



VINCENT  
VELASCO

SELECTED WORKS 2022



# VINCENT VELASCO

(949) 436-0218  
VINCENT.VELASCO@GMAIL.COM

## EDUCATION

**University of Illinois at Urbana-Champaign**  
*Master of Architecture with Structures Concentration*

Winter 2013  
Grade Point Average: 3.82/4.00

**University of California at Irvine**  
*Bachelor of Arts in Studio Art with Biological Sciences Minor*

Spring 2007  
School of the Arts Grade Point Average: 3.45/4.00

## PROFESSIONAL + RESEARCH EXPERIENCE

**Wald, Ruhnke & Dost Architects**  
*BIM Manager / Project Manager*

July 2017 - Present  
Monterey, CA

- Attained additional responsibility to become the principal designer for the firm, establishing the design language and concepts for most of the higher profile projects that went to our office
- Lead director to implement BIM technology to the firm, in order to prepare for more efficient workflow while minimizing coordination issues and redundancy in drafting
- Additional role as Project Manager to lead the design of several projects while under the general supervision of Associates and Principals

### NOTABLE PROJECTS

Ulrika Plaza Mixed-Use, Carmel-By-The-Sea, CA - New Construction  
Joby Aviation Headquarters Interiors and New Manufacturing Facility, Marina, CA - New Construction  
Salinas Valley Memorial Hospital Cafeteria Interiors & Plaza Renovation - Renovation / Expansion  
17th & Capitola Mixed-Use Project, Salinas, CA - New Construction  
SeaPointe Apartments, Marina, CA - New Construction  
Transportation Authority for Monterey County, Master Plan, Seaside, CA - Master Plan  
City of Salinas Lincoln Corridor Master Plan, Salinas, CA - Master Plan

**Hollis + Miller Architects**  
*Junior Architect*

May 2016 - July 2017  
Kansas City, MO

- Returned to Hollis + Miller Architects to fill a vital gap between an Intern Architect and Senior Project Architect within the Higher Education Studio
- Recognized for efficiency and speed in document production, in addition to quickly gaining trust to create effective, major design decisions that helped give new life to the studio
- Engaged with the firm to become an active member of the firmwide Revit Standards & Design team, as well as intranet content manager / editor

### NOTABLE PROJECTS

Student Suites Jarvis Christian College (TX) Student Living - New Construction  
Glen Oaks Community College (MI) Student Living - New Construction  
Midwestern Baptist Theological Seminary (MO) Student Center - New Construction



Andrew Fell Architecture and Design

Designer

May 2015 - May 2016  
Champaign, IL

- Worked in a small-sized Commercial / Residential architectural firm that strengthened design thinking and honed my building construction knowledge
- Successfully managed and delivered projects in a fast-paced environment, with involvement in over 20+ projects of various size, scope, and construction phase
- Engaged in direct communication with clients and assumed project lead for three projects, including calculating, managing, and designing simple MEP drawings

NOTABLE PROJECTS

Baxter’s American Grille Restaurant (IL) - Renovation / Redevelopment  
Espresso Royale Coffee (IL) - Renovation  
Healey Place Mixed-Use & Commercial Restaurant Build-Out (IL) - New Construction  
505 S First St. Champaign Mixed-Use (IL) - New Construction

Hollis + Miller Architects

Intern Architect

September 2014 - May 2015  
Overland Park, KS

- Simultaneously managed 16 small and medium projects that comprised of education, civic, and environmental graphics up to the Construction Adminitration Phase, while collaborating with subcontractors, city officials, and principals of the firm
- Within first month of work, became a pivotal design team member for the design of the firm’s new office in Kansas City, Missouri due to my ability to work quickly and with a high degree of accuracy and rigor

NOTABLE PROJECTS

Briarwood Elementary School (KS) - New Construction  
Trailwood Elementary School (KS) - New Construction  
Shawnee Mission School District High Security Entries for High Schools (KS) - Renovation  
Olathe City Hall Renovation (KS) - Renovation

Cooper Carry

Intern Architect

January 2014 - September 2014  
Atlanta, GA

- Drafted and revised building and unit plans through Revit on three mixed-use, multistory projects while learning critical building concepts both at the office and on site
- Programmed and implemented the use of parametric families in Revit to create efficient workflows for the firm

NOTABLE PROJECTS

AMLI Midtown at West Peachtree Street Mixed-Use Highrise (GA) - New Construction  
AMLI 3464 Cityplace Tower (GA) - New Construction  
Carolina Square, Chapel Hill (NC) - New Construction

University of Illinois at Urbana-Champaign

Teacher Assistant/Research Assistant - Urban Research Lab

August 2010 - May 2011  
Champaign-Urbana, IL

- Instructed a fourth-year undergraduate architecture studio, administering discussion and critiques and delegating advice on improving student projects
- Demonstrated to students software skills needed to produce 3D surface models using Rhinoceros 3D
- Performed critical research on networked-enabled and interactive subway kiosks in relation to an interdisciplinary approach to design that deals with designers and programmers in concert with each other

AWARDS, PUBLICATIONS + RECOGNITION

University of Illinois at Urbana-Champaign

Spring 2013

Published: Tierney TF, Velasco V (2013). Positioning Locative Media: A Critical Urban Intervention. Leonardo Journal of Arts, Sciences and Technology; 46(3).

Stephen J.Y. Tang Memorial Award

Spring 2013

- Selected by faculty for exemplary architectural and structural engineering work on a culinary arts college in Chicago

Earl Prize Winner

Fall 2008

- Received the award for outstanding individual project for the Earl Prize, an Architecture undergraduate student award for excellence

SKILLS

CAD/BIM

AutoCAD 2021  
Revit 2021  
Sefaira  
Project Vasari  
Ecotect Analysis

3D MODELING / RENDERING

Google SketchUp + V-Ray  
Rhinoceros + V-Ray  
Epic Games Twinmotion  
Autodesk 3D Studio Max  
Autodesk Maya  
Dassault Systems CATIA

GRAPHIC DESIGN

Adobe Photoshop  
Adobe Illustrator  
Adobe InDesign  
Adobe Flash  
Adobe Premiere Pro + After Effects  
Adobe Dreamweaver

PROGRAMMING

Grasshopper  
Processing  
C++/Java  
Revit 2013

STRUCTURES

RISA-3D  
SAP2000  
RAM Structural System

- Commitment to accuracy and strong attention to detail
- Work extremely well under pressure and on multiple tasks simultaneously
- Leadership experience supervising, managing, and training others
- Excellent interpersonal skills; Always maintain a professional and courteous decorum





# STARTUP STATEMENT

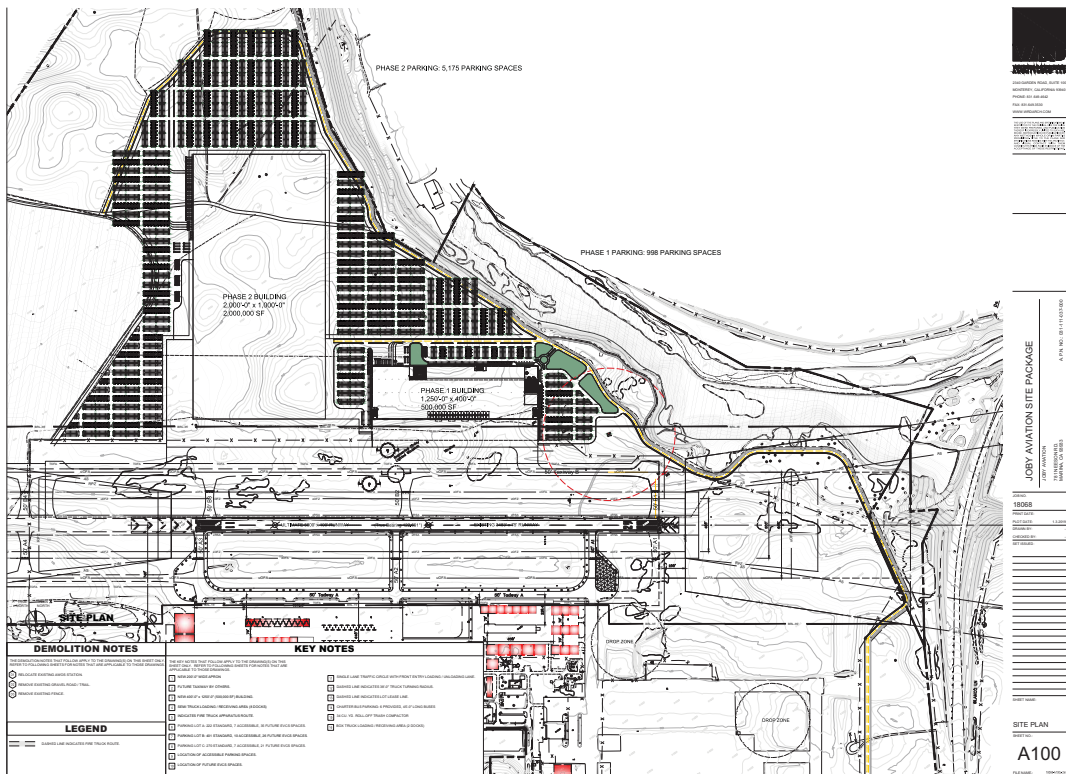
JOBY AVIATION  
HEADQUARTERS T.I. & NEW  
MANUFACTURING FACILITY

WALD, RUHNKE & DOST  
ARCHITECTS  
MARINA, CA  
T.I. UNDER CA; NEW  
MANUFACTURING FACILITY  
MID-CD PHASE

A NEW AVIATION STARTUP COMPANY BACKED BY A MAJOR JAPANESE VEHICLE MANUFACTURER IS LOOKING TO RELOCATE A NEW HOME FROM THE SANTA CRUZ HILLS TO A MUNICIPAL AIRFIELD IN MARINA. THEIR REVOLUTIONARY, VTOL AIRCRAFT THAT WOULD OPERATE SIMILAR TO UBER OR LYFT NEEDED TO CREATE FACILITIES THAT EMPHASIZE THEIR GRASS-ROOTS IDEOLOGY INTO THEIR NEW HEADQUARTERS AND MANUFACTURING FACILITY.





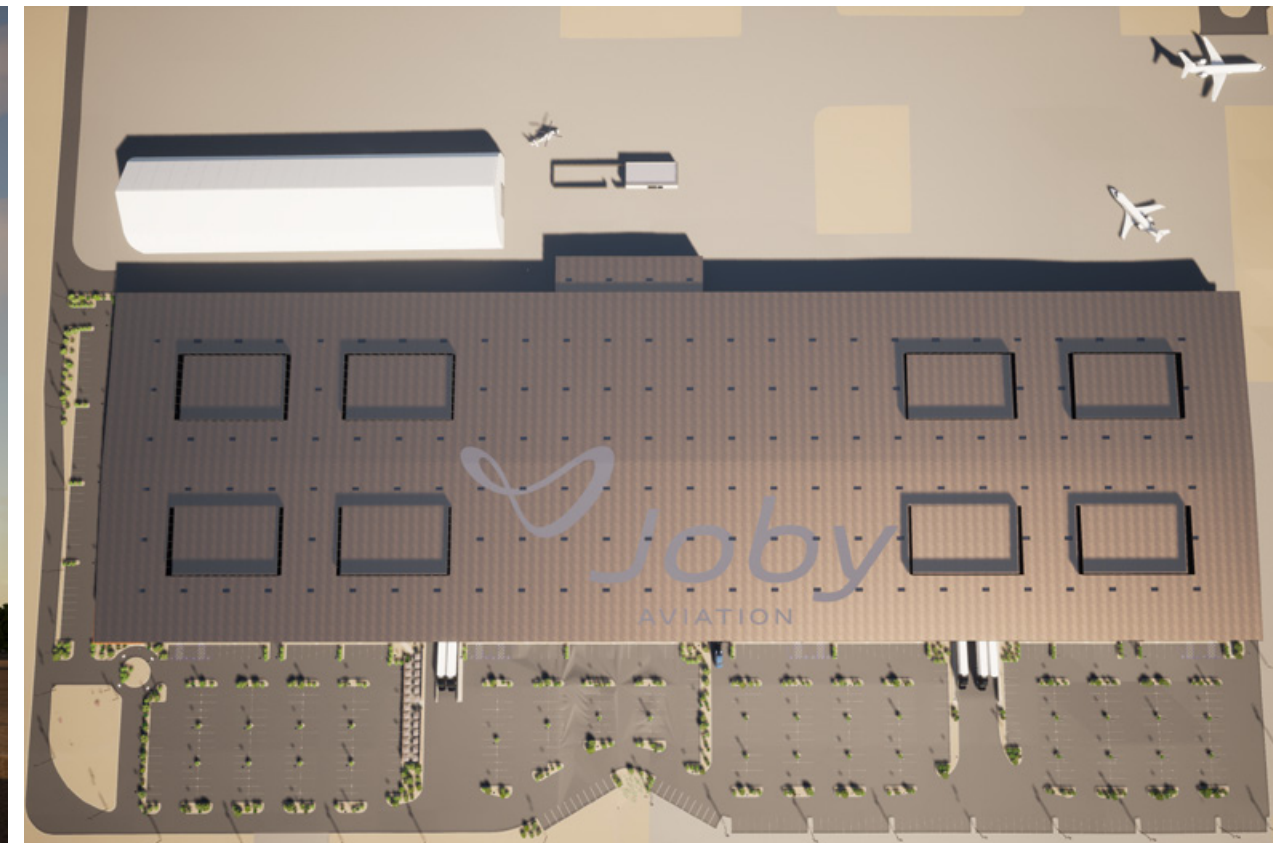


THE MARINA MUNICIPAL AIRPORT ORIGINALLY DESIGNATED THE AREA NORTH OF THE RUNWAY TO DEVELOP THE NEARLY 1.5 MILLION SQUARE FOOT STRUCTURES, UPON FINAL COMPLETION OF THE PROJECT. HEIGHT RESTRICTIONS, OBSERVING THE TAXIWAY OBJECT-FREE AREA, AS WELL AS THE PROXIMITY TO THE AIRPORT SURVEILLANCE RADAR'S CLEAR RADIUS WERE OBSTACLES THAT WE MANAGED TO OVERCOME, HOWEVER, IT WAS THE BUILDING'S INFRINGEMENT TO INDIGENOUS PLANT SPECIES THAT ULTIMATELY FORCED THE CLIENT TO MOVE SOUTH OF THE RUNWAY FOR A SMALLER STRUCTURE. THE FINAL SITE PLAN IS SHOWN HERE.



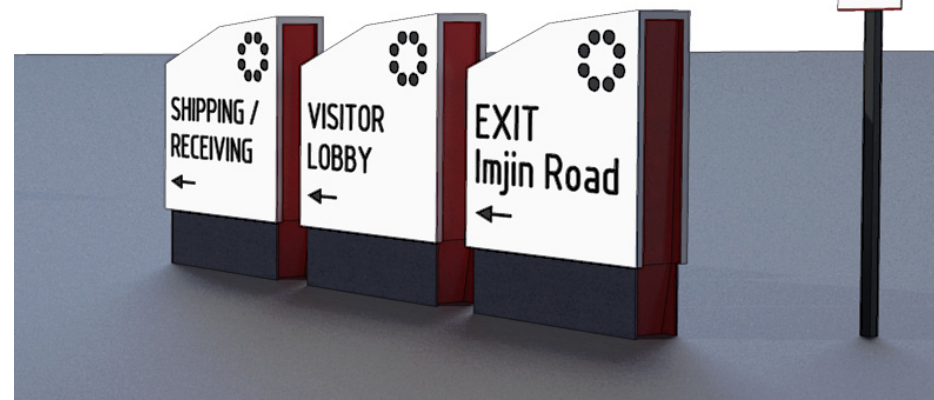
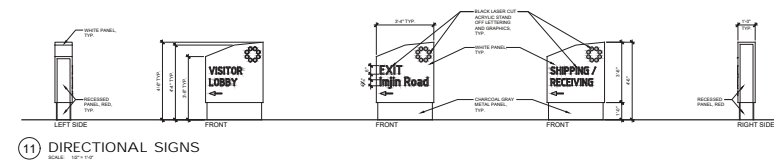
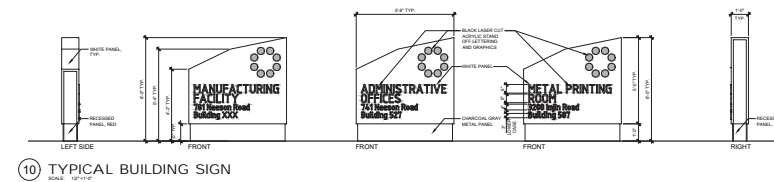
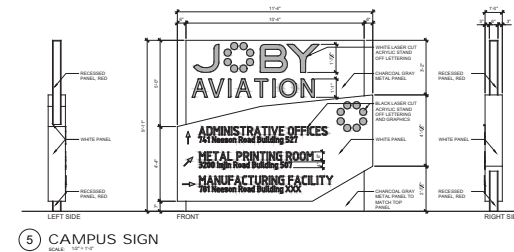
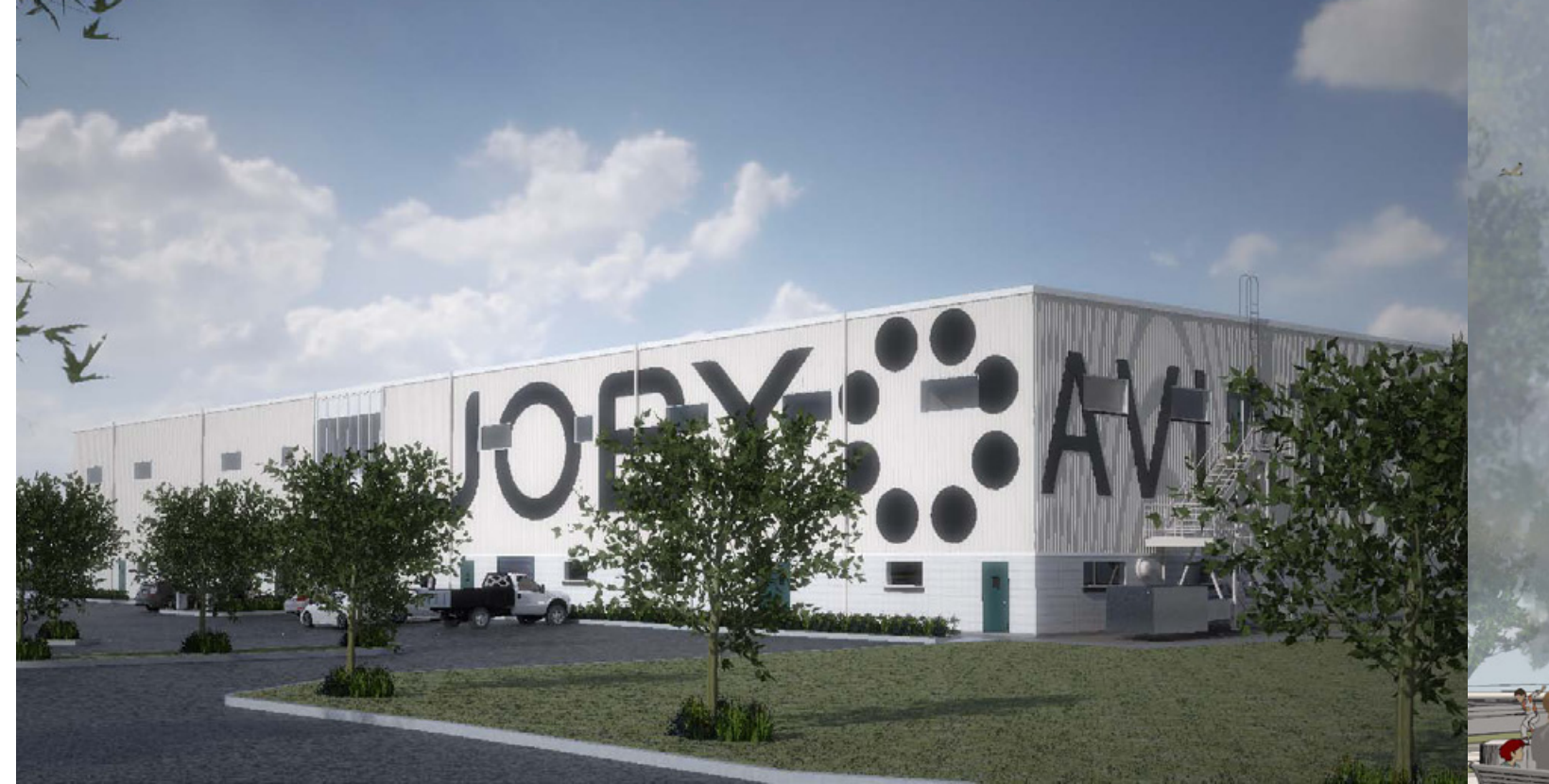


PREVIOUS TILT-UP OPTION RENDERING - CLIENT PROCEEDED TO GO AGAINST THIS OPTION ABOVE, FOR A FULL METAL BUILDING, LEFT.



JOBY MAIN MANUFACTURING ASSEMBLY PLANT  
THE 579,600 SF MAIN PLANT IS TO BE SUPPLEMENTED BY A NEARBY 54,000 SF TEMPORARY TENT STRUCTURE.





## JOBY HEADQUARTERS AND SIGNAGE

A nearby hanger was converted to the JOBY HEADQUARTERS. I PROVIDED SUBSTANTIAL INTERIOR DESIGN INPUT, FROM MATERIAL SELECTION TO THE STAIRWELL. I ALSO DEVELOPED A UNIFIED SIGNAGE SYSTEM ACROSS THE CAMPUS, WHICH WAS LOOSELY INSPIRED BY THE SHAPE OF THE WING'S AIRFOIL IN TAKEOFF.





# LIVE OAK PROJECT

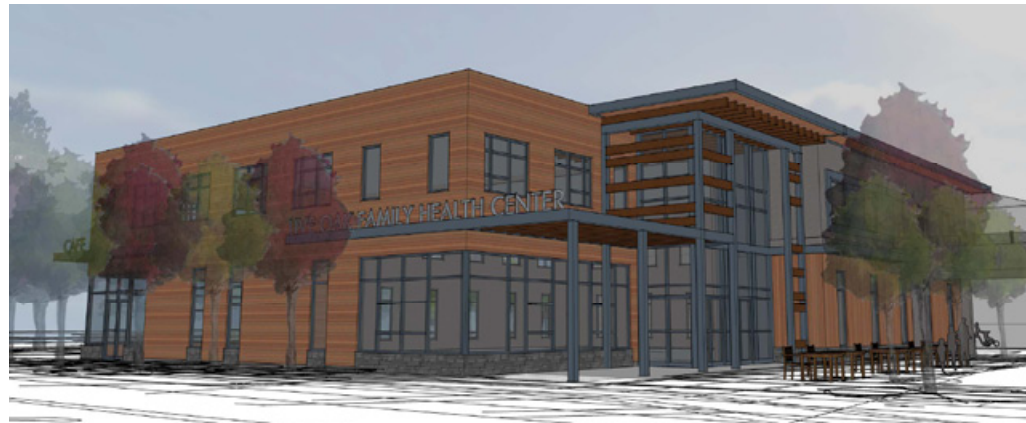
17TH AND CAPITOLA LIVE OAK  
NEW CONSTRUCTION - SANTA  
CRUZ COMMUNITY HEALTH  
CENTERS, DIENTES COMMUNITY  
DENTAL, MID PEN HOUSING

WALD, RUHNKE & DOST  
ARCHITECTS  
CAPITOLA, CA  
END OF CD PHASE

THIS WAS A CHALLENGING PROJECT WITH THREE SEPARATE CLIENTS ON ONE PLANNED DEVELOPMENT. A CLINIC FOR SANTA CRUZ COMMUNITY HEALTH AND DENTAL OFFICES FOR DIENTES COMMUNITY DENTAL WILL PROVIDE STREET FRONTAGE, WHILE AN AFFORDABLE HOUSING COMPLEX WOULD BE LOCATED IN THE REAR OF THE BUILDING. MANY CHALLENGES WERE FACED, CLIENT CONSENSUS, A TIGHT SITE, ALONG WITH VALUE ENGINEERING DURING COVID-19.



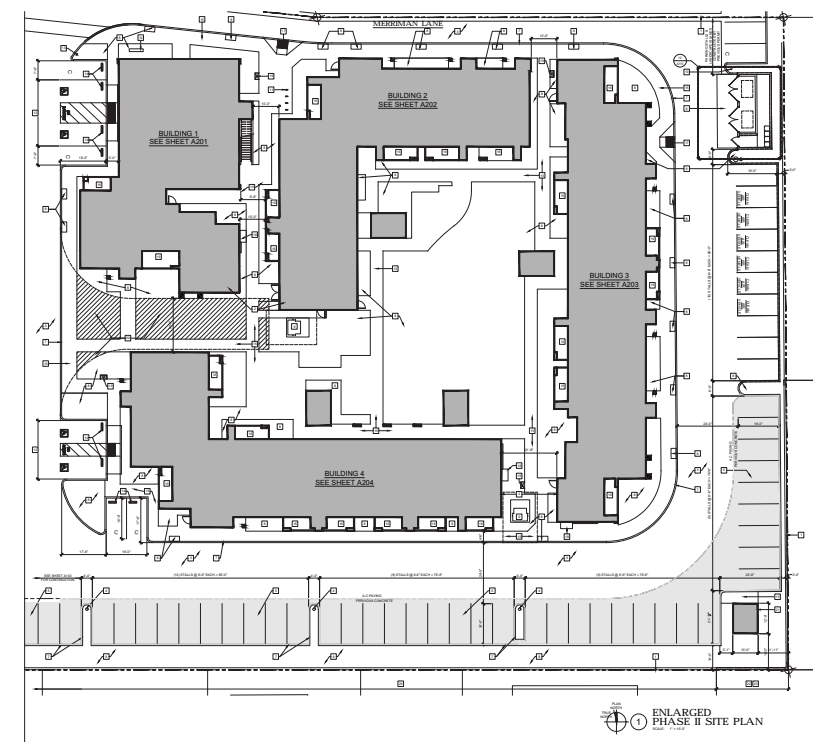
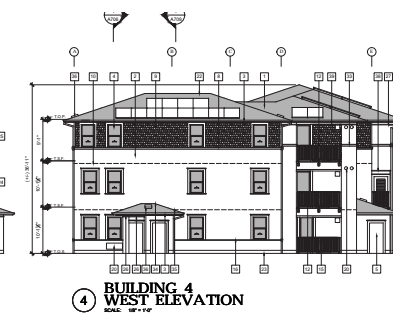
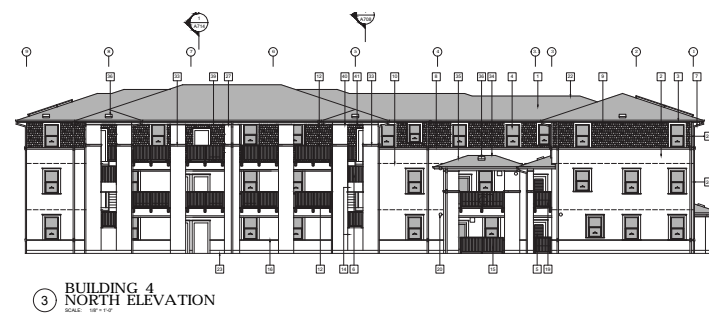
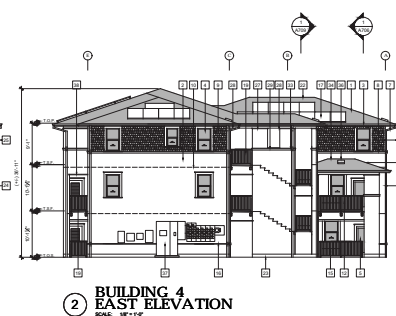




## VALUE ENGINEERING

THE CLIENTS WERE EXTREMELY EXCITED WITH OUR INITIAL SCHEMATIC DESIGN, CREATING A BEAUTIFUL CENTERPIECE FOR THE COMMUNITY OF LIVE OAK. HOWEVER, WITH THE ADVENT OF COVID-19, THE HEALTHCARE CLIENTS ULTIMATELY REDUCED THE BUILDING PROGRAM AND DIVERT RESOURCES TOWARD FIGHTING THE PANDEMIC. AS A RESULT, THE DENTAL BUILDING BECAME ONE STOREY, AND THE BRIDGE BETWEEN BUILDINGS WAS OMITTED. THE DESIGN PROGRESSION FOLLOWS IN THE IMAGES ABOVE. THROUGHOUT THE PROCESS, I HAD A PRIMARY HAND IN REDESIGNING THE BUILDINGS TO FIT THE CLIENT'S NEEDS.





## MID PEN HOUSING

With cost consciousness in mind, we created a set of residential buildings that provided a safe and welcoming space for play and rest. The client wanted various unit types, ranging from standard 1 bedroom to two storey townhomes that started on the second floor. The challenge was creating an economical complex of buildings that also had to fit in an extremely small site.









# SWORD & TROWEL

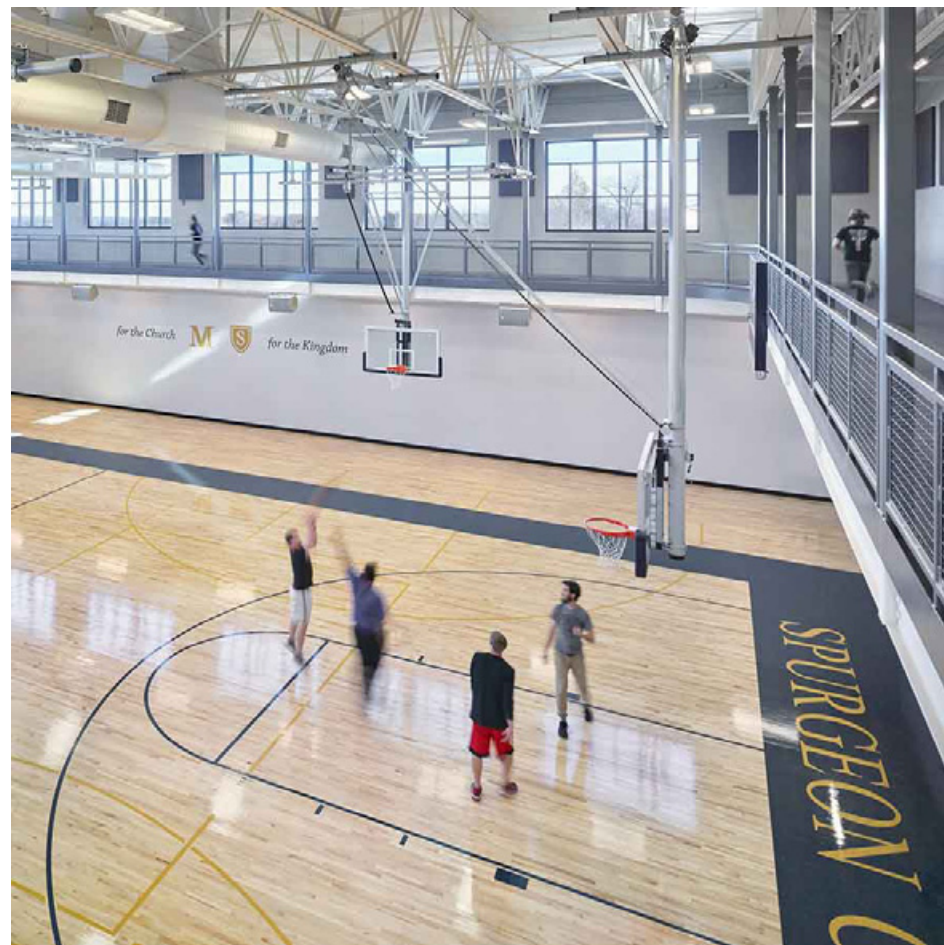
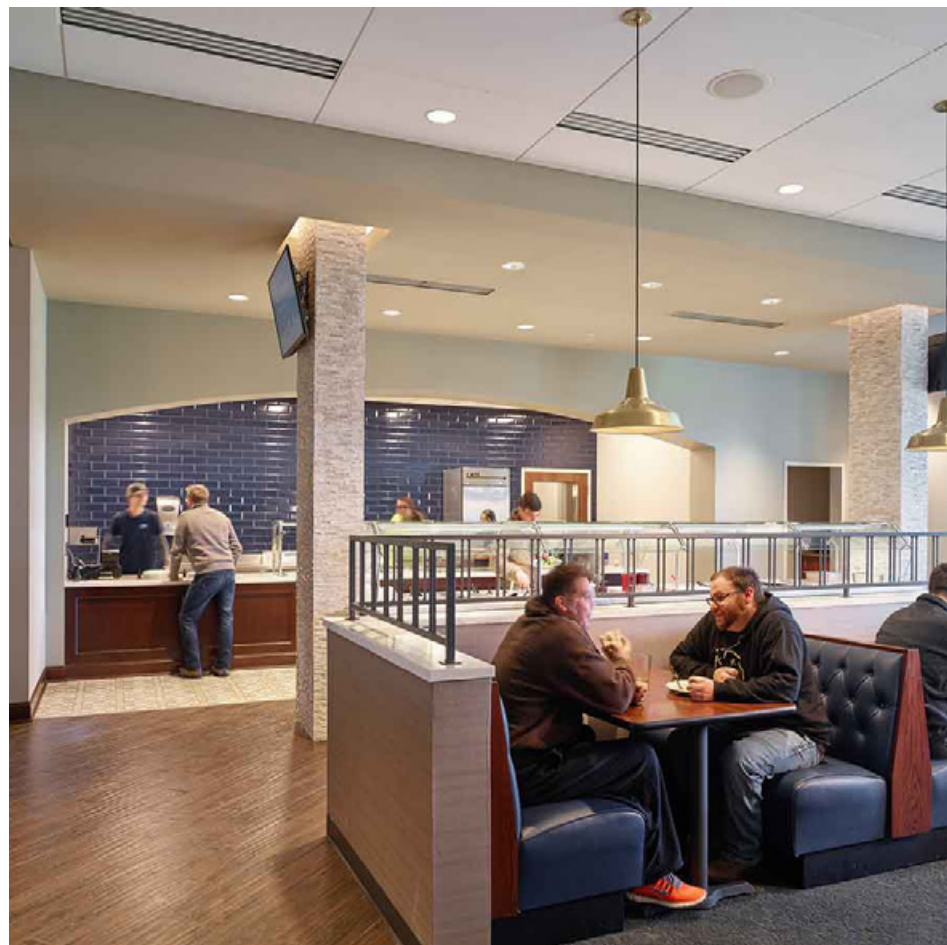
MIDWESTERN BAPTIST  
THEOLOGICAL SEMINARY  
NEW STUDENT CENTER -  
BOOKSTORE / CAFE

HOLLIS + MILLER ARCHITECTS  
KANSAS CITY, MO  
MARCH 2017  
COMPLETD 2019

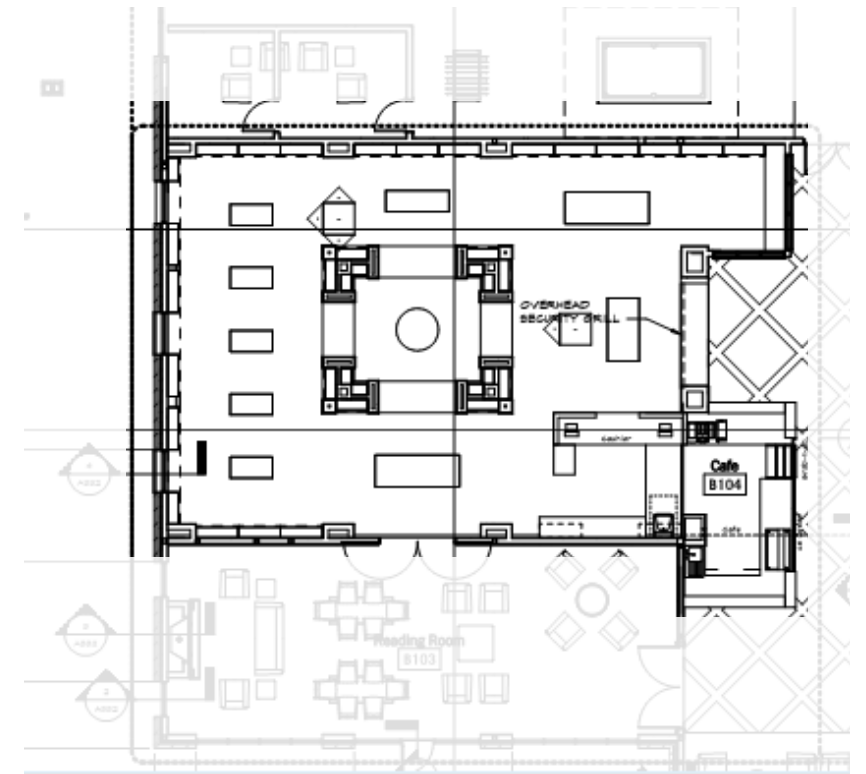
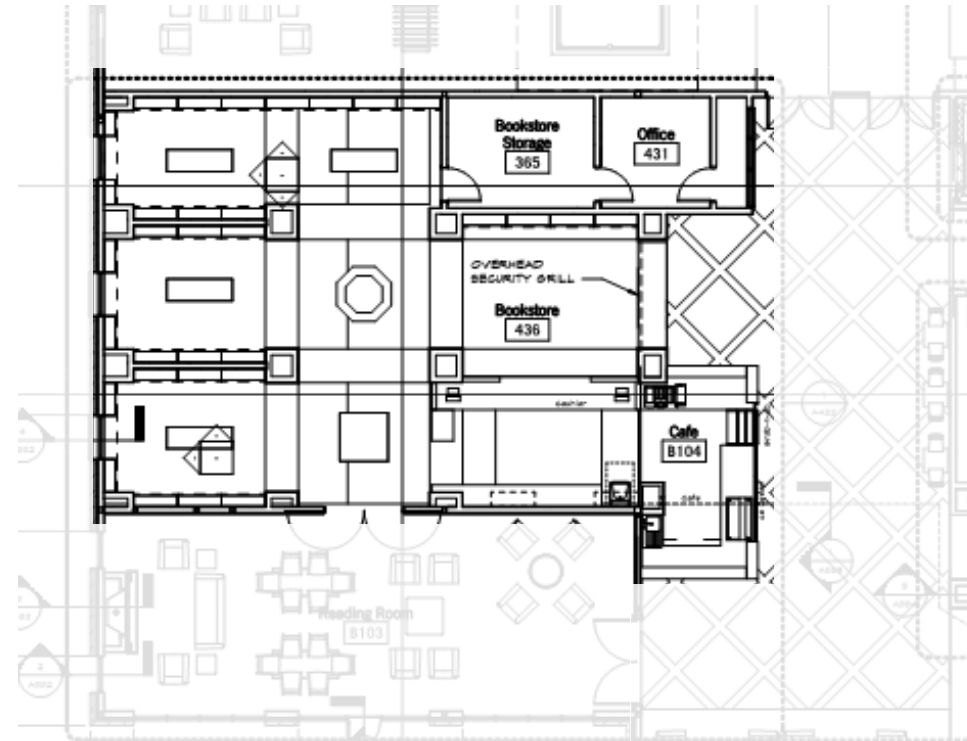
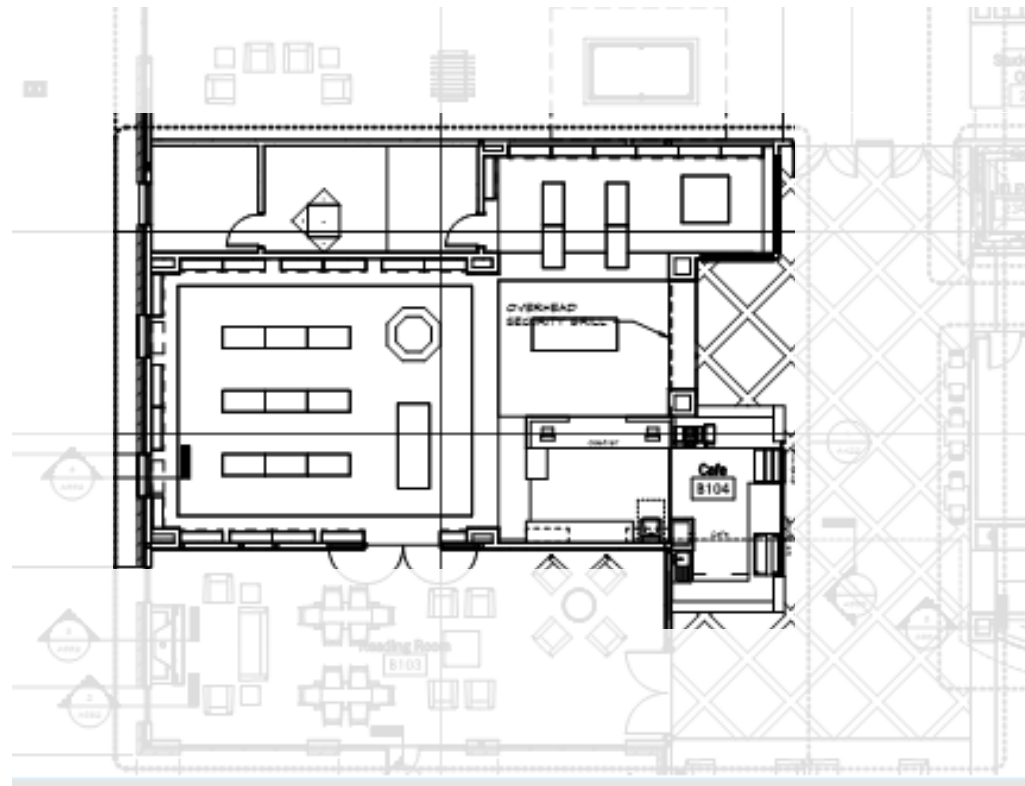
THIS PROJECT WAS FOR A NEW STUDENT CENTER FOR THE MIDWESTERN BAPTIST THEOLOGICAL SEMINARY IN KANSAS CITY, MO. A MAJOR COMPONENT OF THE SPACE IS A RETAIL BOOKSTORE / CAFE SPACE FOR STUDENTS, FACULTY, AND THE COMMUNITY TO ENJOY AND MINGLE. OUR DISCERNING CLIENT BECAME A STRENGTH FOR OUR TEAM TO WORK WITH, AS WE WORKED HARD TO HELP HIM MATERIALIZE HIS VISION FOR THIS BUILDING.











OPTION 01



OPTION 02

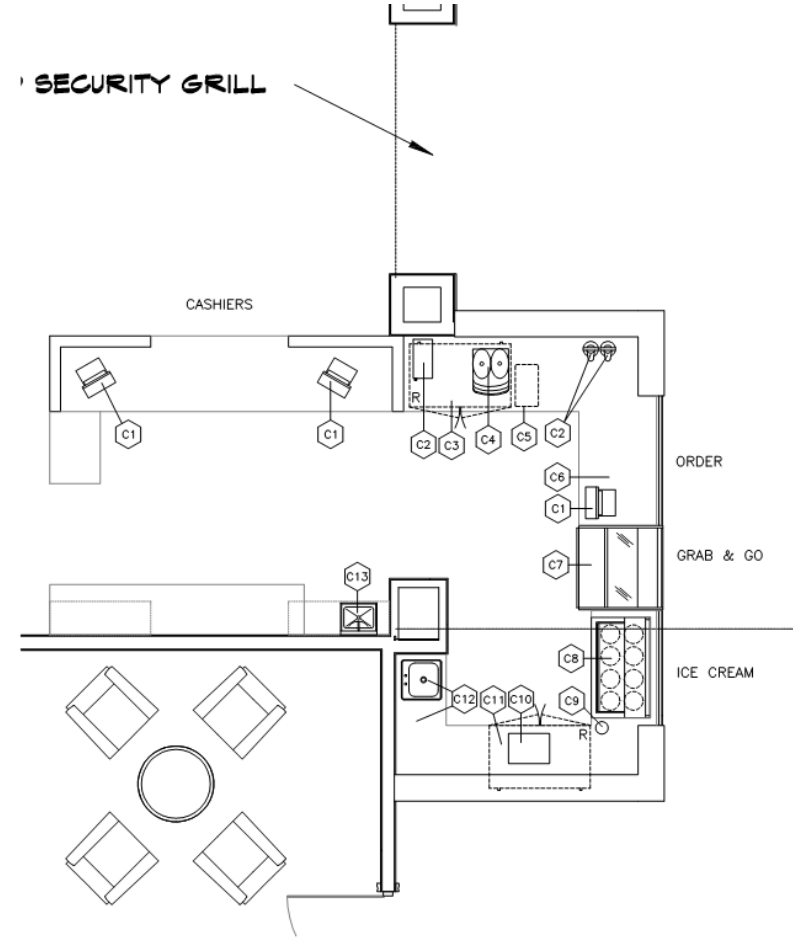


OPTION 03

## FLOORPLAN OPTIONS

I CALCULATED HOW MANY VOLUMES WE COULD HOLD ON ONE SHELVING UNIT, THEN CREATED OPTIONS BASED ON HOW WE WANTED TO MAKE THE SPACE FEEL. OPTION 01 WAS AN OPEN FLOOR PLAN, OPTION 02 CREATED SEMI-PRIVATE ALCOVES THAT HOUSED DIFFERENT TYPES OF BOOKS, AND OPTION 03 WAS A CENTERPIECE ELEMENT THAT PROVIDED AN ILLUSION OF A PRIVATE READING ROOM INSIDE. OPTION 02 WAS CHOSEN WITH MINOR REVISIONS.

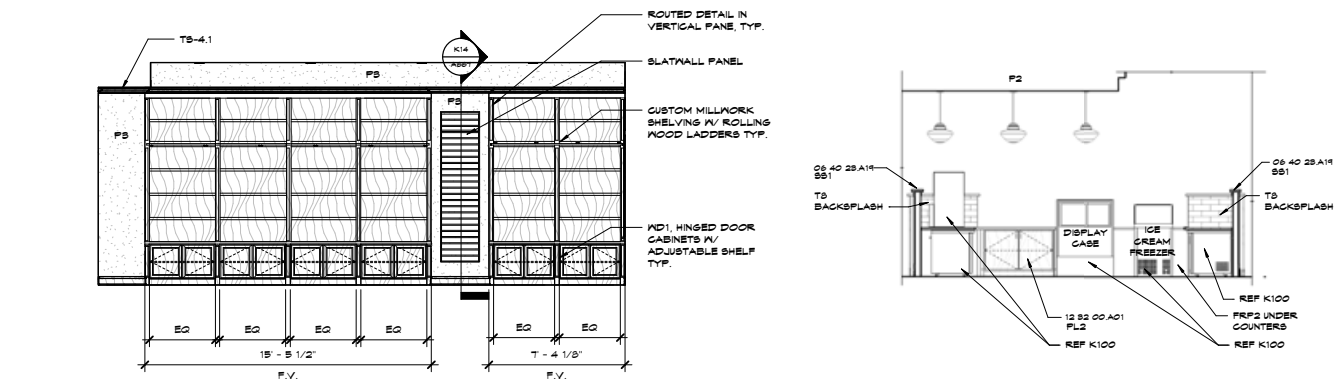
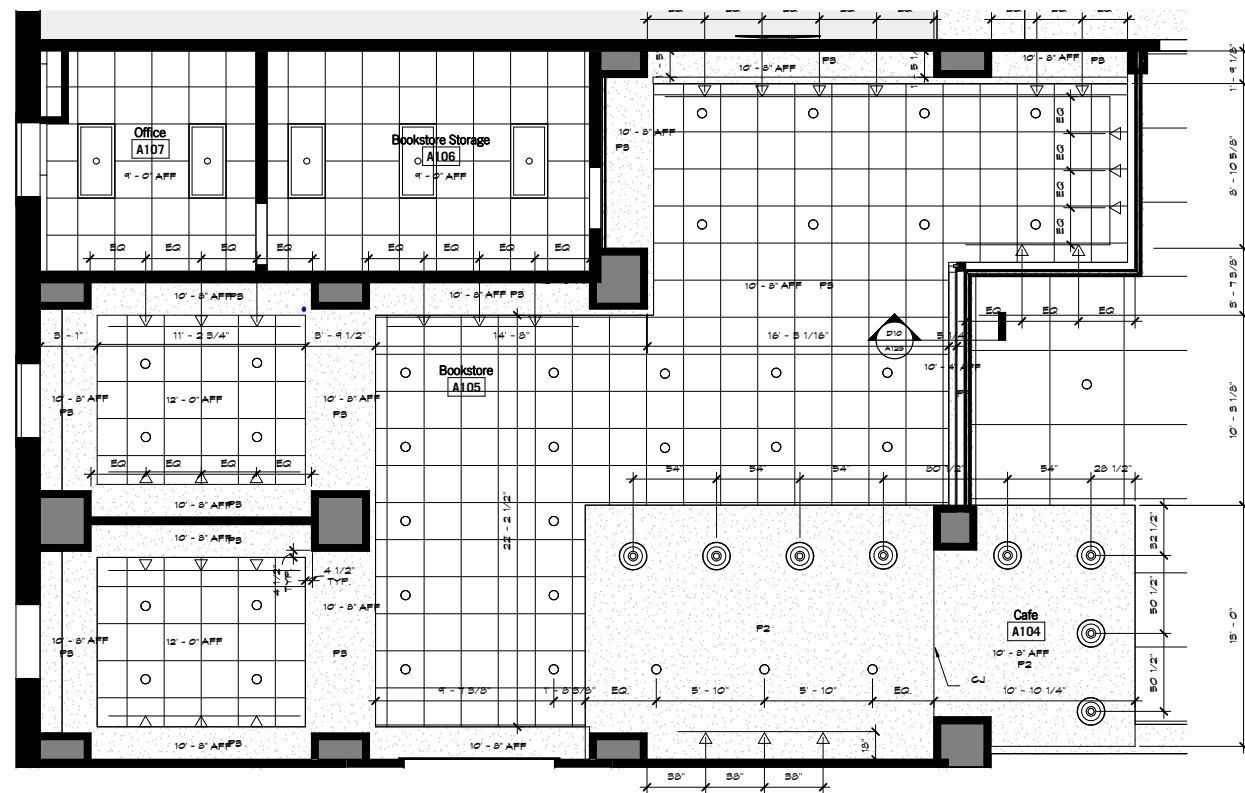
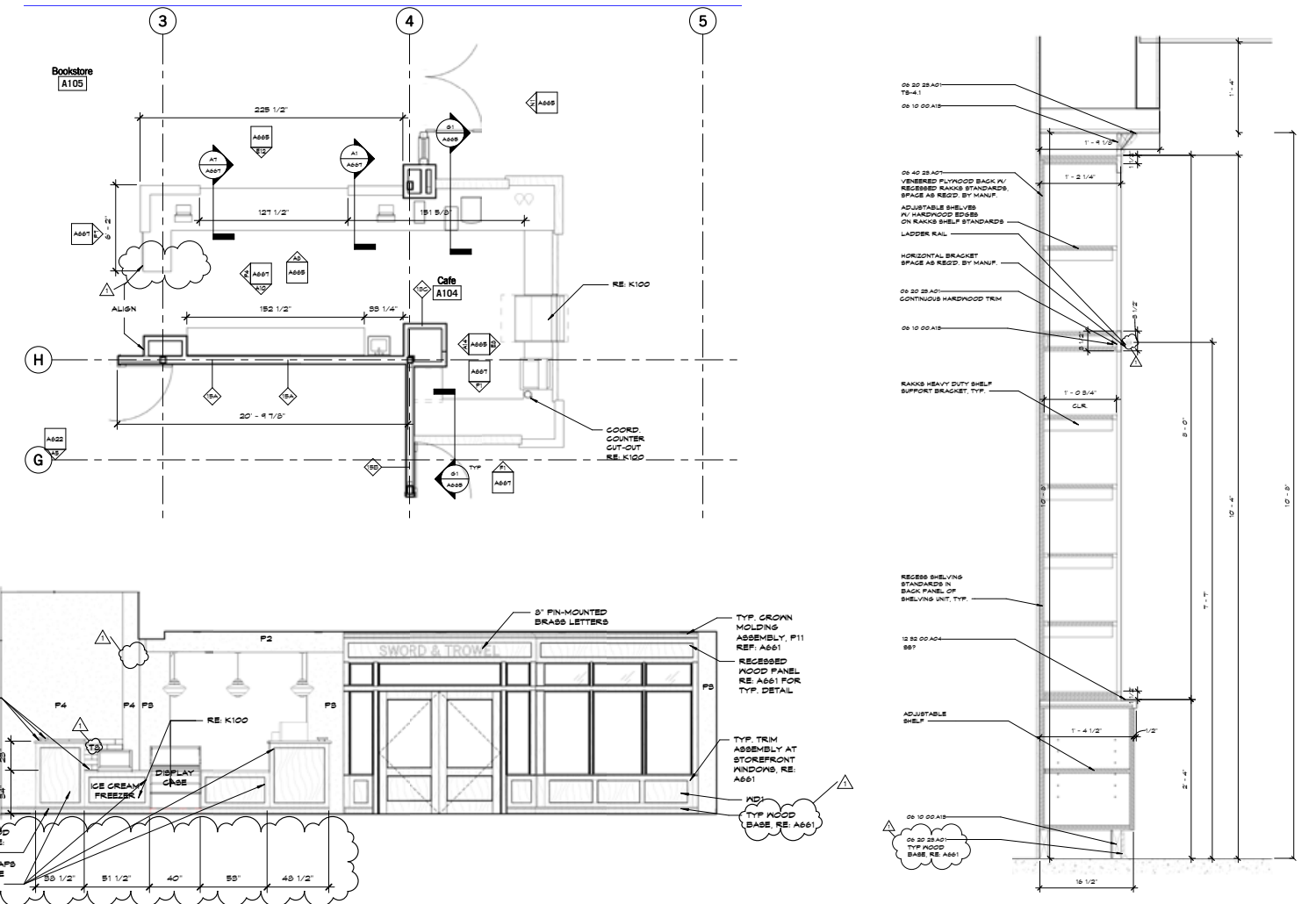
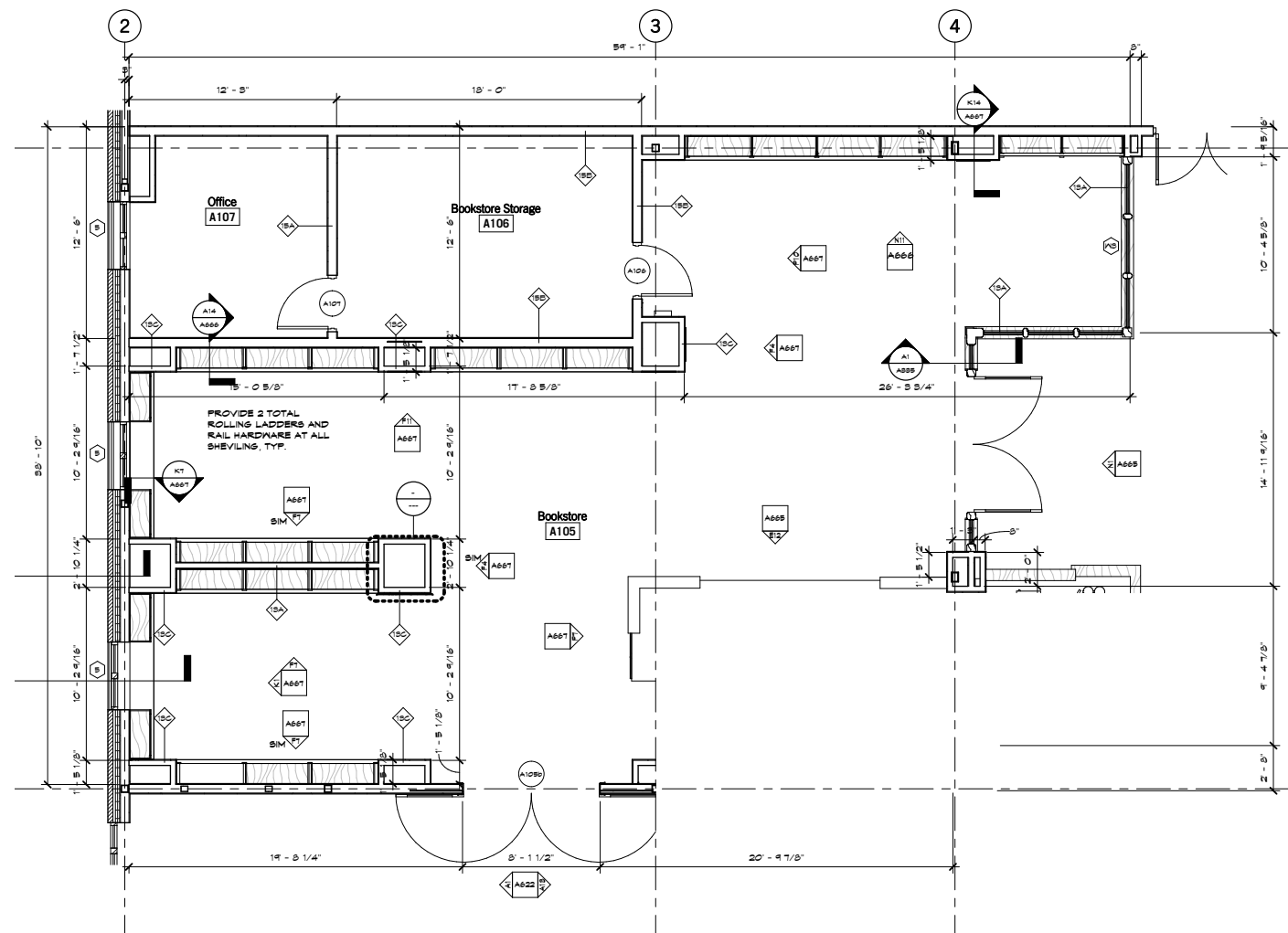




## INSPIRATION

LOOKING BEYOND BOOKSTORE DESIGN, I INVESTIGATED FASHION RETAIL DESIGN, PARTICULARLY FLAGSHIP BANANA REPUBLIC STORES. THEIR SPACE DIVIDED DEPARTMENTS INTO ALCOVES, WHILE PROMOTING AN UPSCALE AND CONTEMPORARY LOOK. I THEN COLLABORATED WITH OUR INTERIORS TEAM TO TIE IN HOW THE SPACE COULD LOOK AS A BOOKSTORE. THE CAFE PORTION WAS A COLLABORATION WITH OUR KITCHEN CONSULTANT TO ENABLE A SPACE THAT CAN GIVE QUICK ACCESS TO COFFEE, WHILE BEING ONE OF THE FIRST SPACES YOU SEE COMING OUT THE FRONT DOOR.





# CONSTRUCTION DOCUMENTS

A MONUMENTAL CHALLENGE THAT WE ENCOUNTERED WAS DURING THE COMPRESSED CD PHASE. WE WERE REQUIRED TO DESIGN AND DETAIL A 50,000 SF BUILDING THAT INCLUDED THIS CAFE / BOOKSTORE, A RECREATION AREA, GYMNASIUM AND RACQUETBALL COURT, DINING HALL, AND PRIVATE RECEPTION DINING AREAS IN THE SPAN OF SIX WEEKS BETWEEN DD AND CD PHASES AND WITH FOUR PEOPLE, A FEAT UNHEARD OF WITHIN THE FIRM. WE FINISHED ON SCHEDULE AND WITH A SIGNIFICANT AMOUNT OF PROFIT AND, IN THE PROCESS, WE WERE RECOGNIZED WITHIN THE FIRM AS A MODEL FOR TEAM COLLABORATION AND EFFICIENCY.









# BRIARWOOD ELEMENTARY

SMSD BRIARWOOD  
ELEMENTARY CONCEPT  
DEVELOPMENT

HOLLIS + MILLER ARCHITECTS  
PRAIRIE VILLAGE, KS  
COMPLETED 2016

A NEW ELEMENTARY SCHOOL WAS NEEDED TO REPLACE THE AGING, 1950'S FACILITY. THIS WAS A PROJECT THAT I WAS INVOLVED INITIAL PROGRAMMING TO THE START OF CONSTRUCTION DOCUMENTS. THERE WERE SOME OBSTACLES, INCLUDING AN INITIAL OPPOSITION TO THE FACILITY BY THE NEIGHBORHOOD WITH REGARDS TO THE GYMNASIUM, THE EXTERIOR BRICK COLOR, AND PROGRAMMING THE PUBLIC SPACES ON THE BUILDING'S WEST SIDE.

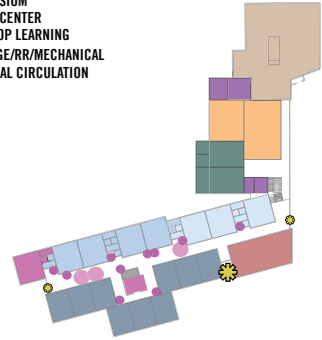




1B

- PRE-K CLASSROOM
- KINDERGARTEN CLASSROOM
- 1-6 CLASSROOM
- SINGLE USE CLASSROOM
- ADMINISTRATIVE
- FLEX/COLLABORATION SPACE
- COMMONS/FOODSERVICE
- GYMNASIUM
- MEDIA CENTER
- ROOFTOP LEARNING
- STORAGE/RR/MECHANICAL
- VERTICAL CIRCULATION

- LARGE GROUP
- MEDIUM GROUP
- SMALL GROUP



GROUND FLOOR

SECOND FLOOR

## OPTION 01 - GYMNASIUM PRESERVED

NEW BRIARWOOD ELEMENTARY

Shawnee Mission School District

04.30.15

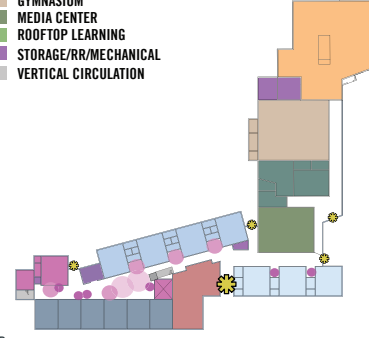
STANDARD FOR NEW BUILDINGS  
 1. MINIMUM 10' CLEARANCE  
 2. MINIMUM 10' CLEARANCE  
 3. MINIMUM 10' CLEARANCE



2B

- PRE-K CLASSROOM
- KINDERGARTEN CLASSROOM
- 1-6 CLASSROOM
- SINGLE USE CLASSROOM
- ADMINISTRATIVE
- FLEX/COLLABORATION SPACE
- COMMONS/FOODSERVICE
- GYMNASIUM
- MEDIA CENTER
- ROOFTOP LEARNING
- STORAGE/RR/MECHANICAL
- VERTICAL CIRCULATION

- LARGE GROUP
- MEDIUM GROUP
- SMALL GROUP



GROUND FLOOR

SECOND FLOOR

## OPTION 02 - GYMNASIUM AS SHELL

NEW BRIARWOOD ELEMENTARY

Shawnee Mission School District

04.30.15

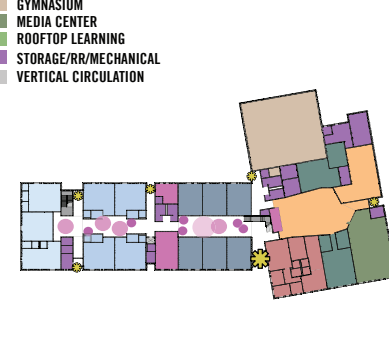
STANDARD FOR NEW BUILDINGS  
 1. MINIMUM 10' CLEARANCE  
 2. MINIMUM 10' CLEARANCE  
 3. MINIMUM 10' CLEARANCE



3B

- PRE-K CLASSROOM
- KINDERGARTEN CLASSROOM
- 1-6 CLASSROOM
- SINGLE USE CLASSROOM
- ADMINISTRATIVE
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- VERTICAL CIRCULATION

- LARGE GROUP
- MEDIUM GROUP
- SMALL GROUP



GROUND FLOOR

SECOND FLOOR

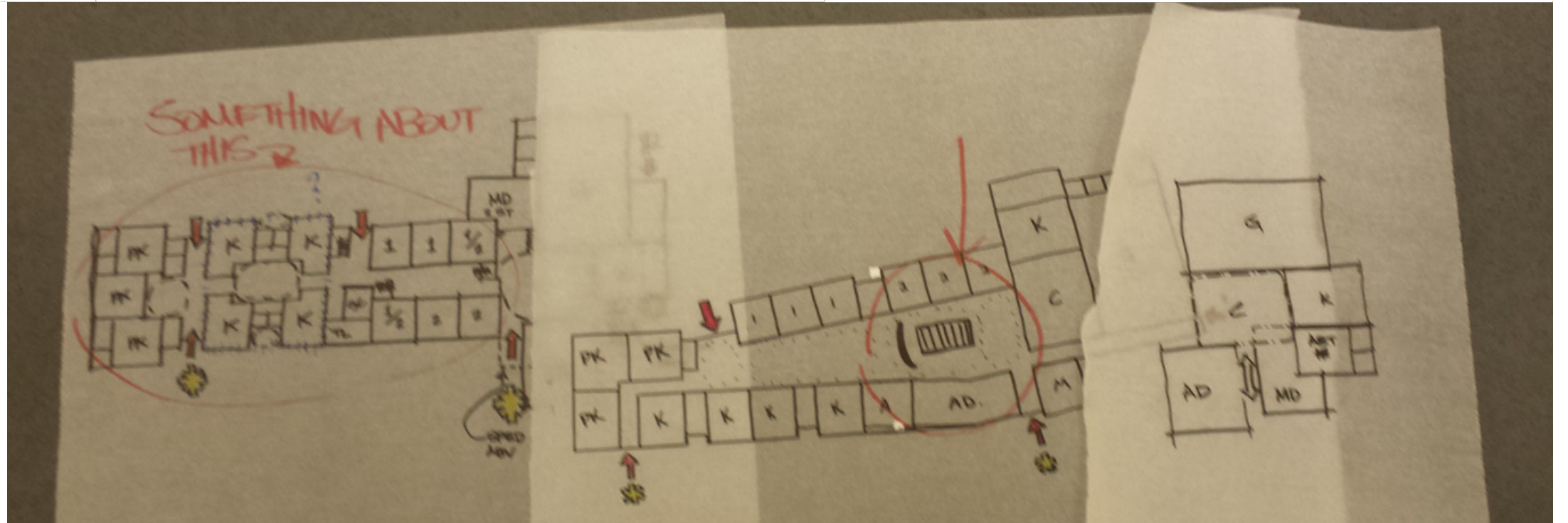
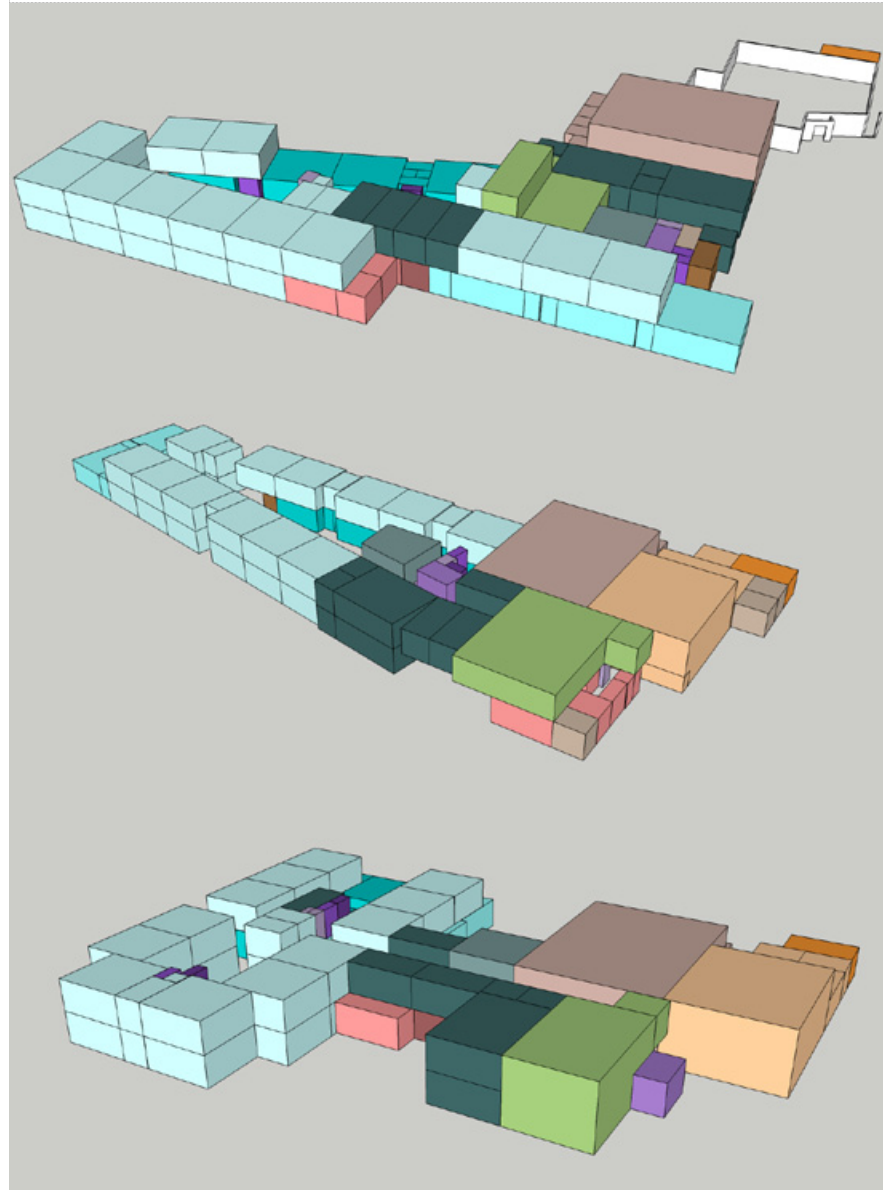
## OPTION 03 - FULL REPLACEMENT

NEW BRIARWOOD ELEMENTARY

Shawnee Mission School District

04.30.15

STANDARD FOR NEW BUILDINGS  
 1. MINIMUM 10' CLEARANCE  
 2. MINIMUM 10' CLEARANCE  
 3. MINIMUM 10' CLEARANCE



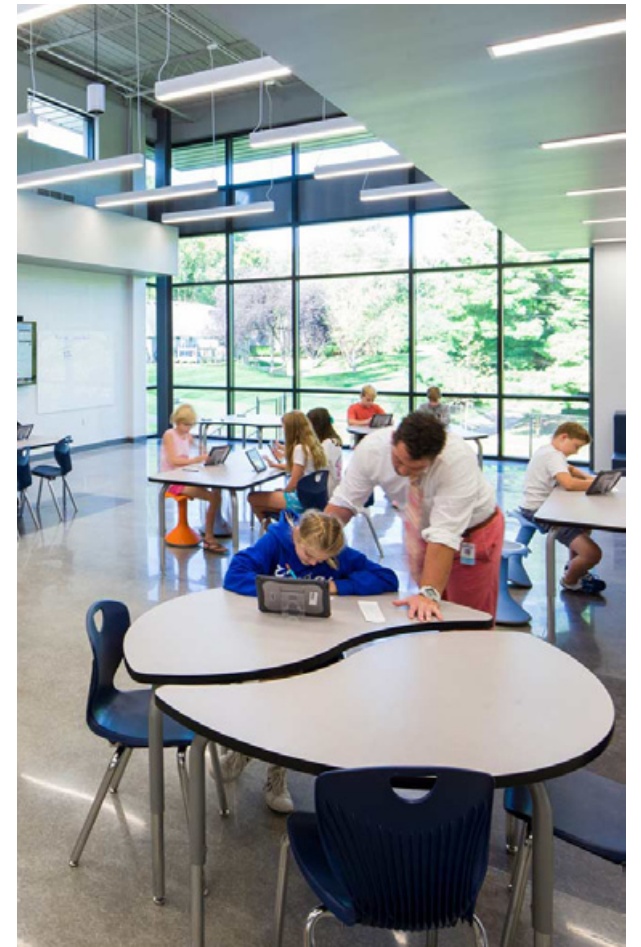
## PROGRAMMING

Our first major challenge was to understand what we could do with the existing facilities. The gymnasium was the newest building and its floor was a gift from alumni, which the neighborhood wanted to keep. After unsuccessfully exhausting the program to fit within the constraint of keeping the gym, we came to a compromise to start from scratch, while reusing the gym floor in the new building. We further developed our blocks to fit the needs of our client, to create flexible zones in corridors that teachers and students can use to provide additional opportunities for learning.



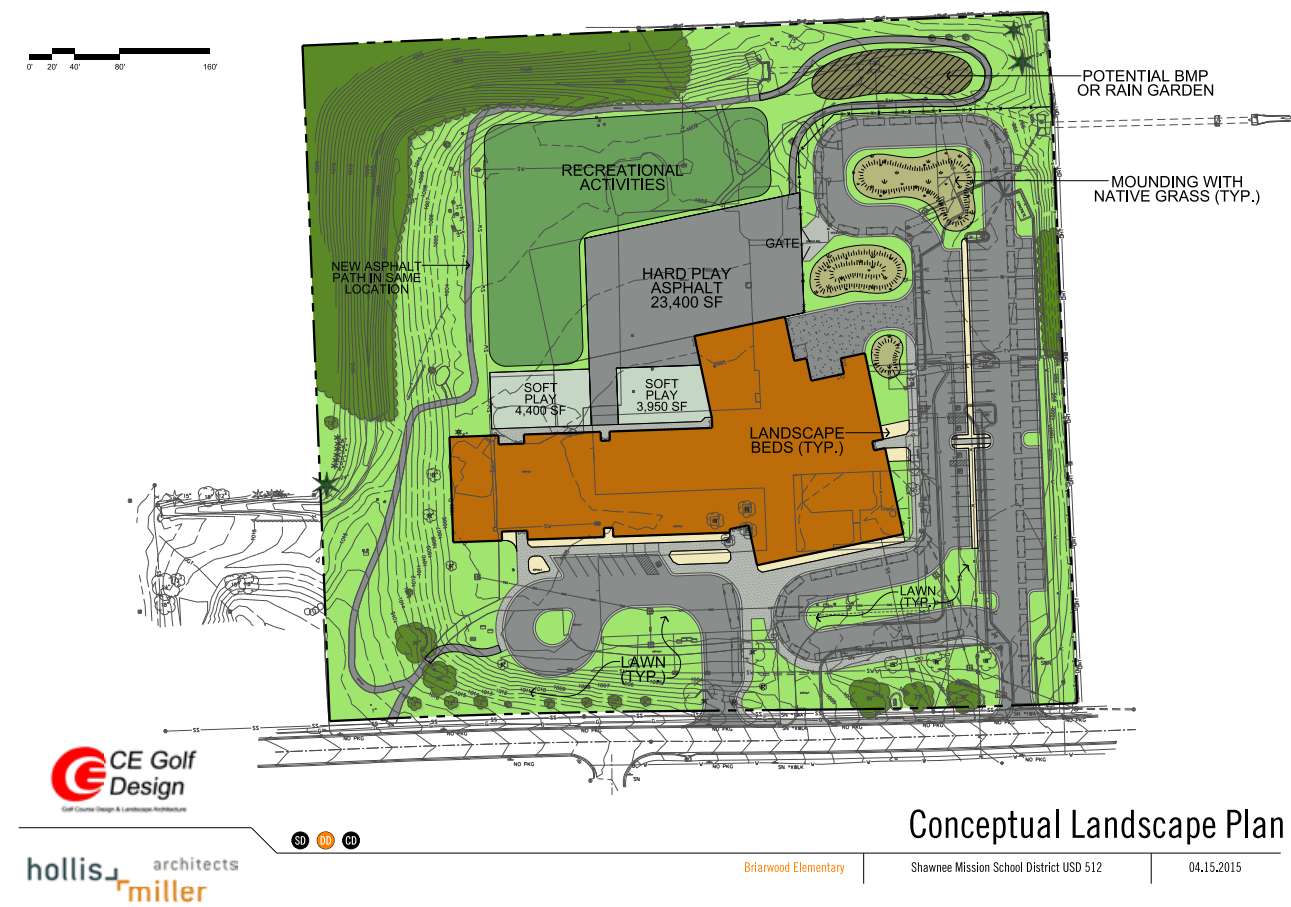


A1



enhancing the way people learn, work, and connect

educational municipal commercial

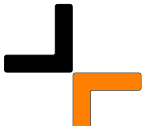


L1



enhancing the way people learn, work, and connect

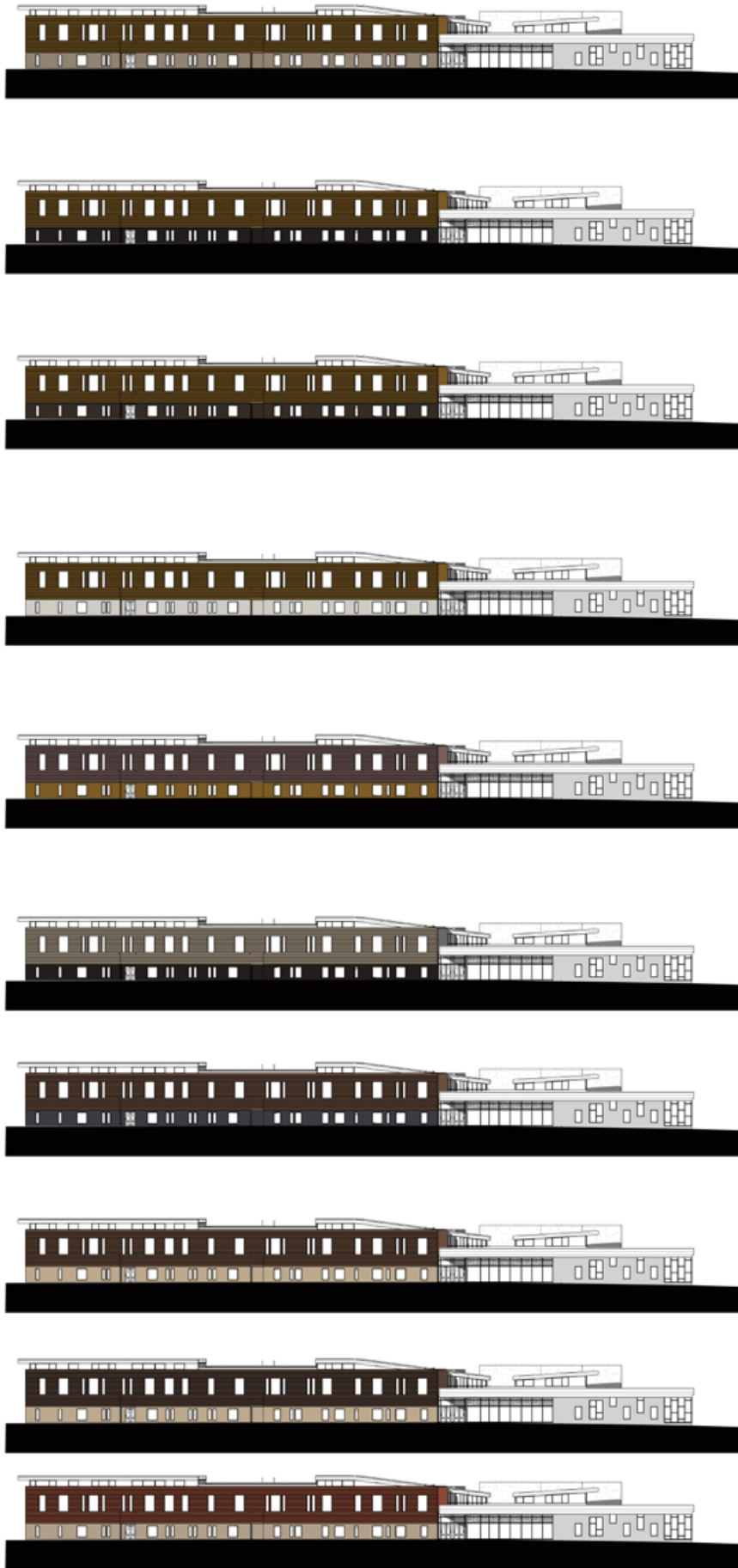
educational municipal commercial



## SCHEMATIC DESIGN

THE INITIAL PLANS STARTED TO DEVELOP AND SPACES STARTED TO FORM. A SIGNIFICANT ISSUE THAT DEVELOPED OVER TIME WITH THE OLD FACILITY WAS THE LACK OF CAPACITY FOR A PARENT AND BUS PICK-UP LOOP. MANY PARENTS WERE PARKING IN FRONT OF NEIGHBORS' HOUSES TO WAIT FOR THEIR CHILDREN. I WAS TASKED TO DESIGN A PARKING LOOP THAT FIT ON THE SITE AND ACCOMMODATED PARENTS, BUSES, AND STAFF VEHICLES. SPLITTING THE LOOP ENSURED BETWEEN BUS AND CAR REDUCED CONGESTION AND SIMPLIFIED THE AFTER-SCHOOL PICK-UP PROCESS.





## DESIGN DEVELOPMENT

TO ENSURE THAT OUR SCHOOL HAD THE RIGHT COLOR BRICK SCHEME, WE HAD ORDERED MULTIPLE BRICK SAMPLES FROM ENDICOTT BRICK, SHAWNEE MISSION SCHOOL DISTRICT'S BRICK VENDOR. WE CREATED MULTIPLE ITERATIONS OF BRICK, INCLUDING CUSTOMIZING THE PROPORTION OF INDIVIDUAL COLORS OF BRICK FROM A SAMPLE. IT WAS AT THIS POINT I WAS DESIGNATED TO MAKE THE RENDERINGS FOR THIS PROJECT. TO FURTHER CEMENT THE SCHOOL'S PLACE IN THE NEIGHBORHOOD, I WAS ASKED TO CREATE DIAGRAMS THAT REINFORCED OUR DESIGN DECISIONS FOR THIS PROJECT.



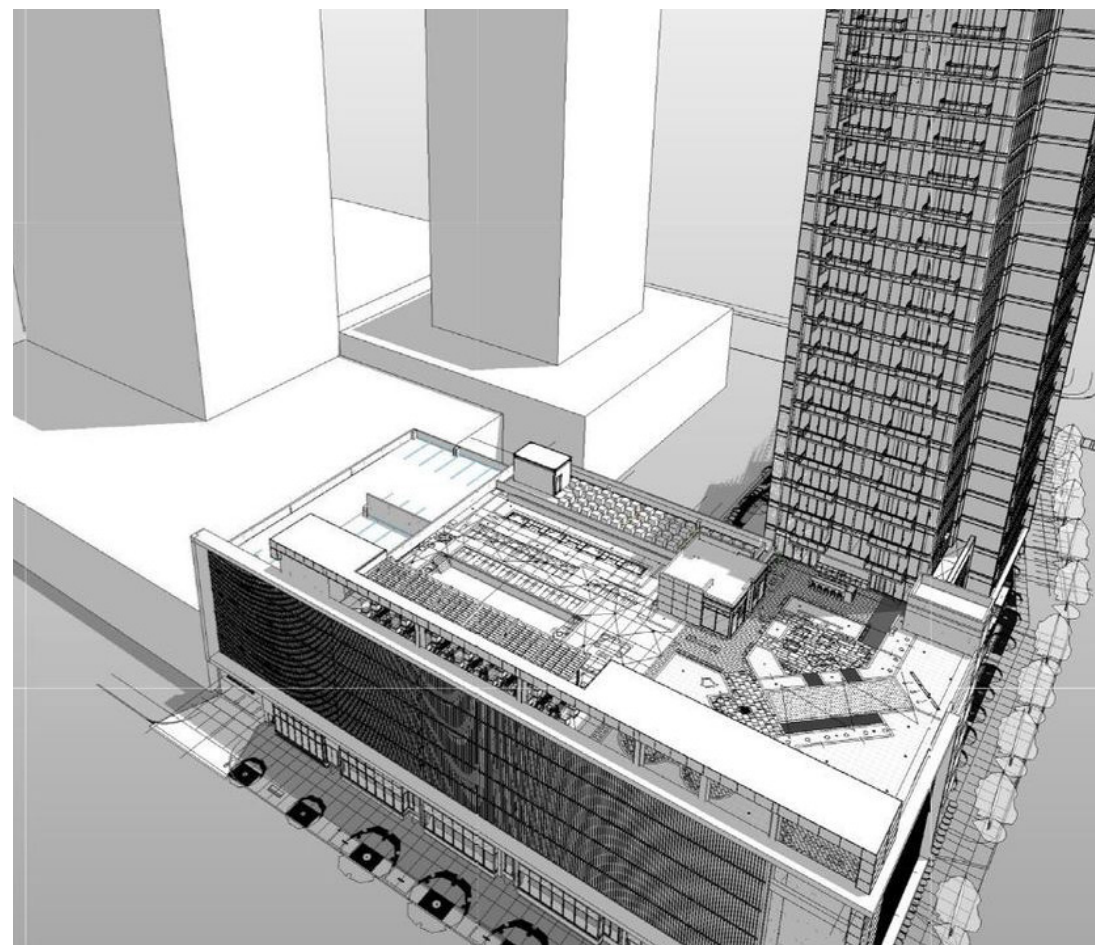


## OTHER PROJECTS

AMLI ARTS CENTER MIXED-  
USE HIGH RISE

COOPER CARRY  
ATLANTA, GA  
UNDER CONSTRUCTION - 2017

ENTERED PROJECT MID-DD TO  
LATE-CD PHASE. PRODUCTION  
OF DRAWINGS FOR TOWER, INI-  
TIAL DESIGN FOR PARKING GA-  
RAGE & BUILDING FACADE.







SMSD TRAILWOOD  
ELEMENTARY SCHOOL

HOLLIS + MILLER ARCHITECTS  
PRAIRIE VILLAGE, KS  
COMPLETED 2017

SISTER PROJECT TO SMSD  
BRIARWOOD ELEMENTARY, I  
HELPED WITH CONCEPT DEVEL-  
OPMENT AND RENDERINGS.







## ULRIKA PLAZA MIXED-USE PROJECT

WALD, RUHNKE & DOST  
CARMEL-BY-THE-SEA, CA  
UNDER CD PHASE

PROVIDED PRIMARY DESIGN & RENDERING IN CONJUNCTION WITH THE FIRM OWNER. MIXED-USE COMPRISING OF TWO ARCHITECTURAL STYLES DUE TO CITY CODE.

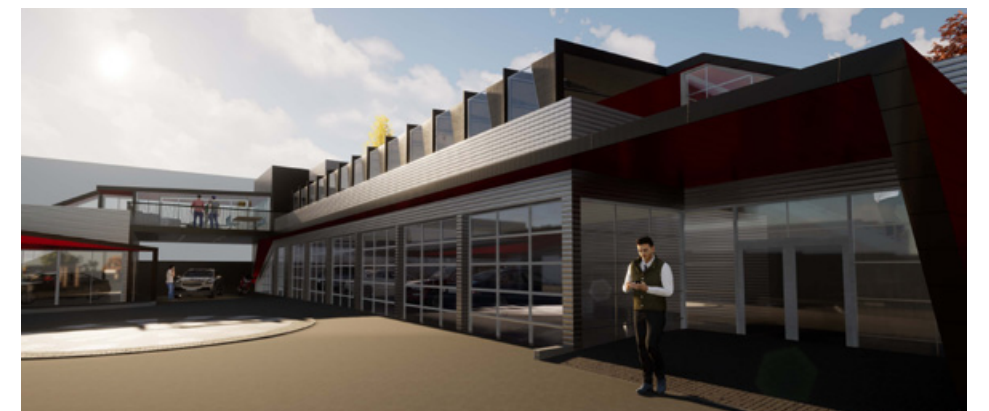




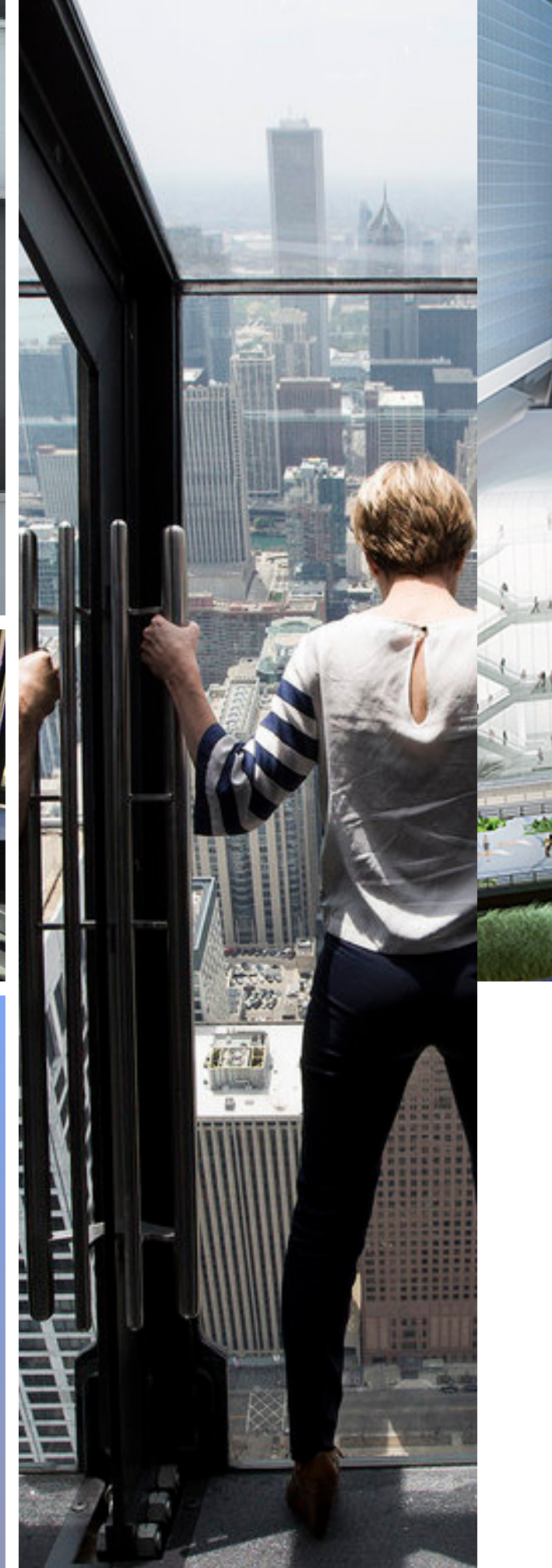
## EXOTIC CAR SHOWROOM AND FLATS

WALD, RUHNKE & DOST  
MONTEREY, CA  
UNDER DD PHASE

PRIMARY DESIGN & RENDERS FOR  
UNIQUE UK-BASED CLIENT FOR A  
CAR MECHANIC T.I. AND REMODEL  
INTO AN EXOTIC CAR GARAGE/  
SHOWROOM & APARTMENTS.



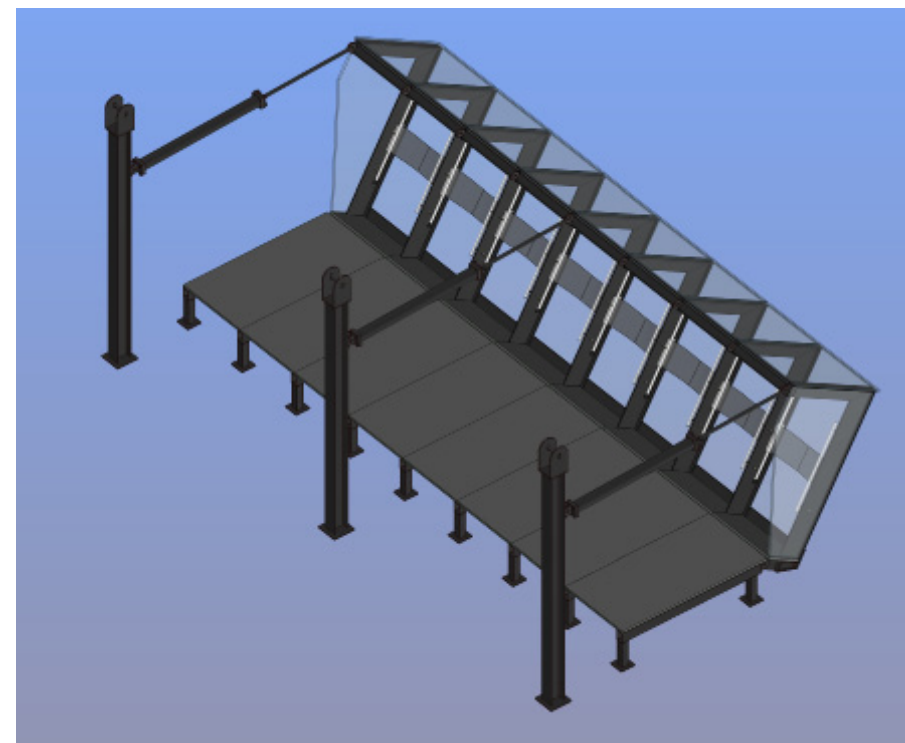
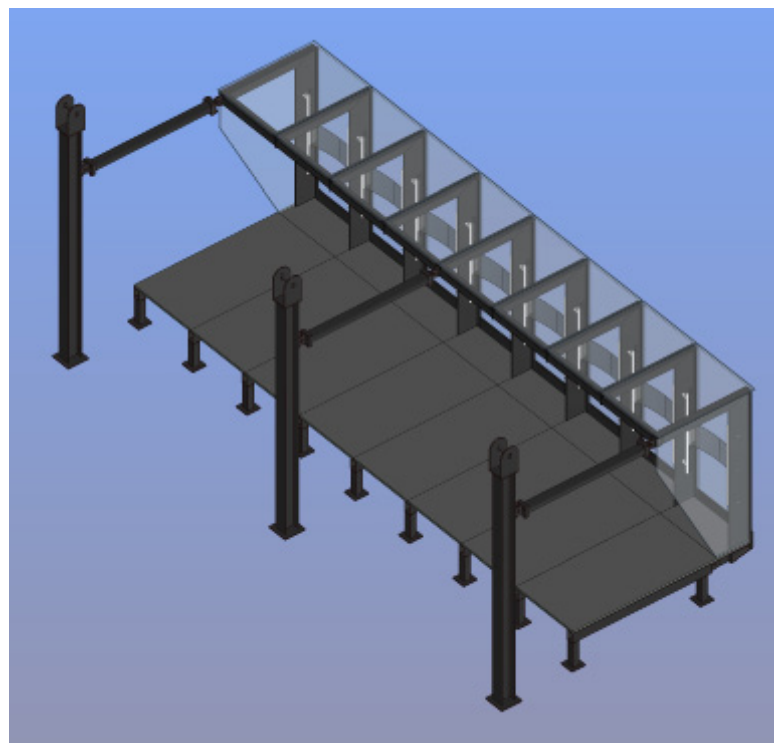




JOHN HANCOCK TOWER 360  
TILT! ATTRACTION

THORNTON TOMASETTI  
CHICAGO, IL  
COMPLETED 2015

PROVIDED SITE VERIFICATION  
AND SITE VISITS, INITIAL CON-  
CEPT MODEL AND COLLABROAT-  
ED WITH ENGINEERS TO RESOLVE  
CONSTRUCTION DETAILS.



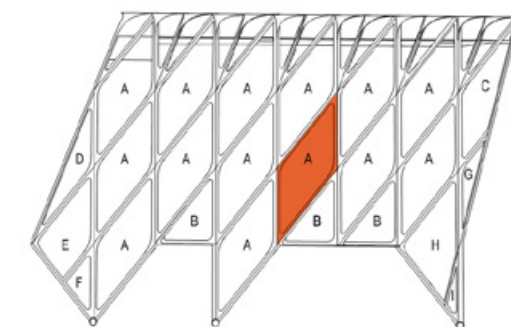




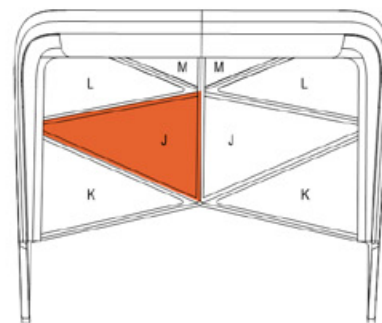
## ETFE ROOF AND FACADE STUDIES

THORNTON TOMASETTI  
SUMMER 2013

PROVIDED DIAGRAMMING AND PRESENTATION PREP TO SUPPORT THE FIRM AS CONSULTANT FOR SEVERAL ETFE PROJECTS, INCLUDING THE MINNESOTA VIKINGS STADIUM (NOW USBANK STADIUM) AND THE SHED.

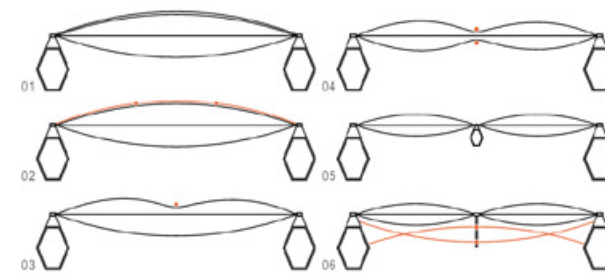


SOUTH ELEVATION - PANELIZATION



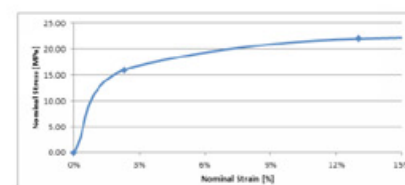
EAST ELEVATION - PANELIZATION

BUILDING SKIN PRACTICE  
**Thornton Tomasetti**

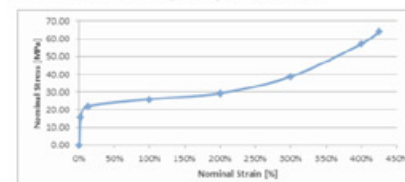


### PANEL TYPES

- 01 - 2 upper foils (aid wind suction load)
- 02 - integrated cable net following surface geometry
- 03 - integrated tension cable(s) above upper foil subdividing surface
- 04 - integrated tension cable(s) above and below subdividing surface
- 05 - subdividing rigid secondary member
- 06 - subdividing tensile secondary member



STRESS-STRAIN CURVE (DETAIL L) 0 - 15% STRAIN



STRESS-STRAIN CURVE FOR ETFE (Kawabata & Nishikawa, 2008)  
First Yield Point (2.3% - 16 MPa)  
Second Yield Point (13% - 22 MPa)

### ETFE PROPERTIES

Young's Modulus	= 700,000,000 N/m <sup>2</sup>
Ultimate Strength	= 3,300,000 N/m <sup>2</sup>
Density	= 17,500 N/m <sup>3</sup>

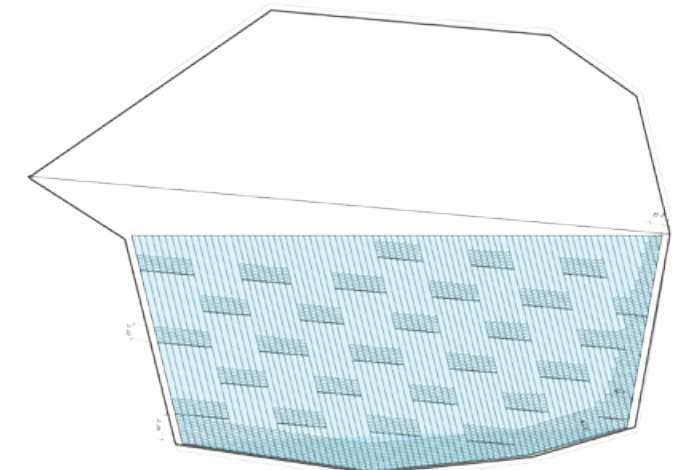
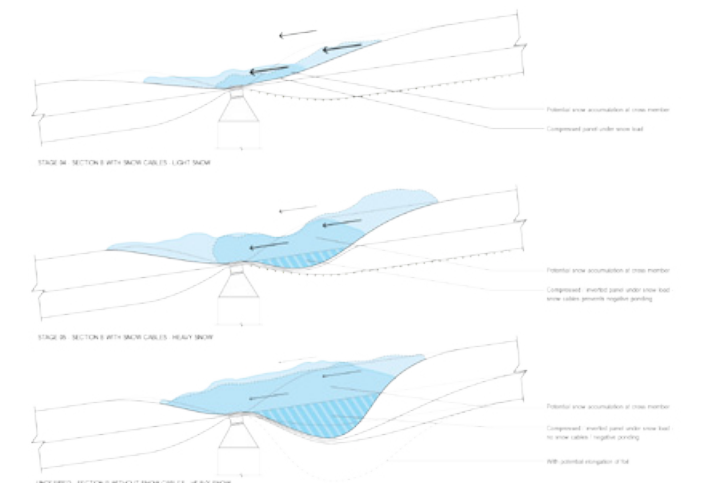
### LOADING

Dead Load (DL)  
Dead load is very low and ignored in calculation

Membrane Pressure (MP)	
Internal membrane pressure	= 4.2 psf (200 N/m <sup>2</sup> )
Wind Load (WL)	
Wind Suction	= 35 psf (1676 N/m <sup>2</sup> )
Wind Pressure	= 21 psf (981 N/m <sup>2</sup> )

### DESIGN CRITERIA

Allowable Stresses:	
Short term loads (wind load)	$\sigma_t$ = 15,000,000 N/m <sup>2</sup>



OVERVIEW | STRUCTURAL ANALYSIS  
HYCS | ETFE PROPERTIES / ANALYSIS





THANK  
YOU!