2023

MATTHEW VROONLAND

NOVOS: INNOVATION & RENEWAL

NOVOS
INNOVATION AND RENEWAL

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CHAIR

COMMITTEE MEMBER

COMMITTEE MEMBER

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For Therese, Love ya

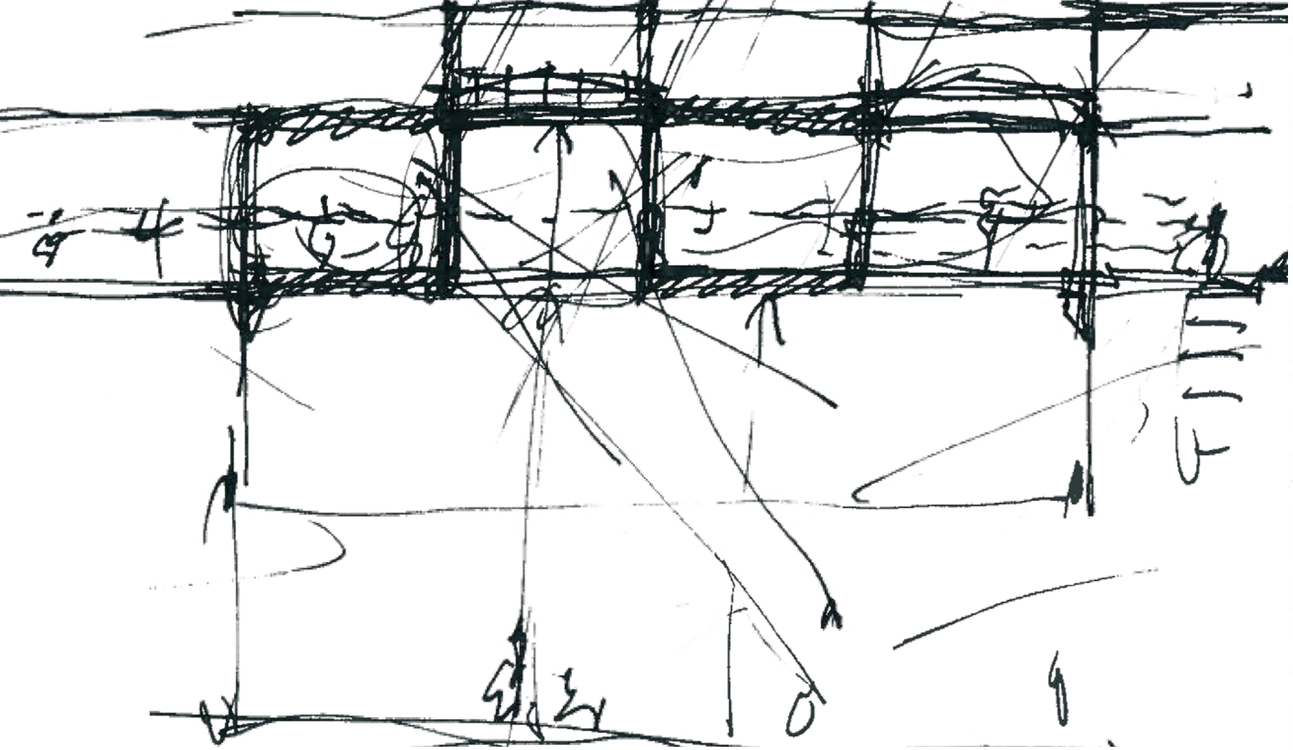
PROJECT OVERVIEW

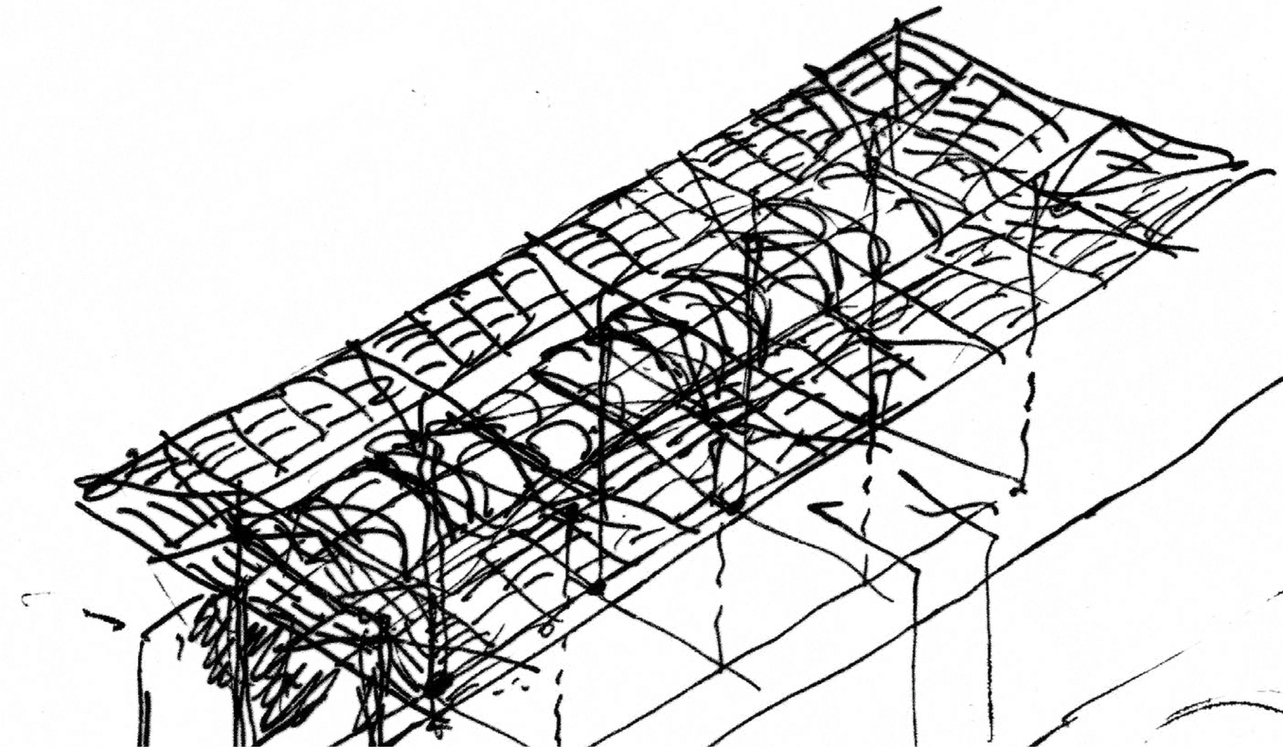
This book covers the works done for a Master's in Architecture Final Project for Texas A&M University. The main theme for the project is adaptive reuse. Adaptive reuse is the effort to adapt an older building to fit a new purpose while maintaining the historic design. The typology and site were chosen with each other in mind. In adaptive reuse, the architect is limited to the space given by the original building, and a special challenge of this project was that the new program is ingrained into history. meaning for this project the typology and site cannot be thought of separately. The design of the building is meant to highlight both new and existing features of the site. Using different materials as a guide to distinguish between new and existing portions of the building is necessary. The new elements of the project were added based on the existing design to bring cohesiveness between the existing and the new.

In the book, I will talk about the project in both the Third person and First person. The third person will focus on the technical aspects of the project whereas, in the first person, I will discuss my thoughts as I was designing the project or working on the book. The text in this section will be in the first person "Personal" and the text above will be in the third person "Technical."

PROJECT RESEARCH

This section covers the research that went into establishing the topics above. Typology is the context of the program and CTE is a more specified scope of the typology. As well as the precedents that influenced the project design and program.

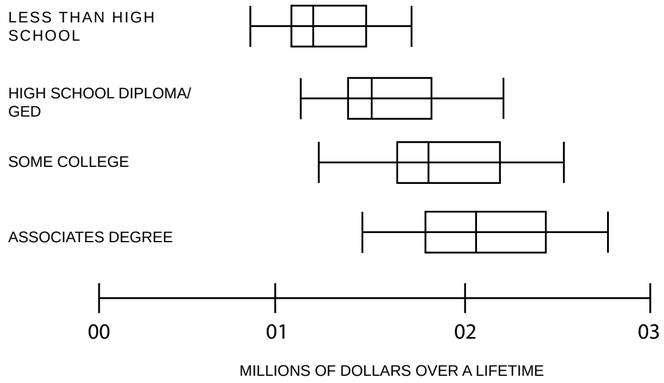




INTRODUCTION

Due to the industrial revolution, multiple buildings focus more on functionality and efficiency of space over the quality of life inside the buildings. Since then the buildings have run their course and have been deemed obsolete. Now there are thousands of buildings in the United States alone that blemish the skyline. This interestingly enough creates an opportunity for architects to take back the landscape. Through adaptive reuse, old buildings can be redesigned by an architect. Adaptive reuse is an architectural term for the reuse of a historic building with a new program. Adaptive reuse of industrial buildings promotes the extended life of existing structures rather than tearing them down and rebuilding them from the ground up. As a result, developers try to keep as much of the original structure as possible. This salvaging includes the outside shell of the building and the internal materials. The problem with existing structures is they are rigid and stubborn, they are unyielding and reject change. This gives the architect freedom, because the problem is new and complex, and the result is never pre-determined. The user then gets to experience the result of the familiar and the new in one, leaving for many forms of interpretation. Existing buildings have always had a negative connotation, from the beginning of being a student, the new was always pushed. New has always been better, more courageous, and a sign of who you are as an architect. The existing was taught as second rate, a practice in technical drawings and not of design. However, older buildings have wisdom and represent the faults of the past. Older buildings are honest, the gilded glamor that they once stood in is gone and in the present, they can only be judged for what they currently are. It's an opportunity for an architect to imprint their design ideas and goals while not being entirely hindered by the past. Of course, it would be unwise to remove the past and do away with history. So there must be a balance to adaptive reuse, a balance where the architect has to lean into the past while also introducing the modern design, a balance between historic value and modern potential, and a balance between the familiar and the new. This thought spawned a question, a question that would be the driver of an entire project that was created in history and is reborn in the here and now. This project was done as an exercise in adaptive reuse to answer a simple question, **can historic design goals be reimagined to a more contemporary standard that fits a new program?**

FIG 1



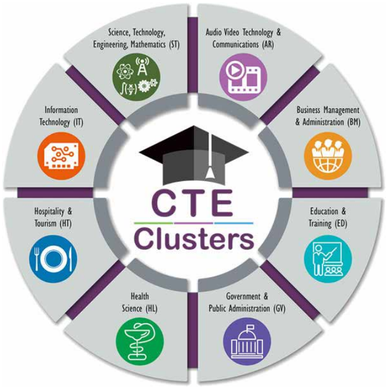


FIG 2

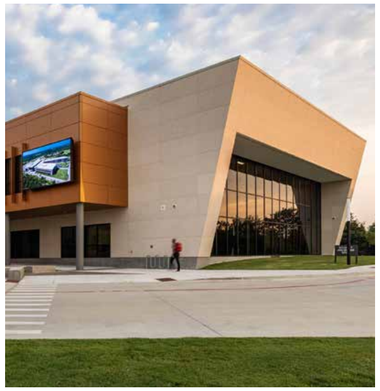
TYPOLOGY

Selecting typology for an adaptive reuse project is an interesting endeavor. If a program is the first thing known then that requires a building in a proper location that can shoulder all the demands of the new program. If the building is selected first then the program going in it cannot stretch the physical aspect of the building too far. In the instance of this project, the typology was known first. Going back to the Hellenistic age, education was used to teach morals, manners, and language; all things related to culture. As time goes on and society becomes more complex it requires a more efficient means to translate knowledge that benefits the culture. For example, manual jobs used to be taught as master and apprentice relationships, but the industry required more skilled labor. So in response, Germany designed the Realschule in the 18th century. An education focused on occupational pursuits that revolved around the Industrial Age, so architecture, construction, and manufacturing were major topics early on in a student's tutoring. This method allowed more people to enter the workforce with experience. As time went on we moved away from this type of education for more intellectual teaching.

In 2016 I was given a chance to work as an intern at an architecture firm located in my hometown of Dallas, TX. The firm has a major focus on educational design and has been doing so since 1954. To say the work I have been doing there influenced the typology choice would be a lie. I love educational design, it is a way for me to use my talents to help someone better their education.

CAREER TECHNICAL EDUCATION

Since that time intellectual education is going out of fashion. Today education is starting to come back to an occupational program of education in the fashion of CTE (Career Technical Education.) CTE is an occupational education that services 9th-12th grade, the program contains state-required classes (Math, English, Etc.) while introducing hands-on experience in the form of electives. A student would hypothetically choose a path focusing on a field and would take classes with a focus on that field. The field chosen would engage a student's natural ability and invest in the student. So by this standard students are dictating their educational pathway. By graduation, a student would have the equivalent of an associate's degree or certificate. This is important because the salary difference between a High School diploma and an associate's degree is significant. The large number of clusters a school can go under that creates flexibility in what the program can be. The program for the project follows the history of the building that is being reused. This establishes a connection between the previous and new use of the building.



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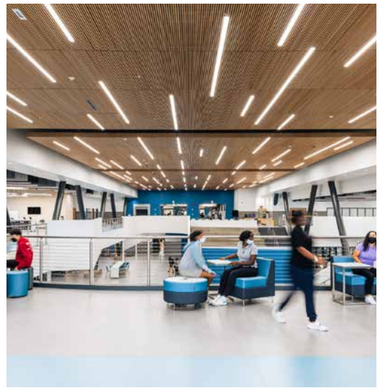


FIG 2

FIG 3

VANGUARD HIGH SCHOOL

Opened - 2021

Location - Mesquite, TX

Architects - WRA Architects

Vanguard High School hosts 15 different career paths that a student can participate in. The school was designed to not look like a school from the exterior which means large green landscapes, metal paneling exterior, and large exterior elements. On the interior, there is a large central space that the separate wings gravitate towards. The central space houses a learning stair, library, and dining hall that are all connected.

The second floor of the space has loose collaborative seating and a walking track. This project was selected as a precedent for its program, for one of the career paths focuses on automotive engineering. While the automotive portion of this school is small in comparison it showed the necessary spaces required and equipment necessary to have a functioning automotive education.

I got to work at Vanguard High School as an intern for WRA Architects. So I am pretty familiar with the building itself. In 2022 the school was renamed after my father to Dr. David Vroonland Vanguard High School.

FIG 4

FIG 5

FIG 6

NATIONAL AUTOMOTIVE INNOVATION CENTRE (NAIC)

Opened - 2020

Location - Coventry, England

Architect - Cullian Studio

The NAIC is an automotive school for Warwick University and a design center for several automotive manufacturers. The design focused on creating both private and public spaces. This design idea is a core development in the project in terms of the spacing between private/public and educational/automotive spaces. The main hub is celebrated by an open atrium through the four floors of the building but is then spaced out so each manufacturer has its own private space. These spaces include storage, design studios, modeling studios, presentation spaces, and offices. The purpose of this precedent was for functional design and as a comparison between a college-level automotive education and a CTE-level education.

SITE & CONTEXT

This section highlights the history of Detroit, Michigan, and how the downfall of the once-great city impacted the Packard Automotive Plant. It also covers information of the where city and the facility are going moving forward into the future.

FIG 1

FIG 2

DETROIT, MICHIGAN

Detroit, Michigan is known as the “Motor City” and from 1903-1950 it more than earned that title. Being the birthplace of Ford, General Motors, Chrysler, and over 125 more car manufacturers. In the 1950s Detroit was the richest city in The United States and potentially the richest in the world. However, after World War II Detroit faced a mass exodus of both the population and car manufacturers. The car industry was decentralizing, meaning that the factories were being relocated to cheaper midwest towns. Another major change was the creation of “Automation.” This invention created a much faster assembly which gave companies the ability to lay off their workforce in mass numbers. With decentralization and competition overseas Detroit's car industry suffered and broke down, being the biggest industry in the city meant that Detroit fell with it. However Detroit’s suffering has made it an interesting prospect to investors, the city has history, it’s rugged, and now it’s cheap. Some of the old factories of the past will be reused in this revitalization and the Packard factory, one of Detroit’s premier car manufacturers from the 1900s, could make a comeback.

PACKARD AUTOMOTIVE PLANT

Designed in 1903 by Albert Kahn, this goliath of a facility located 15 min North of downtown Detroit was the crown jewel of the Packard Auto Company. Between 1903-1905 the first nine buildings were designed as a typical wooden “mill-style” factory. Hot, cramped, and dim, not to mention a total fire hazard; neglecting the life of the worker, as was common in the early 1900s. However, for Packard #10 Khan wanted to evolve the factory lifestyle, seeking a more modern design that utilized large windows, open spaces, and proper ventilation. Bringing working conditions to the forefront. To achieve this design Khan had to seek the help of a renowned engineer, Julius Kahn, his brother. In 1904 Julius Kahn had been experimenting with a new way to reinforce concrete. Using trusses and steel rebar that prevented shear at weak points. This allowed for larger loads longer spans, and safer working conditions. Packard #10 was the first industrial building to use reinforced concrete for floors, ceilings, and columns. The “Kahn Bar” was so successful that the Packard Auto Company completely renovated the first 9 buildings then future buildings would follow suit using only Julius Kahn products.

FIG 1

FIG 2

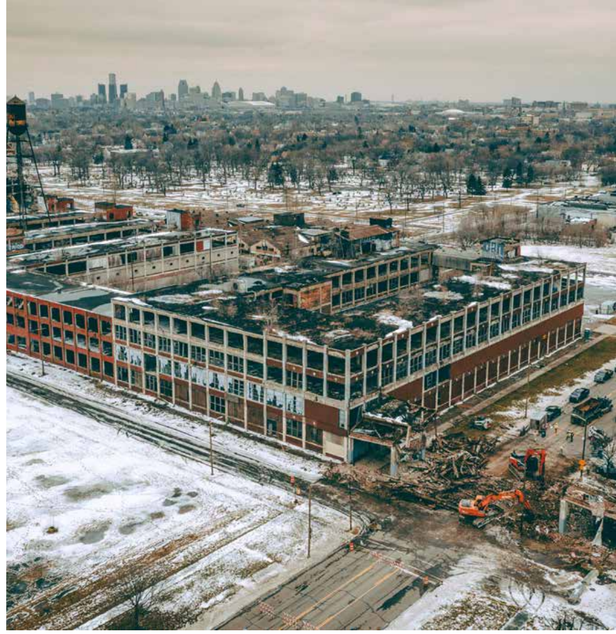
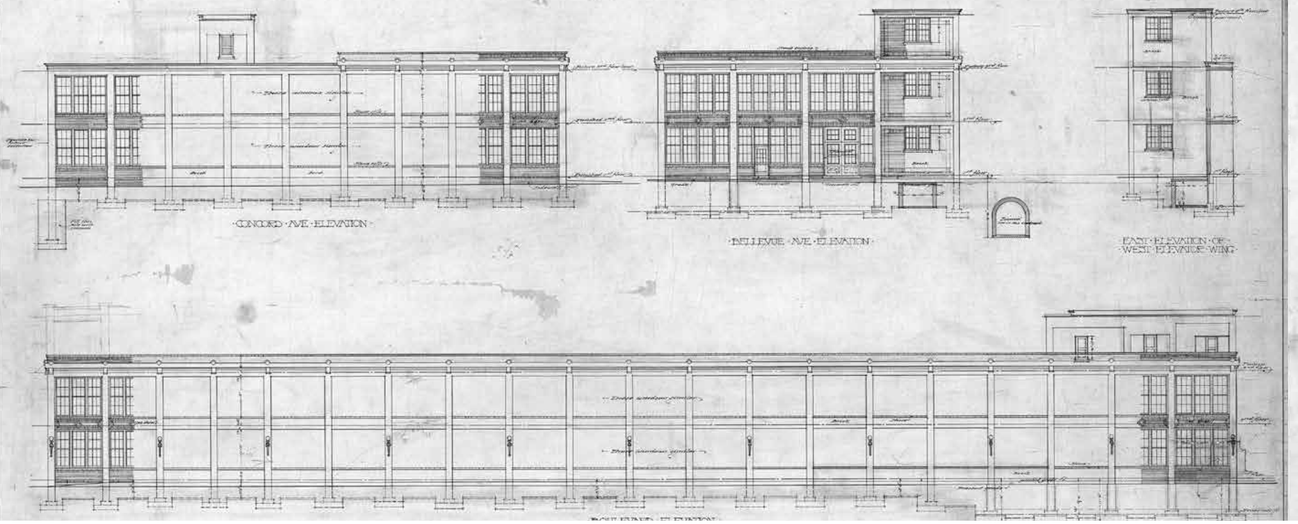


FIG 3

PACKARD AUTOMOTIVE PLANT

By 1910, the Packard Car Company had the largest auto plant in the United States. The complex would eventually comprise four million square feet of factory space and employ up to 40,000 workers at its peak. In 1939 Packard Auto was a constantly adapting giant in the auto industry, taking up assembly lines, and multistory construction, and was recognized for its exceptional engineering. It is at this time they developed the bridge that joined both the North and South end of the factory. While a simple construction job it soon became the face of an empire. However, in 1954 the construction and design of the plant became obsolete and the factory was relocated to a more modern plant in another part of Detroit. In 1956 the Packard Auto Company went out of business entirely and in 1958 the caretaker of the plant was laid off and sold to a leasing company. From then on the plant would jump from owner to owner until 1999 when it was sited for demolition, the last tenant left in 2010, and the building was abandoned. However, in 2012 the property was claimed and auctioned off in 2013 when it was supposed to be renovated and brought back to life. Since then there have been a few competitions held for the design but none have gone through. Then in April of 2022, a judge ordered the owner to demolish, however, the owner has not responded and the city of Detroit is foreclosing on the property. While this is the current state of the building the site is still beloved by the community and stands as an icon of what the once great city was. With all that being said a small portion of the facility is perfect for adaptive reuse, especially Packard factories #27 and #28. The concrete structures are sturdy, the facility has a great history, the size of Packard #27 and #28 fit the program, and it is an automotive facility means it historically fits with an automotive CTE program. While there are issues with the HVAC, energy efficiency, fire safety, and ADA accessibility these issues can be fixed. This means the building checks all the boxes and I can begin designing a new Automotive Engineering School.

Part of the reason I chose this building was that Detroit itself is in a position to move on, but I don't believe in moving on without your history otherwise there is nothing to reflect on. So giving this facility a new purpose that ties with its history is allowing for both Detroit and the building itself to move on while maintaining its identity.



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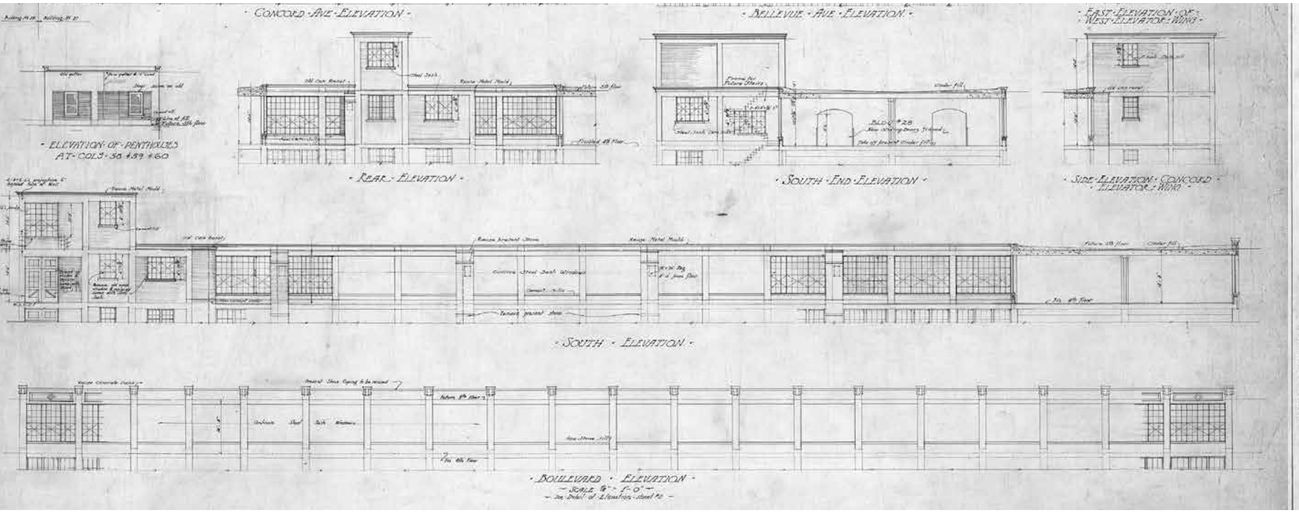

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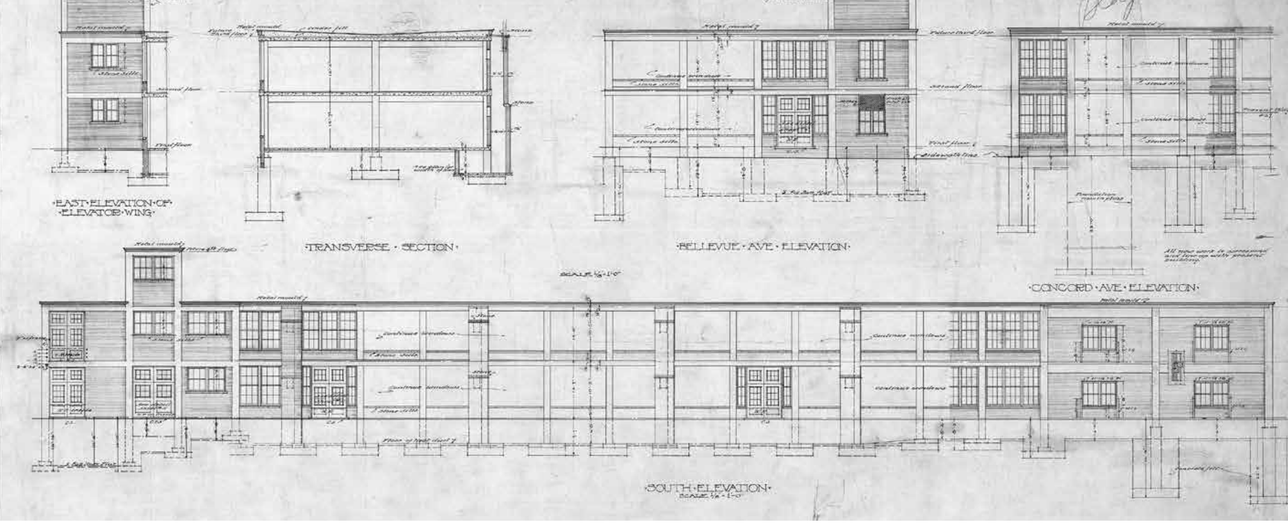


FIG 3

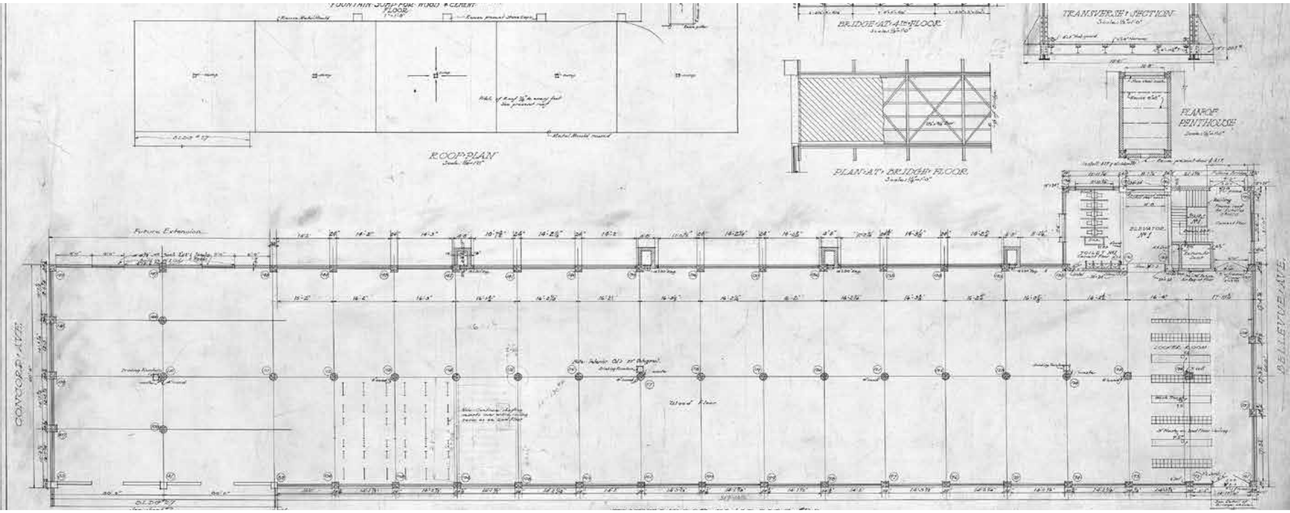
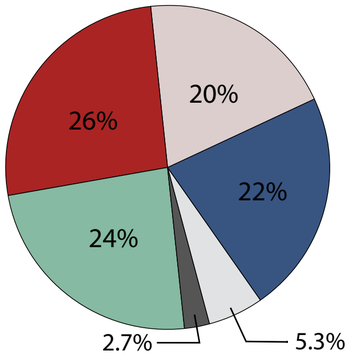
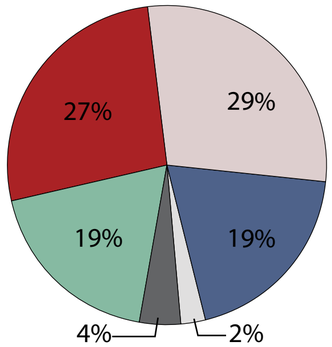


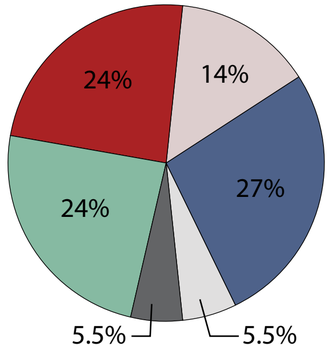
FIG 4

I went out and found the original documents of Packard #27 & #28. It took me quite a bit of work. I went out and contacted several firms that kept passing me along to the next. Eventually, I found the drawings in possession of Albert Kahn Associates. After all these years Albert Kahn's firm is still in business and operating in the Detroit Area.

ADAPTIVE REUSE







PACKARD AUTOMOTIVE PLANT

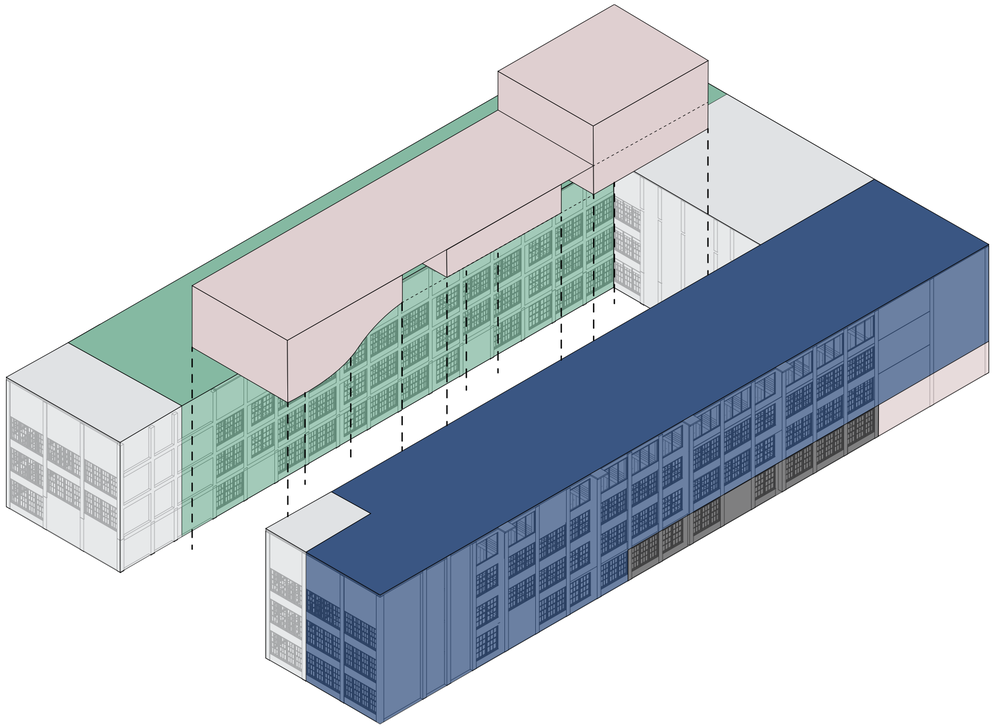
COLLEGE OF ENGINEERING	23,830 SQFT
CORE CURRICULUM	22,200 SQFT
ADMIN	2,775 SQFT
GENERAL SPACES	19,970 SQFT
SERVICE	5,356 SQFT
CIRCULATION	25,946 SQFT

VANGUARD HIGH SCHOOL

CTE CLASSES	46,840 SQFT
CORE CURRICULUM	48,426 SQFT
ADMIN	10,515 SQFT
GENERAL SPACES	71,880 SQFT
SERVICE	5,975 SQFT
CIRCULATION	66,988 SQFT

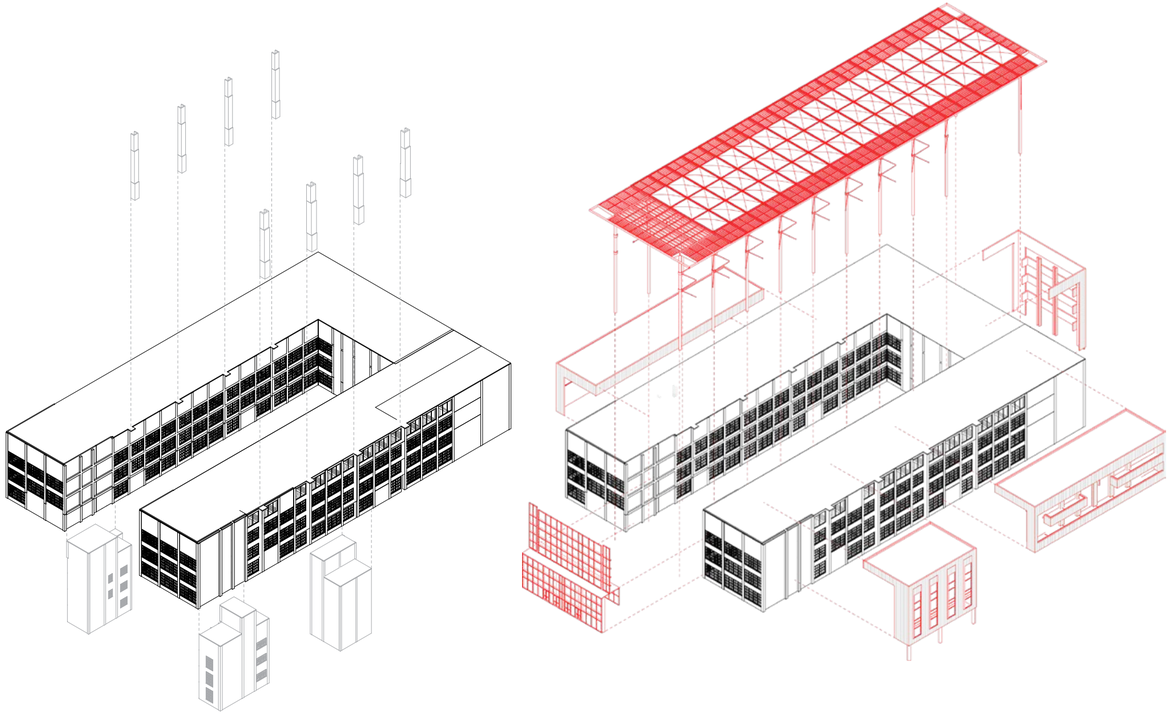
NAIC

WORK SPACES	21,881 SQFT
RESEARCH SPACES	24,415 SQFT
ADMIN	5,000 SQFT
DESIGN	12,753 SQFT
SERVICE	5,000 SQFT
CIRCULATION	21,848 SQFT



PROGRAM

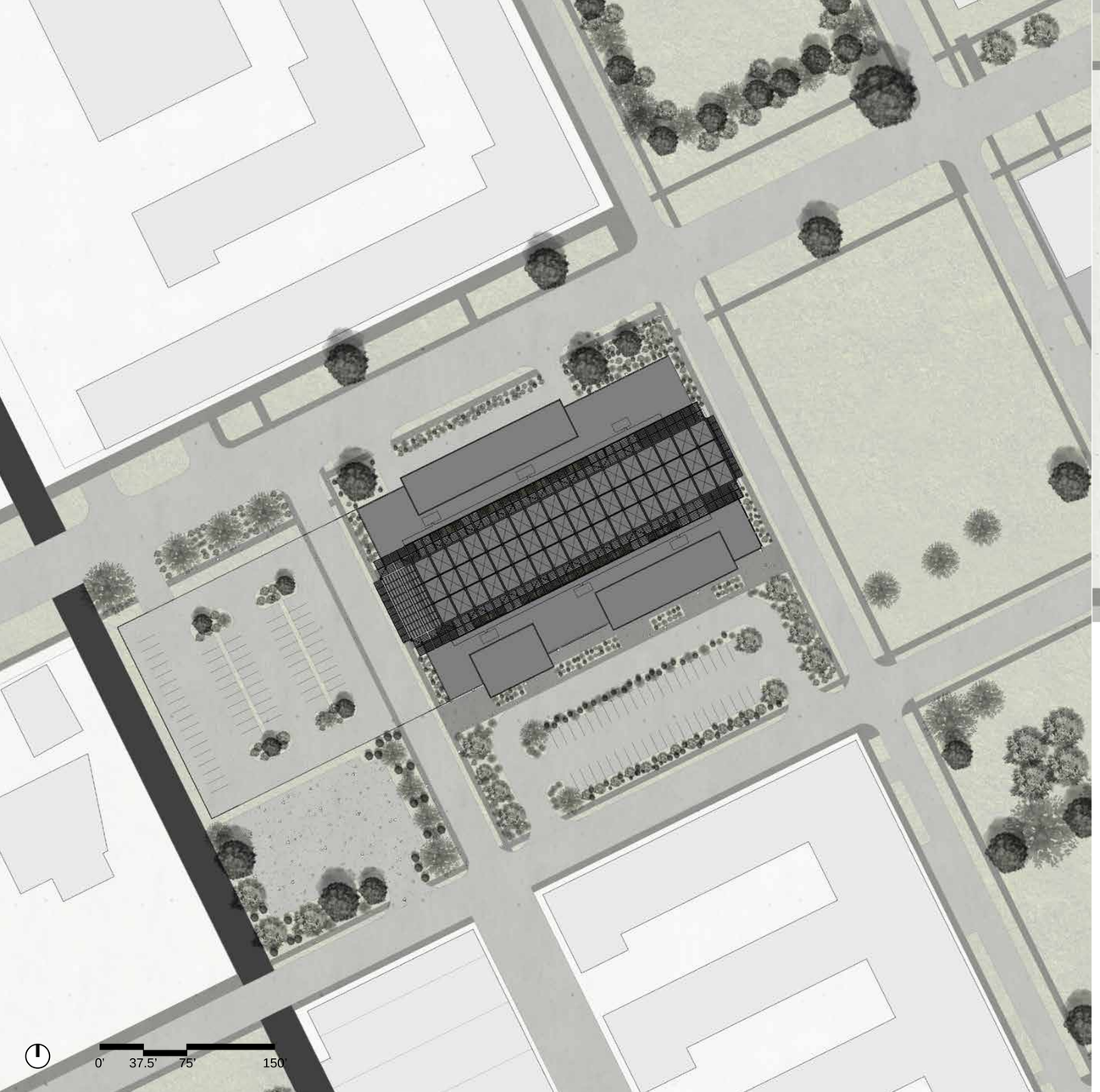
For the program, the project follows the high school requirements for the State of Michigan, which includes classrooms for math, science, English, history, art, athletics, and extracurricular activities. However since the school provides a Career Technical Education the extracurricular activities include labs for automotive engineering, collision repair, and technical repair, and the art credit will be automotive design. Other components of the program consist of administration, auditorium, dining hall, kitchen, collaboration, presentation, and support spaces. To make sure the project followed the proper ratio the program was compared to that of the case studies. The CTE labs and classrooms are located on the North side of the building to isolate the noise pollution that would be produced by the machinery. The South side of the building is the location of the standard classrooms, as well as the location for the admin area, kitchen, and dining hall on the first floor. Then the courtyard is reclaimed in an attempt to bring the past back to the present. The auditorium, gymnasium, and athletic facilities act as the new infill between the North and South sides of the facility.

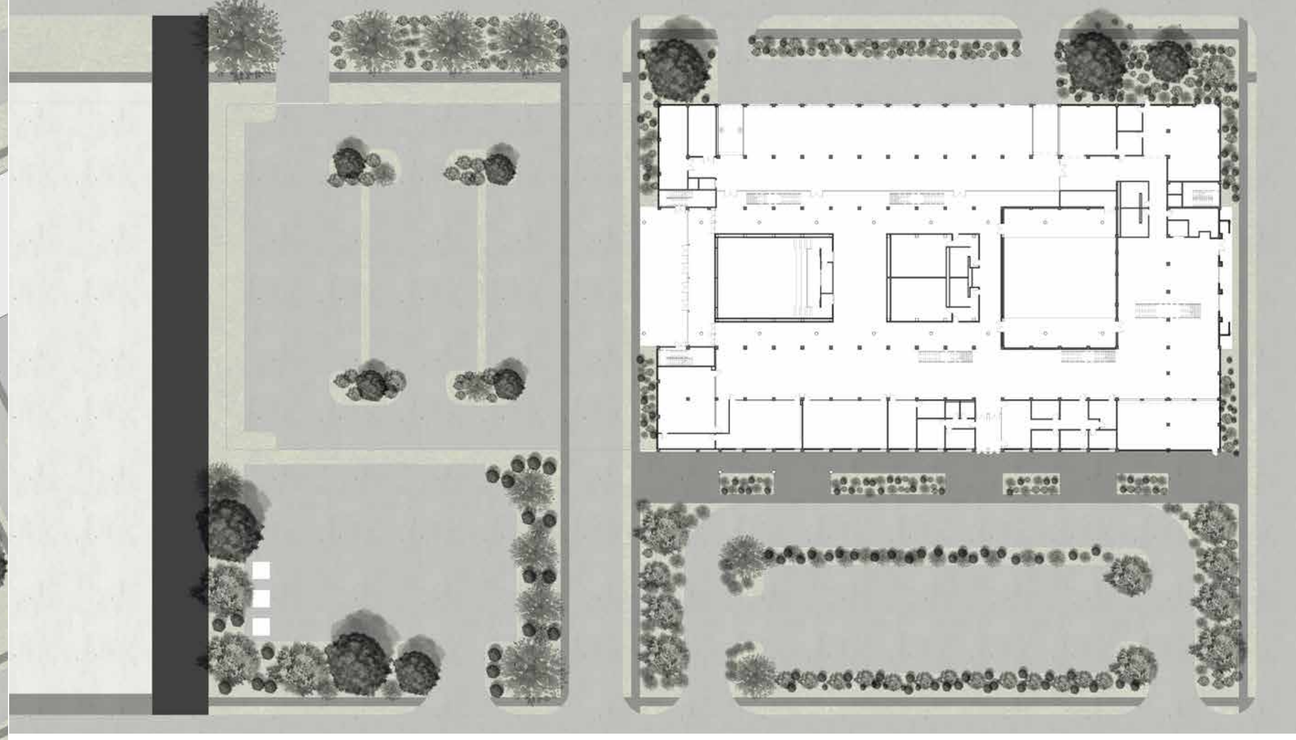


PHYSICAL

The facades facing the roads have a decorative brick design that has slowly faded through time and evenly spaced window frames that are either missing or extremely damaged. The facades facing the courtyard are just a simple brick finish with a similar window design and pattern to the front. Other moments on the exterior are the existing cores housing the car elevator, fire stairs, and restrooms; and the vertical chutes for the existing HVAC ducts. The interior of the building is an open shell with a row of evenly spaced concrete columns running parallel to the shape of the building. The columns in the design act as a guide for the layout of every floor, being a consistent marker for wall locations and openings in the floor. Overall the building is extremely weathered and requires major repair. With this being the current state of the building it was deemed appropriate to make some changes to the physical appearance. The first step was to remove the existing cores and HVAC chutes that project from the side of the building. The reason for this is the simple fact that these pieces are just dated and serve no purpose to the new typology the building will house. Next was establishing moments on the exterior that reflected new uses on the interior. This was done by locating masses on the facade that would project out past the existing facade. The new masses are made from metal paneling to further juxtapose the existing facade. Finally, the courtyard is enclosed by a 5-story tall steel roof structure that ties to the existing concrete columns. This decision harks back to the original design of the infilled roof that covered the courtyard when the building was still operational. The roof itself is composed of ETFE infills between the structural beams that form the top of the roof. ETFE stands for Ethylene tetrafluoroethylene, which is a super lightweight material, basically a plastic film. This material allows for a semi-transparent roof that allows light in but minimizes heat gain. The roof encloses the courtyard and connects the original buildings, this design decision allows for the courtyard-facing walls to be stripped away. This in hand addresses two of the original design goals, creating large open spaces and allowing lots of light to enter the building. Doing away with the courtyard-facing walls and uniting the whole building under a semi-transparent roof creates a massive open space that receives light all year long.

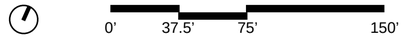
The new roof addition went through several iterations that all had these unique conditions. Several of which made the roof inhabitable for students to hang out at. I leaned more towards the design shown as it was just so different from the other design ideas. This design answered the project narrative the best due to its ability to bring in massive amounts of light. Plus it is just such a light design that juxtaposes the existing so much that it just stands out.

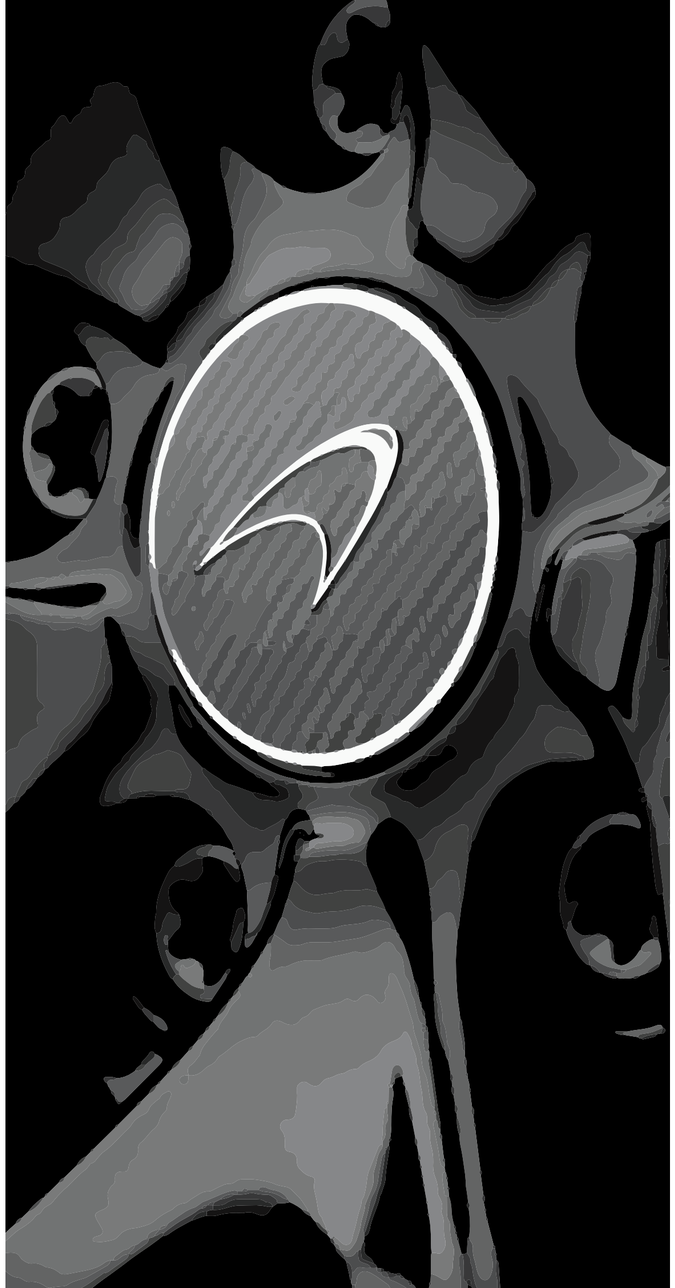




SITE DESIGN

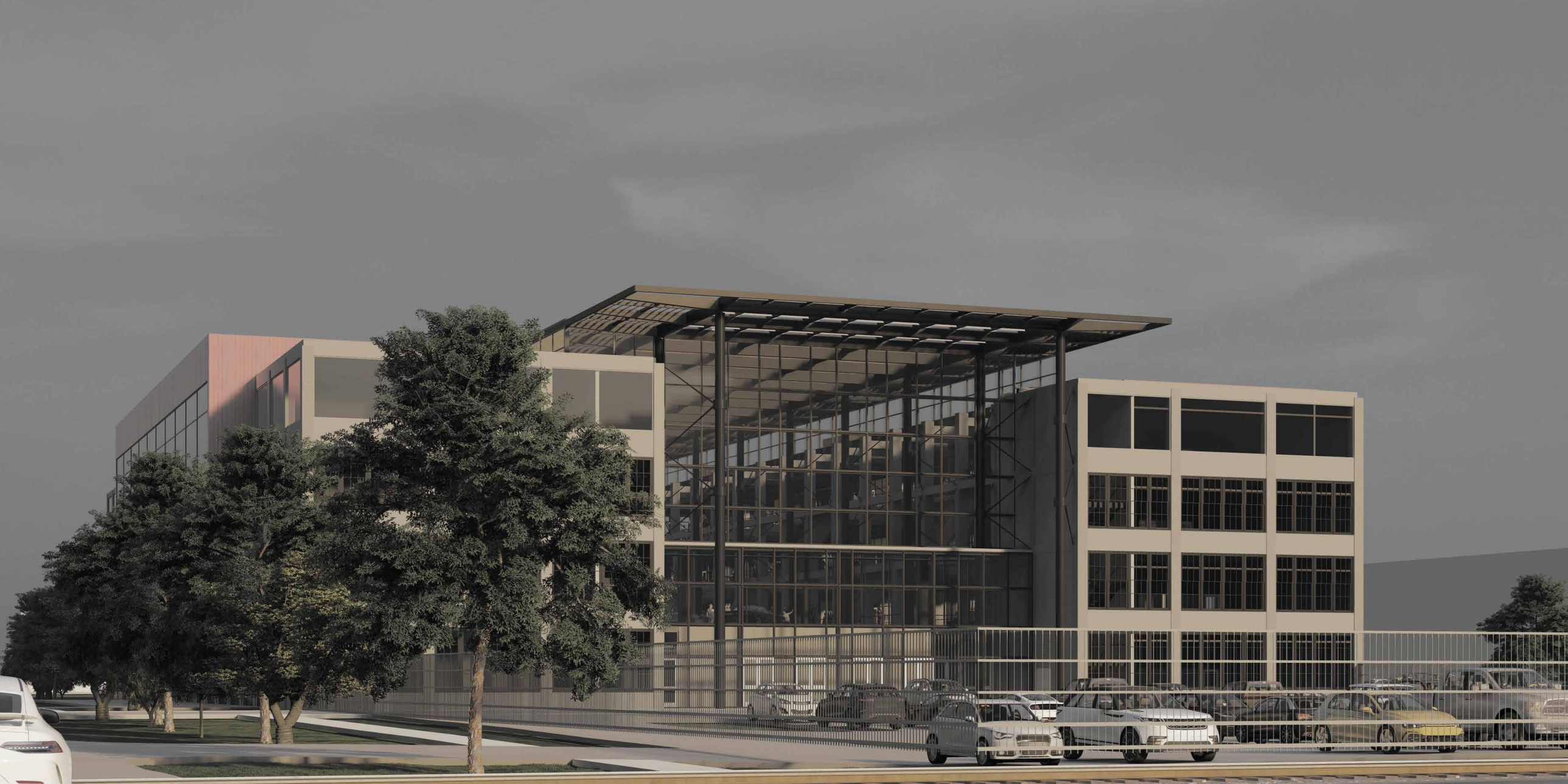
Currently, Packard #27 and #28 a ~175,000 square foot U-Shaped buildings, with #28 being an addition to #27. At one point in history, there was a 2-story metal roof infilling between the buildings, however, that portion has since been demolished. The building is surrounded by roads on all sides, which completely isolates it from the rest of the facility. This is due to the demolition of bridges that at one point did connect this building to the rest of the site. The building’s site location is one of the most attractive features of the building from a safety standpoint. Changes to the site include added parking dedicated to the students, teachers, and staff. The student’s dedicated parking has private access to the building at the west entrance, this is for student safety and as a way to control access points into the building. There are entrances on all other sides that are controlled for student safety. Garage entrances are located on the North side adjacent to the CTE labs so that cars can enter the building from the road. Other site improvements include a new dumpster location, loading area, and new landscaping for the whole site.



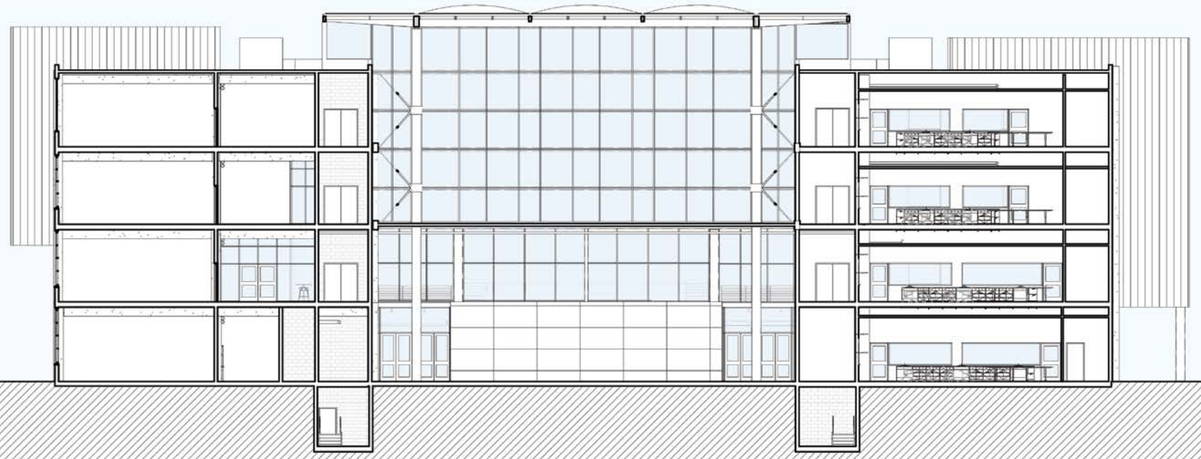


FINAL PROPOSAL

The Final Proposal highlights the final drawings and renders that best represent the project and its purpose.



SOUTH ELEVATION



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EAST SECTION 02

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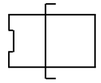
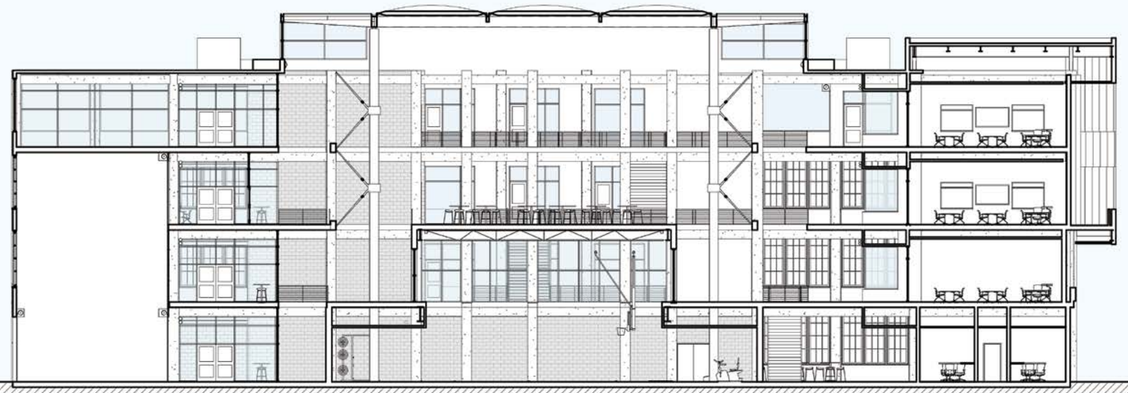
EAST SECTION 03





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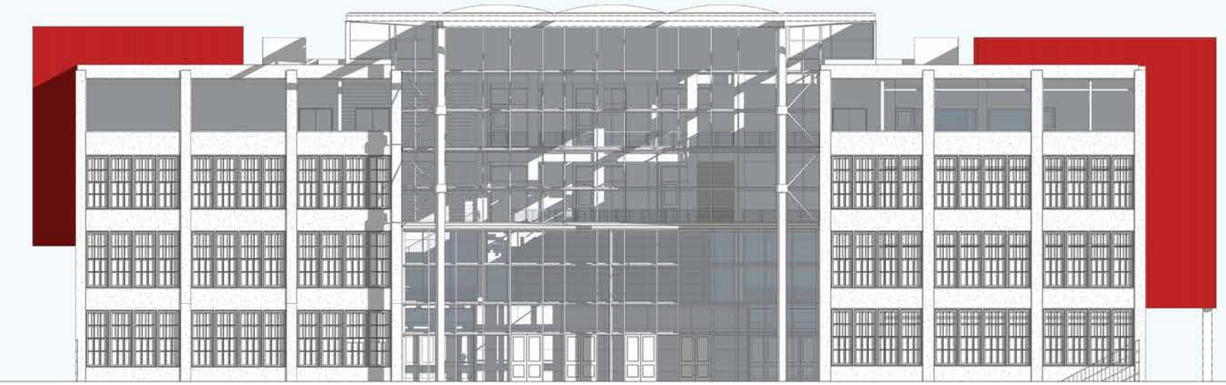
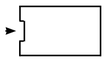


SOUTH ELEVATION



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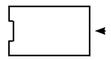
NORTH ELEVATION



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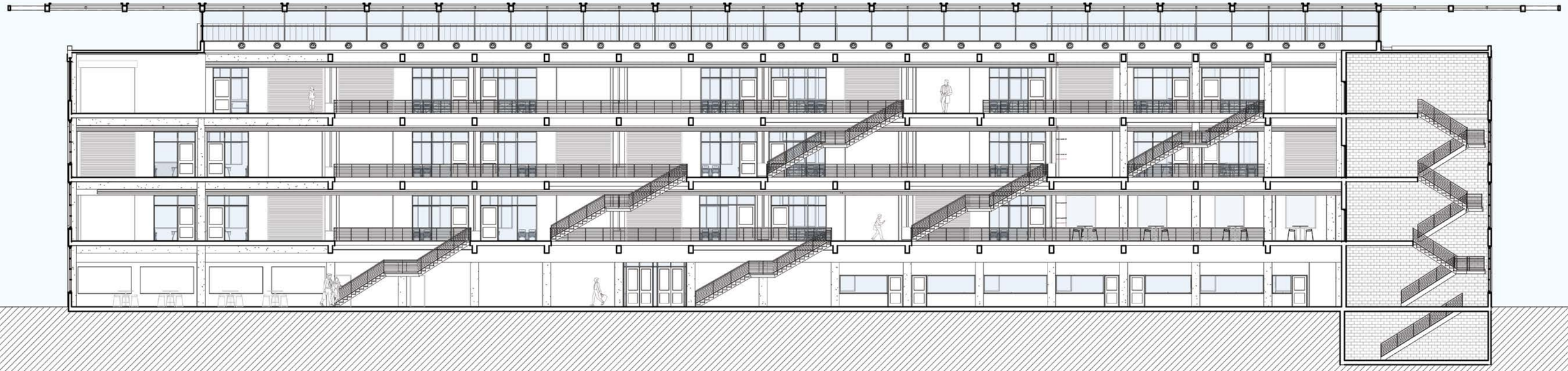
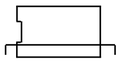
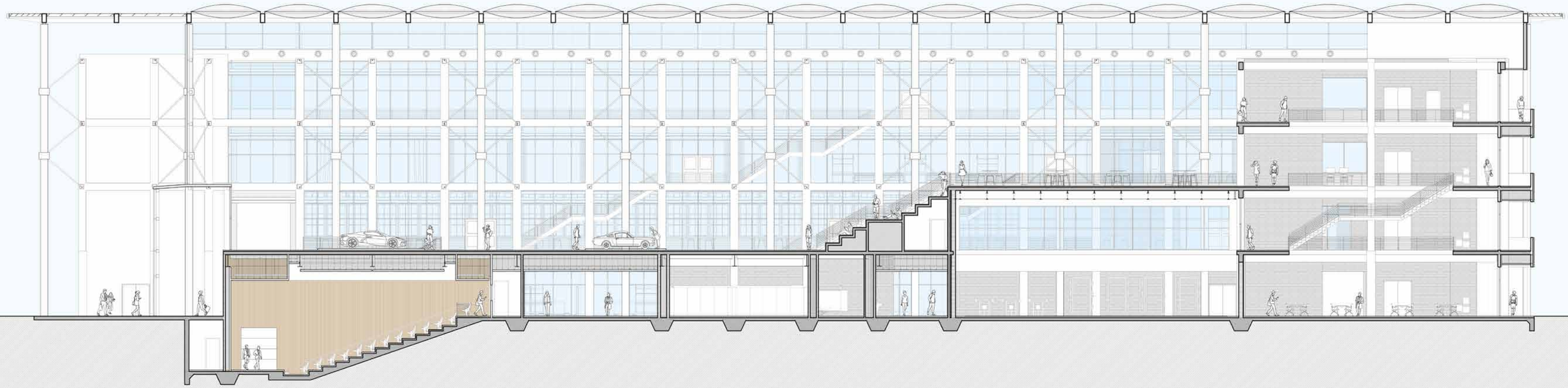
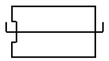


SOUTH SECTION

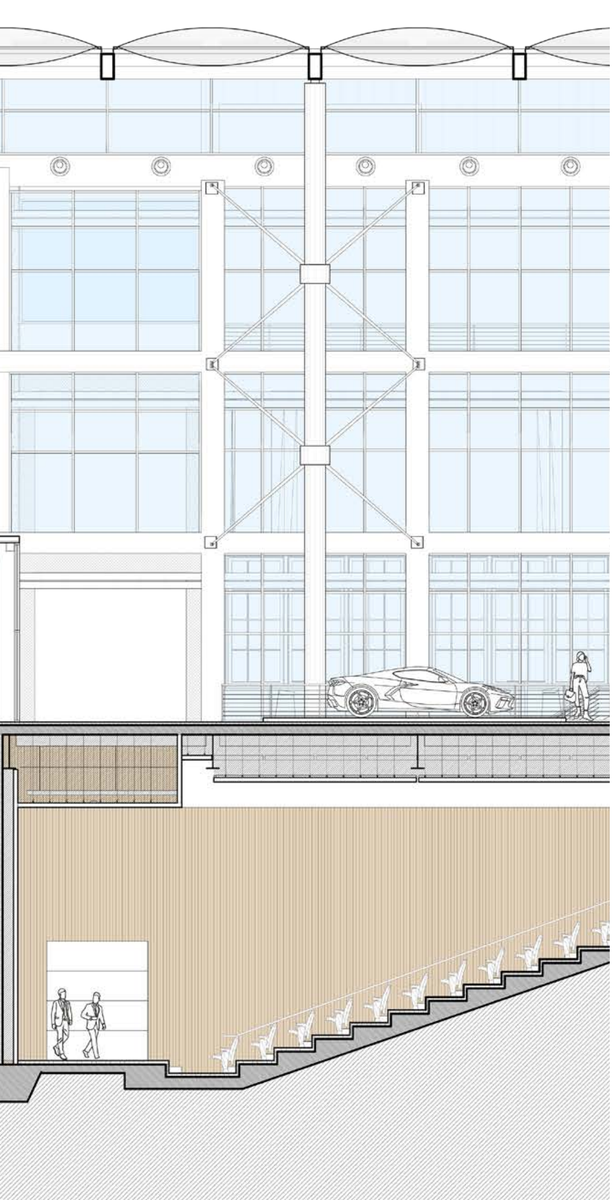


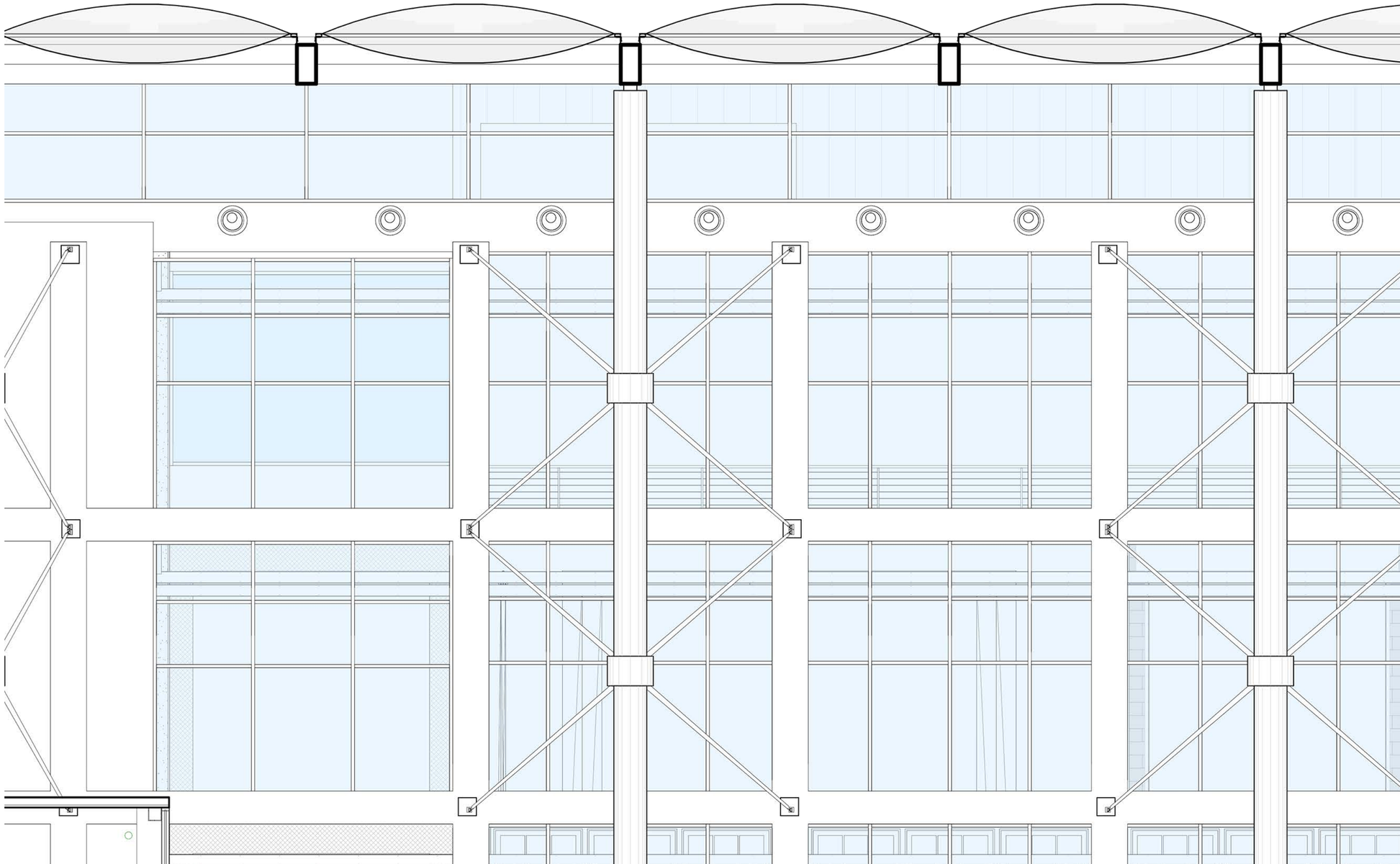


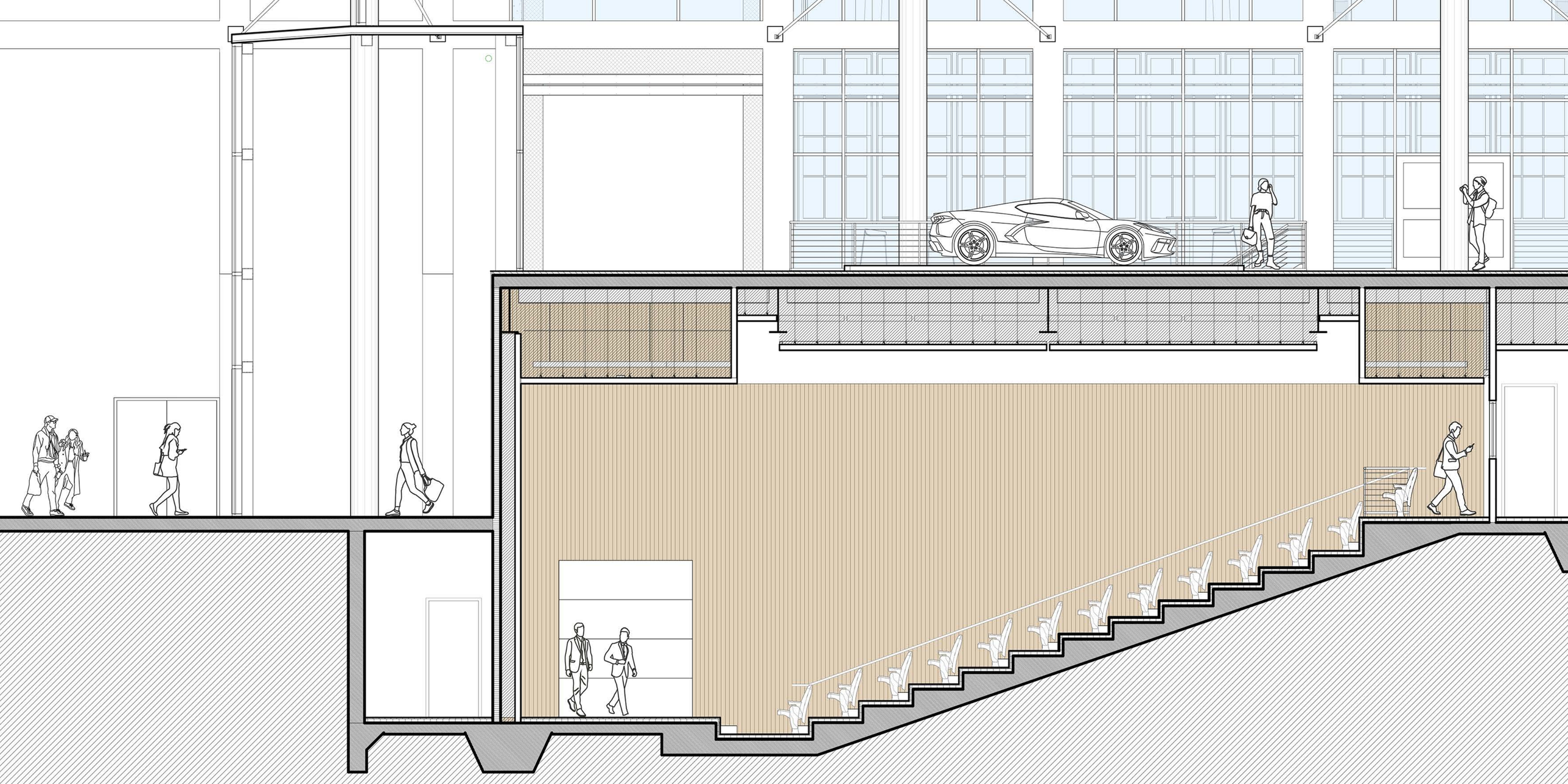
NORTH SECTION

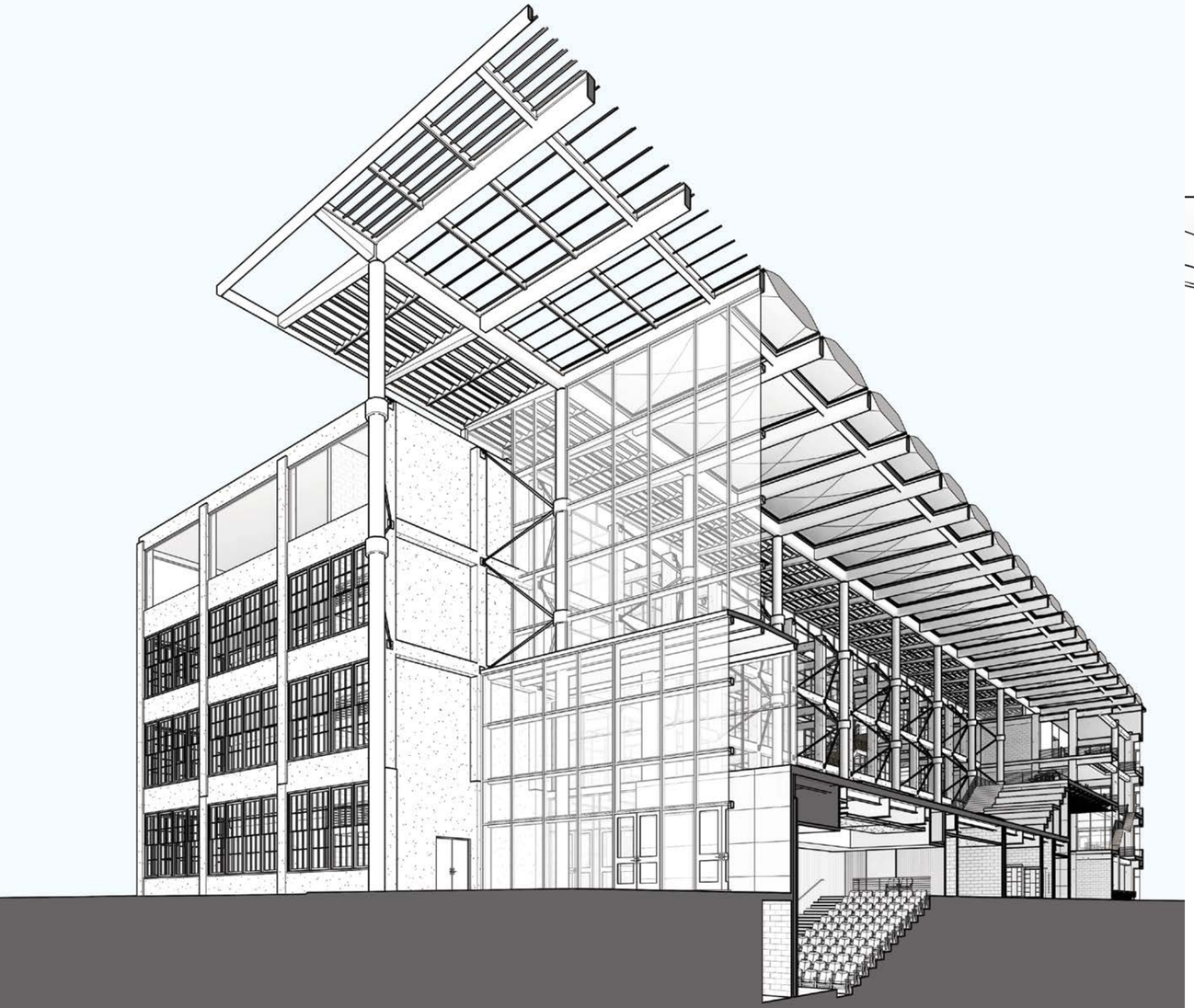


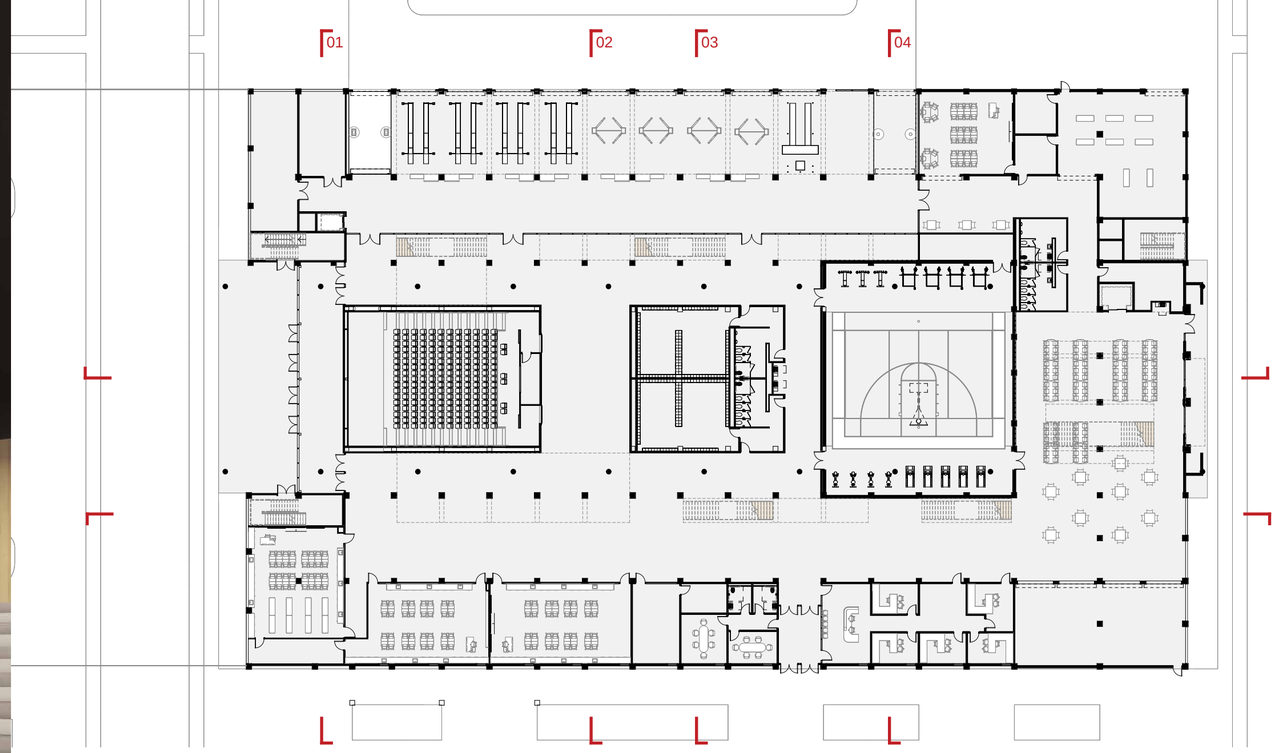
If I was asked to turn in one image that incapsulated the whole project it would be this one. The section captures almost every significant moment in the building, the Courtyards relationship with the ETFE roof being the most important moment. It is also probably the best image at capturing the role of the elements on Level One. I designed these spaces to elevate the space above and while they might metaphorically be in the ground they etsablish everything above.









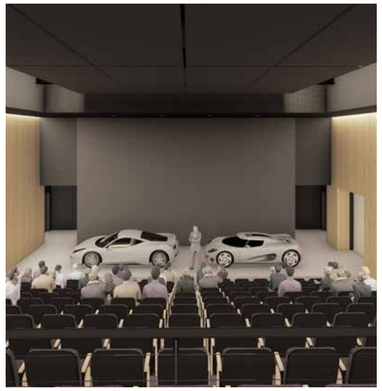


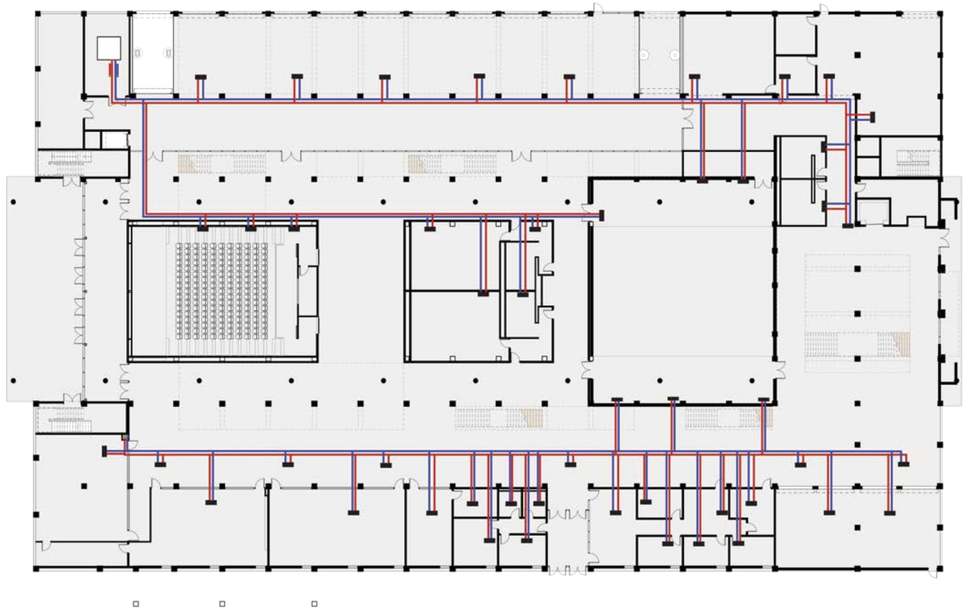
LEVEL ONE

0' 30' 60' 120'

Level One contains the majority of “General Space;” these are the spaces used for everyday needs that are not considered educational. General Spaces on Level One include the Auditorium, Locker Rooms, Kitchen, and Dining Hall. The First Floor is also the location of the Automotive Technician Lab. Inside the lab is serviceable equipment for students to actively work on vehicles. Another feature of the lab is two car elevators that allow cars to travel through floors for school work or presentation purposes. Other spaces on Level One include administrative, Science Classrooms, and Core Spaces.

This design went through several iterations, at one point I had the “general spaces in the center located underground. That idea while not the final product actually propelled the final design. I designed Level One to give an underground sensation, meaning limited natural light comes from above but enough light peaks through to establish spaces above. I figured that raising the courtyard to Level Two wouldn’t be an issue as long as the courtyard was present in some capacity.



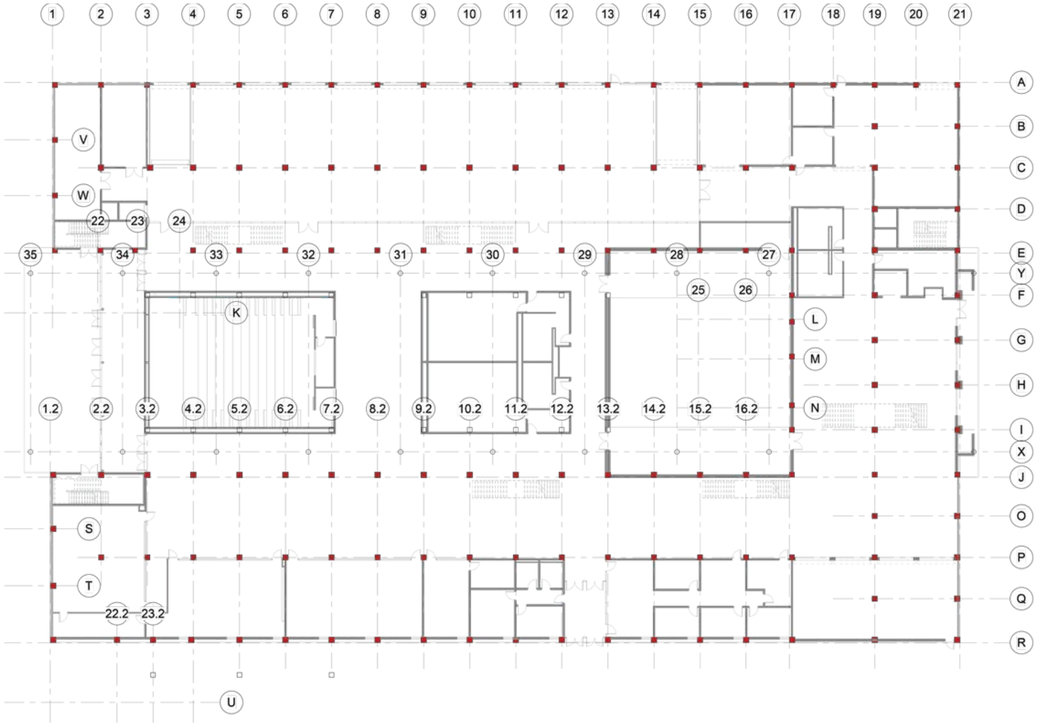


LEVEL ONE SYSTEMS

0’ 30’ 60’ 120’

The whole building uses a Variable Refrigerant Flow (VRF) system to condition the whole building. The system relies on multiple Designated Outdoor Air (DOA) systems that pump fresh air into the building. The VRF provides piping throughout the building to cassettes that operate in individual zones. The cassettes take in air and actively cool or heat based on the thermostat for the zone. The VRF system is very popular among adaptive reuse projects due to the flexibility of the refrigerant piping. In this project, the piping runs below the structure and allows for a relatively high ceiling height at the same time. The VRF system is located in the northern portion of the building on every floor. The refrigerant is then piped to cassettes accordingly to meet the needs of each zone.

I enjoyed creating the VRF piping layout. The pipes are exposed throughout the building and add a nice splash of red along the charcoal-colored walls they run along. When looked at they mimic the light stream provided by taillights at night.

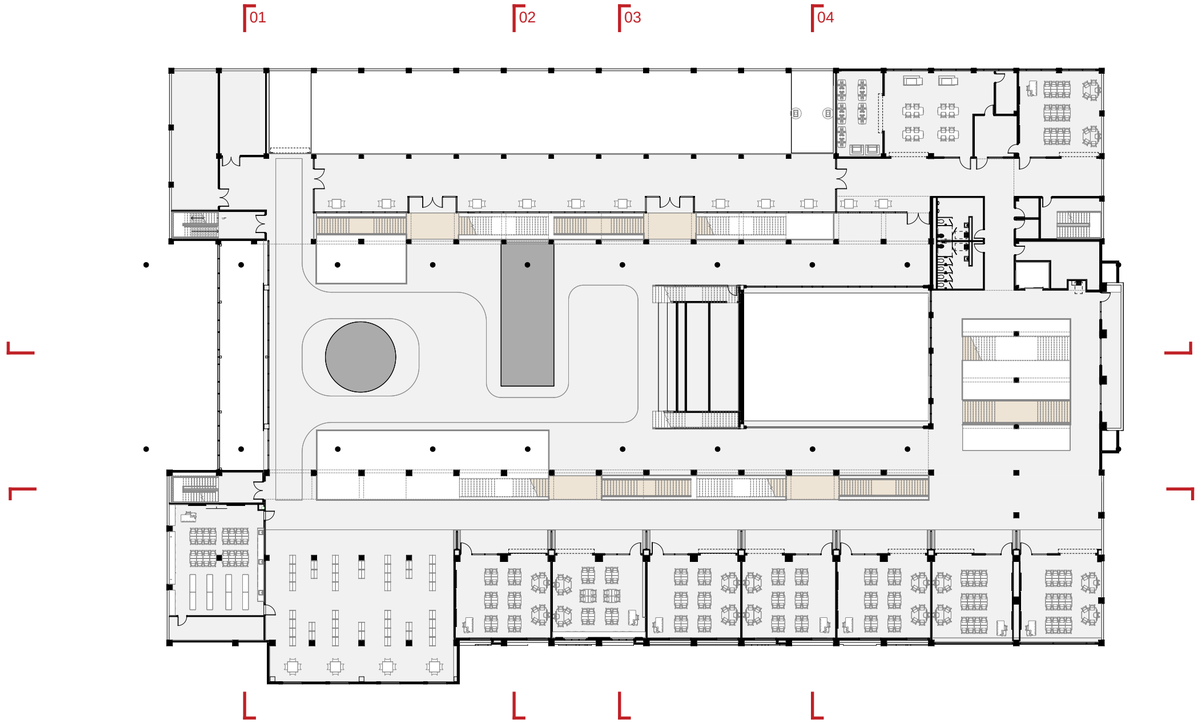


LEVEL ONE STRUCTURE

0’ 30’ 60’ 120’

The structure of this project largely relies on the existing concrete structure. All new structure is steel and follows the pattern that the existing ones established. On Level One the new structure is used to support the Level Two courtyard. Other structural moments include the roof columns meeting the ground, and the new columns supporting the additions added to the exterior.

In all the projects I’ve worked on both professionally and educationally, I have never been able to explore an exposed structure quite like I could hear. While working on the design it was a given that the structure should be exposed, but I never had the feeling that the existing structure would become a highlight of the project. Creating this interaction between new and existing becomes the focal point of the project, because the structural design made many of the design choices possible.

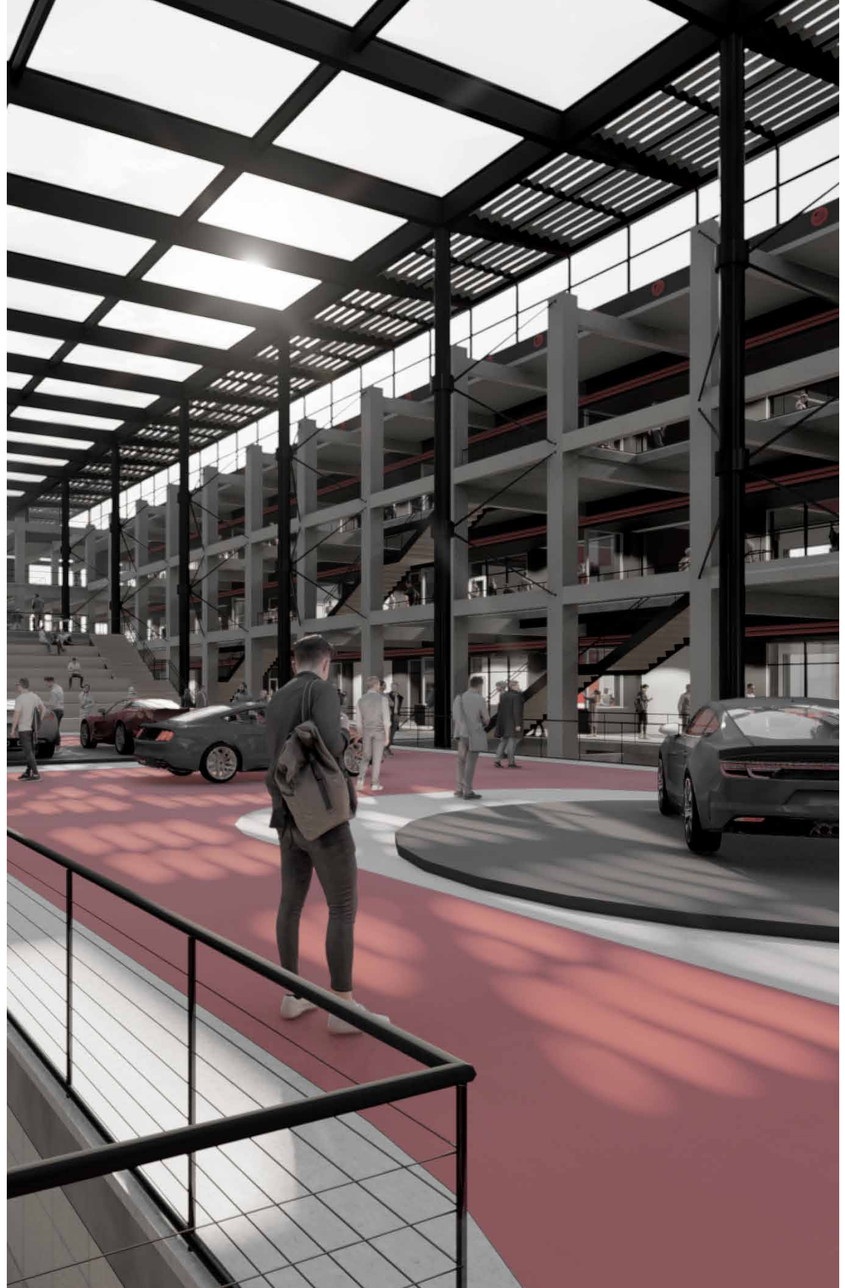


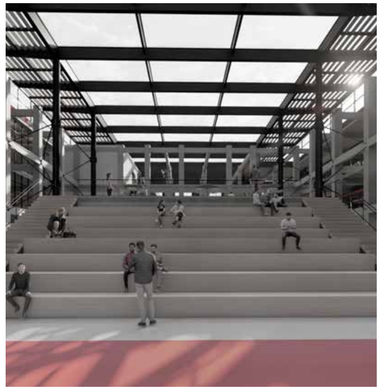
LEVEL TWO

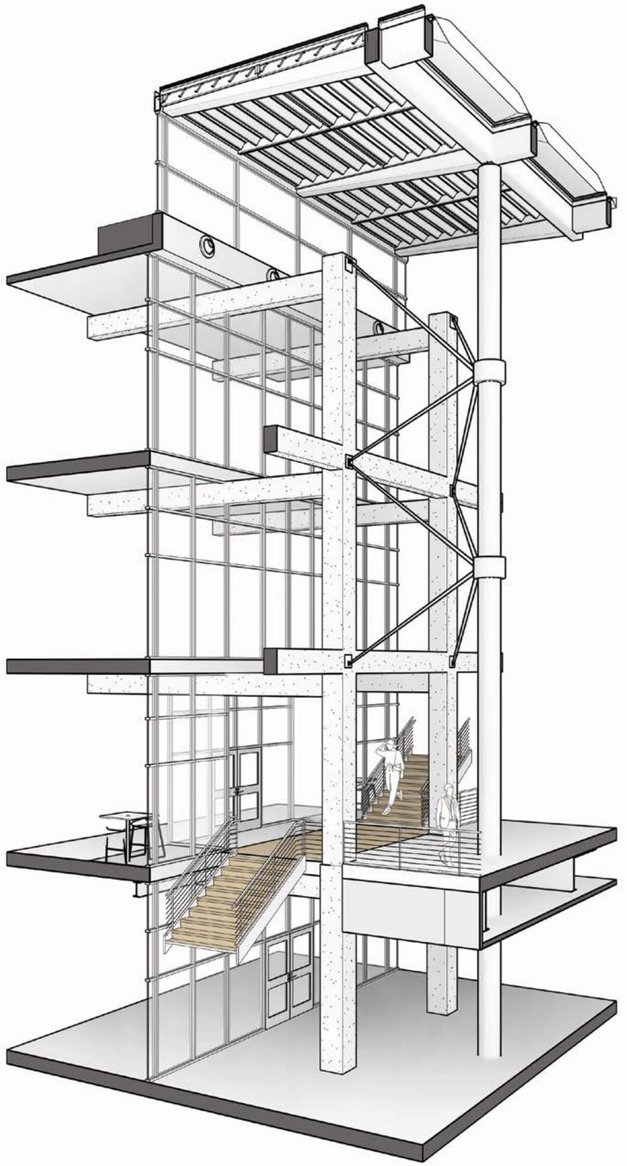
0' 30' 60' 120'

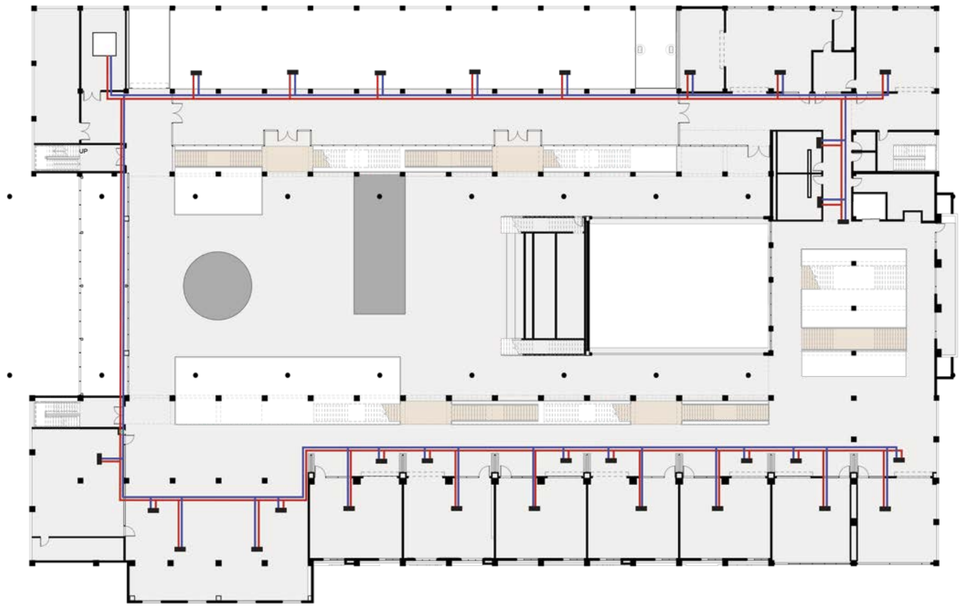
Level Two is the courtyard level. The courtyard that was once on Level One is raised to Level Two. The Courtyard acts as a presentation space for cars that were worked on in the CTE Labs. A learning stair that connects Level Two and Three resides in the middle of the courtyard and it faces the stages in the presentation space. The space acts as the focal point for which every element in the building directs its attention too. The courtyard acts as the central HUB for large gatherings. Other spaces on Level Two are Classrooms, a catwalk over Level One CTE Lab, and Core spaces.

In my experience, schools are wanting these massive central spaces more and more. For this project, I designed this space to maximize open space and allow in the most natural light possible. Since every space can actively interact with the courtyard every space benefits from what the courtyard provides.





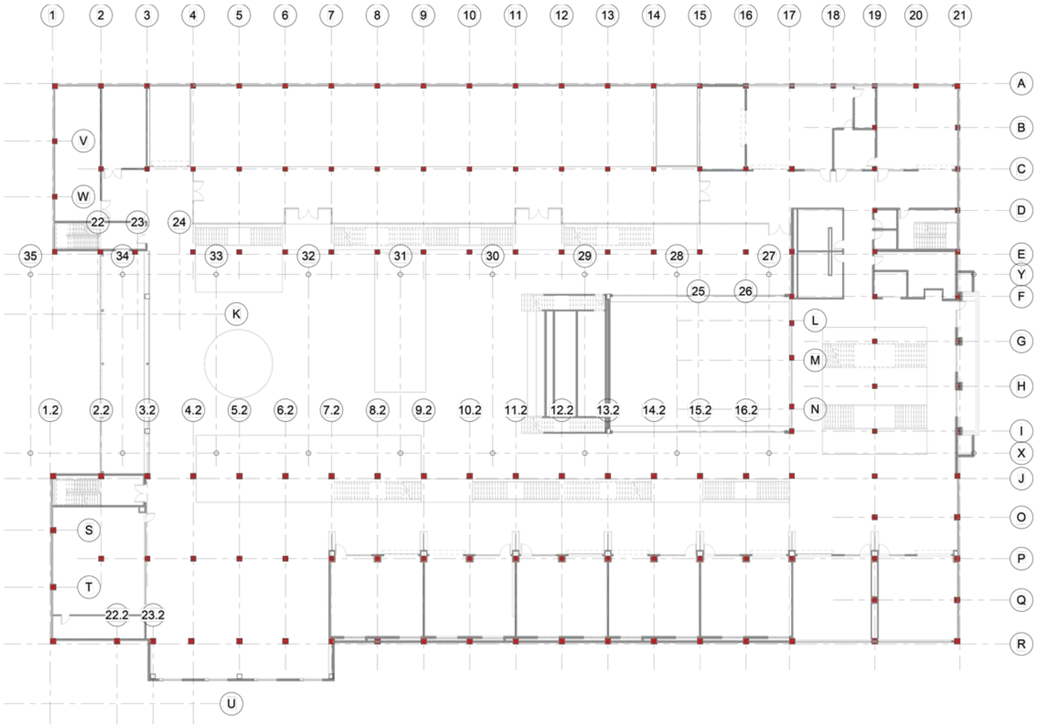




LEVEL TWO SYSTEMS

On Level Two a major chase system occurs on near the VRF system. This was done so piping from levels one, three, and four can make it to the South side of the building without having to cross the West facade curtain wall.

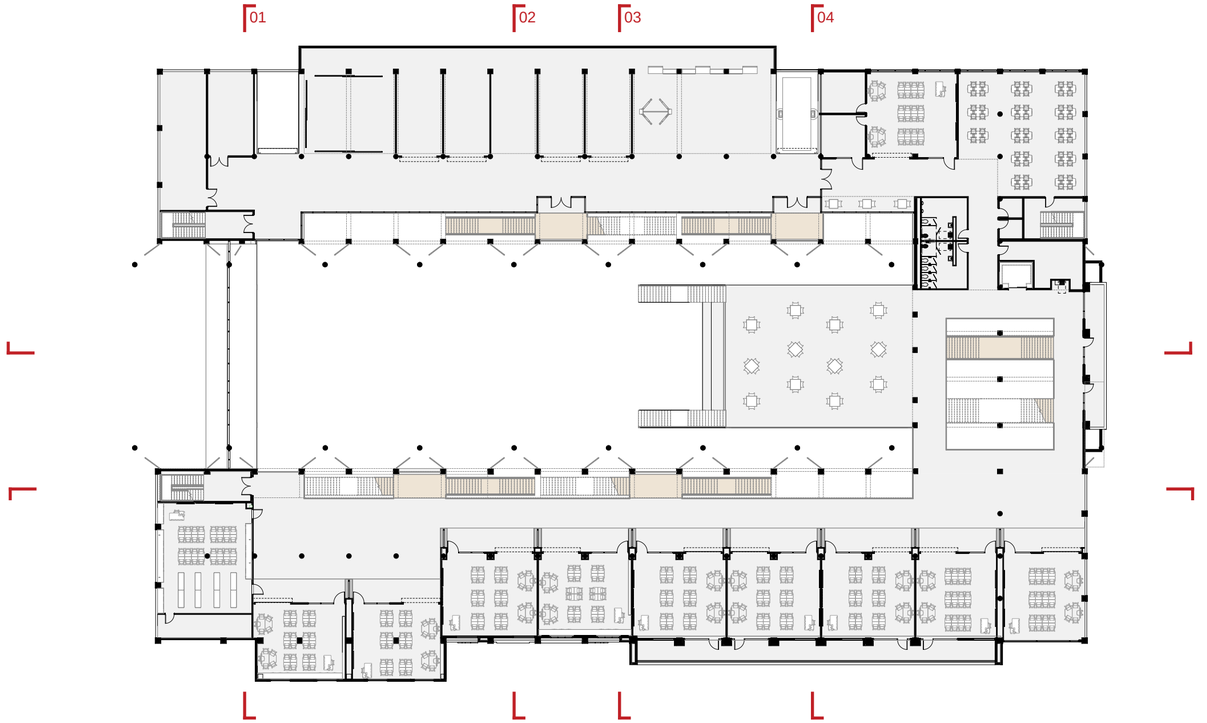
0’ 30’ 60’ 120’



LEVEL TWO STRUCTURE

The columns in the gymnasium are some of the few that suppot flooring past a single level. These columns support the seating space above the gym.

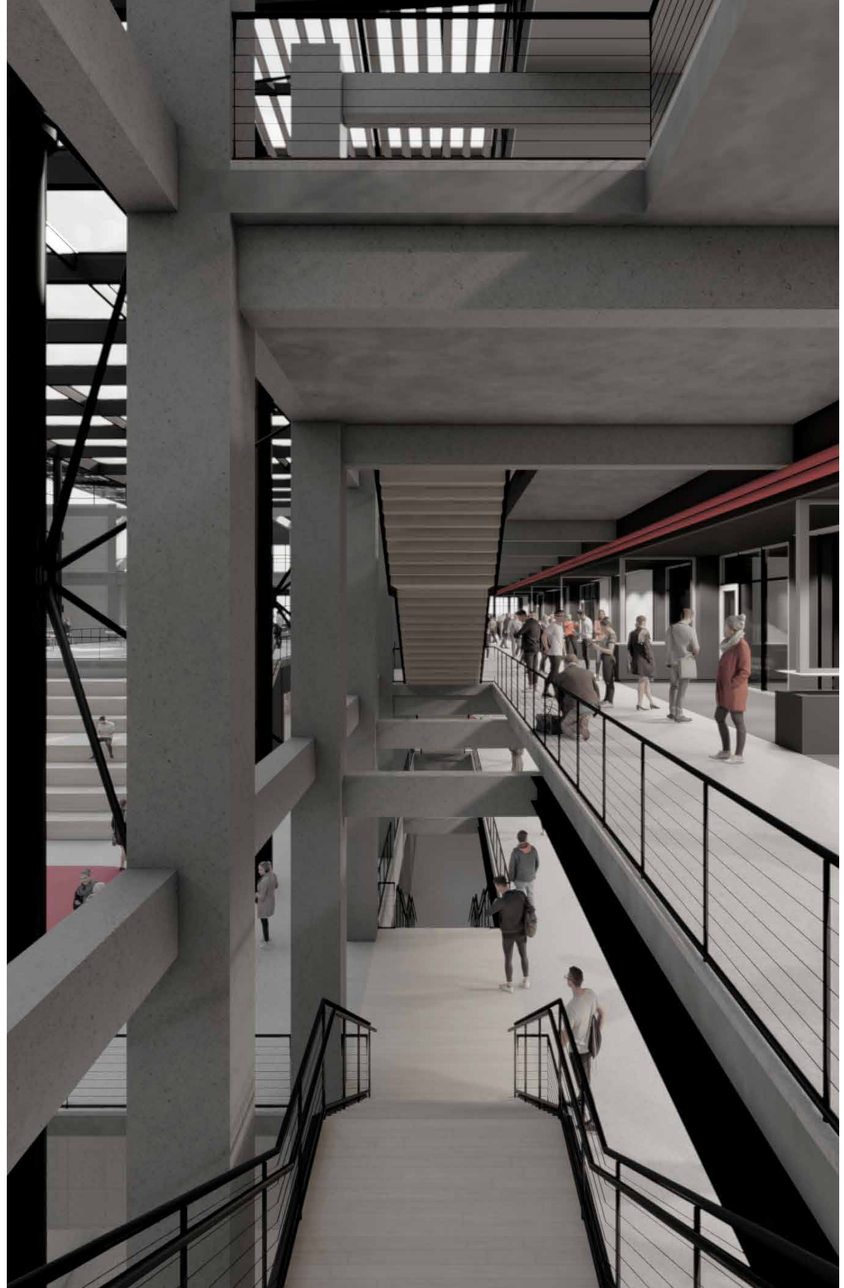
0’ 30’ 60’ 120’



LEVEL THREE

Level Three is the first floor which is mostly composed of classrooms. The classrooms all face the courtyard and are designed with an expansion zone where students can move the classroom into this space and work in a collaborative setting. The adaptive nature of the classrooms is a staple of this project. On the entrance wall is an overhead door that can go up and connect the standard classroom to the expansion zone. The overhead door is paired with a standard storefront door that is scaled for consistent use when collaboration is not needed. Other spaces on Level Three are CTE classrooms, CTE labs, and Core spaces.

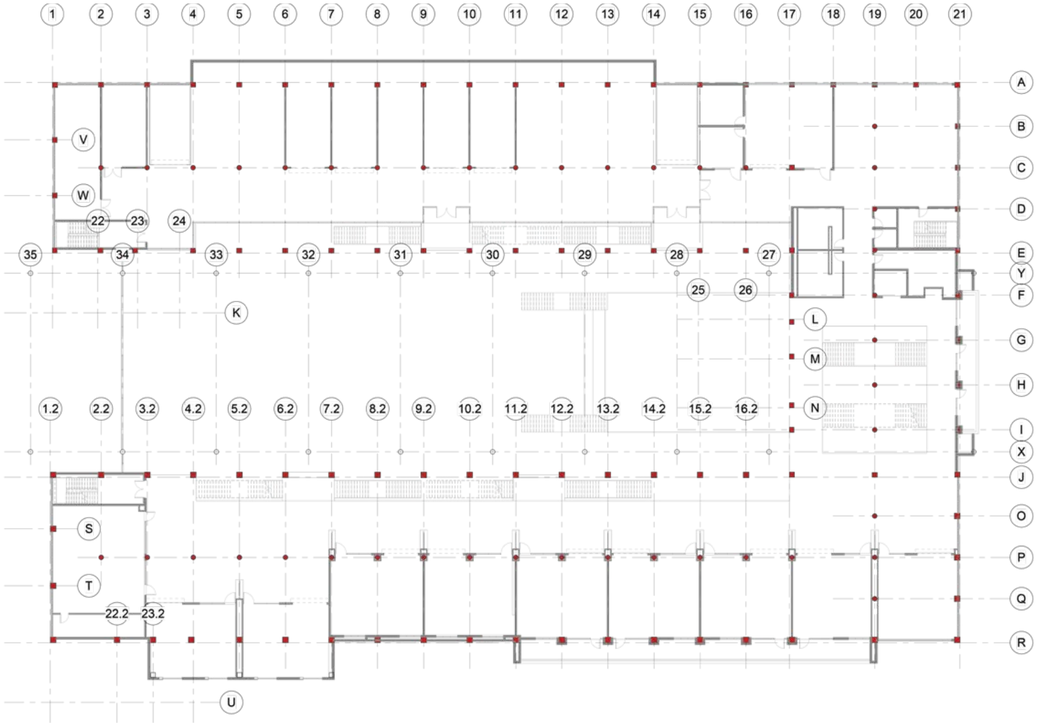
A pretty meaningful moment for me while designing the classrooms is the connection between spaces. When inside a classroom with the overhead door open a person can see the expansion zone, hallway, stairway, courtyard, and the CTE space on the North end. Louis Kahn, the original architect, designed the building for large open spaces. This is an example of that idea being reimagined and expanded on.



LEVEL THREE SYSTEMS

The system on Level Three has to work with a ventilation system at the CTE space. This is due to the collision repair lab lab containing paintbooths.

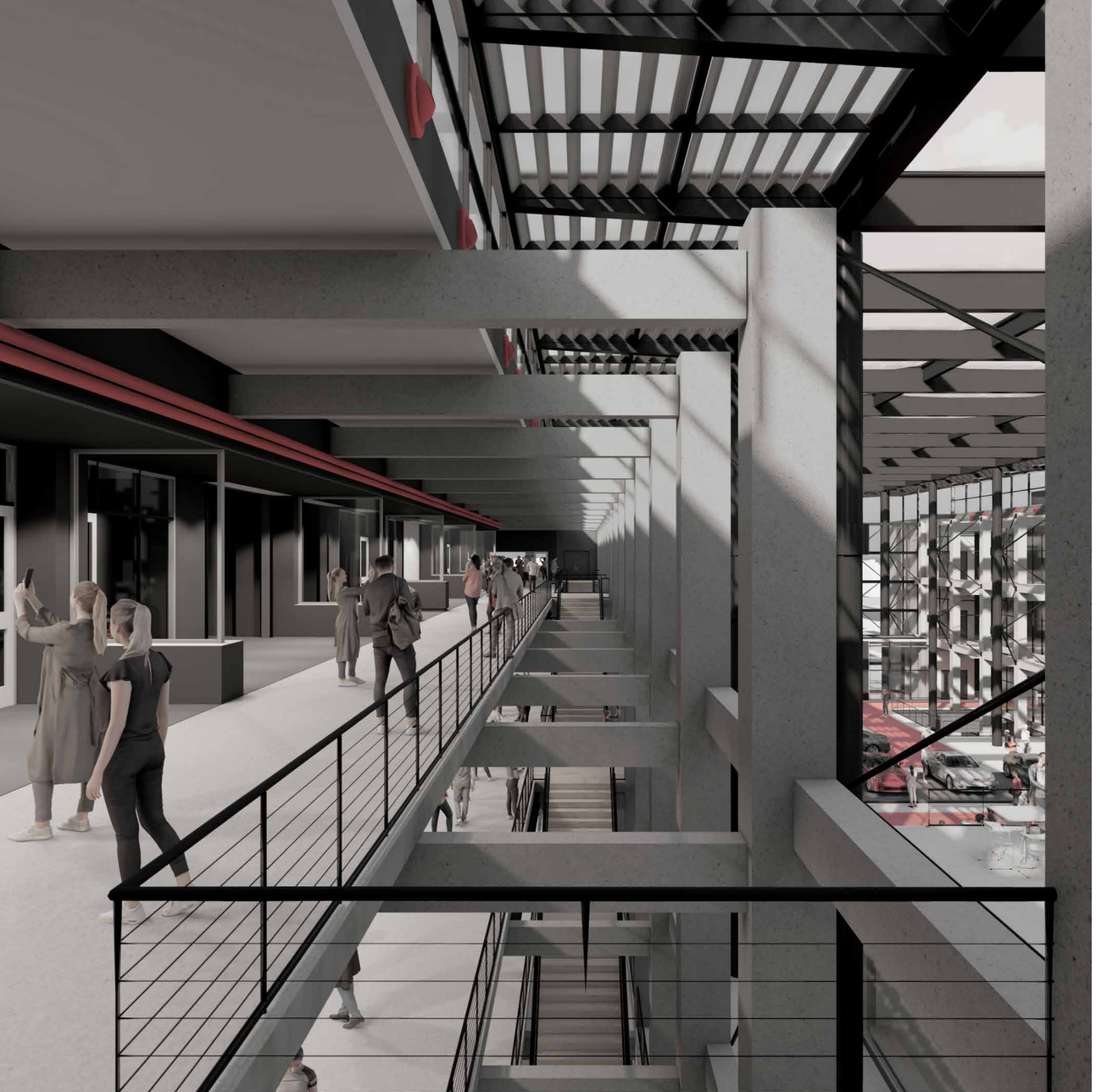
0’ 30’ 60’ 120’

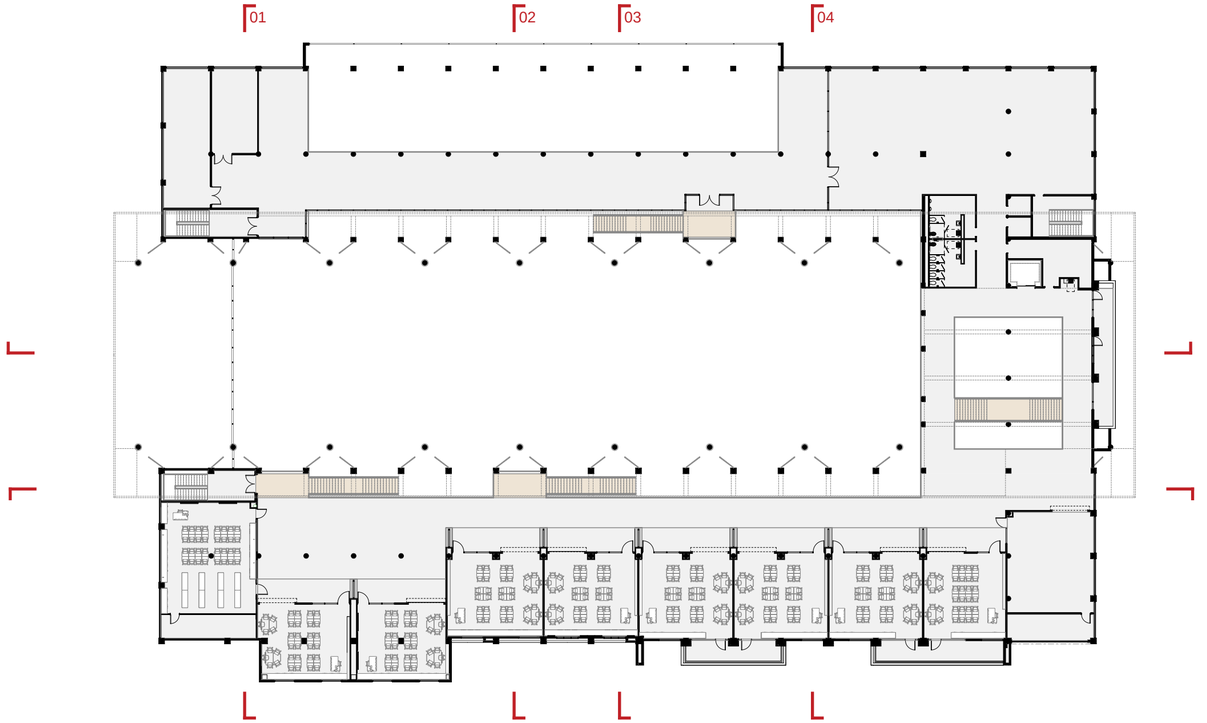


LEVEL THREE STRUCTURE

The structure on Level Three is the first example of the lateral bracing that connects between the existing columns and the new columns supporting the roof.

0’ 30’ 60’ 120’

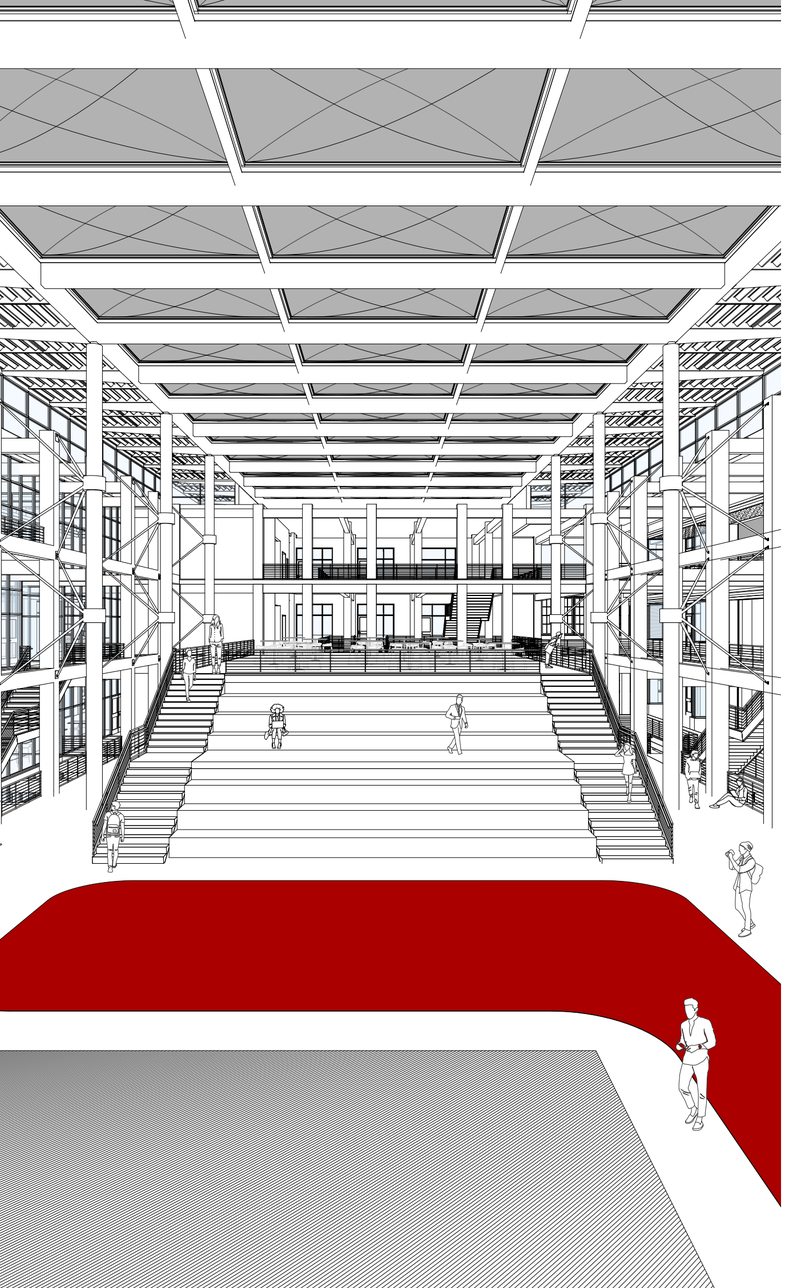


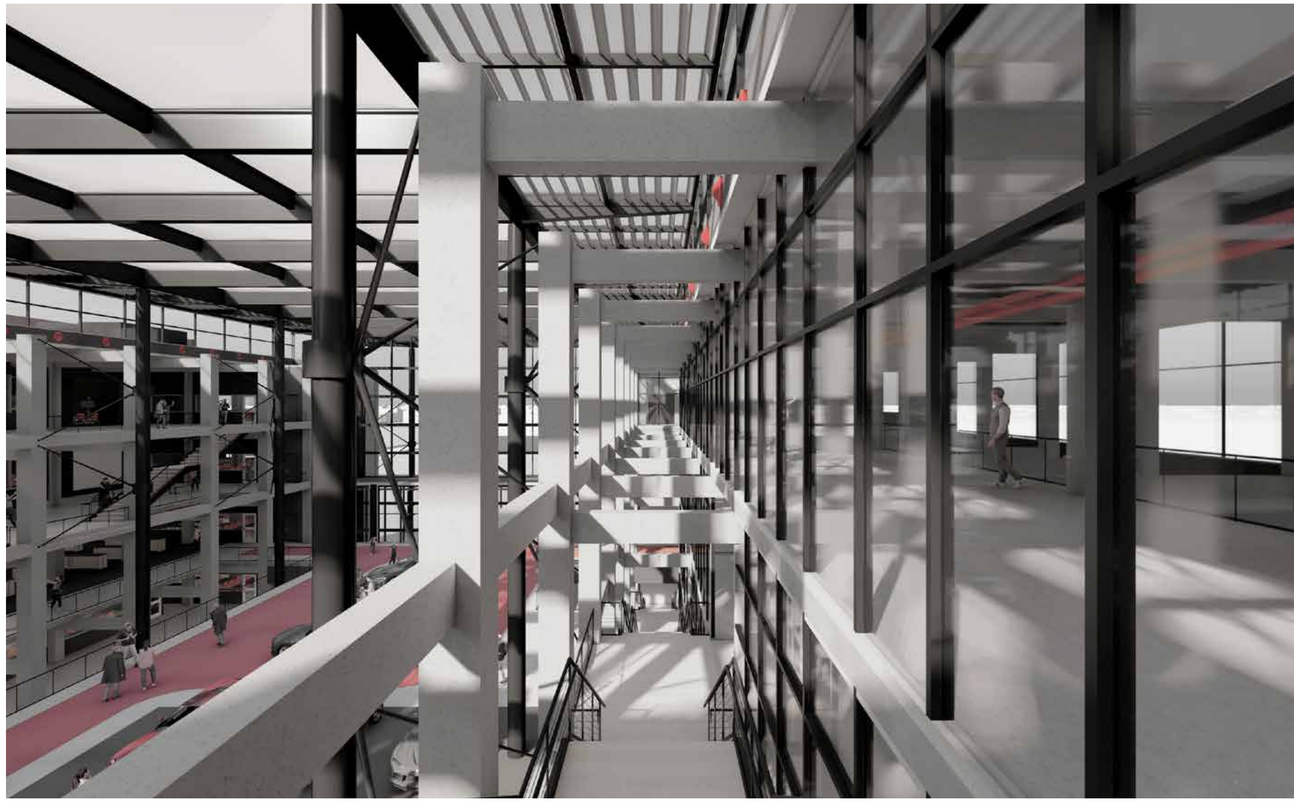


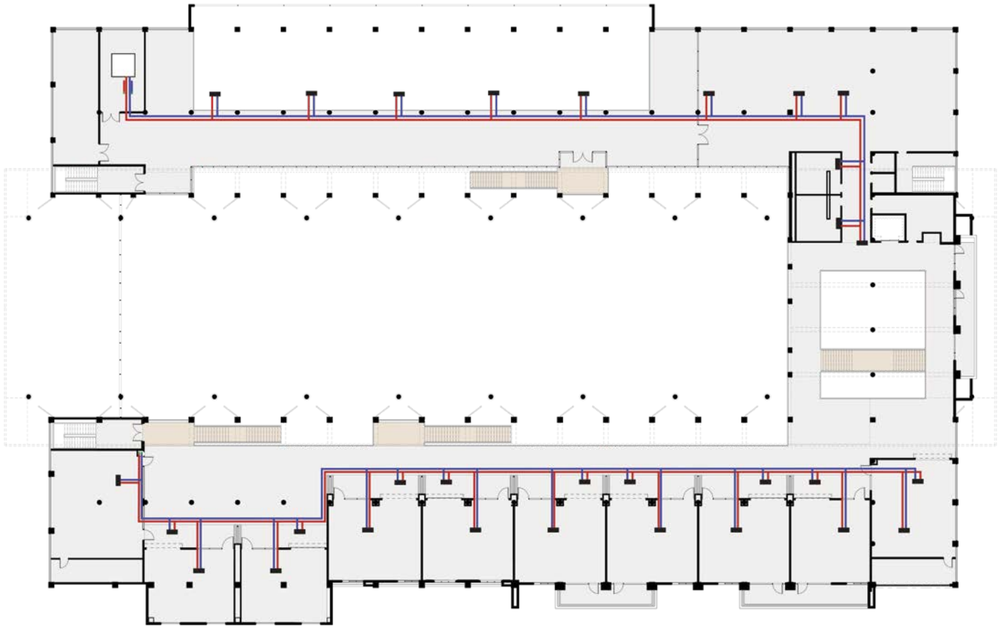
LEVEL FOUR

Level Four is the final floor of the project. It has the last row of classrooms in the same pattern as the previous floors before it. What makes this floor unique is the adaptive space on the floor. Schools are constantly growing and require additions, with the state of the rest of the Packard plant up in the air it is hard to rely on another adaptive reuse project for one of those buildings. In response to this, the North side is empty shell space that can be used for any need of the school. Whether that be classrooms, storage, or presentation space it would be up to the owner. Other spaces on Level Four are the Classrooms.

A connection I cannot talk about enough is that between the past and present. I tried to distinguish both from one another, yet have the new elements governed by the elements from the past. Classrooms are equivalent to two structural bays, the roof columns are in between every other column, and the stairs actively reside in between beams. These are just a few moments I wanted to highlight in the project.



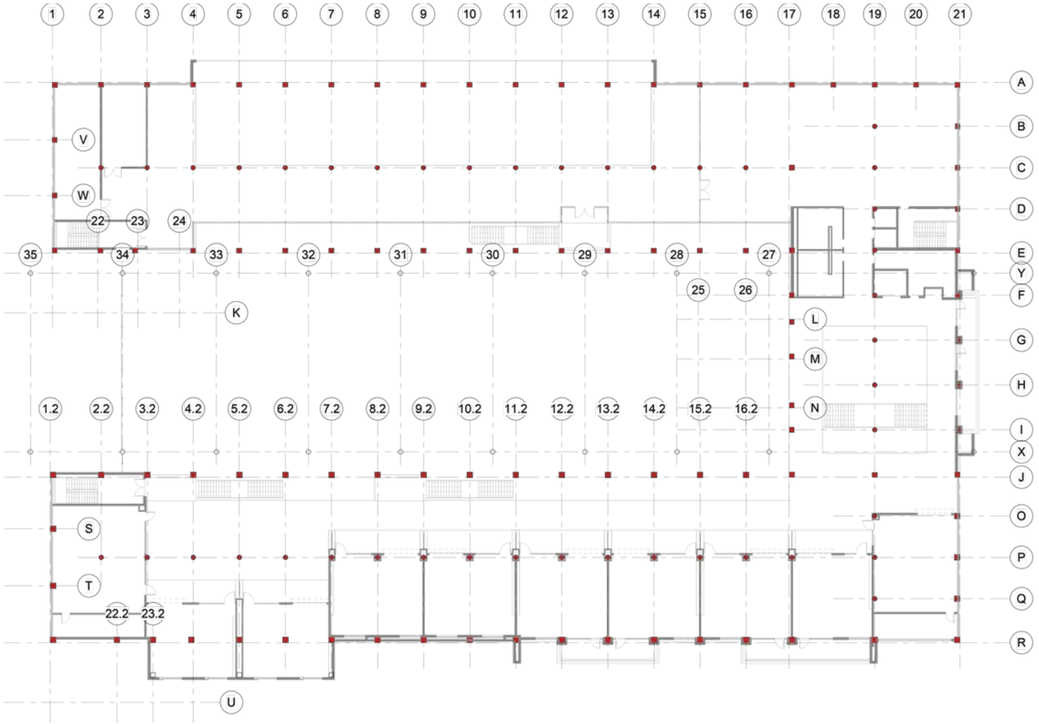




LEVEL FOUR SYSTEMS

The Level Four system is similar to Level Three due to the requirements for the adaptable space in the Northeast corner of the building. To make sure that space can be used I gave it a similar treatment to that of Level Three

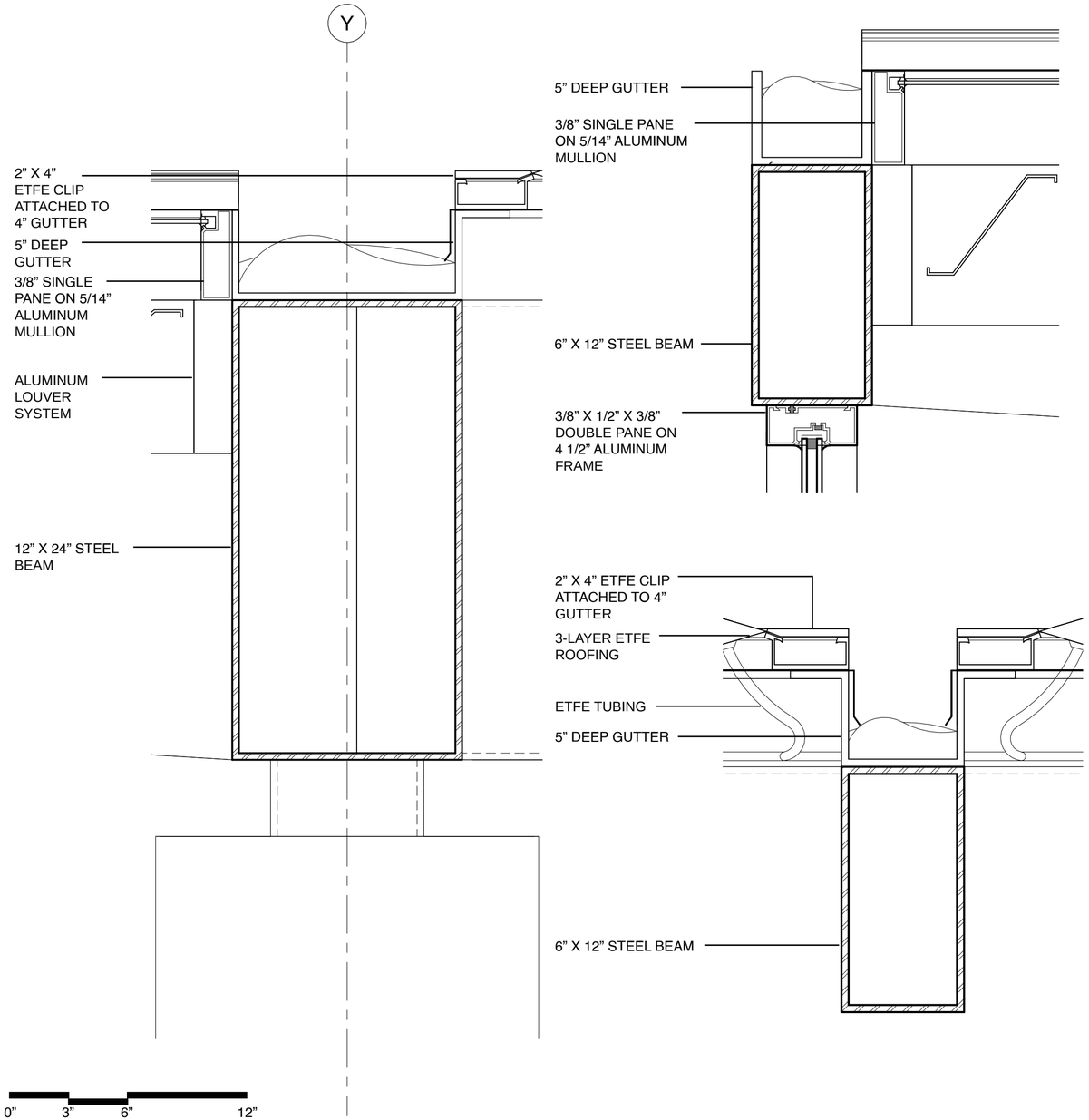
0' 30' 60' 120'

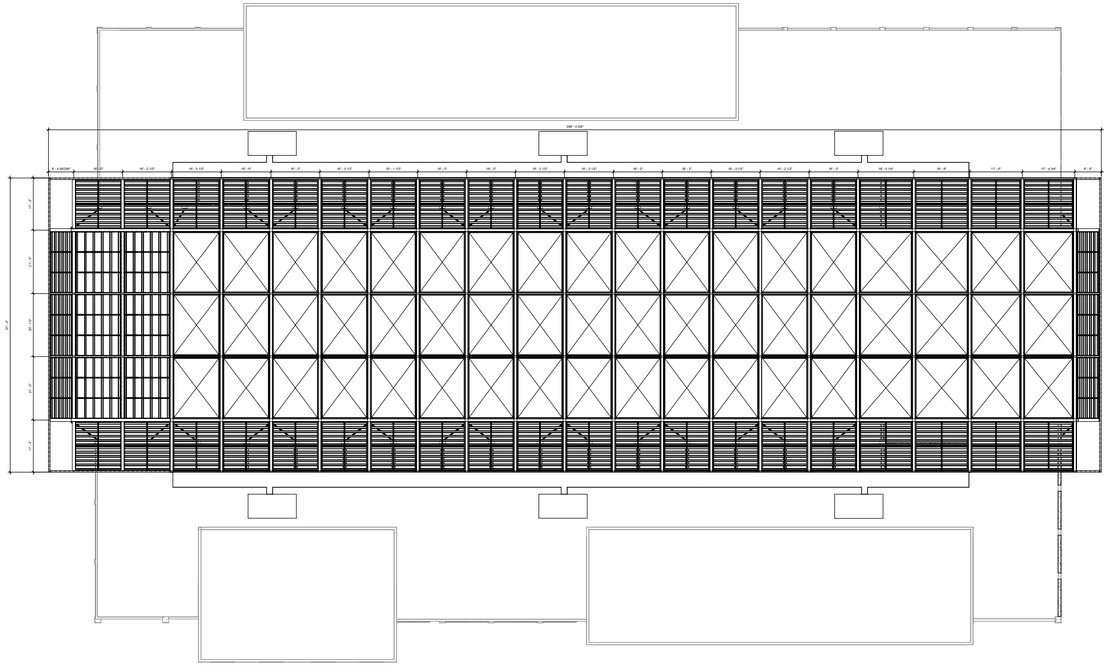


LEVEL FOUR STRUCTURE

The structure on Level Four is similar to Level Three expect at the central circulation space on the East side of the building. The existing roof was removed while leaving the beams and columns in place. This means the structure is supporting northing at this moment and is open to the new roof above.

0' 30' 60' 120'



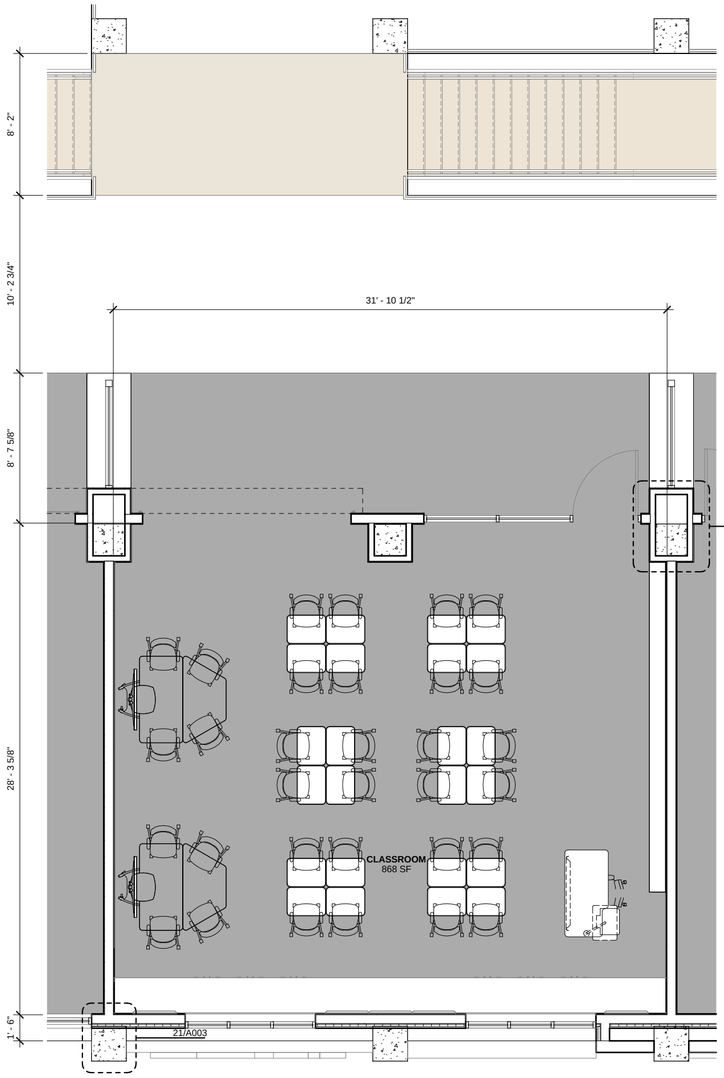


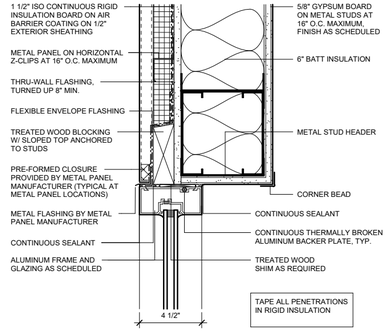
ROOF DETAILS

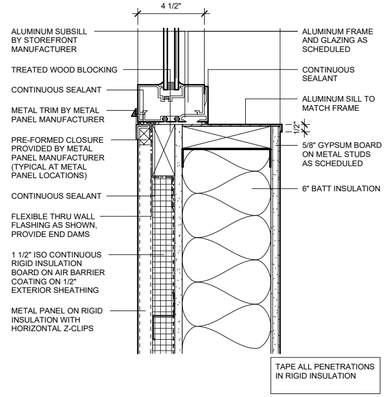
0’ 30’ 60’ 120’

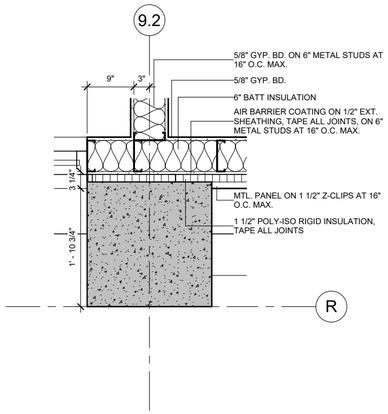
As one of if not the most important elements of the project, the roof needed a considerable amount of thought for it to work. A roof composed of an ETFE membrane has four main parts, the clips that hold together the ETFE membrane, the pumps that maintain the pressure inside the membrane, the drainage route for when it rains, and the structure that holds this all up. As an extra design feature for this roof, there is a louver system paired with skylights that goes around the ETFE system. The ETFE membranes are designed to fit in between the structure meaning the drainage gutters sit directly on top of the structure allowing for the water to flow and eventually make it to the outskirts of the roof. The water is then drained onto the lower standard roof where it will reach a nearby roof drain. The pumps run a short distance from the roof due to that being the best way to maintain even pressure at every membrane. Finally, the clips sit on top of the gutter that is designed to support the clips.

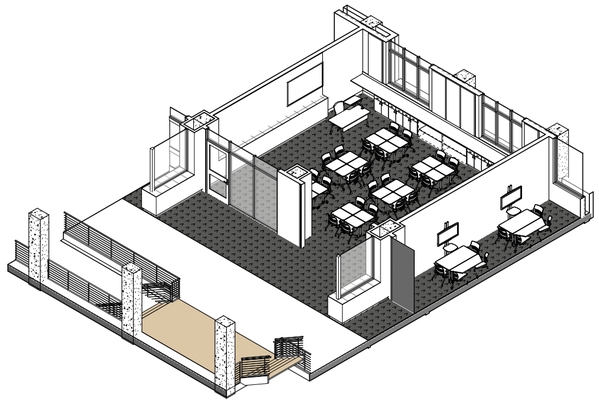
In my experience, the roof is one of the least worked-on elements. Never before have I ever been so invested in the design of a roof, for this project it was really necessary to hammer out all the details for this element. Details that went as far as establishing that the rounded column doesn’t touch the beams, a smaller element extends to reach the roof, and that distributes the load to the larger round column seen throughout the project.

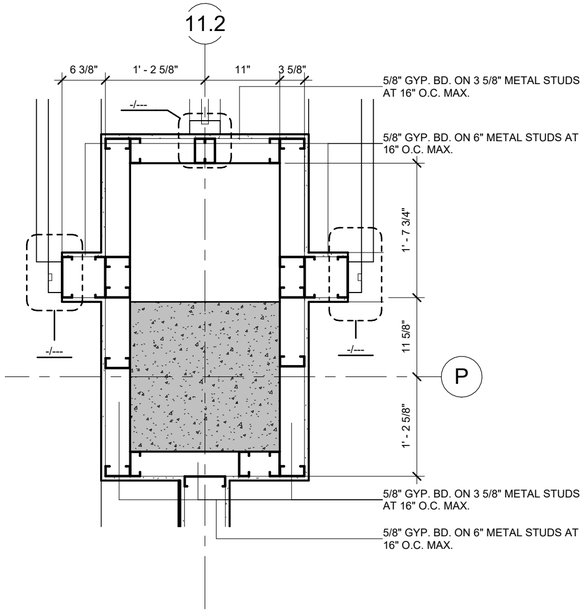






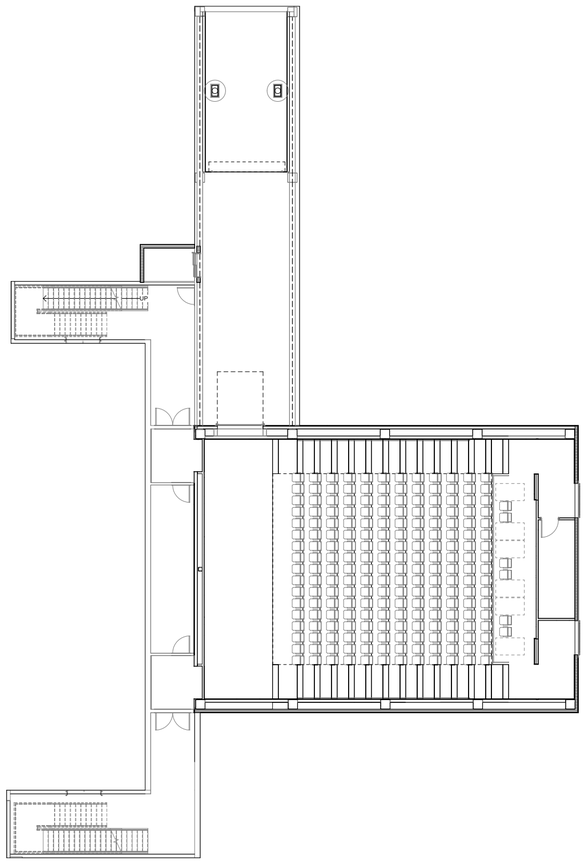


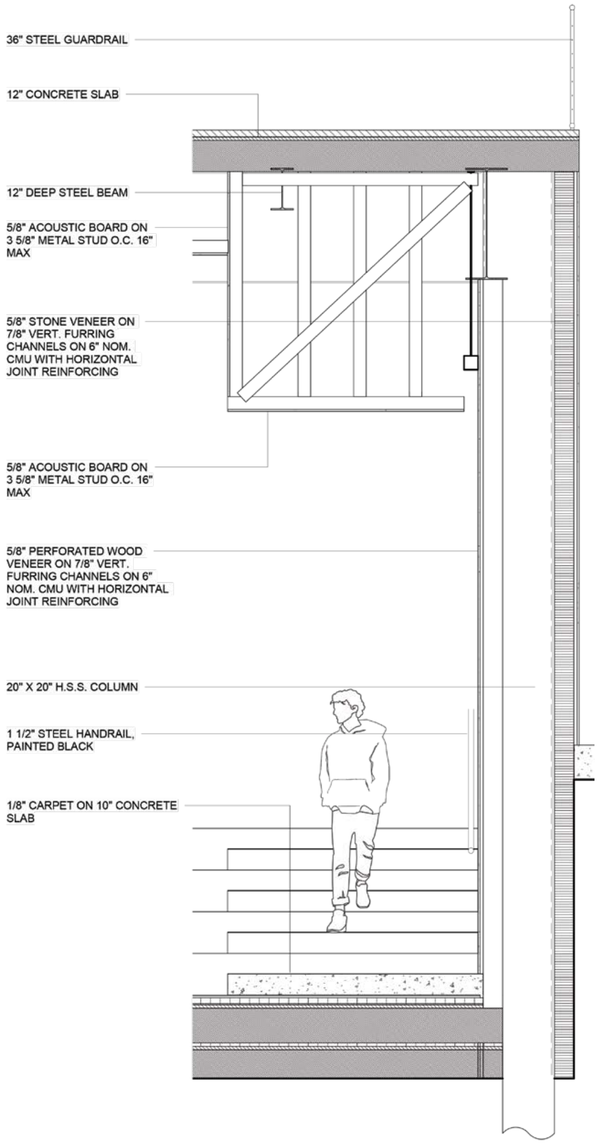


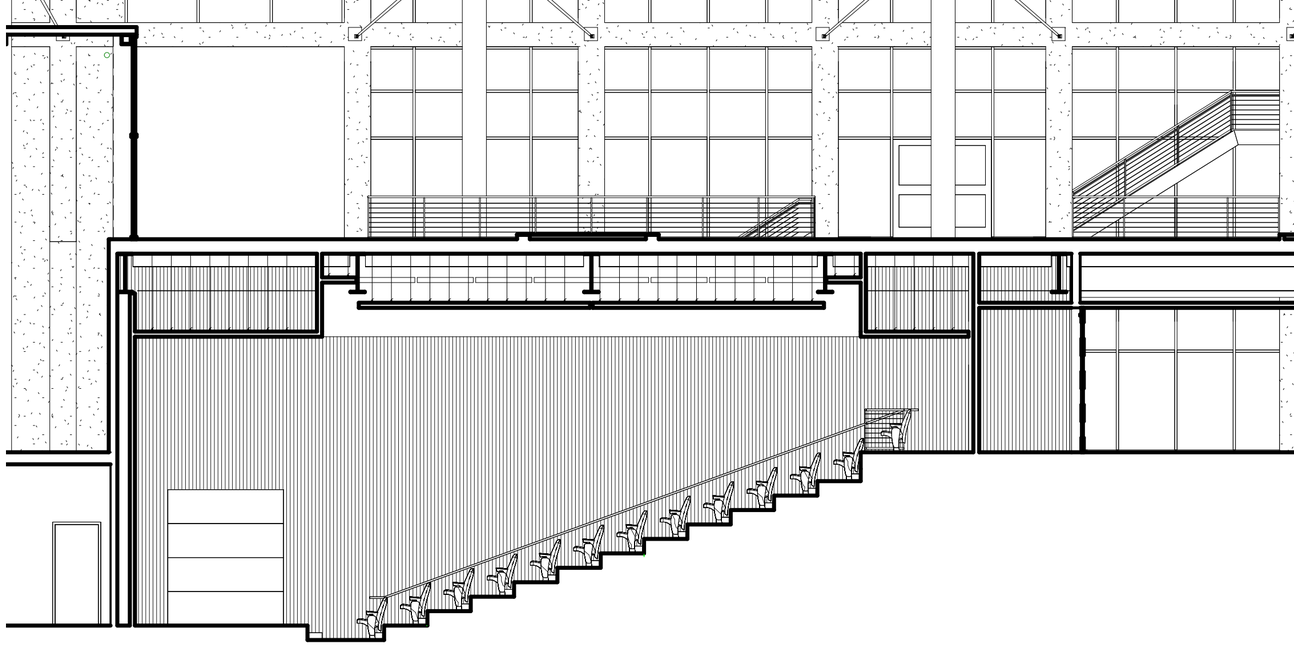


CLASSROOM DETAILS

Classrooms were designed to follow a pattern. The pattern for this project is a classroom is the width of two bays established by three columns. Between columns is an overhead door and a standard storefront door. Inside there is seating for 24 students and one teacher. On the Plan West wall is a tv with a whiteboard that is imbedded into the wall. On Plan South there Is standard casework, acoustic panels to allow for pinup space, and two windows to allow in natural light. Just outside the classroom is the expansion zone where students can move their work from the standard confines of the classroom. In this space, students can move their desks and work in groups on the writable glass surfaces that separate the classroom expansion zones from one another.







AUDITORIUM DETAILS

Designed as another vehicle presentation space the auditorium in this project is not a cookie-cutter auditorium found in any high school across the United States. The auditorium is designed to allow vehicles from the upper floors to reach this space where vehicles can be pushed out onto the stage. The audience sits under the highest ceiling condition in the space. This was done to highlight the seating as one of the more important spaces. The ceiling design is several panels that overlap to create indirect lighting above. Wrapped around this condition is a ceiling band that sits at the same level over the stage, stairs, and upper seating. This design was done to create various heights where the stage has the highest floor-to-ceiling.

0’ 15’ 30’ 60’

0’ 1’ 2’ 4’

CLOSING REMARKS

CLOSING REMARKS

Adaptive reuse is a unique experience that is reserved for those that want the challenge of working on a piece of history. In architecture, there are enough limits as is with the elements surrounding a chosen site. However, when the site, form, and structure are laid out and chosen before a design can even be formed makes it difficult. It's a fight for every square foot to make space work, sometimes it requires an unconventional design to fit the programmatic needs. However, when the spaces fit within the confines of the existing it creates a connection between past and present.

As for the question "Can historic design goals be reimagined to a more contemporary standard that fits a new program?" This can happen, and it should be a goal for any adaptive reuse project to reach. Adaptive reuse is all about historic connection and maintaining the original design ideas is part of a building's identity that the architect stamped onto its soul. The goal of adaptive reuse is to maintain the soul of a building while giving it a new purpose.

I enjoyed working on this project. It allowed me to combine history with architecture. It feels so often that I am asked to design something new that I don't get to explore this side of architecture. I believe this project was successful in so many ways, but the success that sticks most with me is that this building was truly brought back to the landscape and is no longer a blight to the fall of Detroit, but is now a sign that Detroit is ready to come back.

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