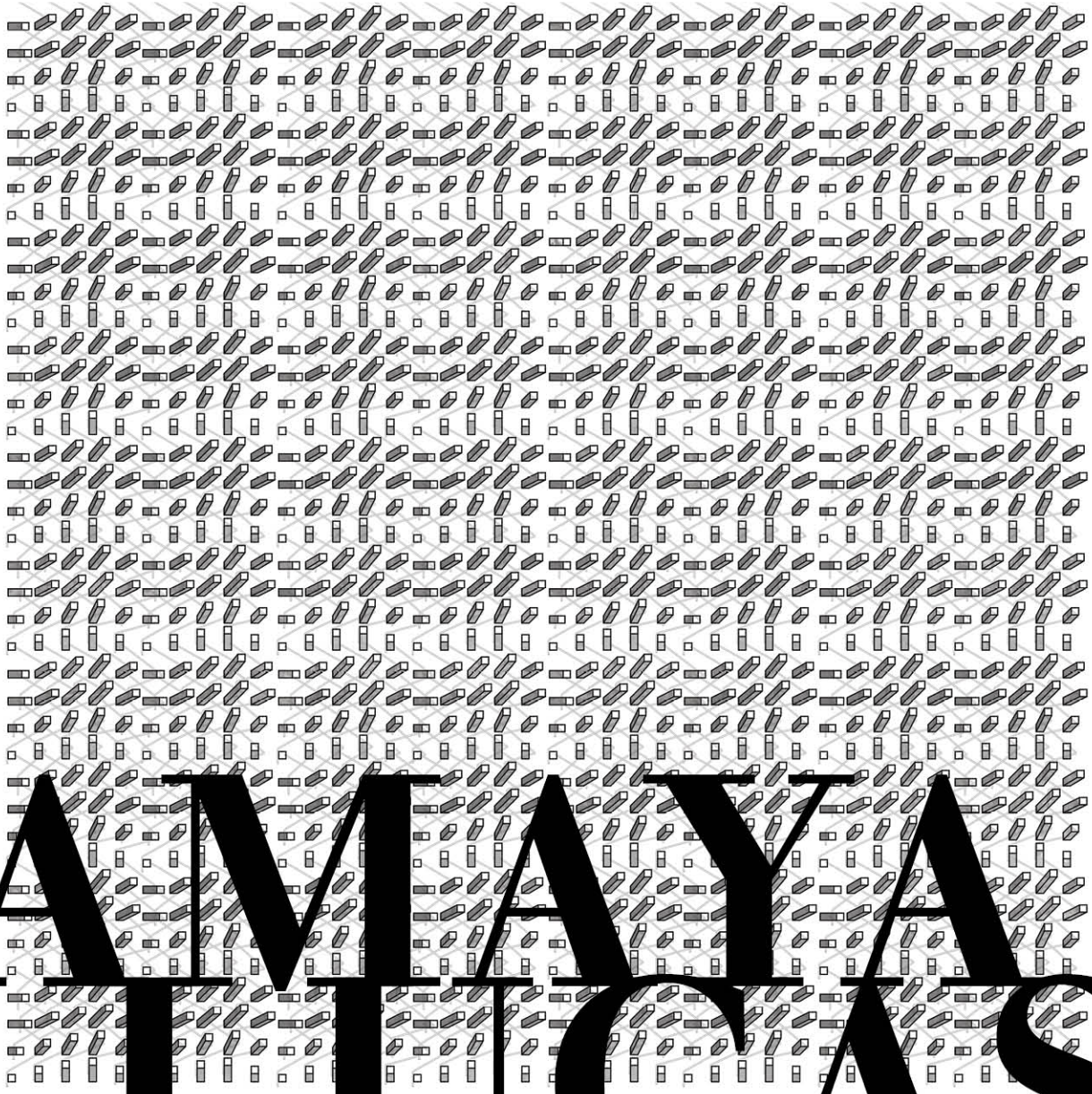


AMAYA LUCAS

ACADEMIC AND PROFESSIONAL
SELECTED WORKS

2017 - 2022

In Studio

Built Works

On the Job

IN STUDIO

The University of Texas at Austin
Spring 2020 Integrative Studio
Professor Martin Haettasch

Collaborator: Lexi Benton

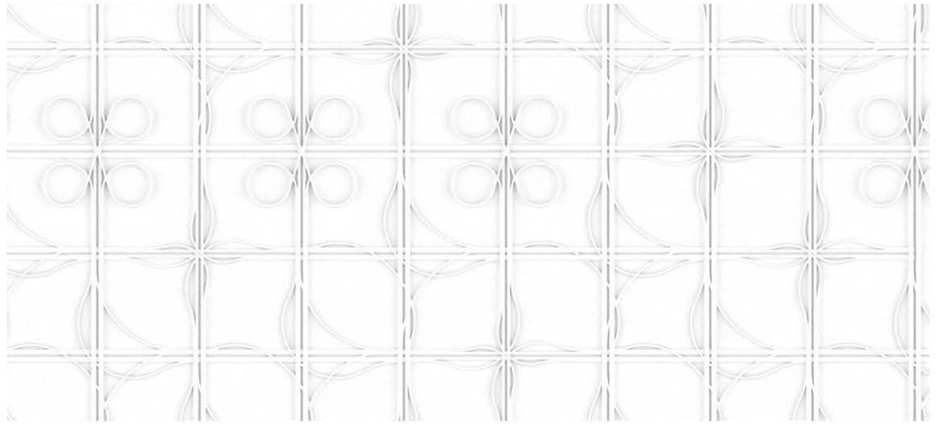
Design Excellence Nominee, 2020

FINE INFINITY

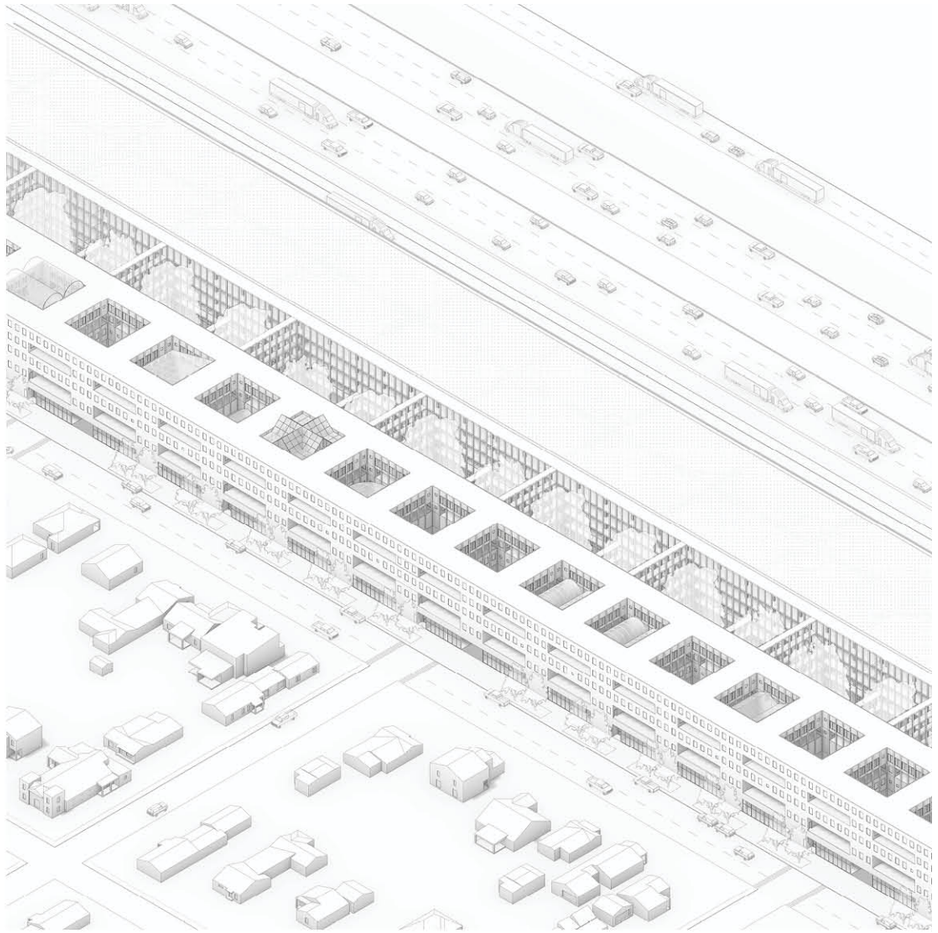
I-35, AUSTIN, TX

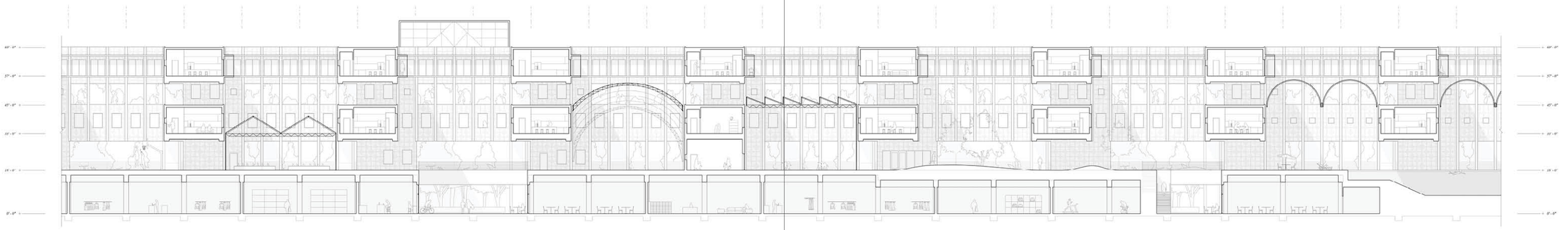
Fine Infinity creates a dominant building and zoning strategy that matches the infrastructural scale along I-35. Sited within the 500 foot setback from the highway where residential construction is discouraged, the project mitigates the challenges of pollution and sound through massing and filtration, allowing densification and inhabitation of this otherwise uncomfortable late-capitalist hellscape. The project addresses the interstate context by mimicking freeway construction through highly replicable precast concrete panels that are rapidly assembled on site. The residential program is pushed furthest from I-35 and the form is an overscaled occupiable post and lintel mass, broken down via the residential striation.

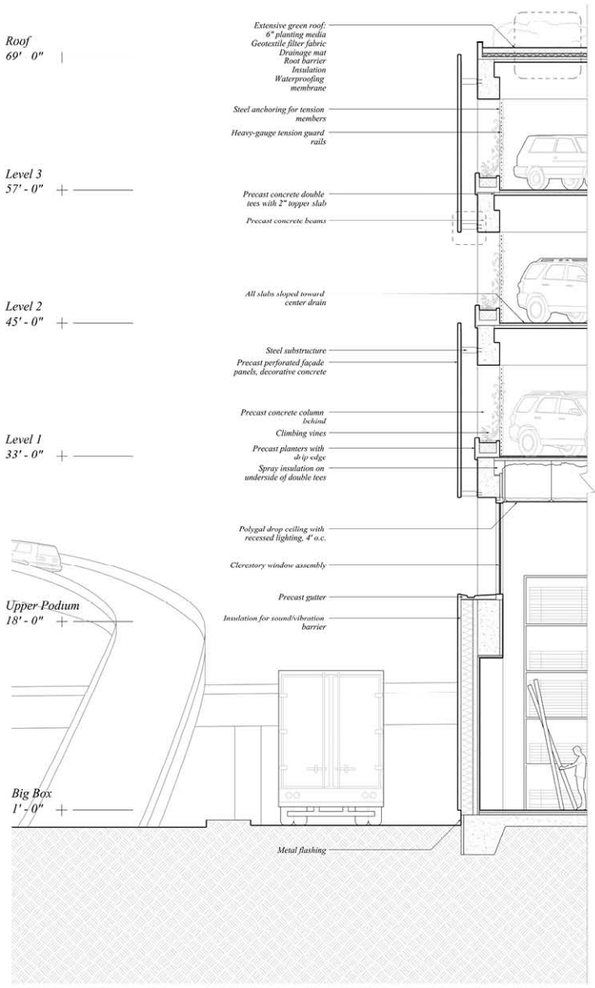
The resulting domiciles create sub-communities centered around shared courtyards with localized roof profiles and communal programs, forming a gradient of neighborly identities along the indefinitely continuous building proposition. Along the highway, big box stores occupy the space under the parking garage, and on the residential side, microeconomies form a pedestrian-friendly main street that can plug into varying roadside contexts and act as a commercial and social hub for these neighborhoods. The project is neither purely architecture nor infrastructure, but a mediation between the two creating a striated zone for optimal and enjoyable occupation within this undesirable and unhealthy condition.

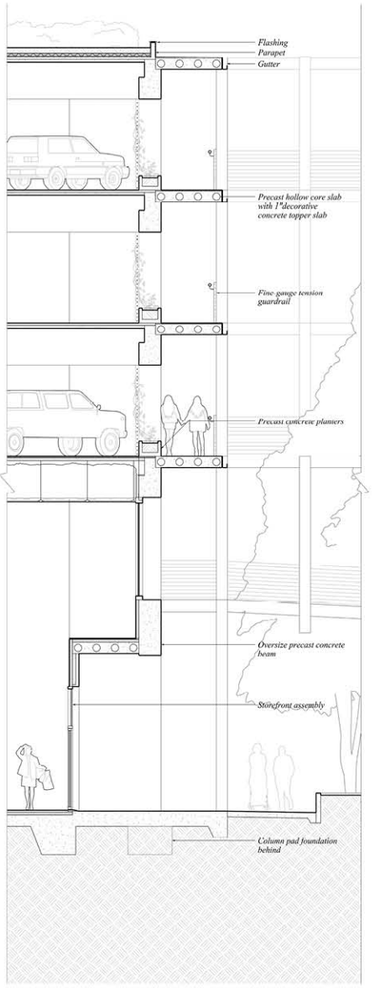


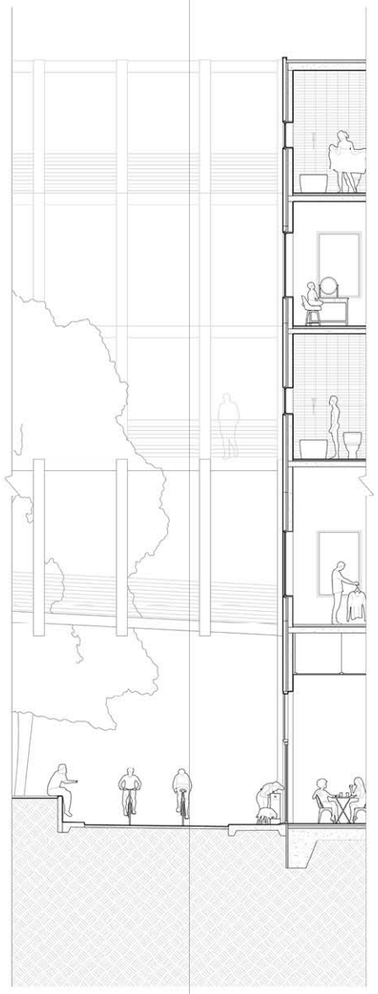
The aestheticization of highway overpasses via reliefs in the precast panels allows the project to navigate the disparity in scale and infuse it into the living spaces. In this way residents live intimately with infrastructure while safely removed from it.

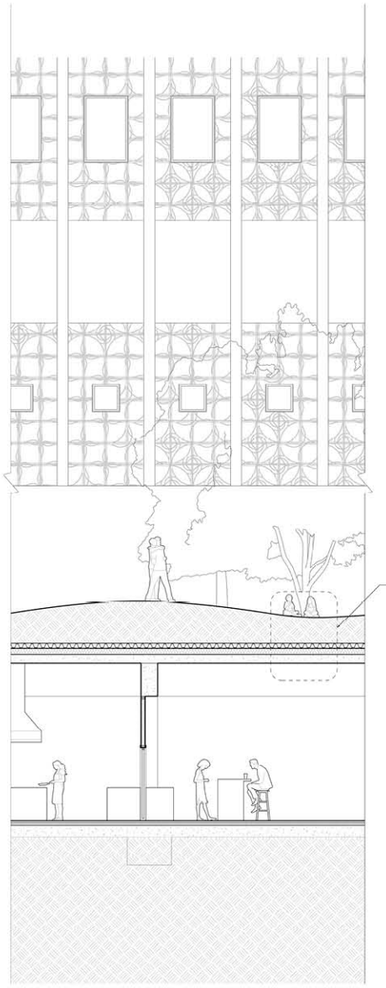


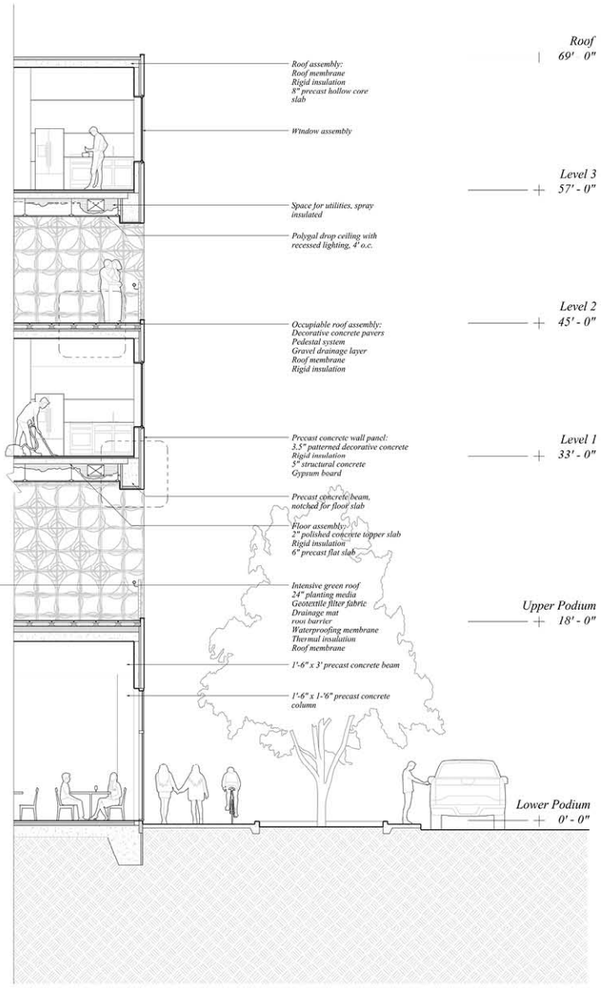


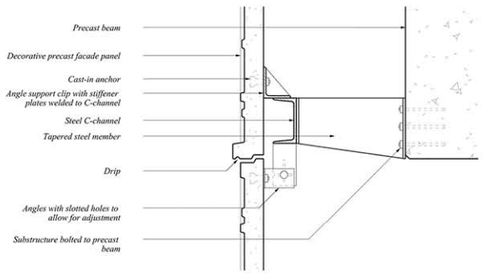

Roof
69' 0"
Level 3
57' - 0"
Level 2
45' - 0"
Level 1
33' - 0"
Upper Podium
18' - 0"
Big Box
1' - 0"
Extensive green roof:
6" planting media
Geotextile filter fabric
Drainage mat
Root barrier
Insulation
Waterproofing membrane
Steel anchoring for tension members
Heavy-gauge tension guard rails
Precast concrete double tees with 2" topper slab
Precast concrete beams
All slabs sloped toward center drain
Steel substructure
Precast perforated façade panels, decorative concrete
Precast concrete column behind
Climbing vines
Precast planters with drip edge
Spray insulation on underside of double tees
Polygal drop ceiling with recessed lighting, 4' o.c.
Clerestory window assembly
Precast gutter
Insulation for sound/vibration barrier
Metal flashing

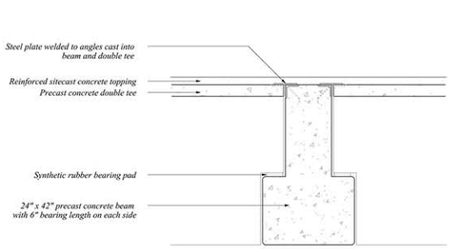

Flashing
Parapet
Gutter
Precast hollow core slab with 1"decorative concrete topper slab
Fine gauge tension guardrail
Precast concrete planters
Oversize precast concrete beam
Storefront assembly
Column pad foundation behind

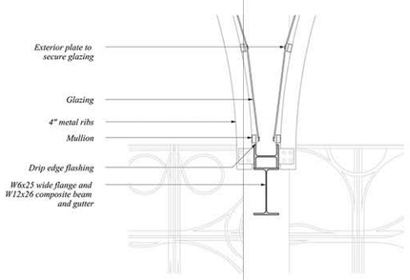


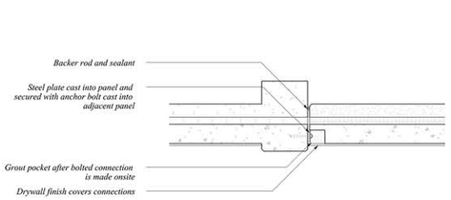


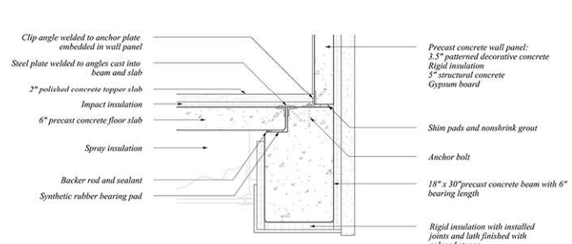

Roof
69' 0"
Level 3
57' - 0"
Level 2
45' - 0"
Level 1
33' - 0"
Upper Podium
18' - 0"
Lower Podium
0' - 0"
Roof assembly:
Roof membrane
Rigid insulation
8" precast hollow core slab
Window assembly
Space for utilities, spray insulated
Polygal drop ceiling with recessed lighting, 4' o.c.
Occupiable roof assembly:
Decorative concrete pavers
Pedestal system
Gravel drainage layer
Roof membrane
Rigid insulation
Precast concrete wall panel:
3.5" patterned decorative concrete
Rigid insulation
5" structural concrete
Gypsum board
Precast concrete beam, notched for floor slab
Floor assembly:
2" polished concrete topper slab
Rigid insulation
6" precast flat slab
Intensive green roof
24" planting media
Geotextile filter fabric
Drainage mat
root barrier
Waterproofing membrane
Thermal insulation
Roof membrane
1'-6" x 3' precast concrete beam
1'-6" x 1'-6" precast concrete column

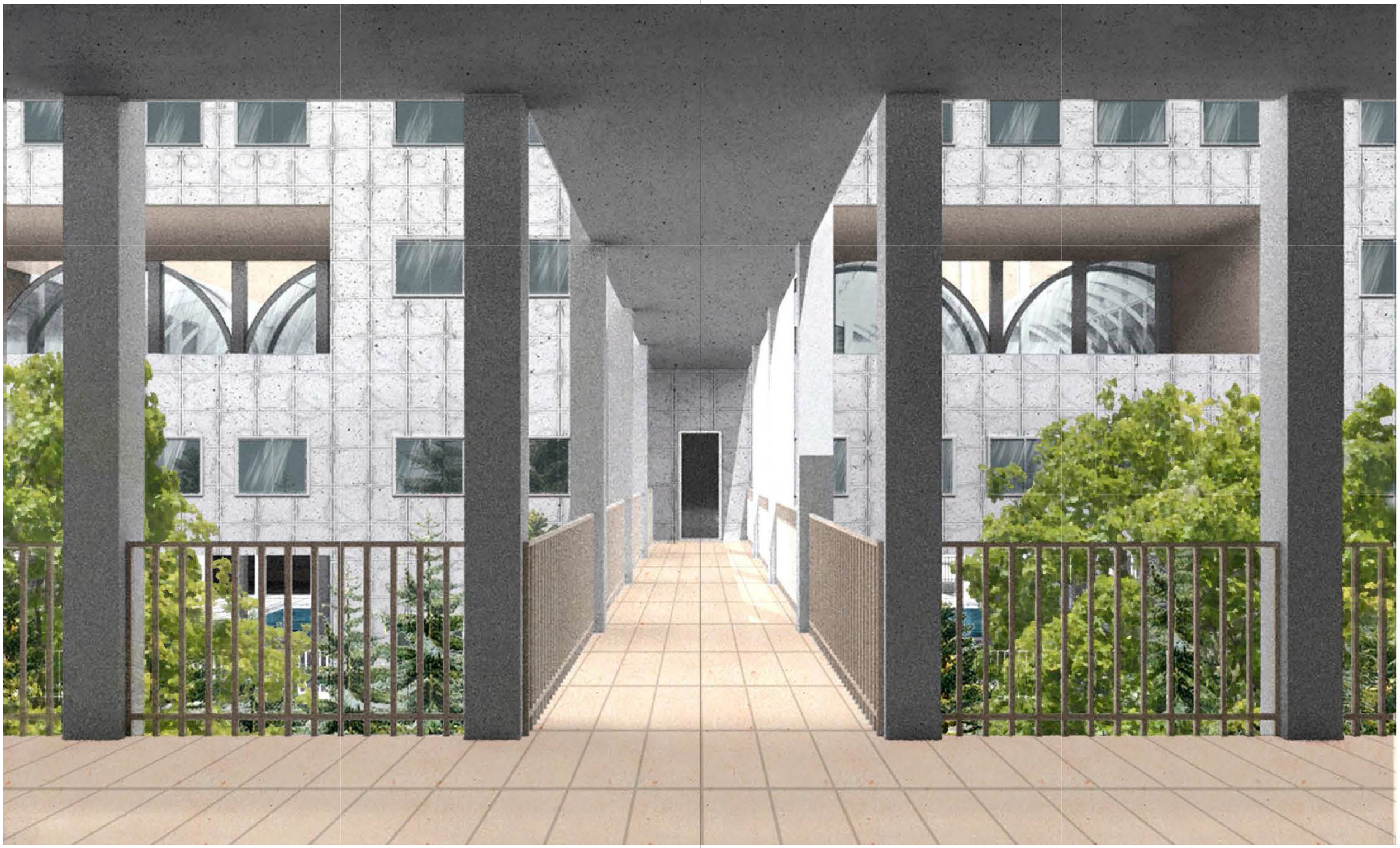

Precast beam
Decorative precast facade panel
Cast-in anchor
Angle support clip with stiffener plates welded to C-channel
Steel C-channel
Tapered steel member
Drip
Angles with slotted holes to allow for adjustment
Substructure bolted to precast beam

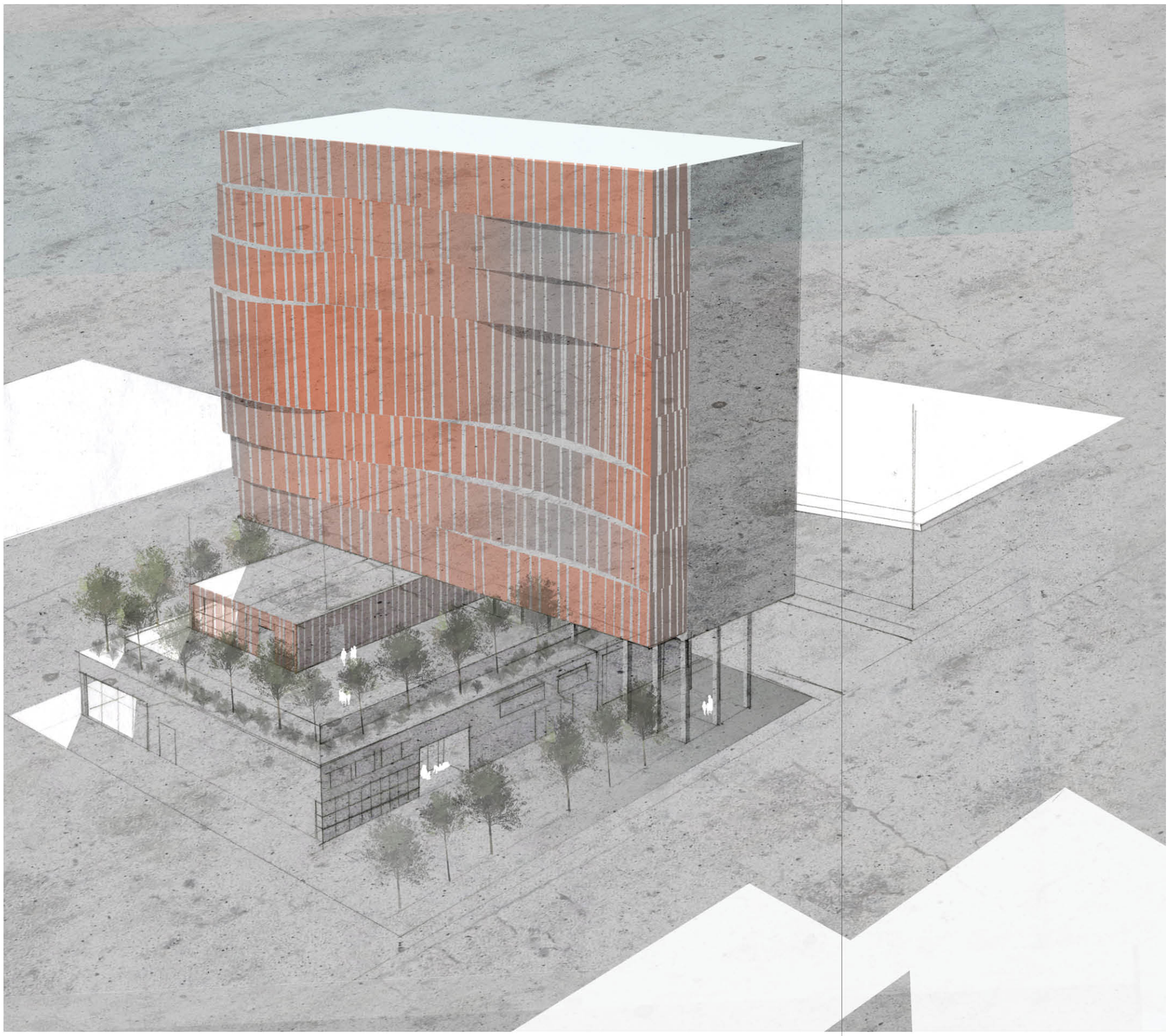

Steel plate welded to angles cast into beam and double tee
Reinforced sitecast concrete topping
Precast concrete double tee
Synthetic rubber bearing pad
24" x 42" precast concrete beam with 6" bearing length on each side


Exterior plate to secure glazing
Glazing
4" metal ribs
Mullion
Drip edge flashing
W6x25 wide flange and W12x26 composite beam and gutter


Backer rod and sealant
Steel plate cast into panel and secured with anchor bolt cast into adjacent panel
Grout pocket after bolted connection is made onsite
Drywall finish covers connections


Clip angle welded to anchor plate embedded in wall panel
Steel plate welded to angles cast into beam and slab
2" polished concrete topper slab
Impact insulation
6" precast concrete floor slab
Spray insulation
Backer rod and sealant
Synthetic rubber bearing pad
Precast concrete wall panel:
3.5" patterned decorative concrete
Rigid insulation
5" structural concrete
Gypsum board
Shim pads and nonshrink grout
Anchor bolt
18" x 30"precast concrete beam with 6" bearing length
Rigid insulation with installed joints and lath finished with colored stucco





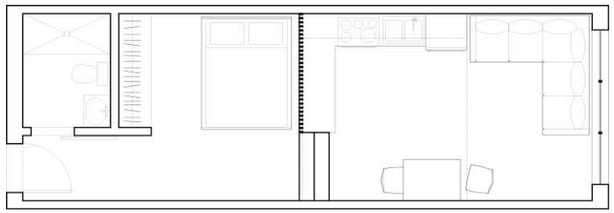
University of Texas at Austin
Fall 2017 Vertical Studio
Professor Ulrich Dangel

STACK HOUSE
AUSTIN, TEXAS

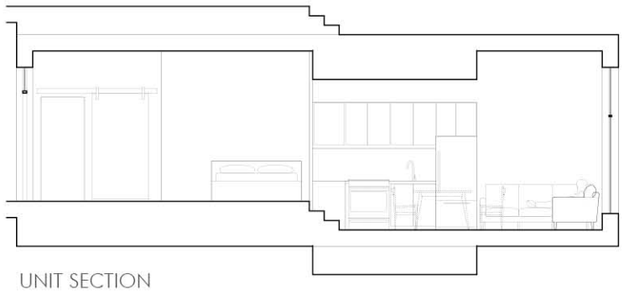
The project is a mixed-use residential high-rise located directly west of the Texas State Capitol. The aggregation of modular microunits in an undulating form is a sculptural identifier for the neighborhood as it continues to densify. The pattern resolves in a straight stack in the southwest to hold the street grid but remains unresolved to the southeast to draw visitors from the main pedestrian approach.

The space seeks to be inclusive to all visitors while still allowing security for permanent residents. Restrooms are available twenty-four hours a day on the ground floor. Bays on the ground level are carved out to be co-opted as temporary living spaces. The lobby opens onto a small plaza, precipitating interaction between the permanent resident population and the houseless population who both use the facilities, encouraging mutual understanding and connection. A mental health and counseling center helps to place houseless clients in a number of subsidized units in exchange for reduced rental fees.

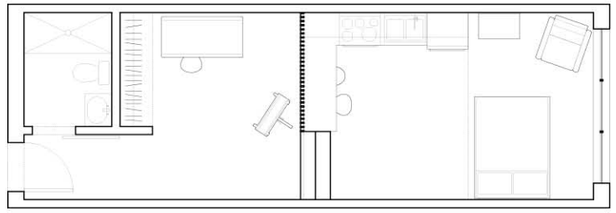
The podium level contains a restaurant and public pool during the day but is secured for resident usage at night. Exterior circulation wrapped in vertical louvers on the back façade reduces the need for climate control and becomes a social porch for spontaneous interaction.



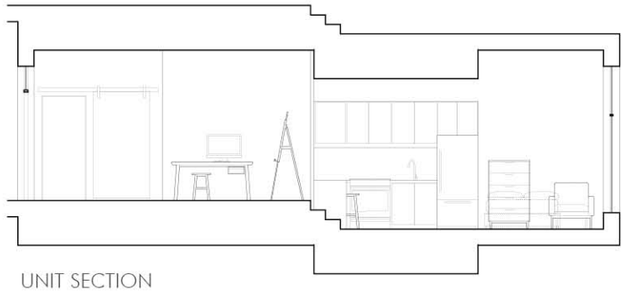
UNIT PLAN



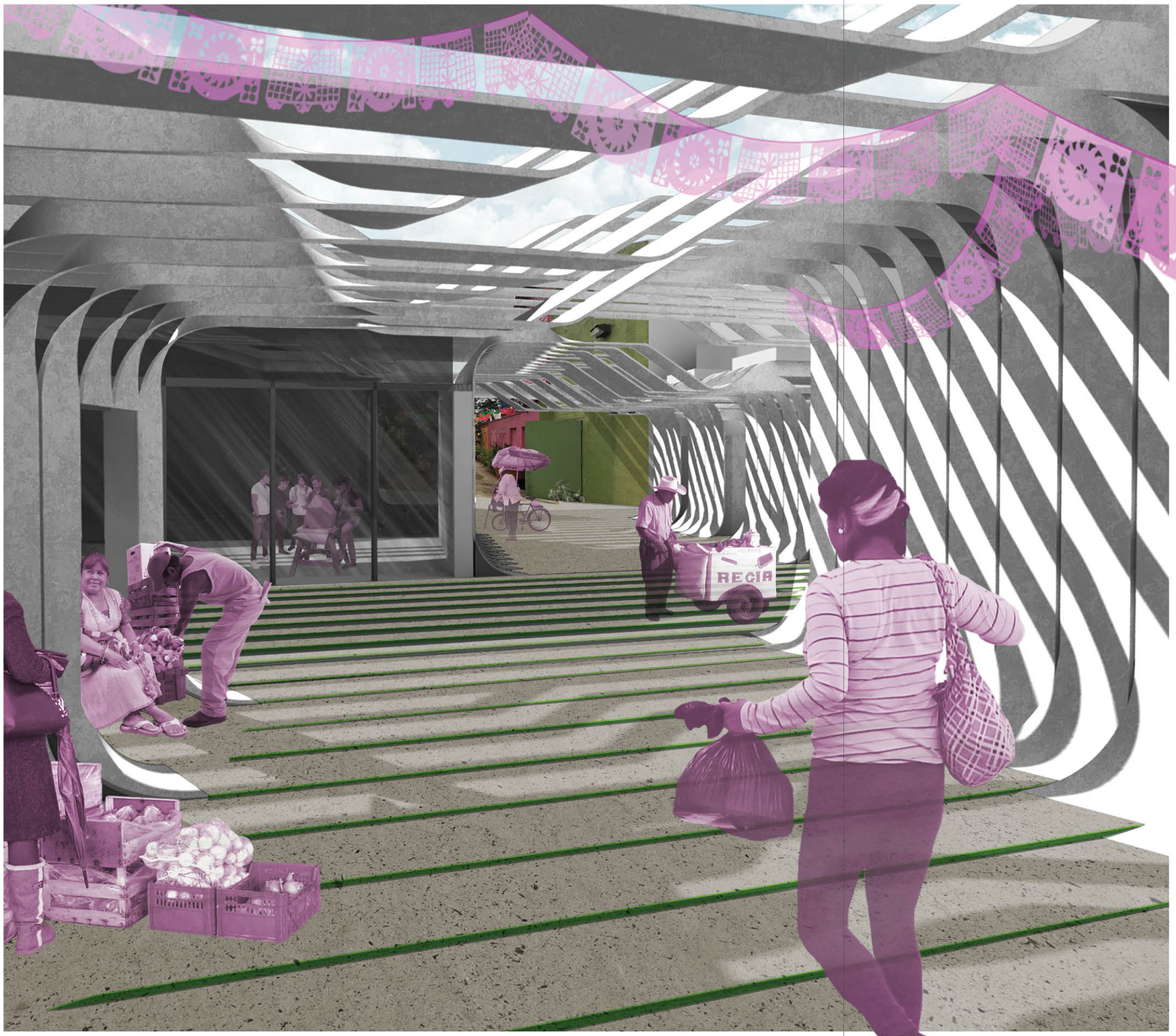
UNIT SECTION



UNIT PLAN



UNIT SECTION



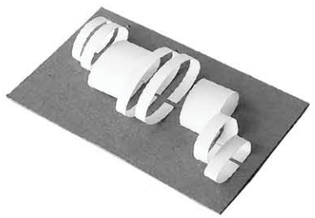
The University of Texas at Austin
Fall 2018 Vertical Studio
Professor Danelle Briscoe

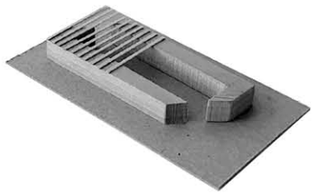
MERCADO PICADO

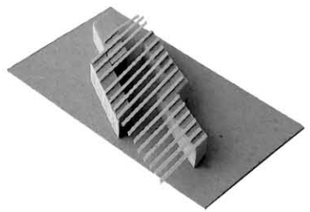
SAN ANTONIO, TEXAS

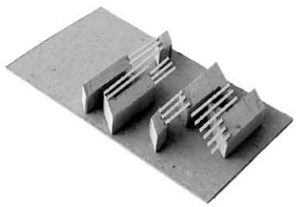
A reinvisioning of the Historic Market Square, or El Mercado. Currently, the regular overhead intervals of the papel picado (a Mexican folk art consisting of strings of colorful punched paper flags) that trace the exterior of the market creates the sense of an overhead ceiling, transforming the open-air space into a more intimate venue. This experiential quality is pulled into the proposed project through the twisting ribbons of structure. These elements stand vertically to support the roof loads when interior, and pivot flat to provide shade when exterior. The structure is conceived as continuous bands, wrapping down to become the skin that clads the program elements.

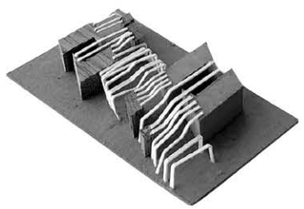
As the University of Texas San Antonio continues its expansion, this site will serve to draw the increased inter-campus traffic into the historic marketplace. Stall space for additional vendors as well as community studio spaces and two artist studio-residences are made more accessible by ride- and bike-share infrastructure at the front of the site.











1 Public Studio
2 Classroom
3 Mechanical
4 Restroom
5 Bikeshare Parking
6 Rideshare Pick-up
7 Artist Residence
8 Vendor Stalls

The University of Texas at Austin
Spring 2019 Vertical Studio
Professor Francisco Gomes

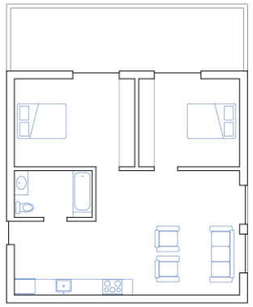
LIFE IS A BALANCING ACT

WEST LAKE HILLS, TEXAS

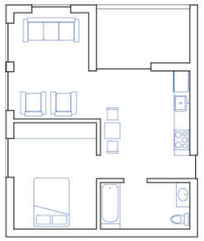
Consisting of three rings of program clattering about a central circulation core, the building is a residential living facility with 21 housing units to serve Austin's elderly population. The ring and courtyard format prioritizes views of the wooded valley for each unit and encloses the circulation's focus inward, emphasizing chance encounters with neighbors and serving as a safety buffer for those residents at risk of getting lost.

The project is a building of contradiction. Brick cladding seeks to provide a sense of familiarity for its residents. Yet on the upper ring the brick, a material that historically demanded a firm foothold on the ground, is hung on deep occupiable beam structures, floating it overhead and disconnecting it from its earthly preconceptions. The bottom ring embraces the constraint of the brick and is partially embedded into the hillside, opening up a large roof terrace with views to the creek below to inhabitation.

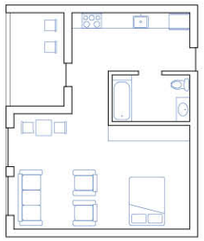
A priority for this project was to foster a sense of community with one's neighbors, so isolation would be feasible only by active choice. Each ring becomes its own neighborhood, with each unit being accessed through a patio shared by up to three other adjacent neighbors. These patios are unprogrammed and can be populated (or not) based on the individuals residing around them.



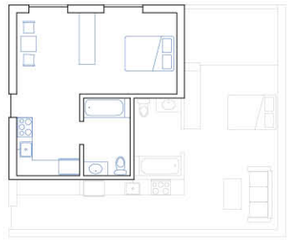
A - 2 BEDROOM



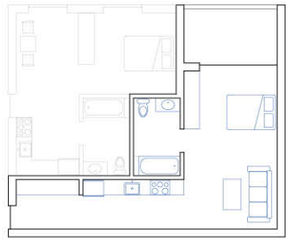
B - 1 BEDROOM



C - STUDIO

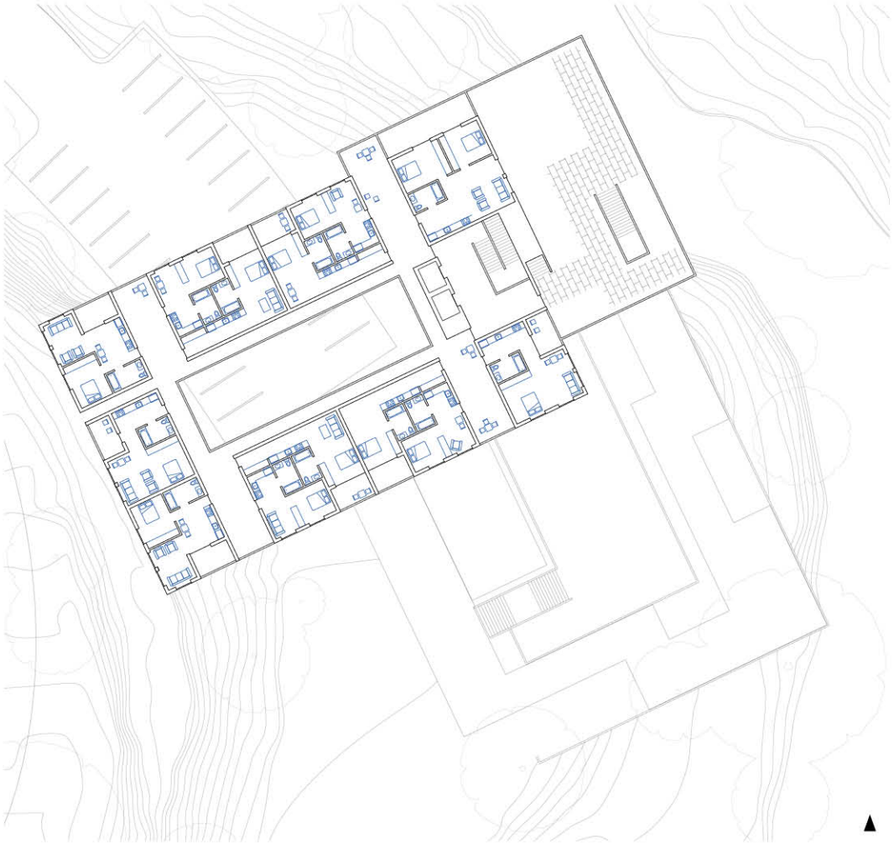


D - STUDIO



E - STUDIO

1 Lobby
2 Kitchen
3 Dining Area
4 Lounge
5 Pool
6 Multi-use
7 Admin
8 Gym
9 Chapel



LEVEL +1

LEVEL 0

LEVEL -1

BUILT WORKS

The University of Texas at Austin
Spring 2021 Wood Design Studio
Professor Mark Maček

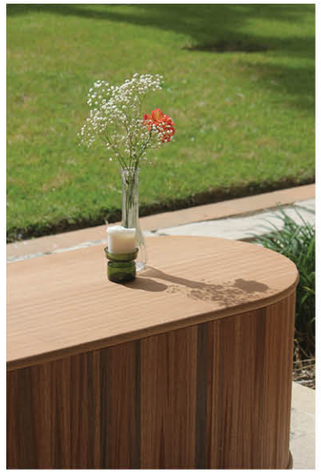
TAMBOUR CREDENZA

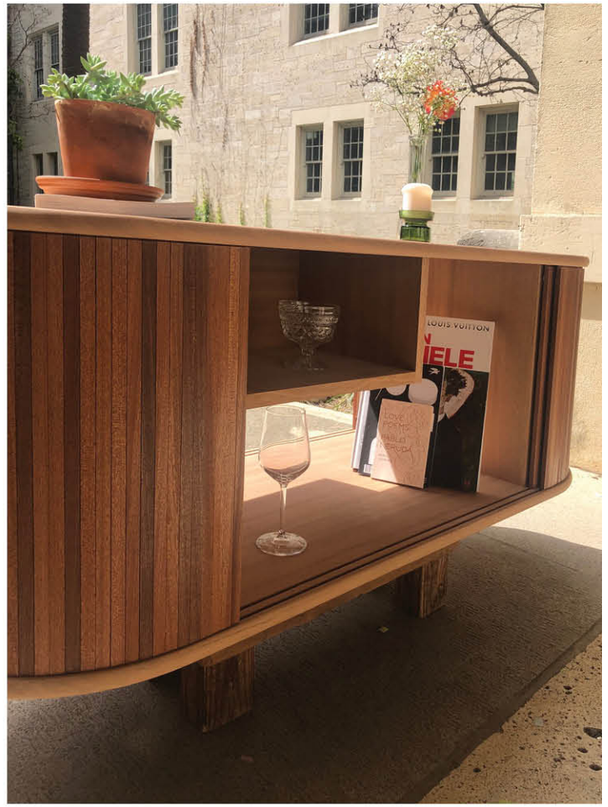
African mahogany, finished with danish oil.

The credenza was concieved in the round, with two routed tracks that allow the four tambour doors to circulate the entirety of the piece. This flexibility allows for infinitely many configurations and different readings of the credenza depending on its degree of “openness” or “closedness”. With its variety of shelves and sections, the user can determine which compartments they would like to display or to conceal.

As the doors can endlessly and unobstructedly navigate their tracks, there is no back to the project. It can be used as a spacial divider since it is freed from the constraints of the wall.

And, the doors glide like a charm.





A double-sided fabrick backing brings texture and visual interest to the interior, highlighting the part of tambour doors that is typically concealed. The use of danish oil finish emphasizes the wood's light chatoyancy.

The University of Texas at Austin
Summer 2019 Public Interest Design Studio
Professor Coleman Coker
Client: Galveston Bay Foundation

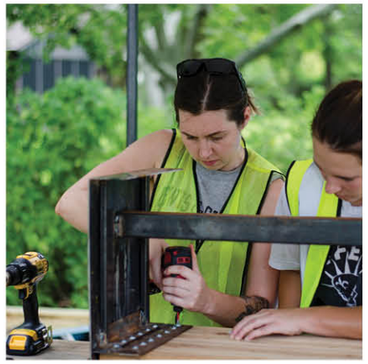
Collaborators: Stephanie Almendarez, Daniel Aronson, Nailah Bell, Gable Bostic, David Burns, Arlene Ellwood, Andrew Garden, Catherine Kanter, Brandon Lawry, Harrison Marek, Lena Page, Tyler Shuetz, Shelby Taubenkimel, İnci Üçkök, Alex Uhlmann, Ariella Yendler
Summer 2019

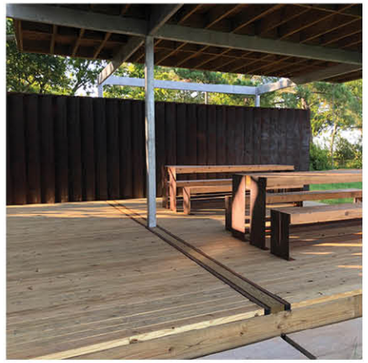
SHIFT
KEMAH, TEXAS

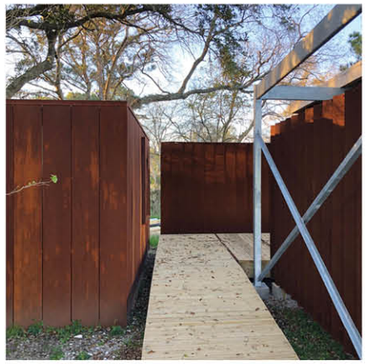
The built work serves as an outdoor environmental classroom for the Galveston Bay Foundation in its educational outreach program serving the greater Houston and Galveston areas. In the wake of Hurricane Sandy, many of the visiting students have had notably few positive interactions with the water. The pavilion provides a safe starting point for their interactions with the bay, allowing students to build up comfort and understanding before moving into the water to run tests or build oyster reefs to protect the rapidly eroding coastline.

The walls are composed of steel fins set at an angle. On approach the fins shift from seeming solidity to virtual transparency, revealing sweeping views of the bay. The planes of walls, deck, and roof slide apart from one another, never fully engaging. The offset of roof and deck allows for greater morning sun protection during the pavilion's expected hours of heavy use. The weathering of the steel registers time and change as an analogy for the shifting ecology of the bay.

Primary roles: welder, furniture design and build, steel fin fabrication and installation.



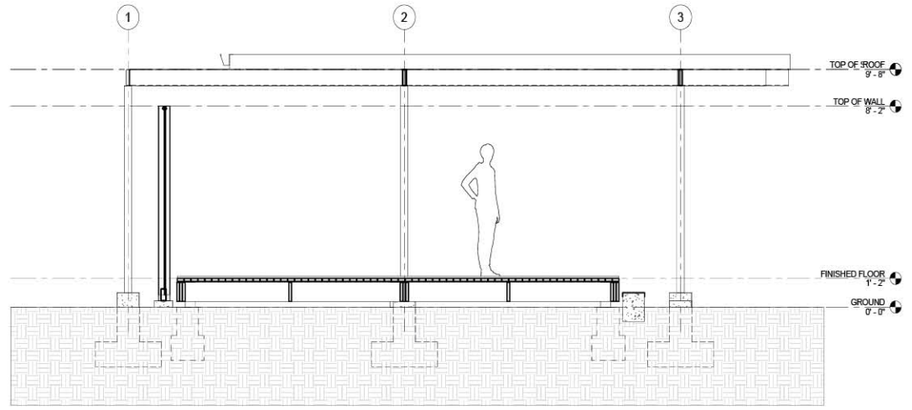




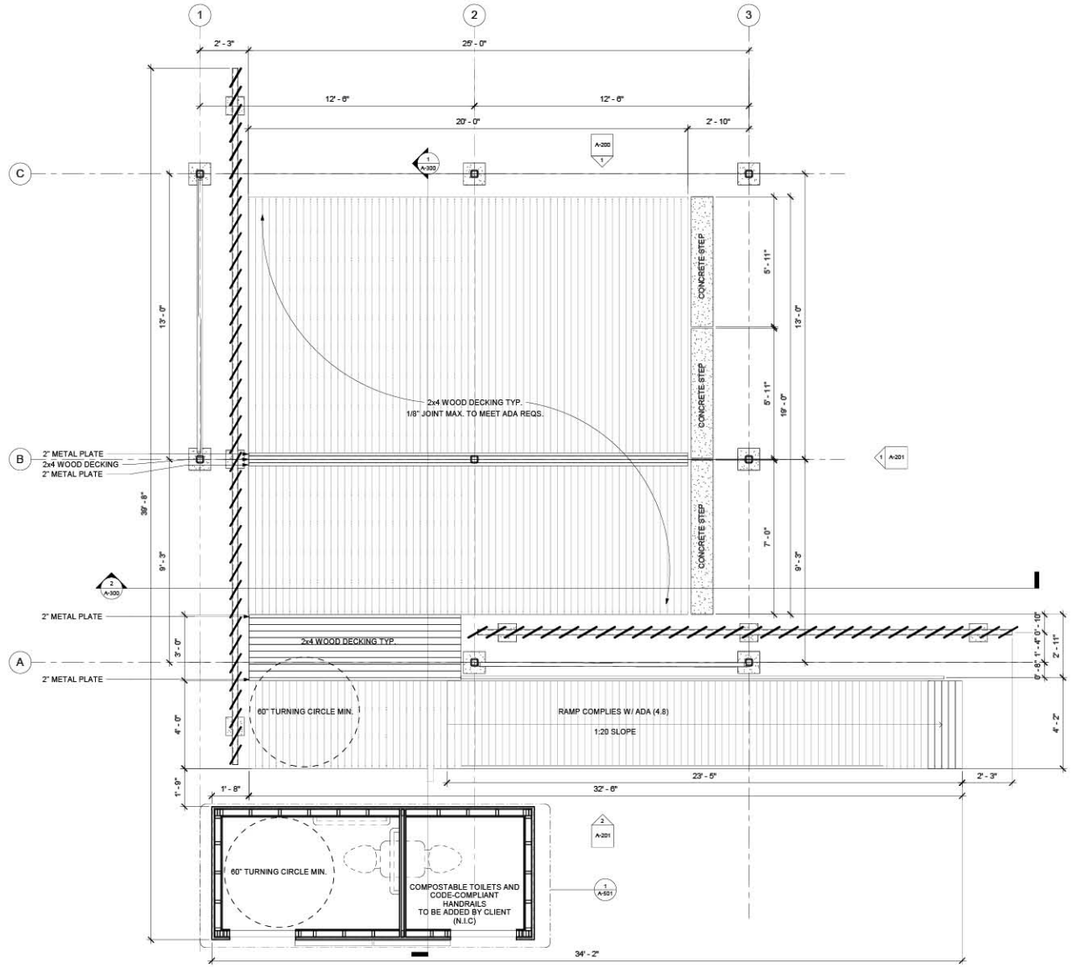
Top
The project during construction. Photos by David Burns.

Center
Spotlight on furniture design and occupation. Photos by Coleman Coker.

Bottom
Weathering of the steel. Photos by Christine Johnson (left) and @gbayfoundation (right).



SECTION

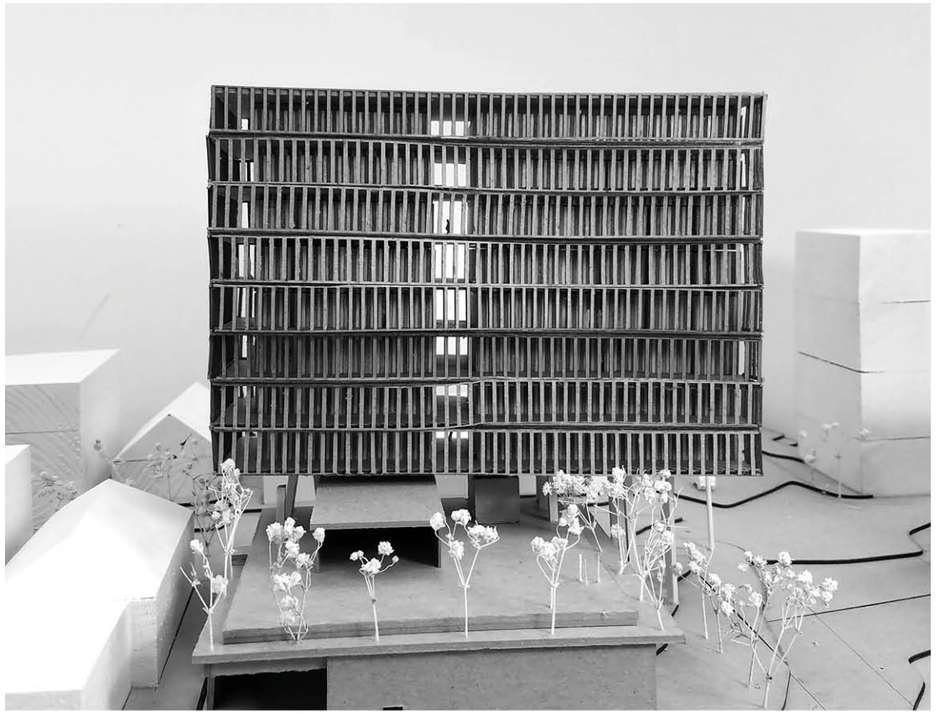


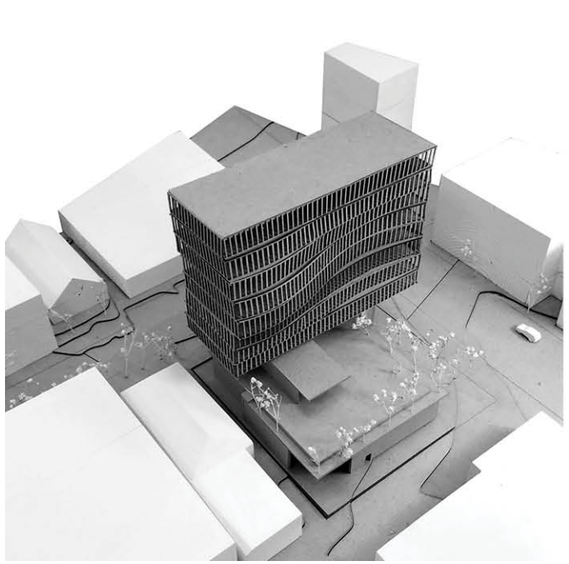
FLOOR PLAN

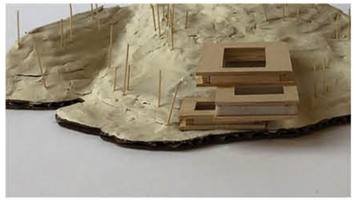
The University of Texas at Austin
Fall 2017 - Summer 2019

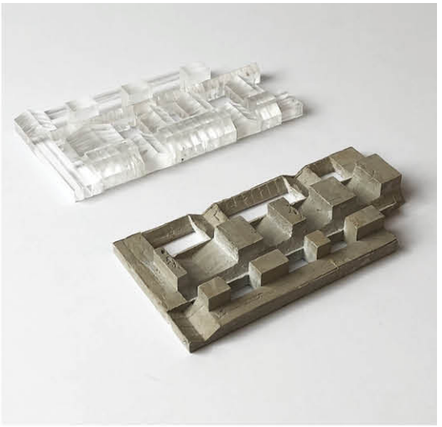
SCALE MODELS

VARIOUS SITES

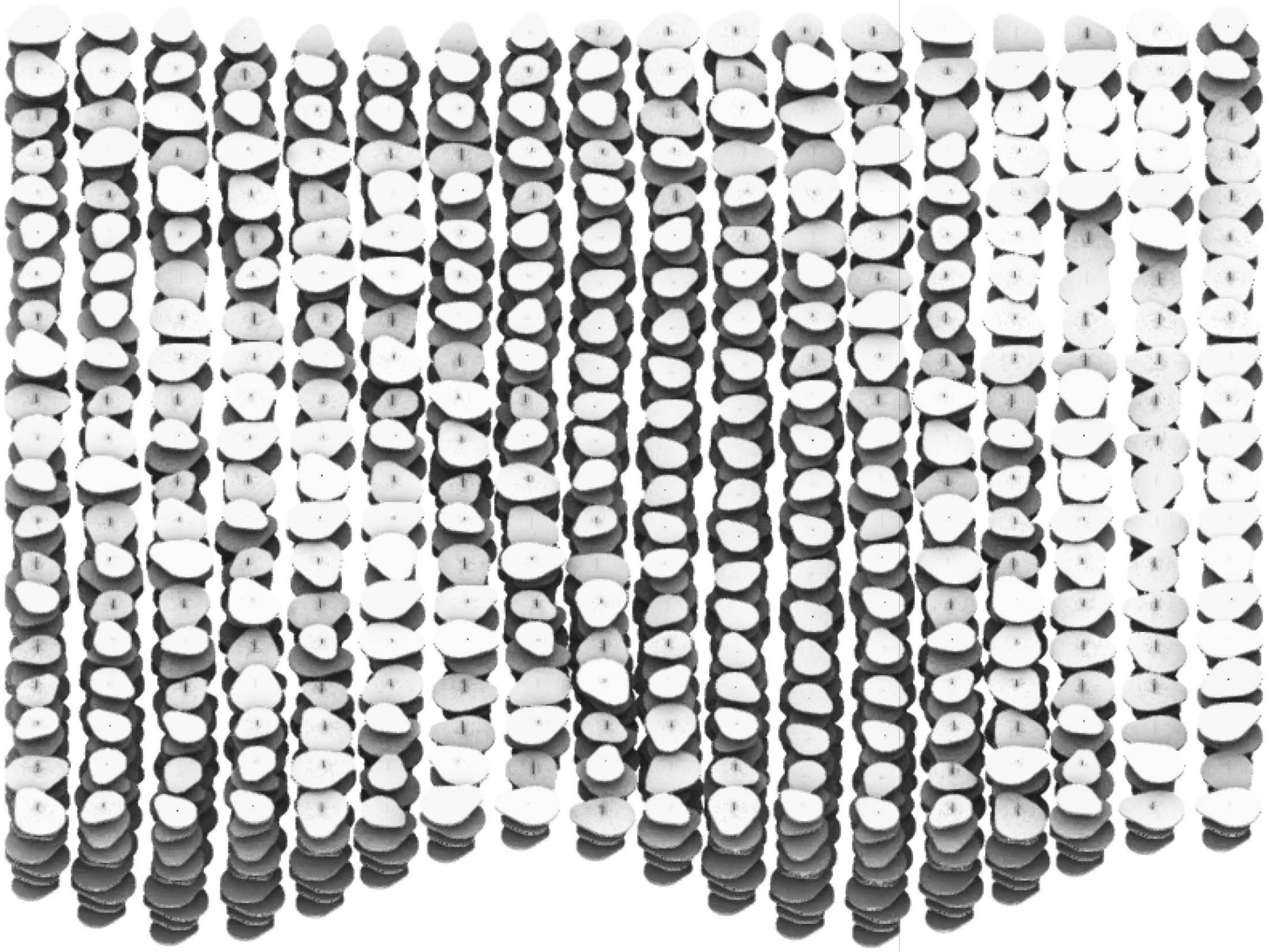








ON THE JOB



KieranTimberlake
Summer/Fall 2020 Professional Residency
Client: Carnegie Mellon University

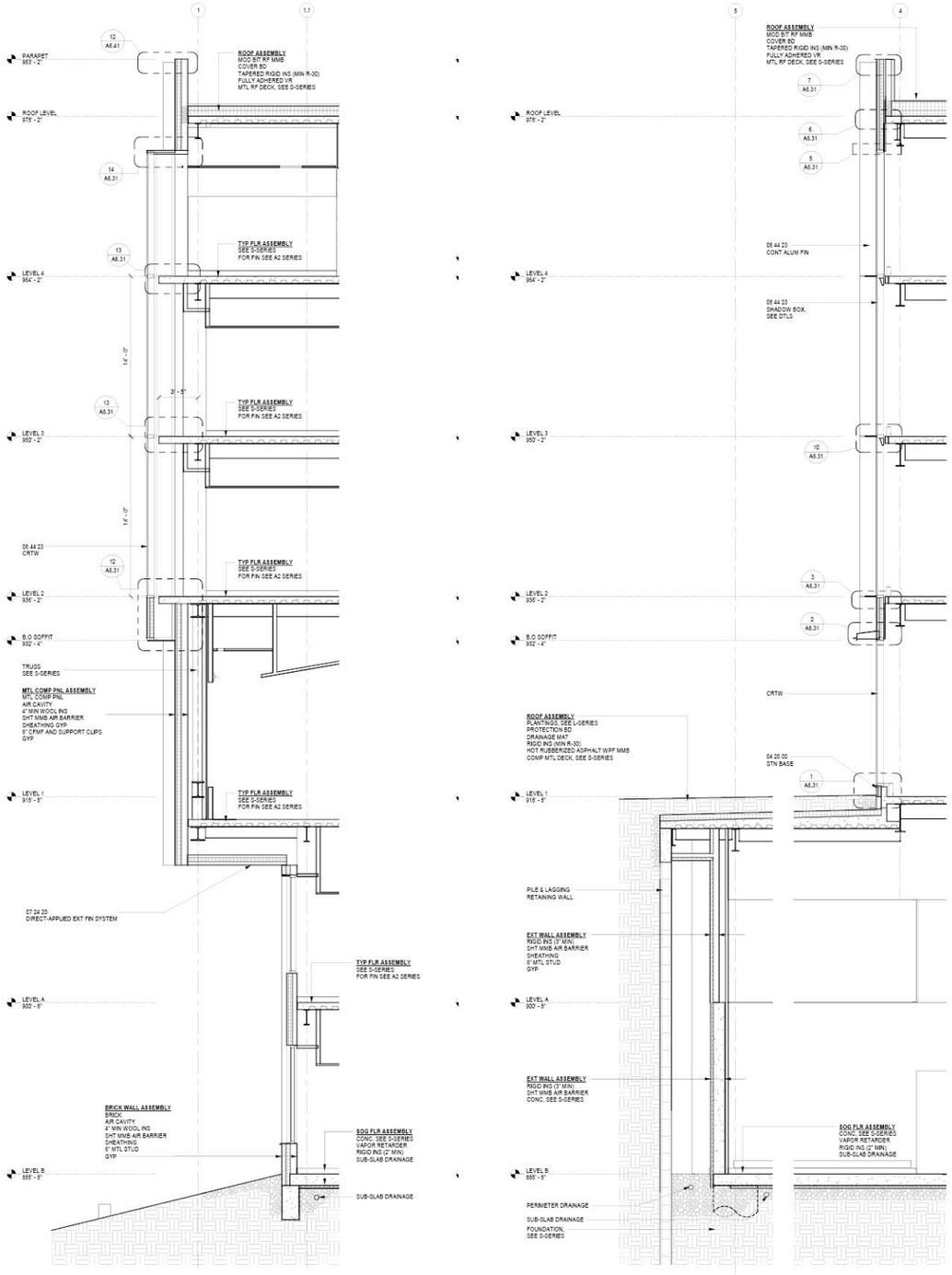
Collaborators: Stephen Kieran, Matthew Krissel, Kate Czembor, Jason Ciotti-Niebish, Claire Cybulski, Brendan Miller, Steven Johns, Brian Kerr, Alex Olevitch, Jordan Teitelbaum

SCAIFE HALL
PITTSBURGH, PA

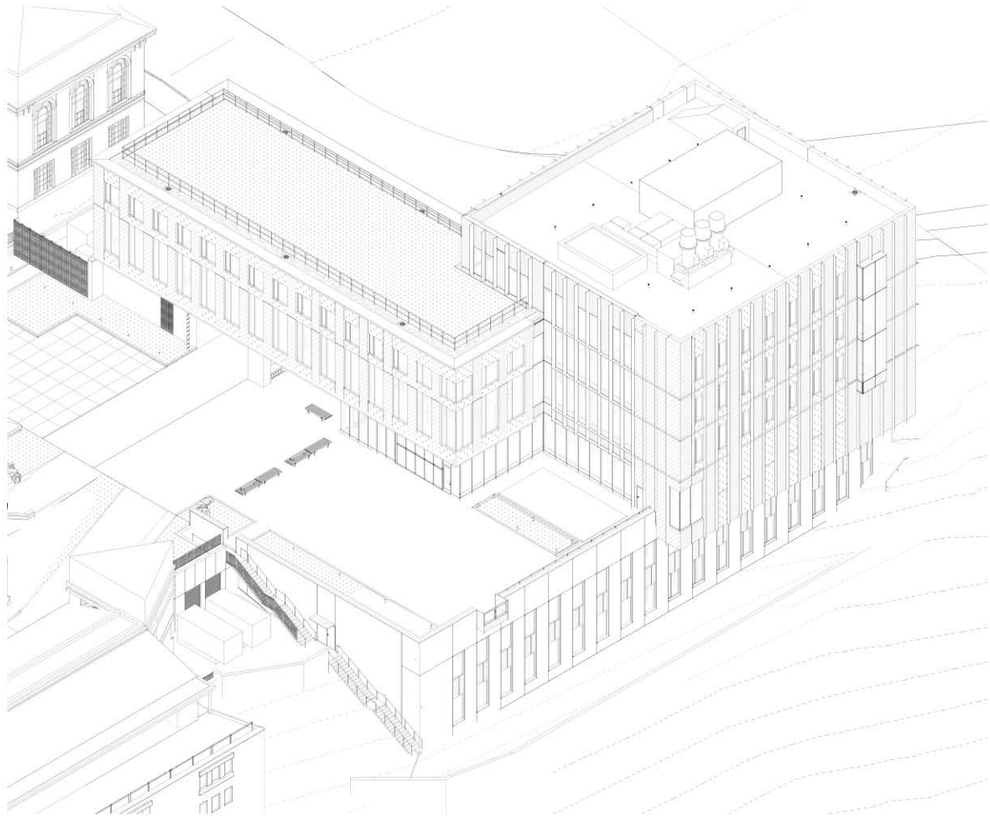
The project is a new mechanical engineering building at Carnegie Mellon University. I worked on the project throughout the construction documentation phase.

Sited at the bottom of campus on a significant slope, the project employs a large two-level plinth of lab spaces partially embedded in the ground to allow for views in all classroom and office spaces. The north volume spans an access drive that is primarily used as a pedestrian thoroughfare and activates the project as a major gateway into the university. The top of the plinth becomes a public court, absorbing spillover from the ground floor cafe space and connecting the surrounding buildings into a more intimate fabric of spaces.

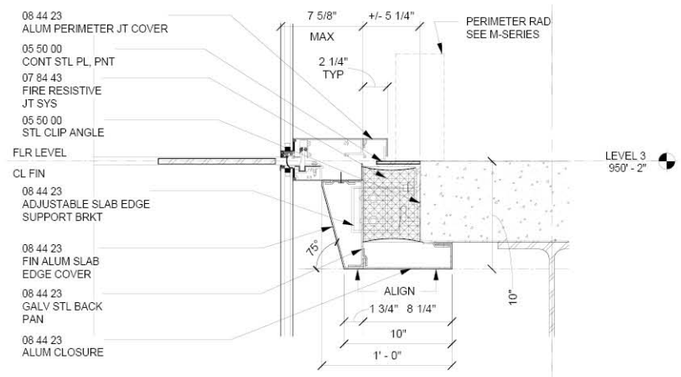
The design of the project was well established when I joined the team, but I contributed significant design input in several areas including restroom layouts, organizations of the plinth level suites, and the tiling for the drone arena lab space.



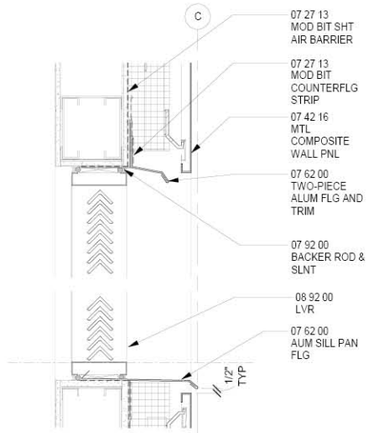
WALL SECTIONS



AXON - SOUTHWEST



DETAIL - CURTAIN WALL VISION GLAZE



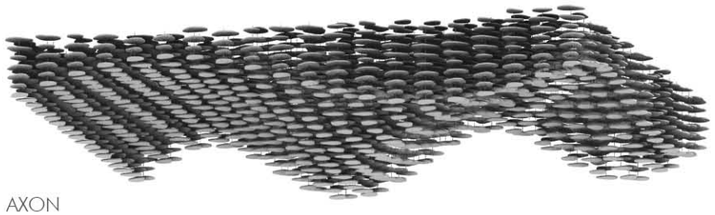
DETAIL - PORTAL LOUVER

LIGHTING PROPOSAL

The team was asked to submit design ideas for a sculptural lighting piece in the ground floor gathering space. The overall wavelike form was generated by blending sinusoidal curves with increasing periods. The lighting fixture was composed of flat disks that mimicked the form of camshaft and crankshaft components (mechanical devices used to convert linear and radial motion) to disguise the light sources and diffuse the illumination.

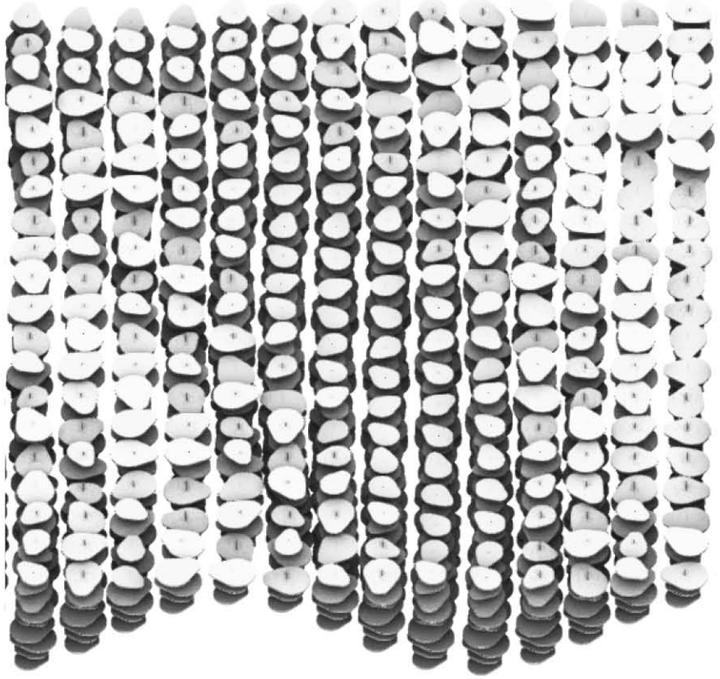
CAMSHAFT

CRANKSHAFT

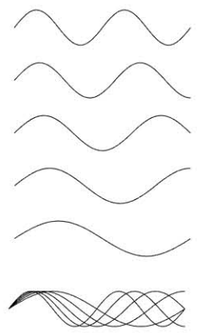


AXON

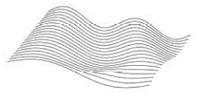
SINGLE COLUMN



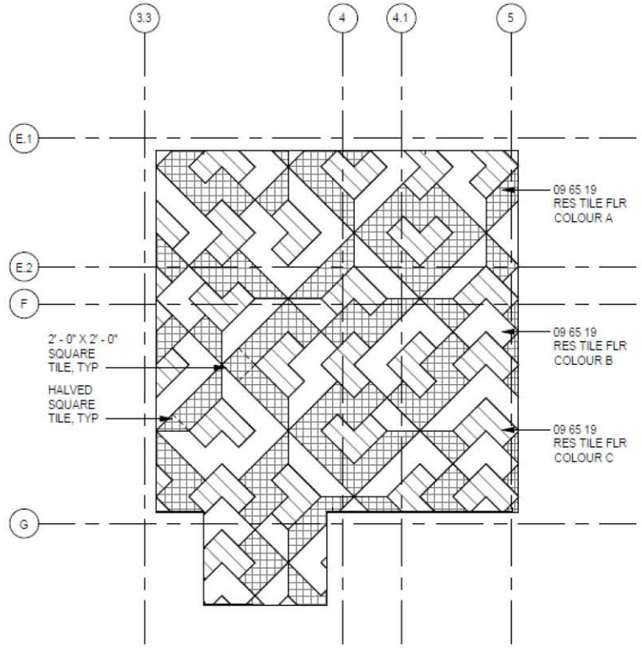
PLAN OBLIQUE



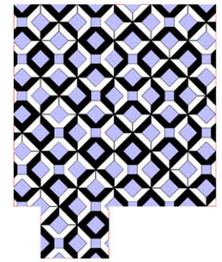
SINUSOIDS

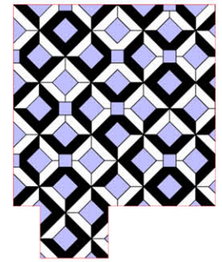


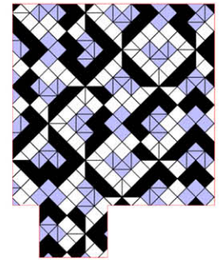
3D FORM



DETAIL PLAN

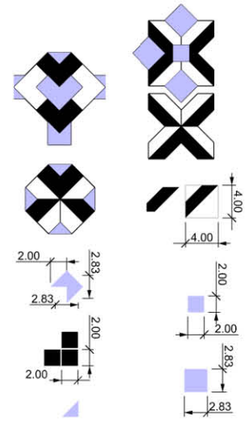






DRONE ARENA TILING

The drone arena required an aperiodically tiled floor, i.e. a pattern which never repeats, so students can program the drones with spatial tracking capabilities. I researched these aperiodic tiling systems and converted the complex forms into a pattern that would be feasible for construction and could be formed using only whole and the occasional halved 24"x24" floor tiles.



DRAFT TILINGS

Michael Hsu Office of Architecture
Client: SMILES Dental Group
Winter 2021 - Spring 2022
Schematic Design, Design Development

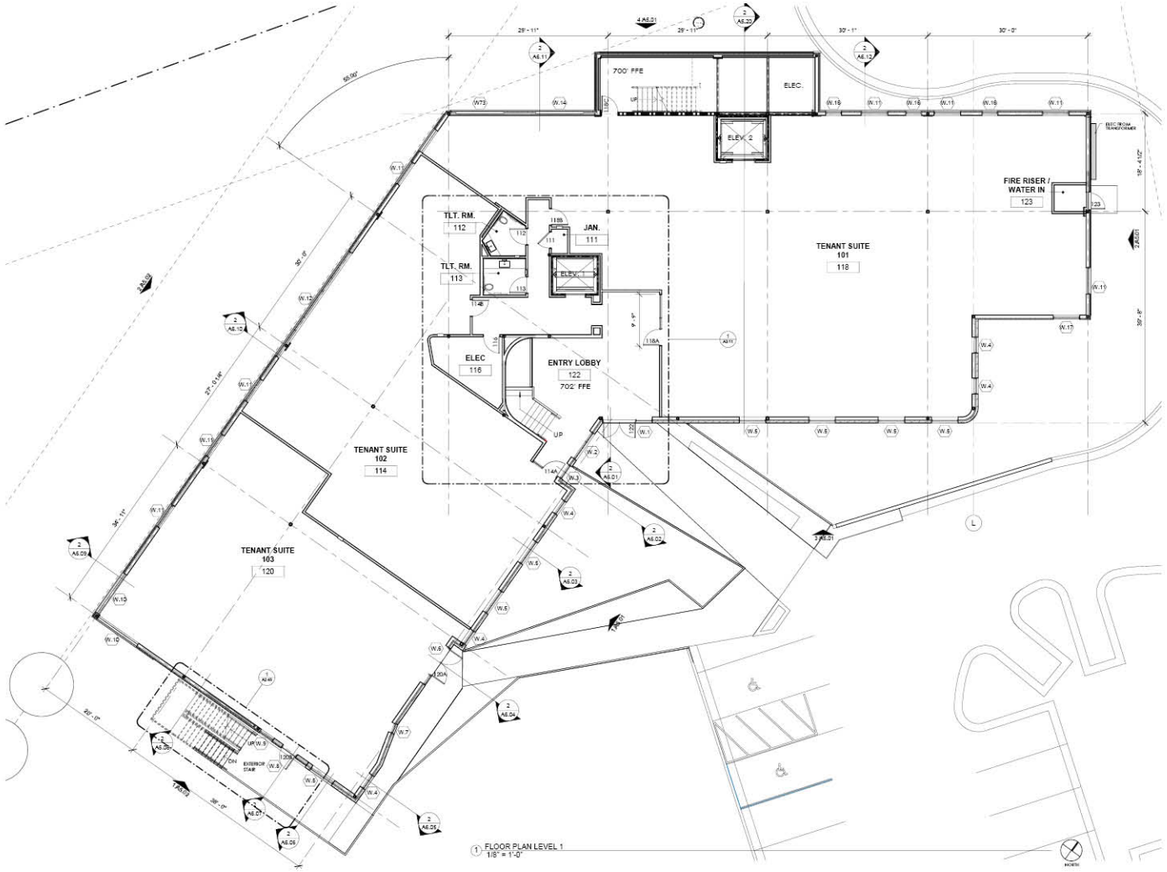
Collaborators: Faiza Tayyab, Jay Colombo, Rinaldo Perez, Studio Eles (AOR)

SMILES DENTAL
WEST LAKE HILLS, TX

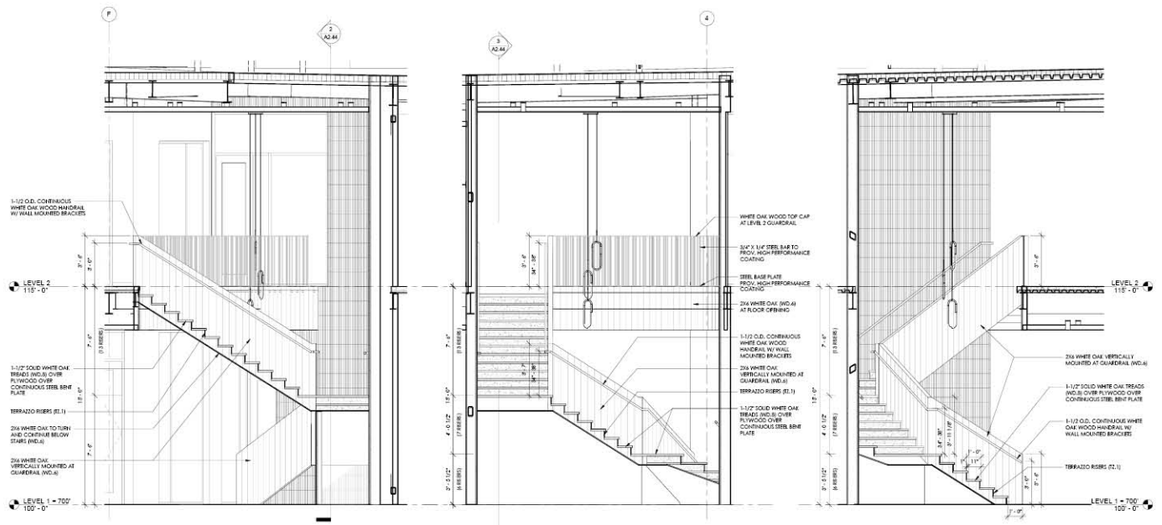
Our team were the design architects for the shell and shared core of a group of four high-end dentists' office in the hills of West Austin.

The façade is a dual language. A light brick volume with dynamic texture from coursing rests atop and interlocks with a darker podium with rounded corners and a rhythmic stack bond. The overhang as well as recession of certain courses surrounding the windows emphasizes the play of shadows.

The site, with its hilly terrain and large quantity of protected heritage trees, necessitated a unique connection between building and parking. The pathways to the entrance soar over a small ravine, embracing the context fully and knitting the entrance in a way that is airy and integrated into the surrounding trees.



The stair well is the primary feature of the shared lobby, with curved walls clad in fluted tile for texture and visual interest.



Michael Hsu Office of Architecture
Spring 2022
Feasibility, Schematic Design, and Design Development

Collaborators: Rinaldo Perez, Jay Colombo, Bob Allsop

HOWARD LN MASTER PLAN

PFLUGERVILLE, TX

Located just outside of Austin, this existing industrial/ office park is characterized by its false front façades. As an area that is begining rapid development due to Austin's booming growth, our client sought to shift the character and add much needed commercial and food&beverage options.

The master plan includes targeted renovations of several existing buildings on a limited budget to create a cohesive site with the new ground up construction.

I studied code compliance for fire, occupancy, and additional parking for changing usages. The civil engineer and I worked closely to determine impermeable cover requirements and that the retention pond did not go over capacity. This work included shifting the primary drive into the site to reduce its area, and for connection to the pond.

Front and center of the site is a brewery by a local favorite brand. The project embraces the attitude common in Austin that a beer is best enjoyed outside. The building has direct connection to the pond with substantial outdoor seating and passive cooling strategies.

RENOVATION

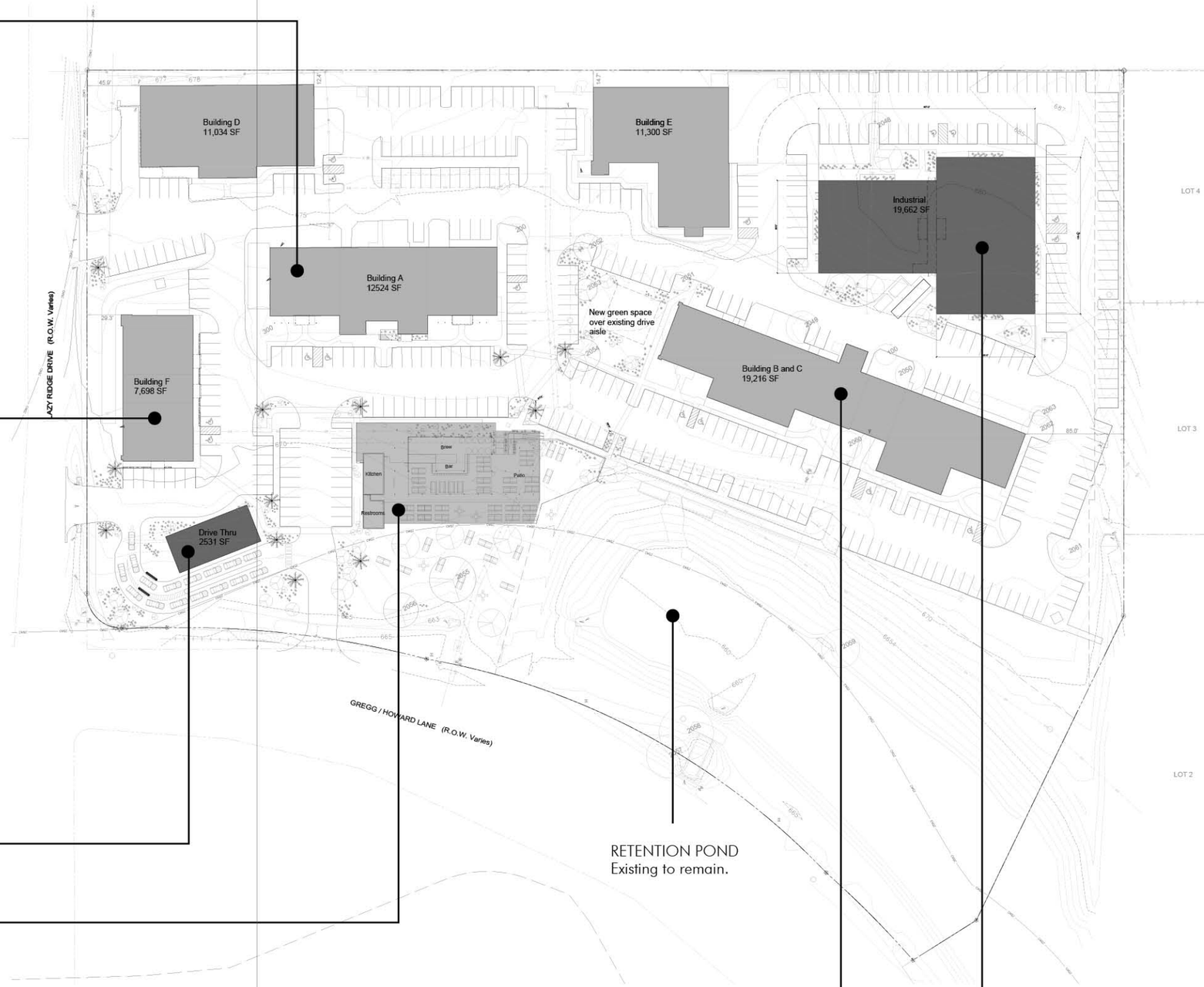
BUILDING A
Circulation moved to the exterior, façade removed, and existing prefab structure exposed. New storefronts and new techtonic awnings with integrated planters.

EXISTING

RENOVATION

BUILDING F
Existing façade removed. New storefront and awning/planter system added at entries.

EXISTING



PAD SITE
Potential drive-thru test fit.

BREWERY
All new construction.

BUILDING B/C
Minimal intervention. Some existing façade replaced with the awning/planter system.

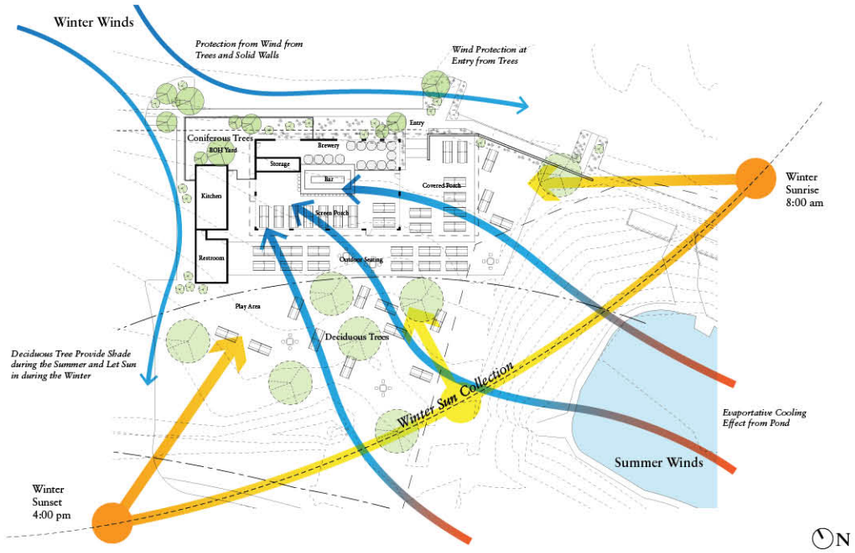
INDUSTRIAL
Shell and additional parking. Pre-engineered structure.

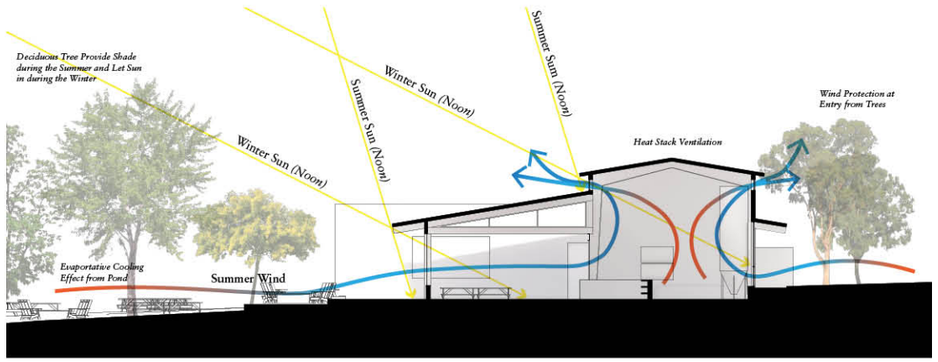
RETENTION POND
Existing to remain.

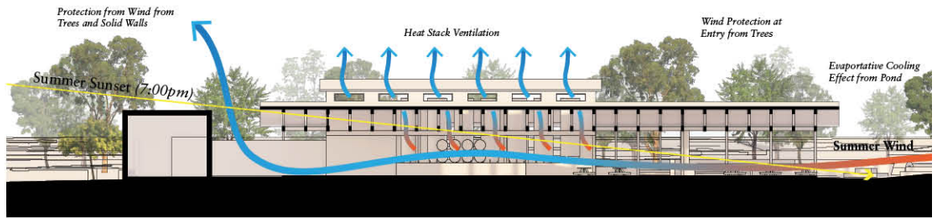
The brewery uses passive cooling methods and intelligent siting, as a driving design constraint was the fact that it will be unconditioned. The walls are operable louver screens on tracks that allow the customer-facing portion of the brewery to open fully. This allows for increased connection to the outdoor seating and the existing pond which has a well established community of native plants.

Above: Brewery Renders

Right: Site analysis, solar shade analysis, stack flow diagram







Low Rise: Housing Ideas for Los Angeles Competition
Submitted February 2021

Collaborators: Anna Lake-Smith, Trent Tunks, Patrick Till

Second Place Winners in Corners Category
(see lowrise.la/winners)

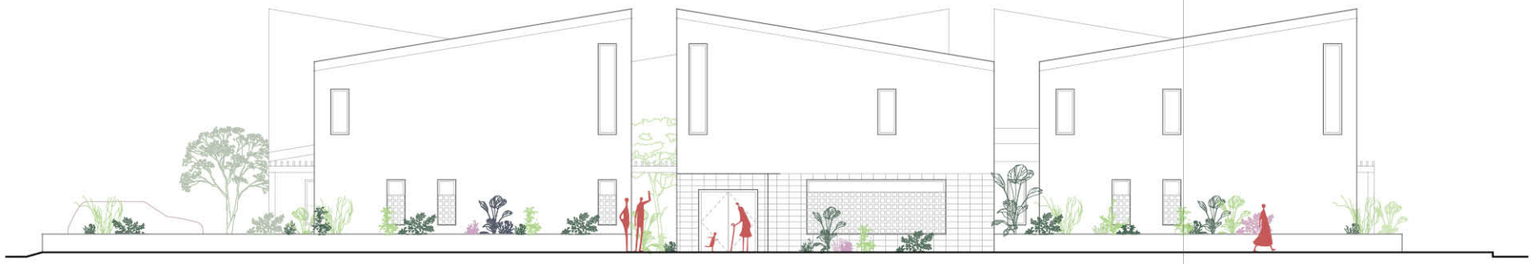
THE FAMILY TABLE

LOS ANGELES, CA

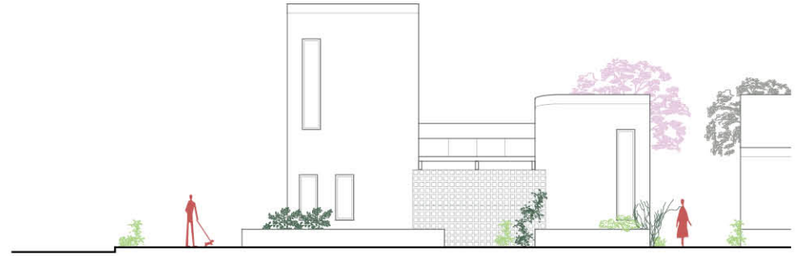
The Family Table is a housing project celebrating the motions that bring families together: growing, cooking, and sharing food. By fostering connections through collaborative living centered around the kitchen, the proposed scheme seeks to capitalize on the rich network of communities that make up Los Angeles. It serves as a replicable small-scale tool toward necessary large-scale goals of housing equity and paths to first-time homeownership.

The project is organized around four spacious kitchens, each shared by two to three neighbors. A large central table in each serves as a gathering space for the adjacent residents. This inherently collaborative architecture begets a cooperative ownership structure, where residents have the autonomy to make the community their own as it grows with them.

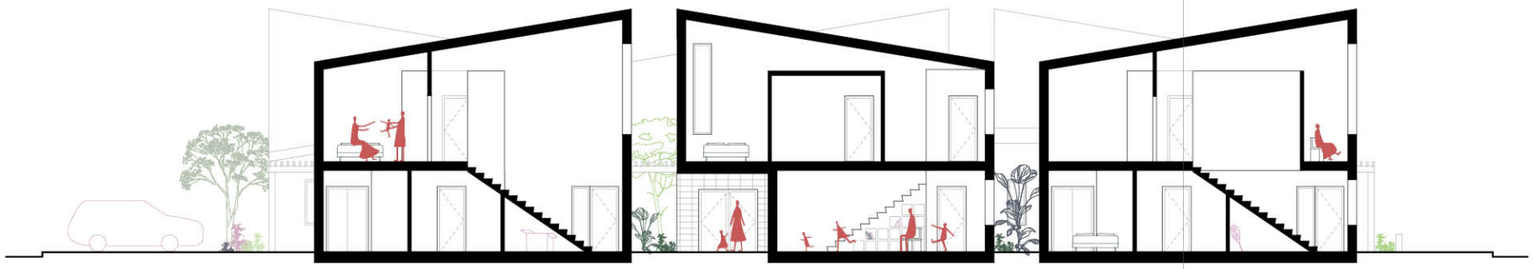
Variation in scale achieves a rich gradient of outdoor spaces without compromising the retreat of the individual units. In the entry court and kitchen, the family comes together to share a meal, in the central garden court, residents of all ages mix while watering the plants from the rain cistern or sharing evening tea in the shade at the communal table. Intimate courtyards on the periphery of the site provide shelter from the street and courtyard; thin buffer zones of low-impact plantings screen the interiors of the units from being overly visible to neighbors.



ELEVATION A



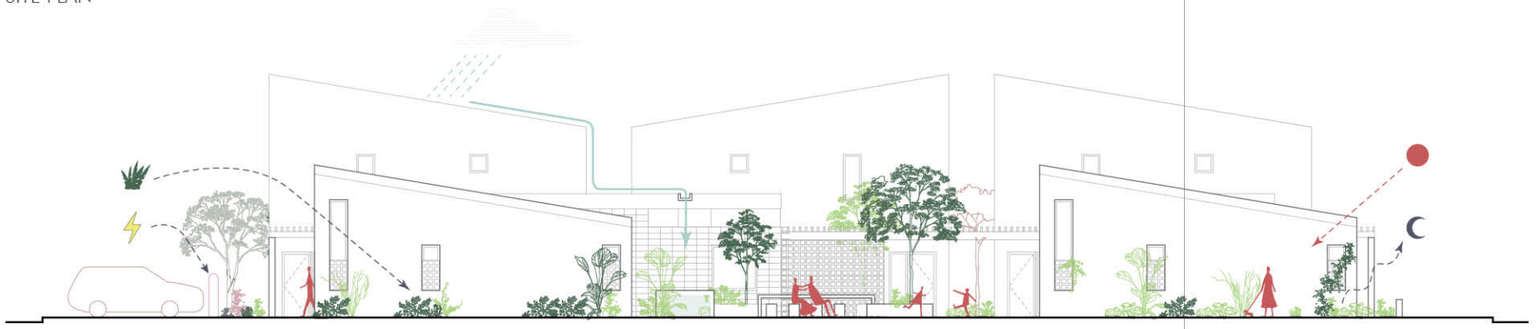
ELEVATION C



SECTION BB

Individual units are scaled to the surrounding neighborhood and arranged on the site around the central courtyard, a reconfiguration of the bungalow court typology that creates an intimate interior street condition. The community program is a daycare set in the center unit facing the major street, and backing onto the sheltered courtyard.

SITE PLAN



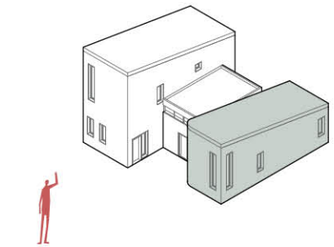
SECTION DD

1. Community Daycare
2. Communal Kitchen (3 Unit)
3. Communal Kitchen (2 Unit)
4. Residential Courtyard Space
5. Outdoor Dining Table
6. Rain Collection Cistern
7. EV Charging Station, Typ.
8. Bike Racks

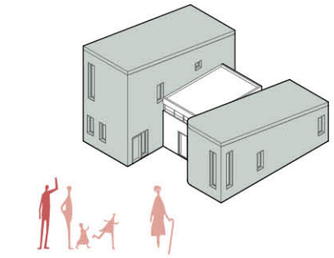
Buildings are constructed via typical CMU construction, serving both as a common and inexpensive material as well as a thermal mass to reduce cooling loads during the shoulder months.

The pitched roofs divert rainwater to a centralized scupper and cistern system in the courtyard. The stored water runs through raised planting beds, which provide areas for garden plots.The rest of the landscaping incorporates low impact landscaping techniques. Overhead trellises and treecover create enjoyable and shaded outdoor spaces.

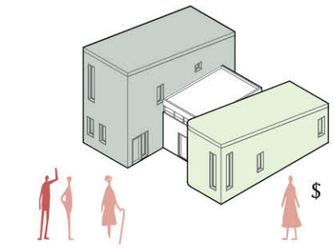
Parking is consolidated on the rear alley and is furnished with EV charging stations.



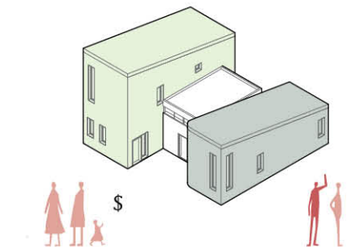
1/1 residence



3/2 residence, 1/1 ADU

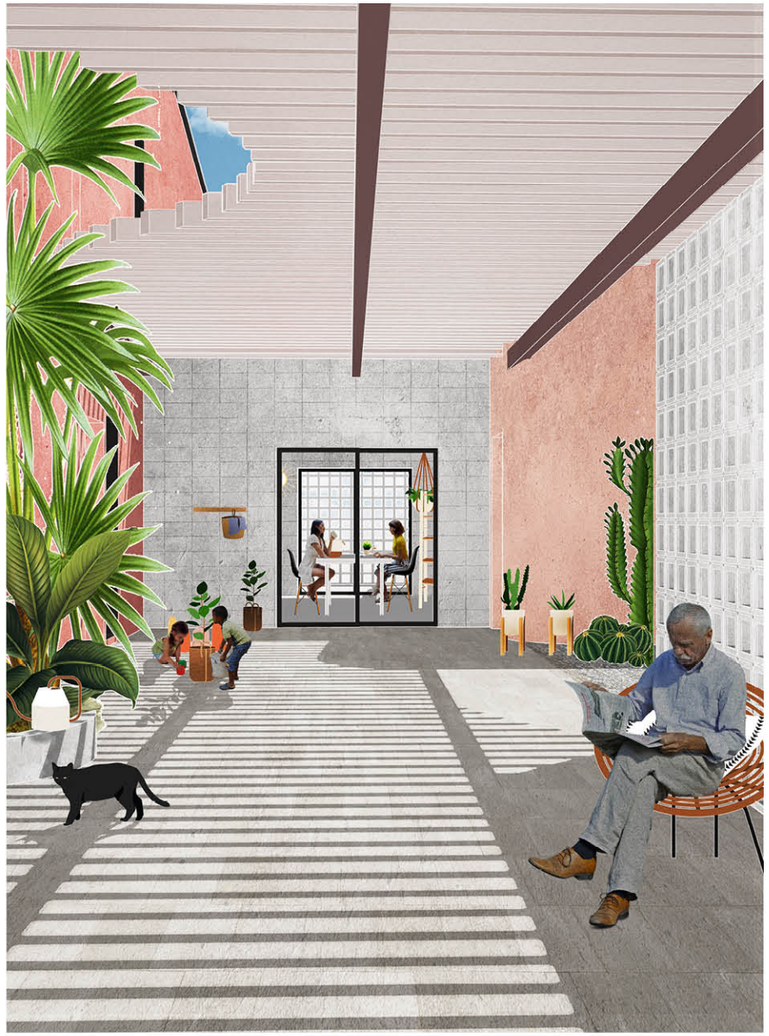


3/2 residence, 1/1 rental

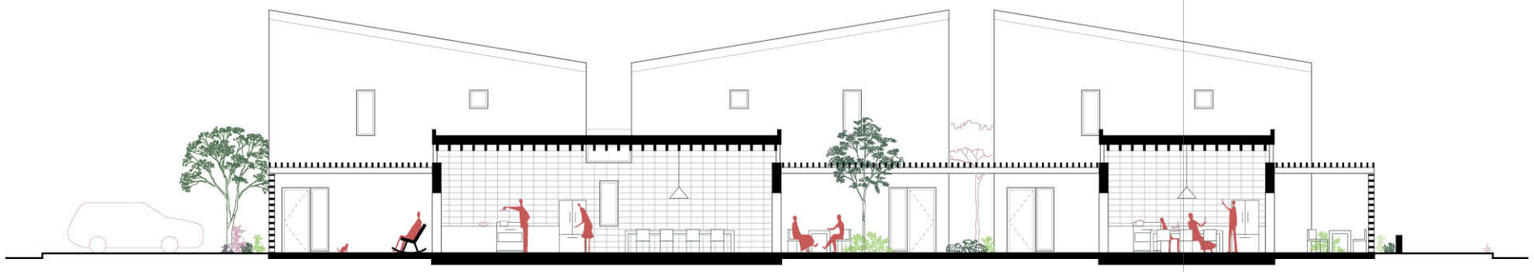


3/2 rental, 1/1 residence

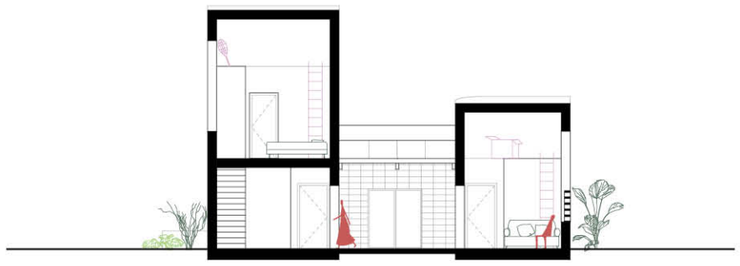
3-UNIT SHARED KITCHEN



UNIT ENTRY PATIO



SECTION EE



SECTION FF

AMAYA LUCAS
CURRICULUM VITAE

Contact

amayajlucas@gmail.com
(208) 921-5524

Work Experience

Project Designer — Jun 2021-Apr 2022
Michael Hsu Office of Architecture, TX
Designed hospitality and commercial projects in all phases, from schematics through construction administration. Worked closely with civil engineers to develop site strategies for feasibility studies.

Architectural Designer — Jul-Dec 2020
KieranTimberlake, PA
Created graphics and diagrams for interviews. Drafted details, interior elevations, and redesign options for construction document sets. Designed an aperiodic tiling pattern for a drone arena. Created interior and exterior renders for client use of a project under construction. Model build out and management in Revit. Researched Red-List free materials.

Designer — Summer 2019
Durango Doors, TX
Designed to specifications custom steel doors. Detailed thresholds and jambs. Built a database of over one hundred common conditions.

Architectural Intern — Summer 2018
Atlantis Architects, TX
Assisted in design of several residential remodel projects. Drafted construction drawing sets.

Design Skills

Revit	Illustrator	V-Ray	Modeling
Rhinoceros	Photoshop	Enscape	Welding
SketchUp	InDesign	Grasshopper	Wood working
AutoCAD			

Education

Master of Architecture — 2017-2021
University of Texas at Austin, TX
3.88/4.0

Bachelor of Arts in Mathematics and Physics — 2011-2015
Lewis and Clark College, OR
Cum Laude

Software Engineering Immersive — Fall 2022
General Assembly

[in]ARCH Summer Institute — Summer 2015
University of California Berkeley, CA
Graduate with Distinction

Academic Experience

Teaching Assistant — 2018-2021
University of Texas at Austin, TX
Independently led lab sections and workshops covering coursework on construction materials, construction systems, and site considerations/ impacts on design.

Fall 2018//Fall 2019
ARC 385K Construction I
Professors: Francisco Gomes//Aleksandra Jaeschke

Spring 2019
ARC 385L Construction II
Professor: Benjamin Ibarra Sevilla

Spring 2020//Spring 2021
ARC 383S Site Design
Professor: David Heymann

Teaching Assistant, Grader — 2012-2015
Lewis and Clark College
Courses included Calculus II, Intro Physics, Advanced Electricity and Magnetism, Deep Space Astronomy, and Perspectives in Math.

Research Assistant — Summer 2013
Lewis and Clark College
Successfully built and operated holographic optical tweezers in the optical physics lab of Professor Shannon O'Leary.

Honors

Second Place Winner, Corners Catagory
Low-Rise Competition
See lowrise.la/winners.

James and Joanne Pratt Japan Travel Scholar — Spring 2020
Postponed due to COVID-19. "The Architecture of Sleep: An Investigation into Sleep Spaces in High Density Urban Areas"

UTSOA Design Excellence Nomination — Spring 2020

Firm Liaison, AIAS — 2019-2020
Responsible for firm contacts and networking events on behalf of the AIAS UT Austin chapter

Provost Scholar — 2017-2020
University of Texas at Austin, TX
Three-year recipient of the Provost Fellowship

Tau Sigma Delta Architectural Honor Society — Inducted Spring 2020

UTSOA Dean's Ambassador — 2018-2021

Neely Scholar — 2011-2015
Lewis and Clark College, OR
Recipient, full tuition and fees scholarship

Pi Mu Epsilon Mathematical Honor Society — Inducted Spring 2013

Publications

ISSUE 2020