, these were the principles I focused on to formulate a solution.

To begin arranging the spaces, I separated the program into three main components based on square footage (the gym, the teen center, and the food pantry) and arranged them around the site while paying attention to where the loading dock and parking could be located. This exercise led me to position the gym and teen center on the northwest corner and along the northern edge of the property, the food pantry to the south of those locations, parking along the south perimeter, and the loading dock on the northeast corner of the site.

The teen center and gym's position on the corner make them the focal point of the development, something done very intentionally. While the center does require a level of privacy, I wanted it to be almost a landmark--I want people walking or driving by to ask questions and talk about this building. I think if people see this center as something positive and something that contributes to the community that

they will better appreciate and fund it. To offset the publicity I want this building to inspire, the main gathering spaces are on the second floor and behind screens that the public cannot see into.

On the opposite end of the spectrum, I wanted the food pantry to be less prominent. To accomplish this, I literally put a privacy wall up that acts as a buffer from the public as well as a statement piece of the building in general. While all parties contained in this building do require privacy, I gave them that in different ways.

After establishing the general placements of the spaces on the site, I started trying to come up with what I wanted the general shape of the building to be. As a way of coming up with ideas, I Googled “inspirational architecture” and after searching for a little, I started to notice a pattern in the buildings I liked and wanted to emulate. Many of them had roofs that tilted to one side or formed a wing-like shape. After going through many sketches, the general shape I arrived at is shown on page 1.

This outline perfectly integrated into my concept of sustainability. The butterfly roof over the teen center and gym and the tilted roof over the food pantry allow for all rain that lands on these surface to be channeled down to a water cistern located beneath the ground. Due to code and local ordinances, this water cannot be used for consumption but it can be used for things such as toilet water and landscape irrigation. This would heavily reduce the facility’s water bill while also contributing towards LEED credits, if Other Options wanted to get their building certified. In addition to water conservation these roofs are also tilted at a perfect angle to receive sunlight from the south side. This makes this building a fantastic candidate for solar panels and other solar technology. In my final drawings, I only put solar panels on the teen center roof but they could also be applied to the food pantry with little to no changes in the structural calculations.

Since privacy was a huge component to this project, I attempted to put as few windows on the ground floor as possible. To offset this, the entire top perimeter of all walls are encased in glass. Not only that, but these windows are operable to allow for natural ventilation of the spaces. As seen in the diagram

on page 2, the cooler wind (which comes from the south, southeast direction at this site) comes in through the windows and sinks down to replace the warm air which exits the windows on the north side. This arrangement is both in the food pantry and the teen center. Not only is this method sustainable, it can help to reduce cooling costs in the summer.

Another sustainable feature I integrated into this building are the green walls. These features are sustainable in many ways. First off, these walls will attract more attention. This building is located downtown where brick is the go-to material; there's not a lot of plant life in this area. This makes my proposed design stand out in a good way. Second, these walls could be turned into a sustainable fundraising source. Because the underlying structure of the green wall has to be a grid, Other Options could start a fundraising green wall where people could come in, purchase, donate, or memorialize a portion of the wall, and pay for the maintenance and/or updating of the plants in their section. Third, the implementation of green walls have been shown to slightly lower cooling costs by reducing the building's heat gain. And lastly, studies have shown that have plant life in or near a person increases their level of happiness and productivity. From a social standpoint, I sincerely hope that these green walls encourage people to spend more time outdoors, socializing with others.

Another green initiative I took that is less glamorous but contribute to the sustainability of this building nonetheless is the use of ground source heat pumps. Ground source heat pumps take advantage of the natural geothermal energy the earth releases and allows buildings to save significantly on heating costs and slightly on cooling costs. In addition to that, they are also energy efficient, low maintenance, and do not produce harmful emissions.

Material choices also contribute to the sustainability of a building in a significant way. Since the environmental cost of a building starts when the ground is first broken, where a building's materials are coming from is very significant. My proposed design primarily the materials of page 3--almost all of which can be found within a 100 mile radius of the site.

Moving on from the sustainability of the project, I will now explain my thought process behind how the plans are laid out. In regards to the back of house part of the food pantry, the plan was arguably the most important part. While its square footage took up only a third of the overall program, this space's layout would make or break the entire building. When designing the back of house, our studio program listed six main separate spaces: receiving, sorting, dry storage, dry food storage, cooler storage, and fresh distribution. From volunteering in a number of food pantries previously, I knew the best layout would combine all of these uses in one large room that had ample space between aisles and easy access to the store. As seen on page 4, my plan is simple: a rectangle with aisles of shelves in the middle, cooler access on the southeast side, and fresh distribution store access on the south side. All are connected by aisles that are a minimum of six feet wide, allowing for easy transportation and parking of food items. Additionally, there are open spaces on the northeast and southeast sides that are made to be flex areas to be used for either for future expansion or for excess storage when large shipments arrive.

The public parts of the food pantry are also laid out very well. Clients arrive and can either wait inside the lobby or outside in the courtyard. When called to shop, they will enter one side of the shop, follow a u-shaped path, and exit close to where they started. This design does have the ingoing clients in close proximity to the outgoing clients however, since their paths never technically cross, I thought the return of the carts to the same starting point would be more advantageous. These considerations all combine to form what I consider to be one of the most efficient layouts in our class concerning the food pantry.

The layout of the teen center was a bit more difficult to arrange. I knew I wanted an outdoor space on the second floor that overlooked the corner of Robinson and 11th but was finding it difficult to fit all my spaces onto one floor and still fit in the outdoor space. This resulted in the addition of a mezzanine level to the teen center and was the decision that made this space so magical to me.

When the program was laid out, the teen lounge portion of the teen center only had a required size of 300 square feet. Even after talking with the directors at Other Options in the beginning, our class was not given much of a direction on what exactly this space was to be used for--it was more or less up to our interpretation. I did not have a clear idea of what my teen space was supposed to be in schematic design but, as we moved into design development and started designing our focus space I was forced to consider what purpose I wanted my lounge and adjacent outdoor space to have. Ultimately, I designated the indoor space as a place to study, learn, and perform basic life skills and the outdoor portion was to be used for private, small group, and large group entertainment. While both areas are meant to be flexible, the outdoor patio is designed so that all furniture can be moved to make the space for whatever Other Options needs it to be--a study space, a farmer's market, an outdoor movie theater, or a banquet hall.

The main buildings of this facility were built as separate entities that have concurrent architectural themes. Both sections of the building have excessive green wall coverings paired with board-formed concrete panels. Their structures are similar as well--large, expansive steel trusses meant to make inhabitants feel uplifted span both the teen center and the food pantry. Through the gym has a different kind of structure (prestressed concrete beams), the structural choice is kept consistent with the surrounding materials of the building.

While I do think my design addresses all of the client's concerns and provides them with opportunities for future growth, I also believe there are a number of things that I could have done better. During schematic design, my building lacked cohesion and purpose which ultimately harmed me when we got into design development. Whereas most people only had to add on and beef up what they did in schematic design, I had to figure out how I wanted my spaces to function. Essentially, I got slightly behind in the schematic design phase and paid dearly for it when we moved into the design development phase.



Specifically in the design development phase, I think my focus space became too large and widespread and the scale of everything made it difficult to design things to the level that was expected. I was encouraged to develop my outdoor patio while still making progress on the interior portion of the lounge. With the progression of the outdoor space, the indoor portion of the lounge was put on the back burner. By the time the outdoor part of the teen center was detailed to the level that the indoor lounge was, it was too late to get either space up to the standard that I would have preferred and my renderings suffered because of this.

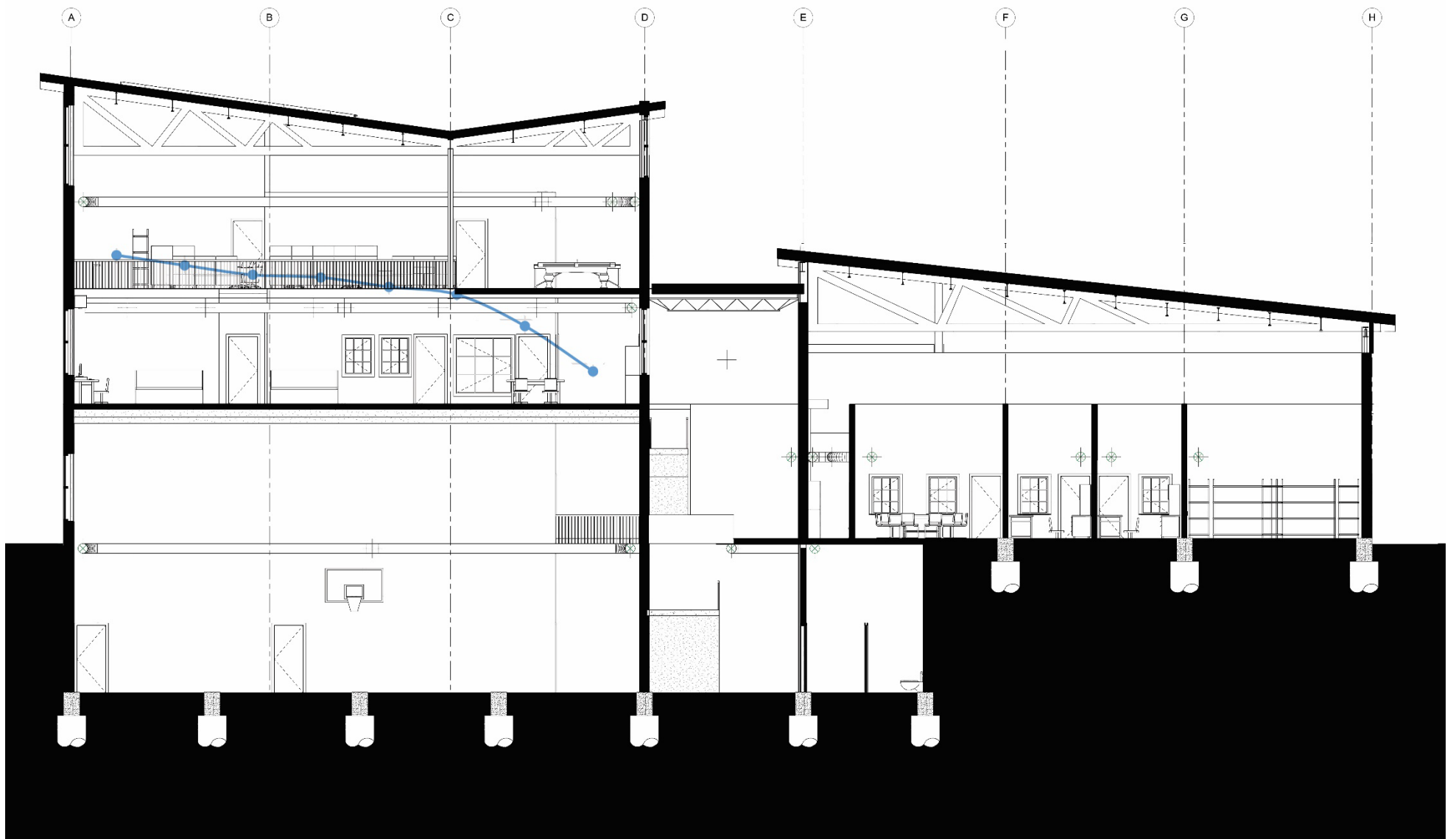
After hearing everyone's presentations and the juror's comments, I think the main thing I would change is something that we were not aware of in the first place. Jim was one of my jurors and in one of the last presentations, he made a comment on how he wished someone would have put in a kitchen in their project in order to teach some of these teenagers life skills that they could use in their everyday lives. Though I wish this sentiment and purpose had been made clear from the beginning, my design more than allows for the implementation of a cooking area along with a few other teaching areas outside the multipurpose classroom from the program.

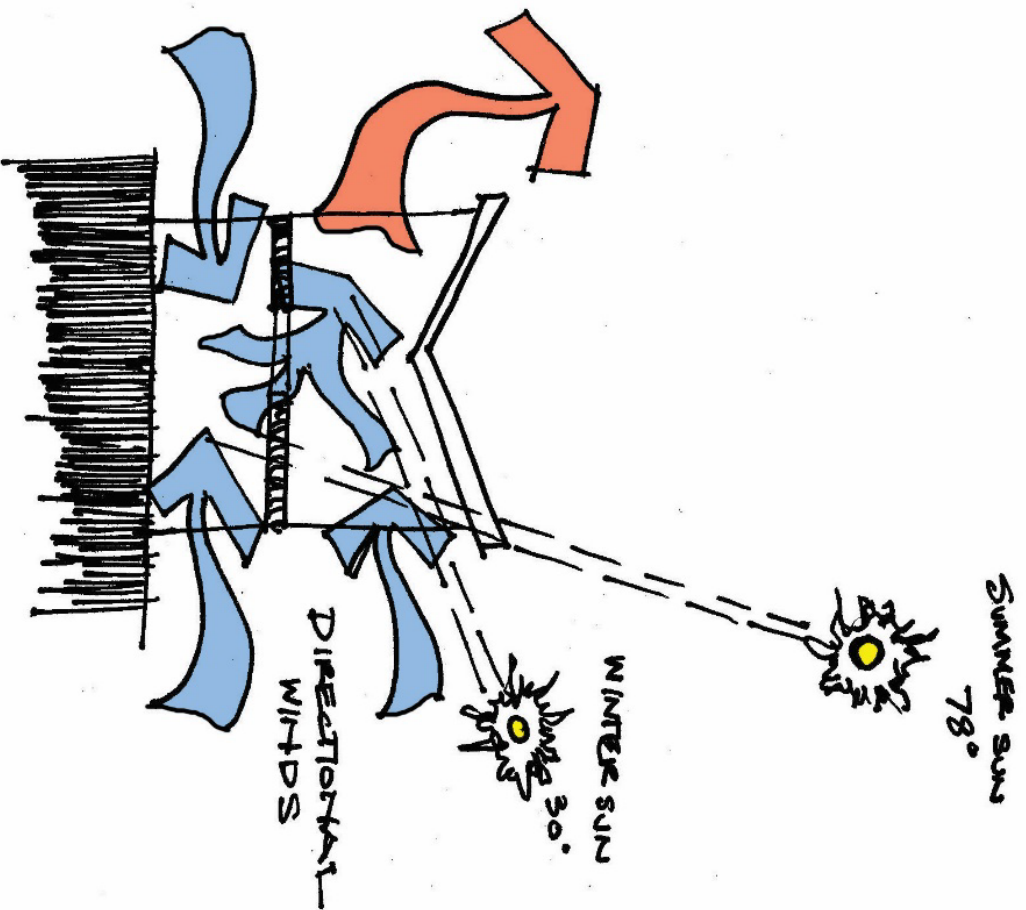
Something else I wish I had spent more time on would be my lighting choices. Before seeing other presentations, I was of the mindset that lighting did not matter much and really would not provide a big payoff in terms of hours put in versus what my project would get out of it. However, after seeing what some people were able to create, I fully recognize the difference lighting choices can make in a building and will definitely pay more attention to them moving forward.

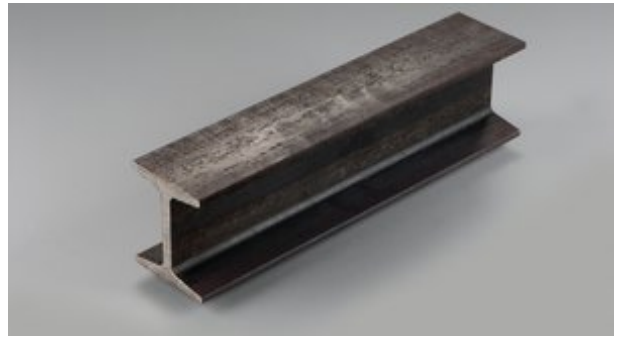
For all the criticism I am giving myself, overall I am proud of how I designed this project. I think I could have done better with my aesthetic choices, logistical choices (HVAC and lighting), and presentations but I honestly believe that the bare bones of my creation make one of the best functioning buildings in this class. I am also ecstatic that I was able to design a building based on sustainability and stick with that concept throughout the entire project.

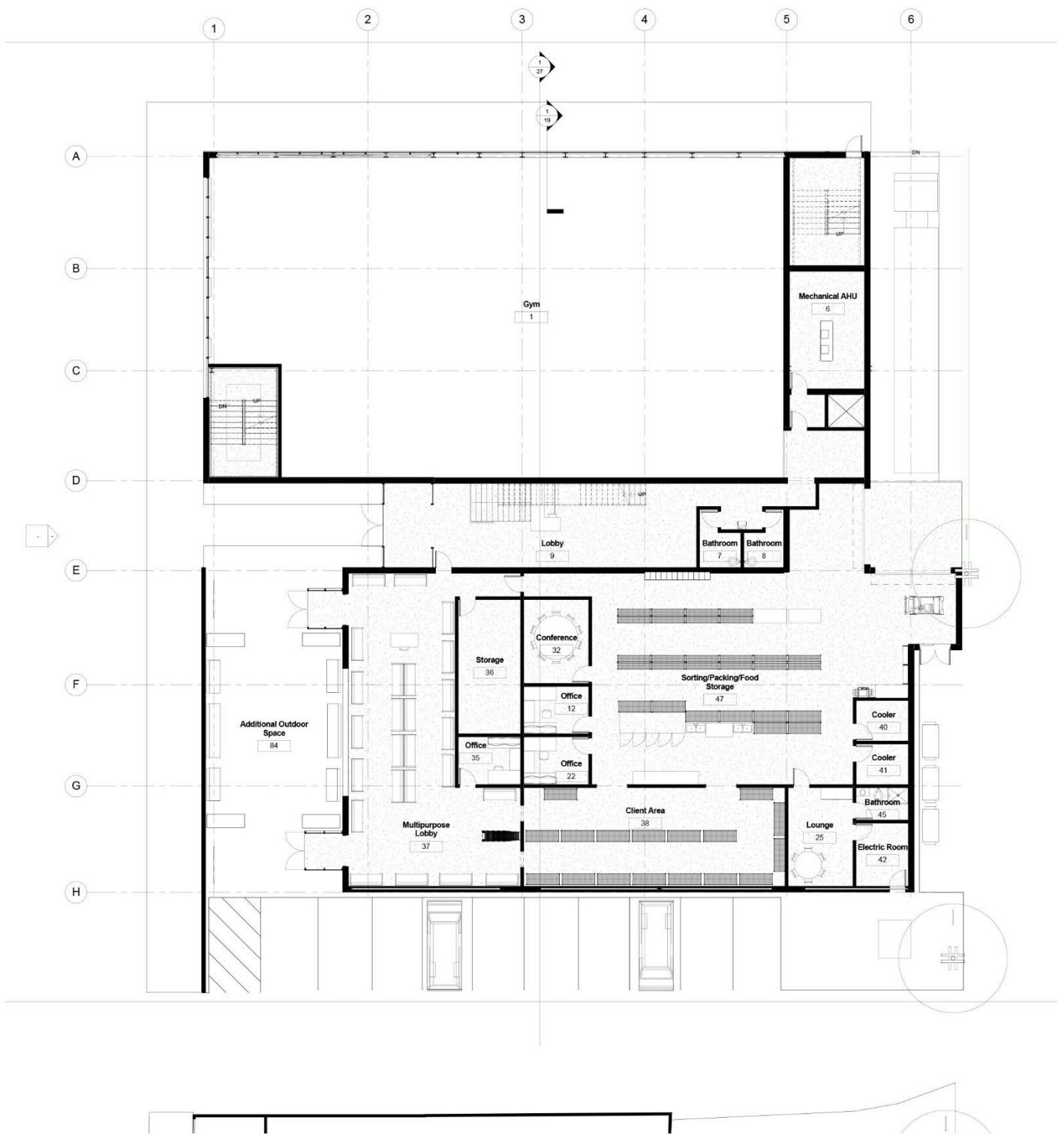
In the future, I think I will use Professor Spector's method of picking and sticking with a concept throughout the project more often. This way of thinking made it easier to make design choices and gave me a way to make sure I was still on track. I could make a change then step back and ask myself if that added something to the overall effect. If the answer was yes, it stayed. If not, it was promptly scratched.

Though I did not address this in my paper, I am very appreciative of the time spent learning technical drawings and common code issues. I cannot say all of it was a pleasurable experience, but going into an internship this summer, I feel much more prepared and like I have a better grasp on how buildings are really built.









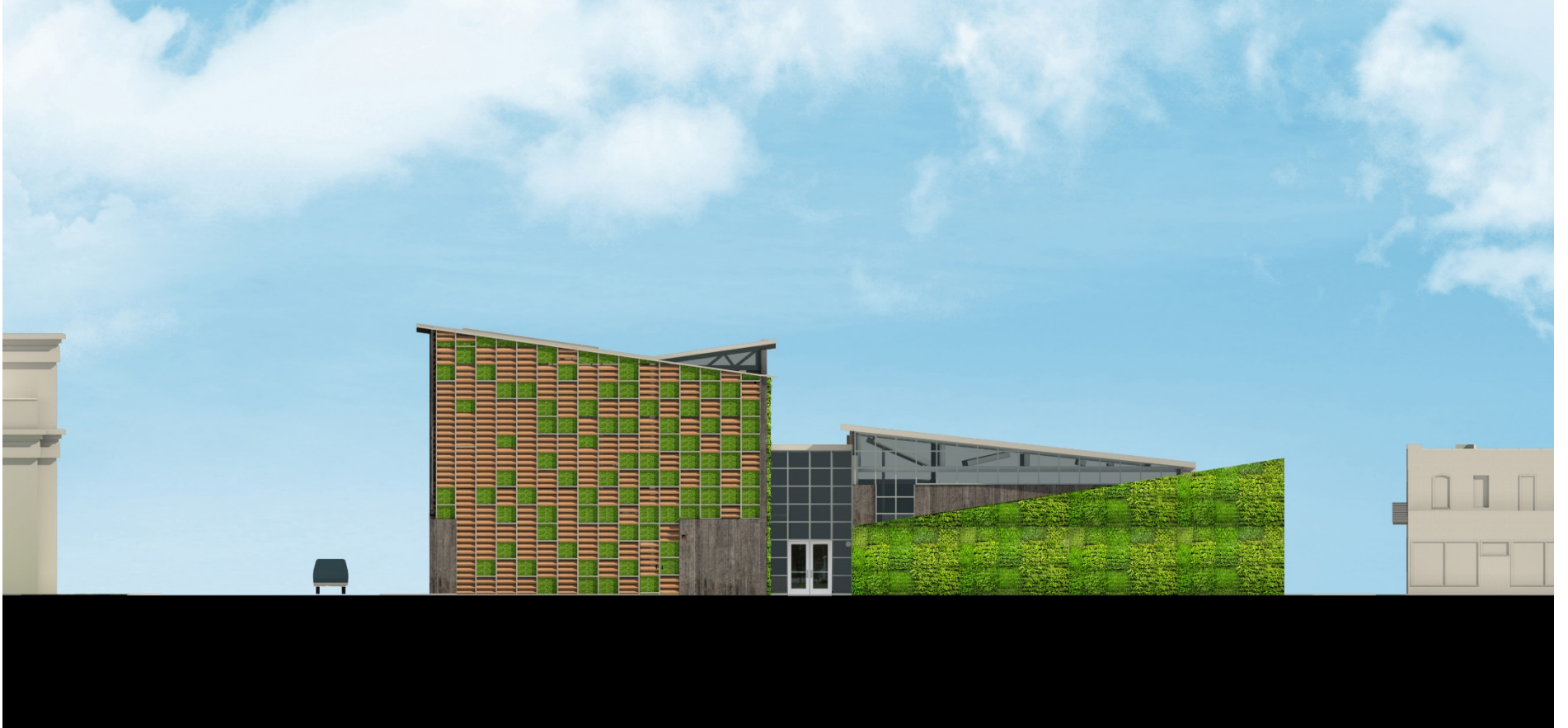


Interior Teen Lounge Perspective

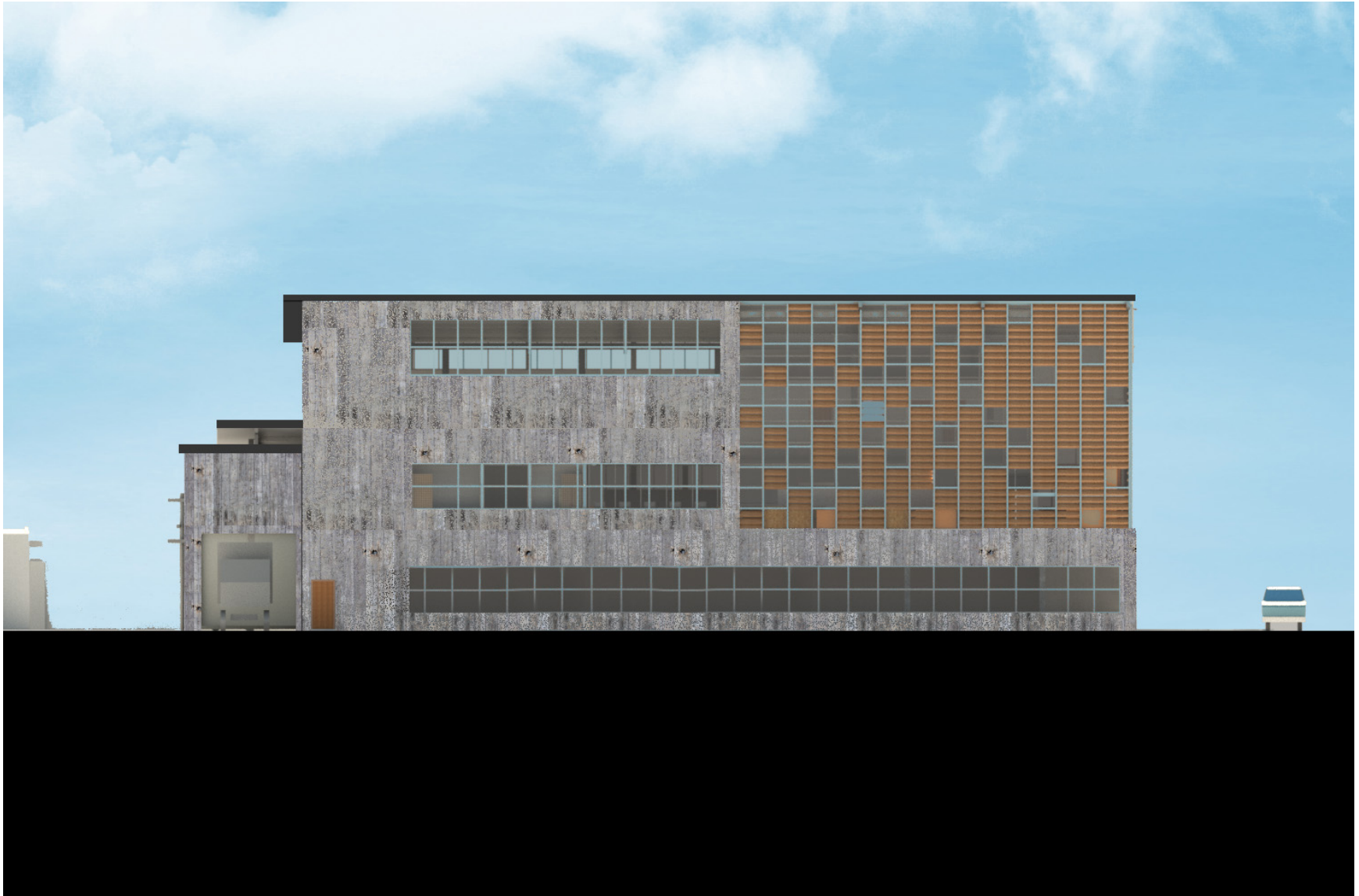


Exterior Perspective





West Elevation



North Elevation