Portfolio

ALEXANDRA BATTLE

These projects treat design as a search, not a conclusion. Each begins with a simple question or curiousity and unfolds through revision, attention, and making. Craftsmanship is not a finish, but a way of thinking that keeps decisions honest at every scale. Human service anchors the work, so what emerges holds care, clarity, and durability.
Thank you for your looking.

Luminal Dissolution

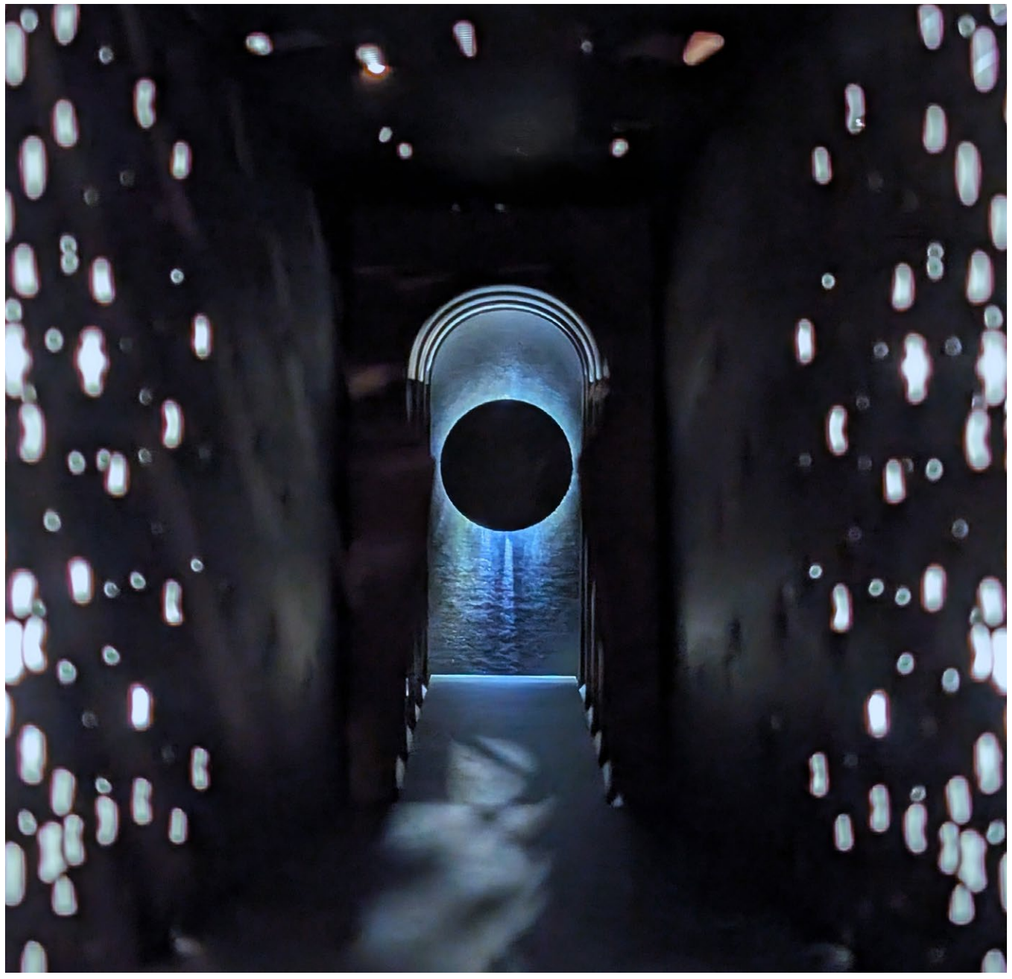
An entrance experience shaped solely by natural light, illustrating a transition from the intricate patterns of the universe into entropy and evoking the gravitational pull of a black hole. The solution explores how light alone can guide and disorient within a confined path. Designed as the threshold to an observatory on NASA's Space Camp campus, the project explores how to create emotional momentum through light alone. No electricity or mechanical configurations power the exhibit, only reflective surfaces, precise angles, and calibrated apertures to manipulate sunlight.

Involvement: *Junior Spring Semester*

Location: *Space Camp, Alabama, USA*

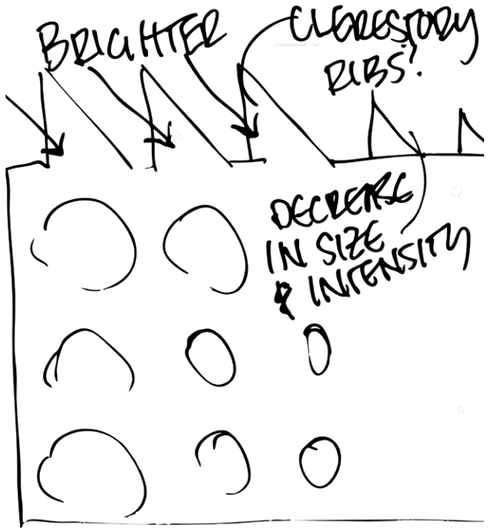
Medium: *Matboard, Vellum, Bass Wood*

Skills: *Laser Printing, Model Construction*

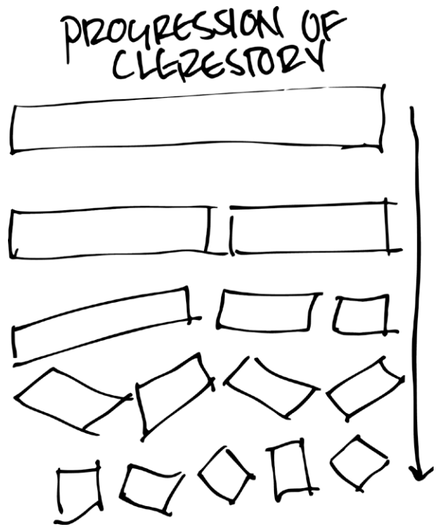


Initial perspective for users as they enter the corridor from the treshold with a clear view through both sections centered on the 'black hole' ahead.

Interior Perspective of Physical Model — *Model Scale - 1:20*

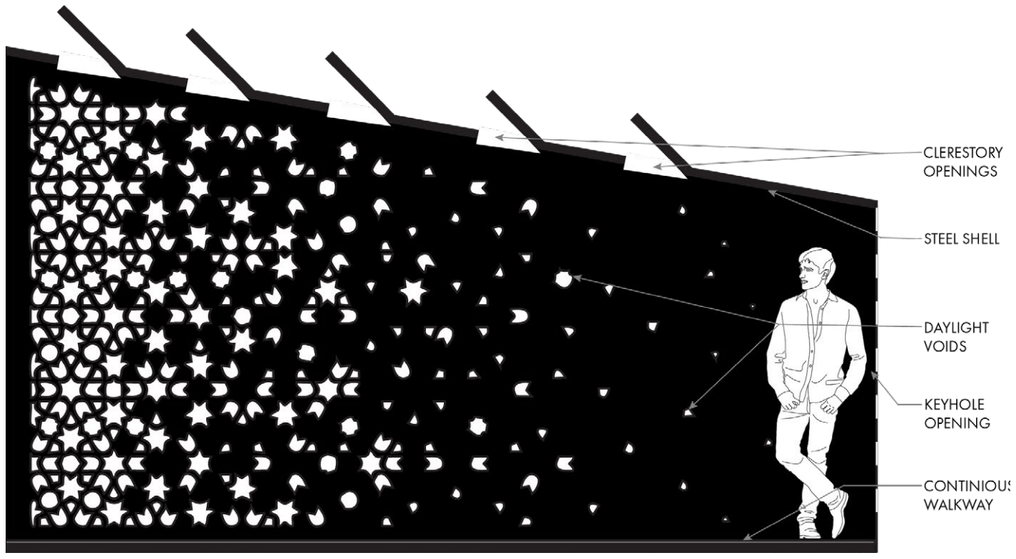


Exterior Elevation Sketch for Entrance Corridor Section



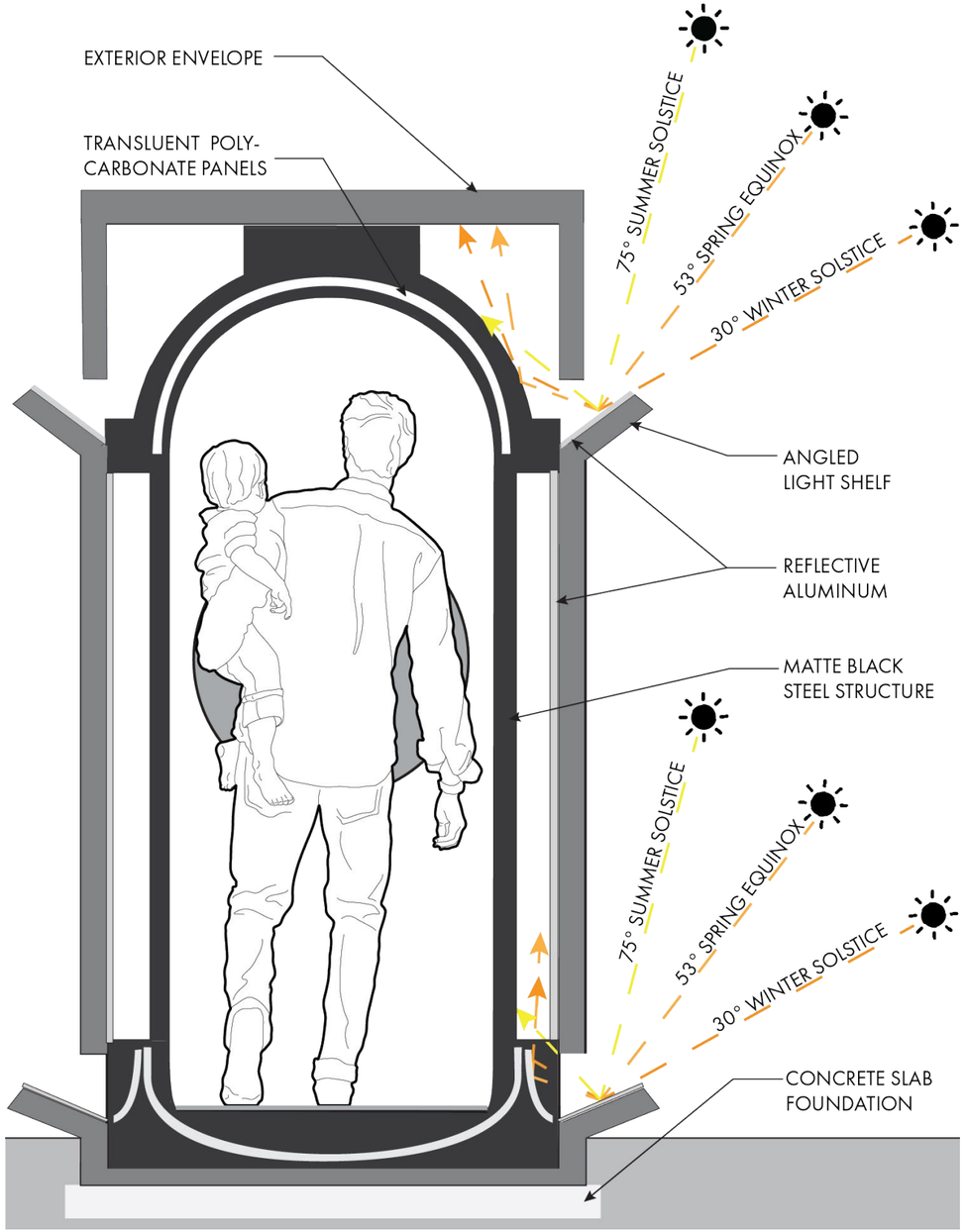
Ceiling Plan Sketch for Entrance Corridor Section

Process Sketches



The pattern's gradual dissolution translates the abstract idea of entropy into a physical journey for the user approaching the black hole.

N-S Entrance Corridor Section — *Scale - 3/8" = 1'-0"*



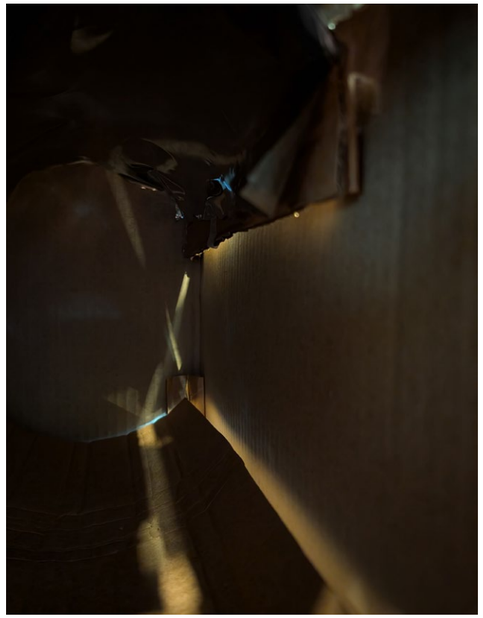
Hidden daylighting elements diffuse and bounce light so the ceiling and walls glow, transforming the corridor into a liminal light tunnel.

Secondary Corridor Section —— *Scale - 3/4" = 1'-0"*

Laser-cut painted basswood and translucent vellum translate the interior frame into a physical assembly.

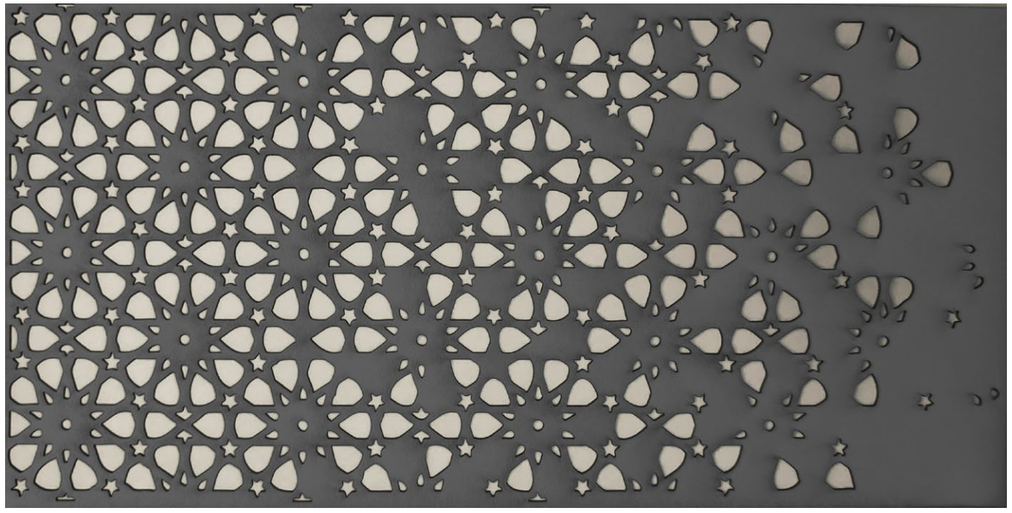
Perspective of Interior Structure Physical Model —— *Model Scale 1:20*

Investigating clerestory projections and view alignment



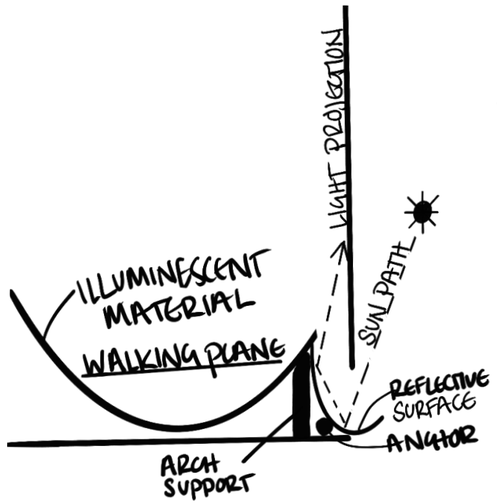
Reflective material positioning and projection study

Study Model Iterations

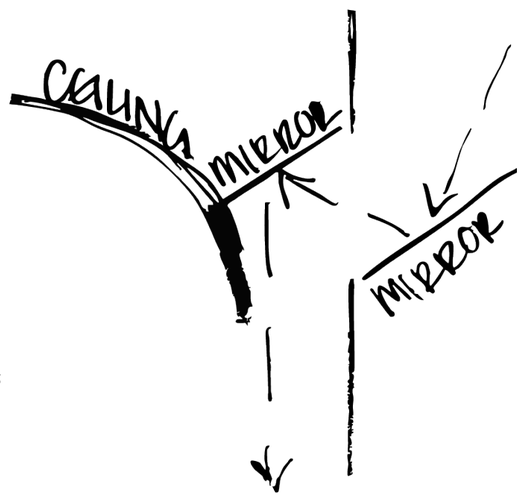


Initial laser cut mat board study exploring visualized entropy through a controlled breakdown of pattern density, scale, and continuity.

Entrance Corridor Pattern Iteration

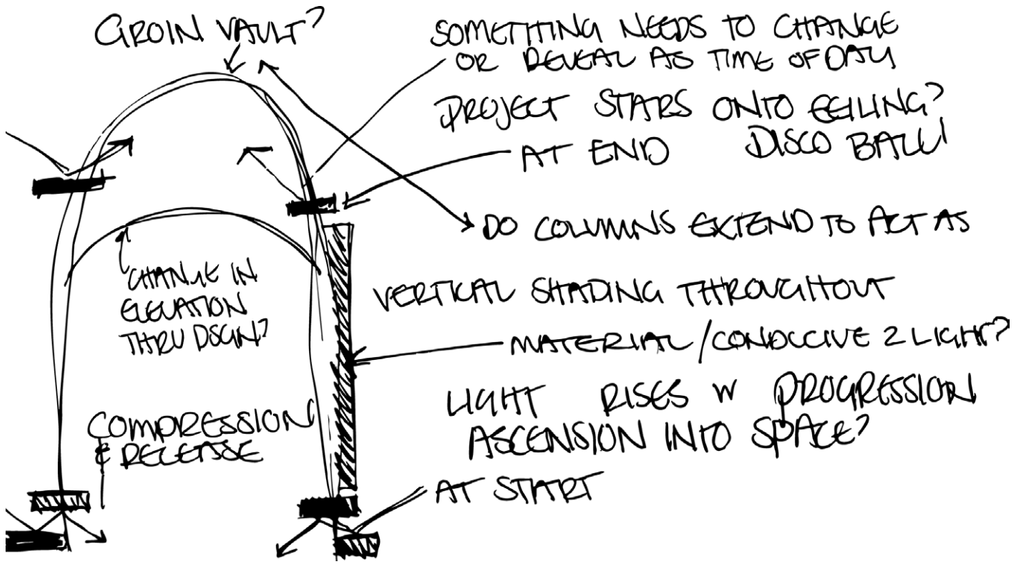


Ground level light shelf reflection logic



Ceiling level light shelf reflection logic

Construction Detail Sketches



Concept sketch experimenting with how curved enclosure and selective apertures choreograph light, compression, and spatial release.

Secondary Corridor Section Sketch

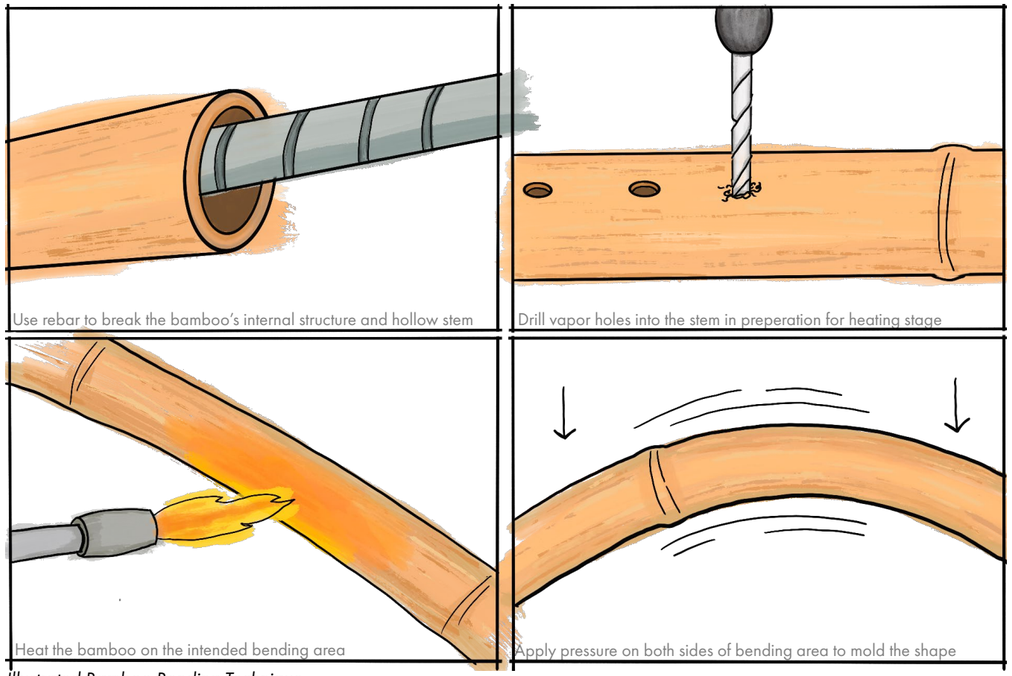
Guided Growth

A garden installation that explores the evolving relationship between nature and structure. Designed as a place for reflection, the project invites visitors to sit within the living canopy of a wisteria tree. With an architectural frame that supports growth the project highlights a sustainable approach to design that embraces impermanence. Blending traditional craft with organic movement, the installation becomes a living archive, shaped by nature and by design.

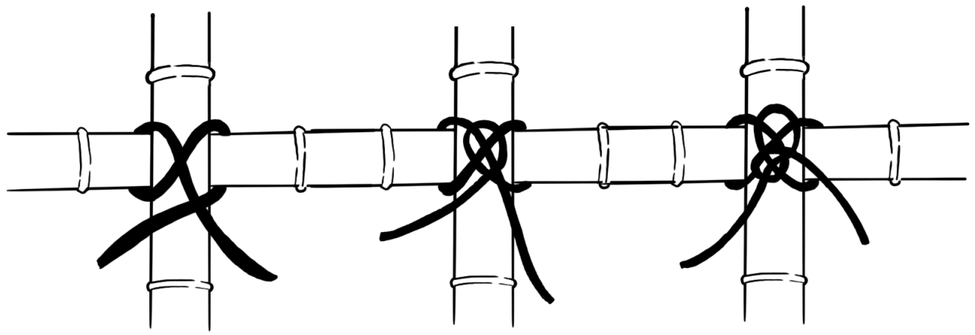
Involvement: *Senior Fall Semester*

Type: *Garden Structure*

Programs: *SketchUp, Enscape*

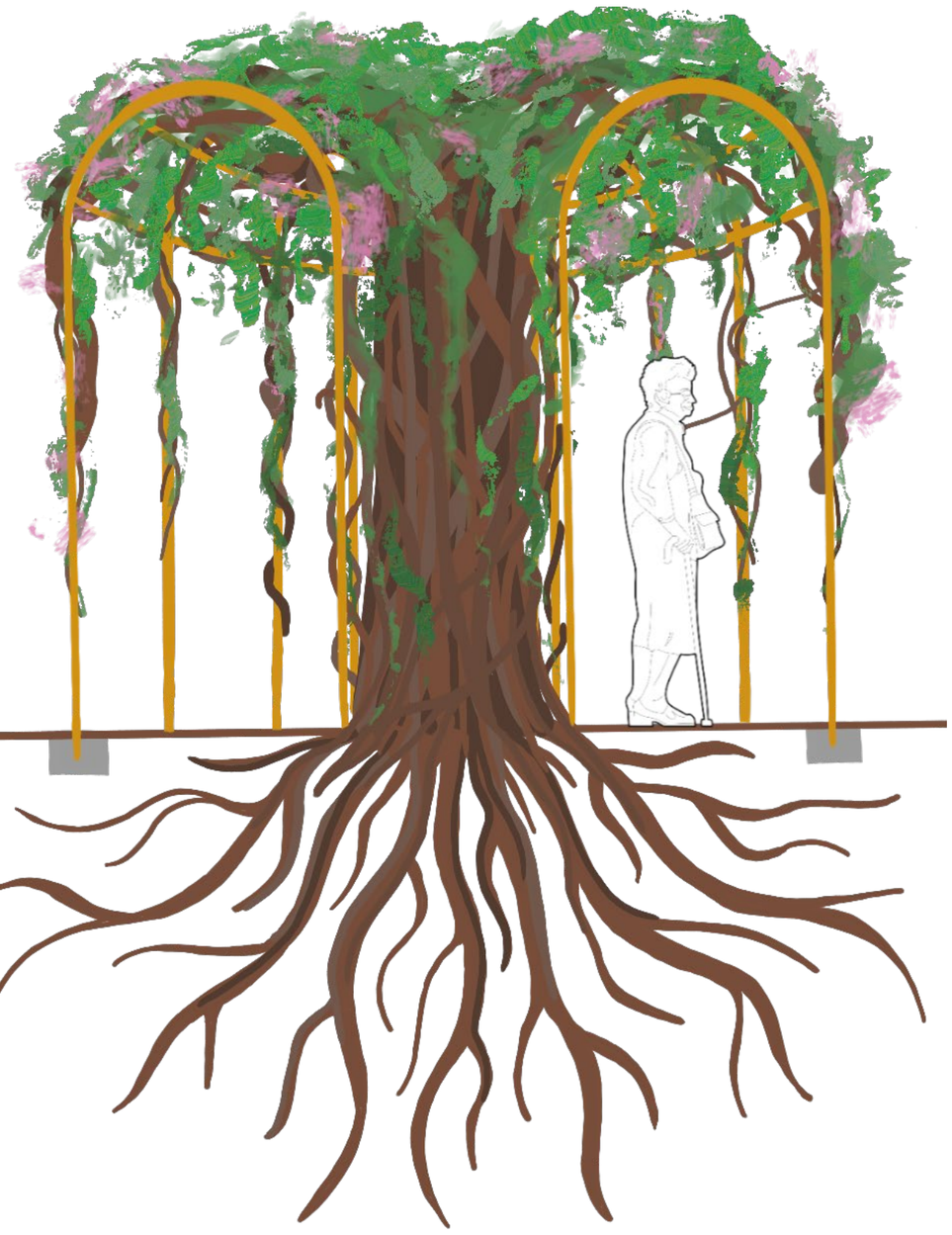


Illustrated Bamboo Bending Technique



Using UV-stabilized polyester lashing cord as the primary fastening method for durable, clean connections.

Bamboo Attachment Detail Sketch

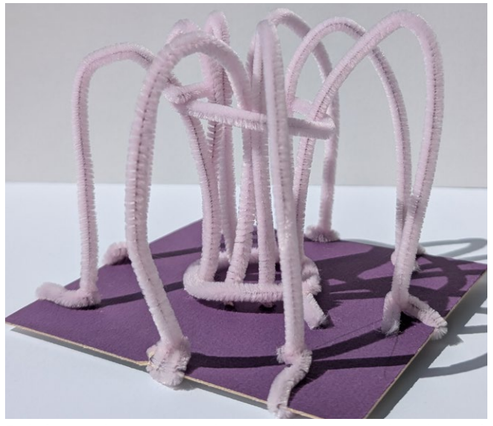


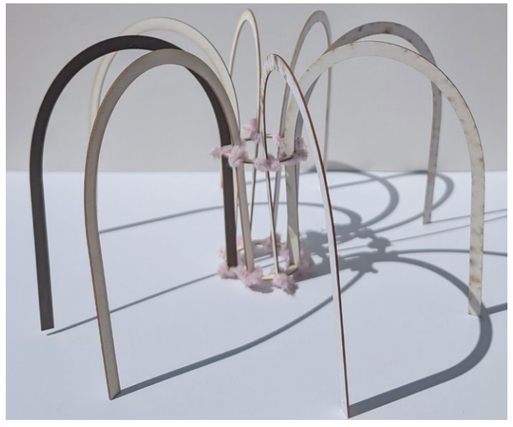
Minimal concrete footings stabilize an intentionally low-impact structure that preserves the root zone using a bent-bamboo frame.

Section Sketch — *Scale - 1/2″ = 1′-0″*

Prompt: (With Massing Model) a wisteria tree trunk framed in the center of the structure, large booms overgrowing the roof and covers supports.

Midjourney Schematic Rendering





Early form studies using pipe cleaners and laser-cut matboard to test fastening methods and structural behavior through two iterative attempts.

Schematic Study Models

Immediately after installation

One year after installation

Five years after installation

Twenty years after installation

A phased growth rendering shows wisteria maturing over time and how the structure guides, supports, and adapts to the vine's changing form.

Time-Progression Perspectives

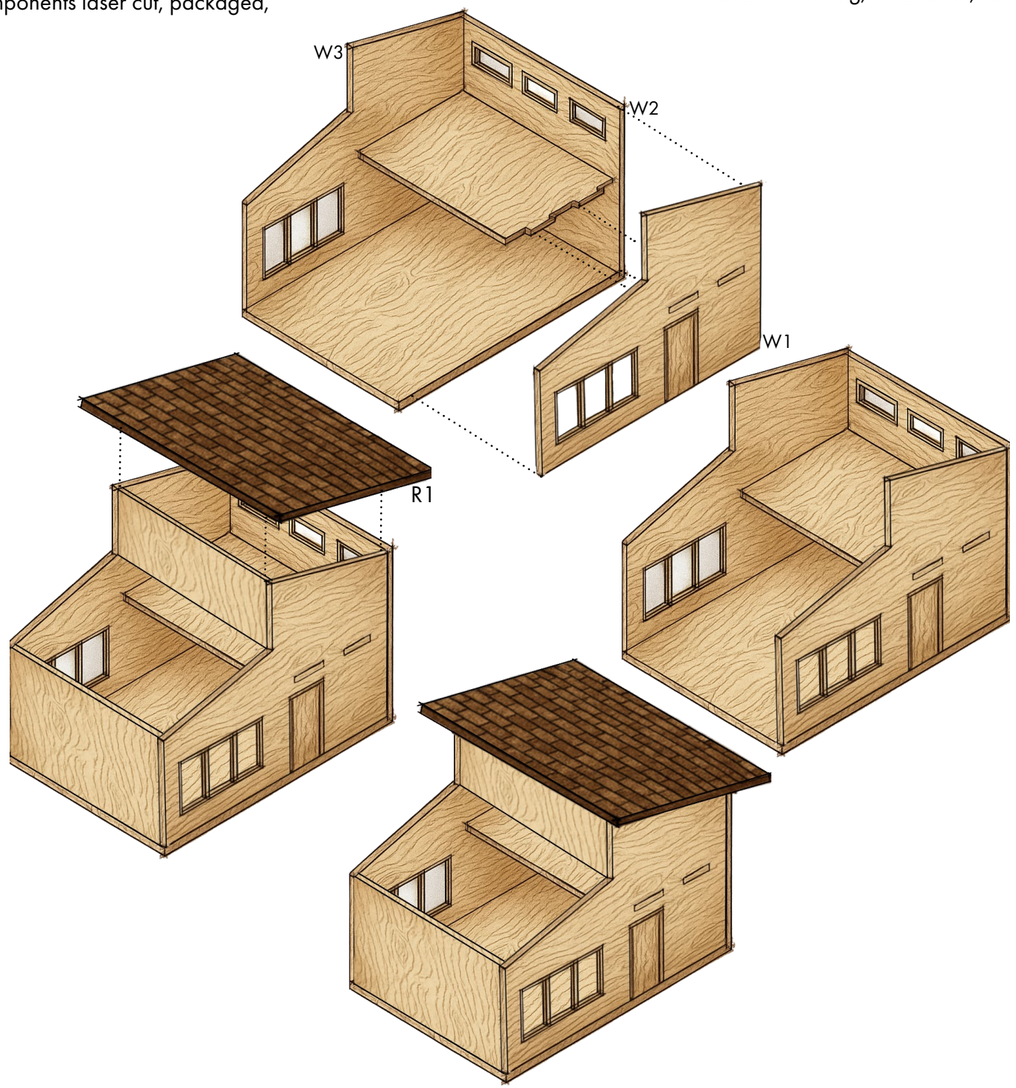
Cabin Construction Kit

An educational model kit designed to introduce high school students to architectural thinking through hands-on construction. The cabin was developed as part of a summer STEM camp, with all components laser cut, packaged, and supported by illustrated instructions. The project emphasized spatial logic, structural clarity, and creative interpretation, offering students a playful entry point into the design process.

Involvement: *Junior Spring Semester*

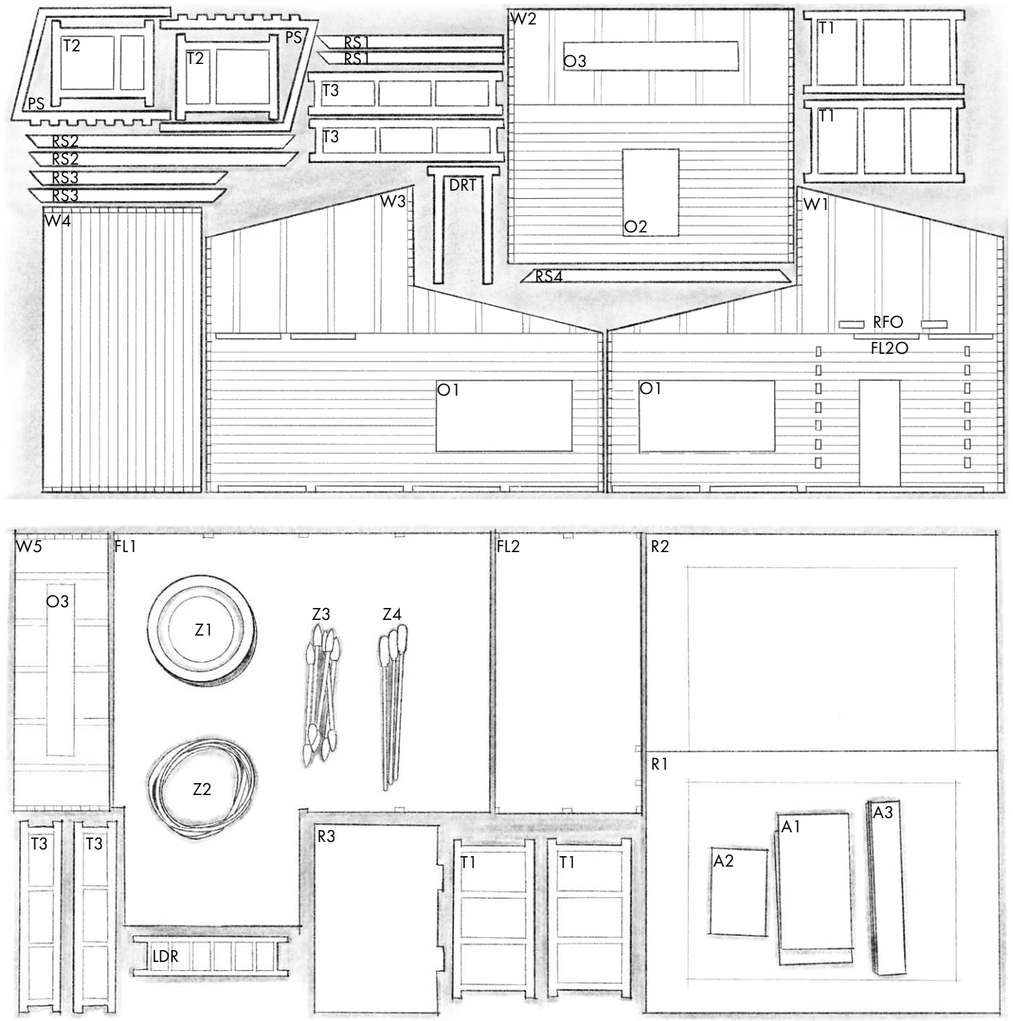
Medium: *Plywood, Wood Glue, Paint*

Skills: *Teaching, Production, Tooling*



Construction guide visuals providing a legible build sequence, helping students understand how each module locks into the full enclosure.

Illustrated Instructions — *Scale - 1/8" = 1'-0"*



A1- O1 Acrylic
A2 - O2 Acrylic
A3 - O3 Acrylic
DR - Door Opening
DRT - Door Trim
FL1 - Floor 1
FL2 - Floor 2
FL2O - Floor 2 Slot
LDR - Ladder
LS - Ladder Slots
O1 - Window 1 Opening
O2 - Window 2 Opening
O3 - Window 3 Opening
PS - Porch Supports
PSO - Support Slots
R1 - Roof 1
R2 - Roof 2
R3 - Roof 3
RF3O - Roof 3 Slot
RS1 - Roof Structure 1
RS2 - Roof Structure 2
RS3 - Roof Structure 3
RS4 - Roof Structure 4
T1 - Window 1 Trim
T2 - Window 2 Trim
T3 - Window 3 Trim
W1 - Wall 1
W2 - Wall 2
W3 - Wall 3
W4 - Wall 4
W5 - Wall 5
Z1 - Wood Glue
Z2 - Rubber Bands
Z3 - Cleaning Swabs
Z4 - Glue Aplicators

Component legend created to standardize part identification across drawings, ensuring a clear and consistent build sequence.

Line Drawing of Printed Wood Sheets — *Model Scale - 1:32*

1

2

3

4

5

6

Student-assembled cabin kit models showcasing variation in finish, material choices, and interpretation of the same construction system.

Finished Cabin Kit Models — *Model Scale 1:32*

A student's representation of their dream get-away, dubbed "The Painter's Cabin". She covered the interior, exterior, and roof of the structure in high contrast paint splatters as an expression of individual freedom.
(Cabin 5)

One student's exploration of integrated iconography adorned the surfaces of their cabin. Inspired by their favorite images from modern media depicted in primary and complementary hues.
(Cabin 4)

This unique post-apocolyptic approach brought innovative design techniques to this cabin. Using wood glue, model trees, and paper machae, vegetation consumed the 'abandoned' model home. The student layered colorful paints to mimic decades of decay.
(Cabin 3)

Students Working on Cabins — *Model Scale - 1:32*

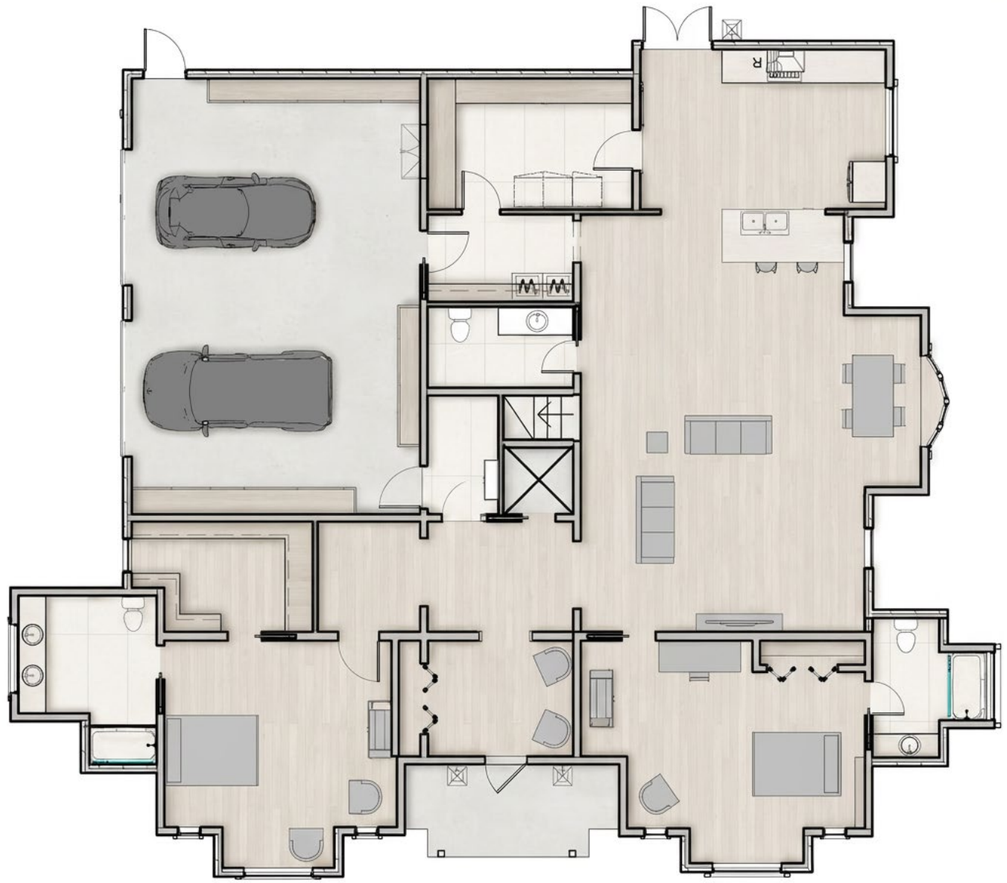
Countryside Wine

Designed for the Wine family, this residence translates rustic French cottage precedent into a contemporary home with château-inspired rooflines and restrained Gothic gable detailing. The client brief prioritized warmth, daylight, and long-term livability, shaping a textured material palette of masonry, dark roofing, and arched openings. Custom furniture and millwork, including built-in seating, hearth-side storage, and tailored cabinetry reinforce the crafted character enduring everyday use over time.

Involvement: *Sophomore Fall Semester*

Software: *Revit, Enscape*

Type: *Residential New Construction*



Modern forever-home plan prioritizing seamless accessibility, with barrier-free circulation and adaptable spaces.

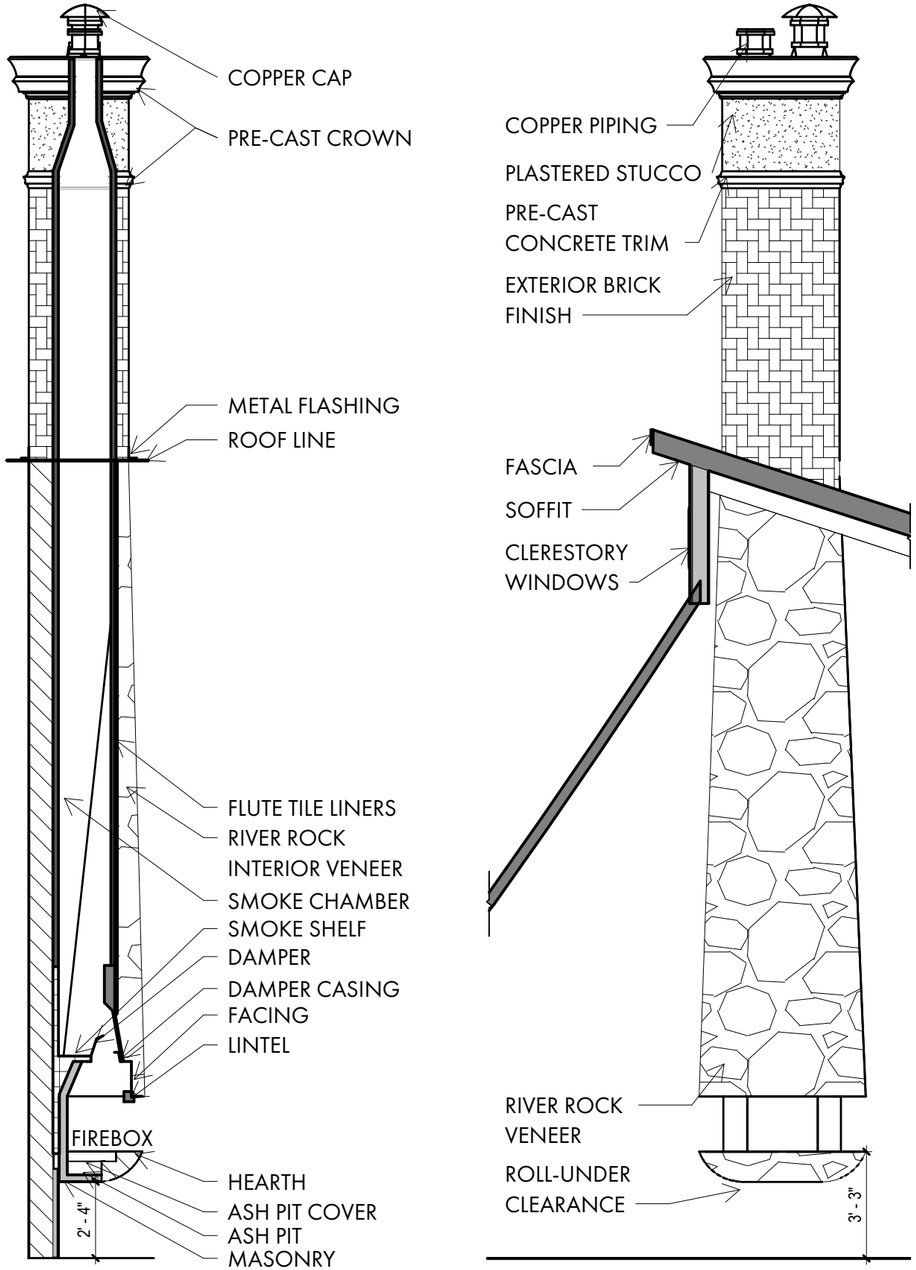
Rendered First Level Floorplan — *Scale 1/32″ = 1′-0″*

Gothic-inspired detailing featured on French château rooflines and steep pitches give the elevation its vertical drama and cottage silhouette.

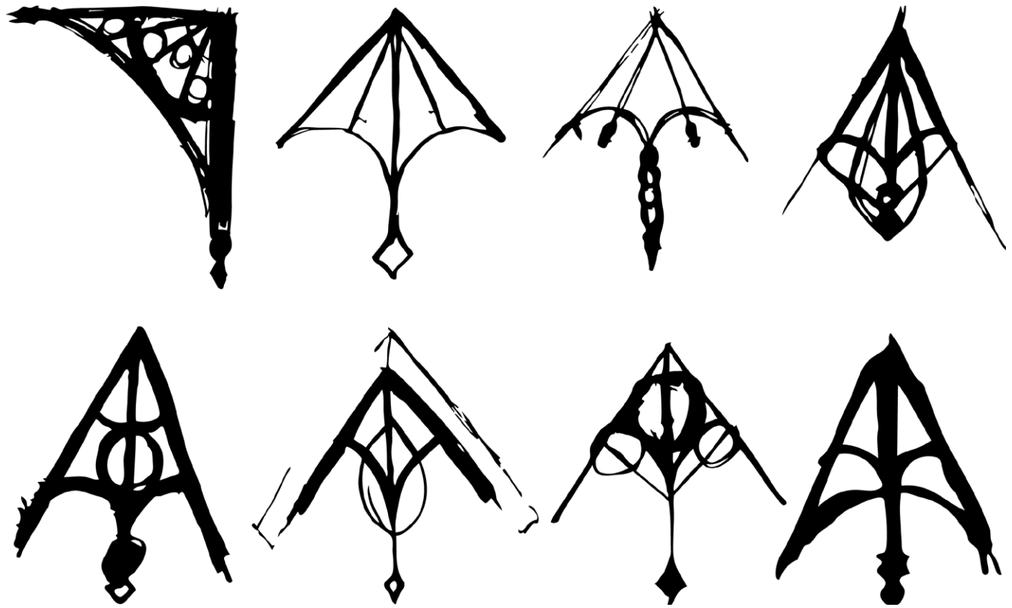
Front Facing Exterior Elevation — *Scale 1″ = 10′*

Early façade study balancing paired hearths with large window openings to emphasize warmth and brightness.

Front Facing Exterior Elevation Sketch

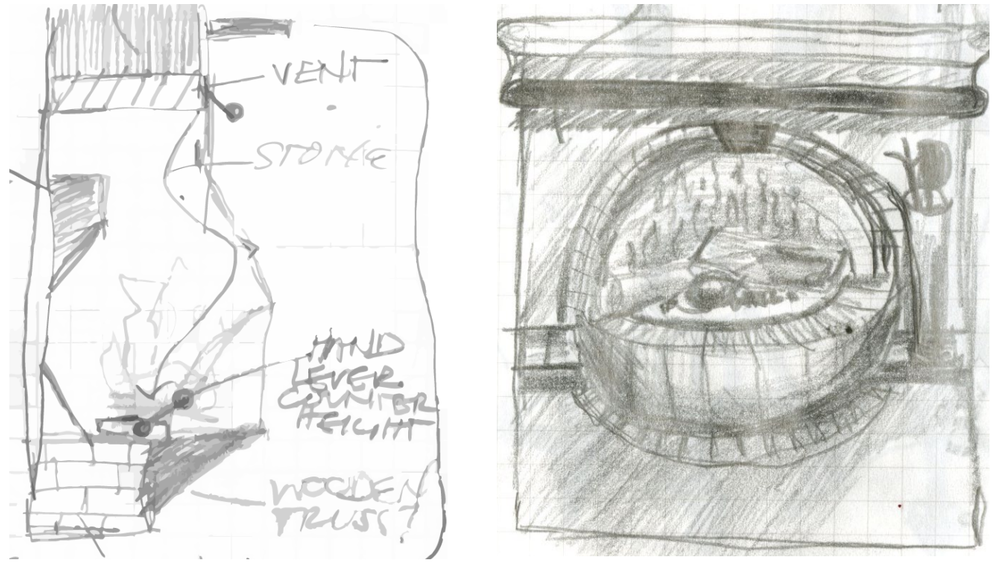


Fireplace Section (Left), Elevation (Right) — *Scale - 1/4" = 1'-0"*



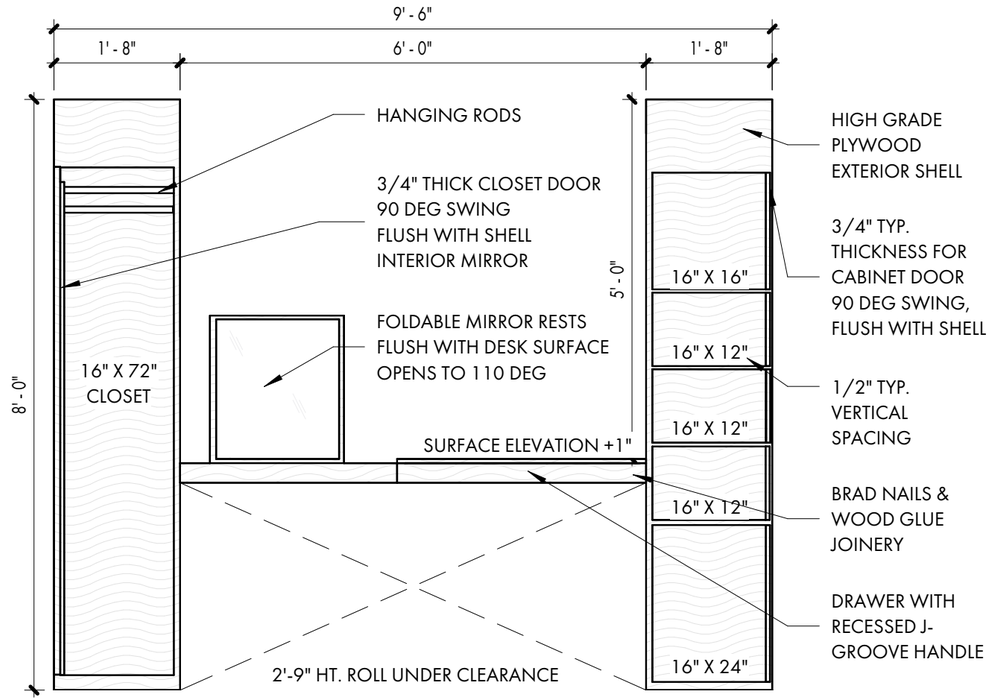
Decorative gable concepts combining French-inspired roof character with lightweight, carved accent geometry.

Gable Detailing Sketches



Bespoke roll-under fireplace design iterated through numerous drawings.

Fireplace Construction Sketches



Standardized dimensions and tight detailing demonstrate compact, buildable millwork scaled for tiny-home living.

Front Elevation of Bedroom Built In —— *Scale 3/4" = 1'-0"*

Integrated desk/vanity/dresser millwork with ample storage and multi-use surfaces, detailed to match the house's material and design language.

Rendered Front-Facing Perspective of Bedroom Built In ——

Japanese Tea House

Inspired by studies of Japanese joinery and spatial sequencing, this tea house distills centuries of craftsmanship into a contemporary interpretation. The exterior focuses on proportion, rhythm, and restraint, drawing from the logic of Kumiko. The project is a deliberate threshold experience, slowing arrival and guiding attention toward measured moments of pause. While the interior furniture was developed in collaboration, my primary focus was the architectural framework itself: the meeting of parts, material transitions, and construction.

Involvement: *Junior Fall Semester*

Location: *Kyoto, Japan*

Medium: *Plywood, Acrylic, Shoji*

Skills: *Modeling, Laser Printing*

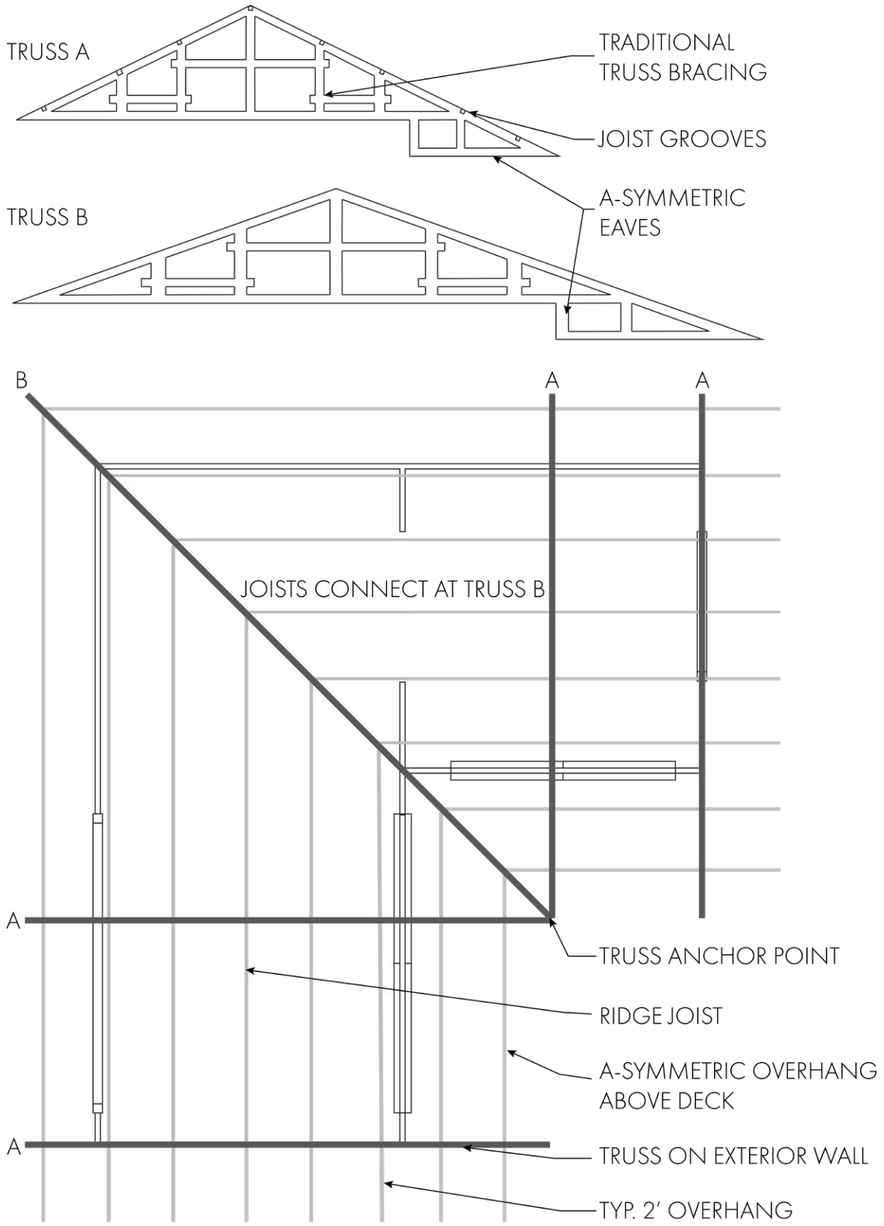
Model structure cut with laser on bass wood. Shoji paper installed in sliding doors and decking made from popscicle sticks.

Constructed Model Exterior Perspective ——— *Model Scale - 1:12*

(Top) TokyoViews. Shigure-tei (Teahouse), Kenrokuen Gardens (Kenroku-en, Kanazawa, Japan). Photograph. (tokyoviews.com), published on Flickr, uploaded Jan 5, 2014
(Bottom) Stoller, Ezra. Installation view of the exhibition "Japanese Exhibition House". Photograph. Photographic Archive, The Museum of Modern Art Archives, New York (IN559.47B).

Precedent study of Japanese porch typologies and joinery-based construction techniques shaping thresholds, shelter, and detail.

Historic Precedent Study



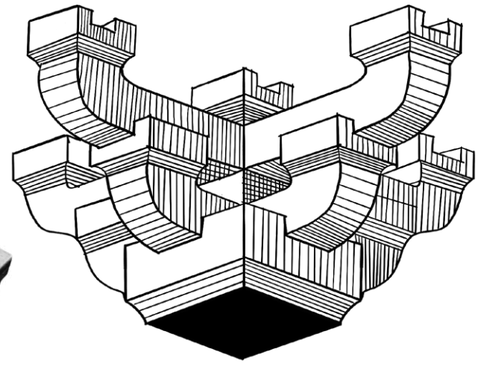
Traditional framing logic featuring inlaid joists integrated within the truss system for a clear, buildable assembly.

Roof Framing Plan & Truss Elevations — *Scale - 1/4" = 1'-0"*

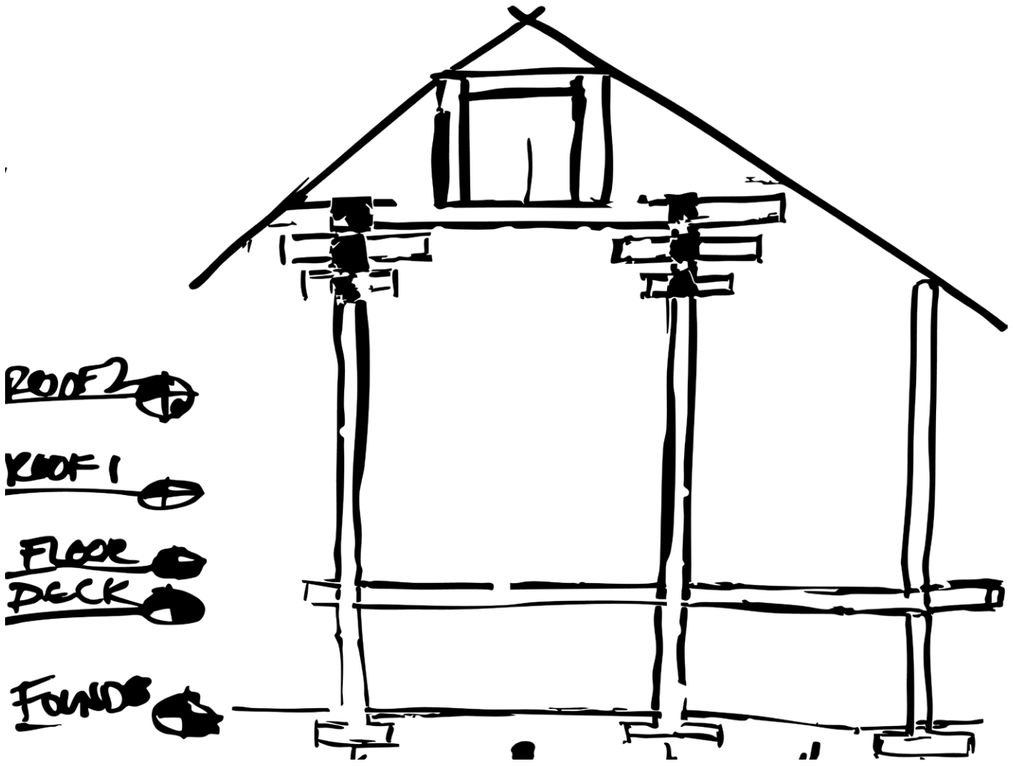
Honors the ritual of ceremony while drawing the garden into the experience through layered thresholds and porches.

Exterior Perspectives of Constructed Model — *Model Scale - 1:12*

Dougong Study Model



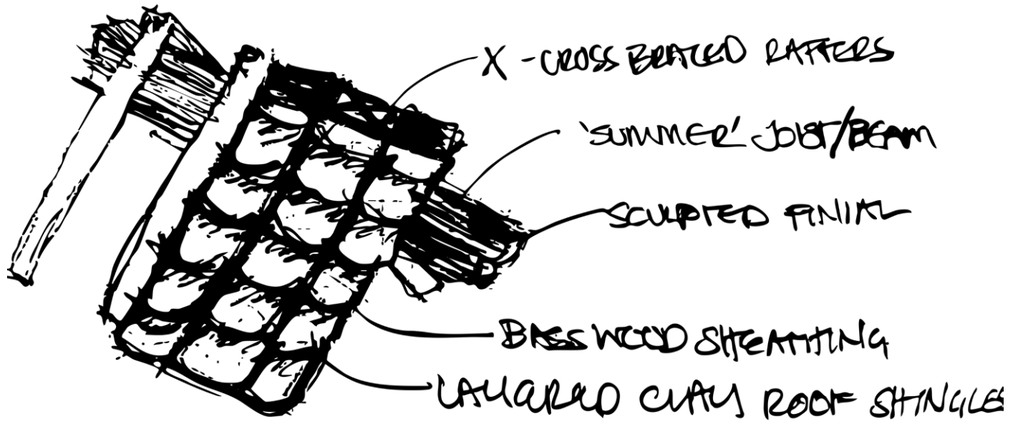
Dougong Sketch



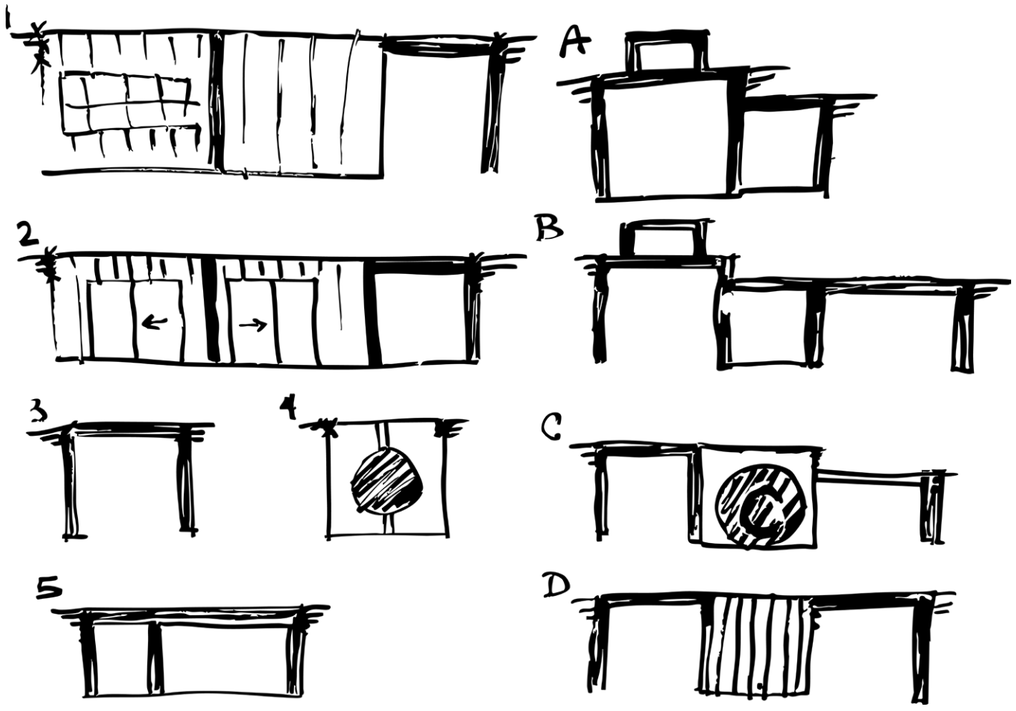
Framing Elevation Sketch

Joinery-driven form finding where the roof profile and overhang are constrained by stacked bracket assemblies.

Process Sketches



Roof Construction Study



Framing Elevation Sketches

Wall assembly sketches mapping how each panel aligns, interlocks, and resolves at corners to create a cohesive enclosure.

Process Sketches

Main Street Revival

A car dominated corridor reimagined as a sequence of pedestrian first public rooms. Pollinator Plaza anchors the shift, transforming leftover pavement into a legible commons where shade, seating, and clear wayfinding invite people to slow down and stay. The design treats environmental care as infrastructure, using native planting and habitat focused detailing to support biodiversity while softening heat and runoff. The result is a main street that feels safer, calmer, and more generous to both daily life and the ecosystems threaded through it.

Involvement: *Senior Fall Semester*

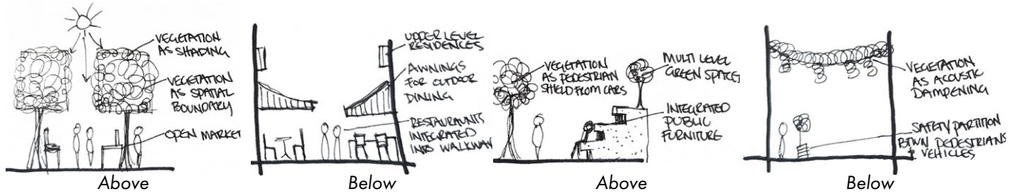
Location: *Johnson City, Tennessee*

Skills: *Space Planning, Revit, Enscape*

Type: City Planning Renovation

MET Entry Arcade, New York, New York: vegetation as shade

Downtown Asheville, North Carolina: public furniture study



Above *Below* *Above* *Below*

Lisbon, Portugal: exterior dining & pedestrian street study

Rome, Italy: integrated vegetation as shade device study

Examples drawn from international travel, documenting strategies I've experienced firsthand and seen strengthen community life.

Public Spaces Precedent Study

Community Interviews

In conversation with Lindsey Jones, Main Street Director for Johnson City, she identified multiple areas for imrovement in the city's downtown area including the lack of pedestrian zones and bike lanes. Jones also articulated a need for green spaces, children's spaces, and outdoor dining.

Sara Delbene, Special Events Coordinator for Johnson City, explained a lack of housing & community spaces; many festivals and events throughout the year shut down roads and open to vendors, concert stages, food trucks and more. Delbene adores these specific occassions and believes it would be beneficial to downtown's vitality to make some of these temporary changes permanent.

Primary Issues Downtown

1. Pedestran Areas

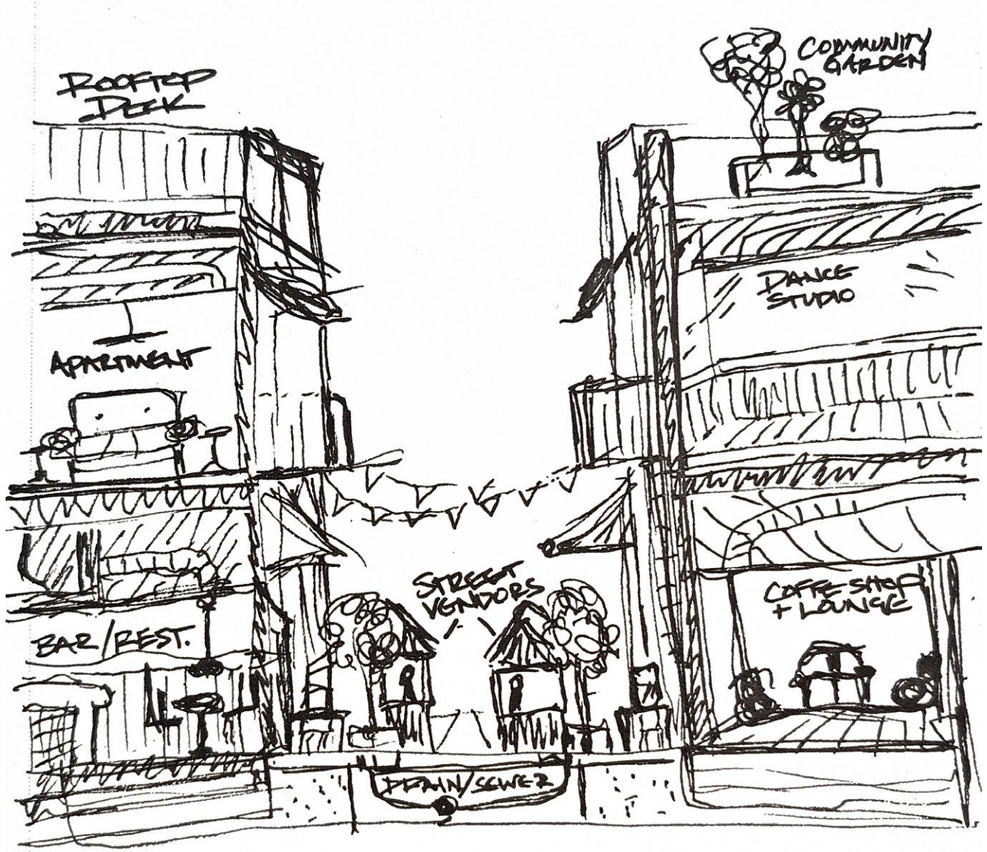
No walkable zones protected from traffic

2. Noise Pollution

Main Street is an echo-chamber for traffic

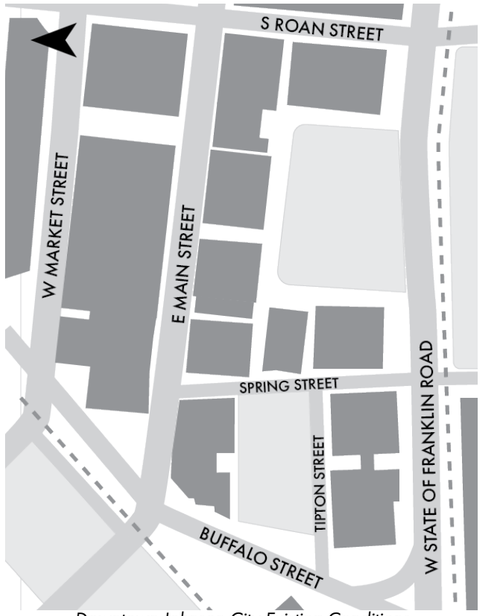
3. Community Spaces

Lack of auxillary gathering areas



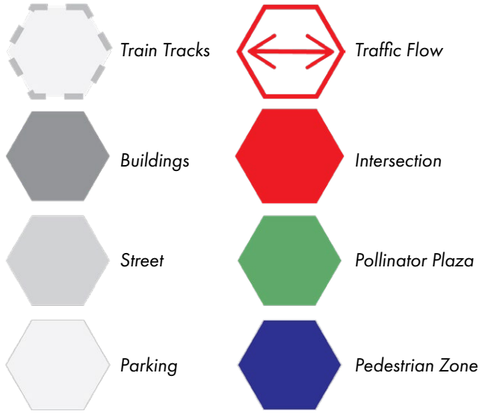
Housing mixed with community spaces, gardens, and vendors along primary pedestrian routes to keep daily life walkable and social.

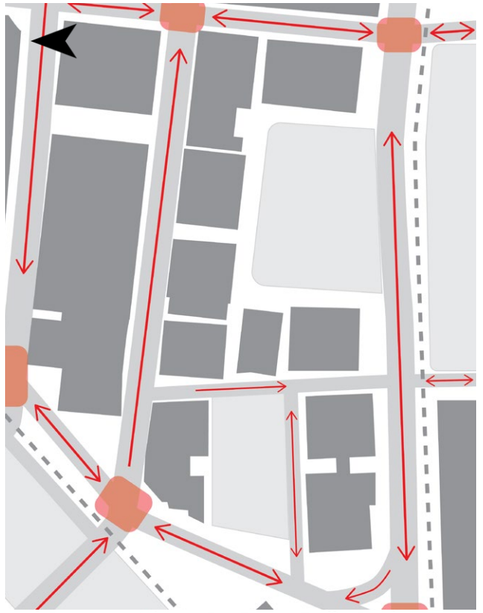
City Street Section Perspective Sketch



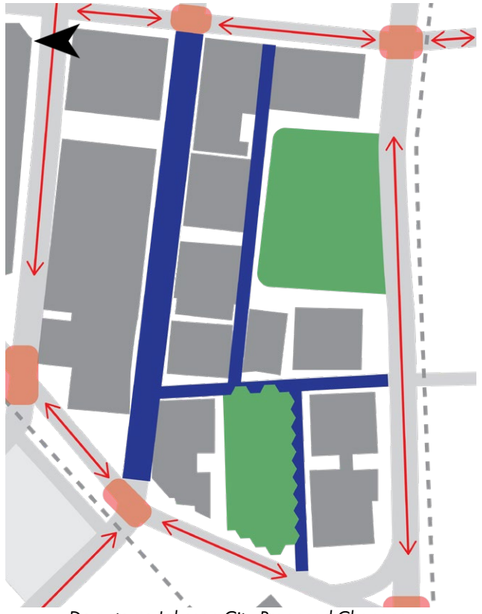
Downtown Johnson City Existing Conditions

Main Street's biggest weakness is traffic dominance: fast movement, frequent turns, and wide lanes break the corridor into fragments instead of a place. Inspired by downtown special-event layouts that temporarily prioritize people, this proposal permanently reallocates space into a public corridor. A chain of eco-friendly plazas, led by Pollinator Plaza, adds native planting, shade, and pause points that encourage everyday connection and slower, safer movement.



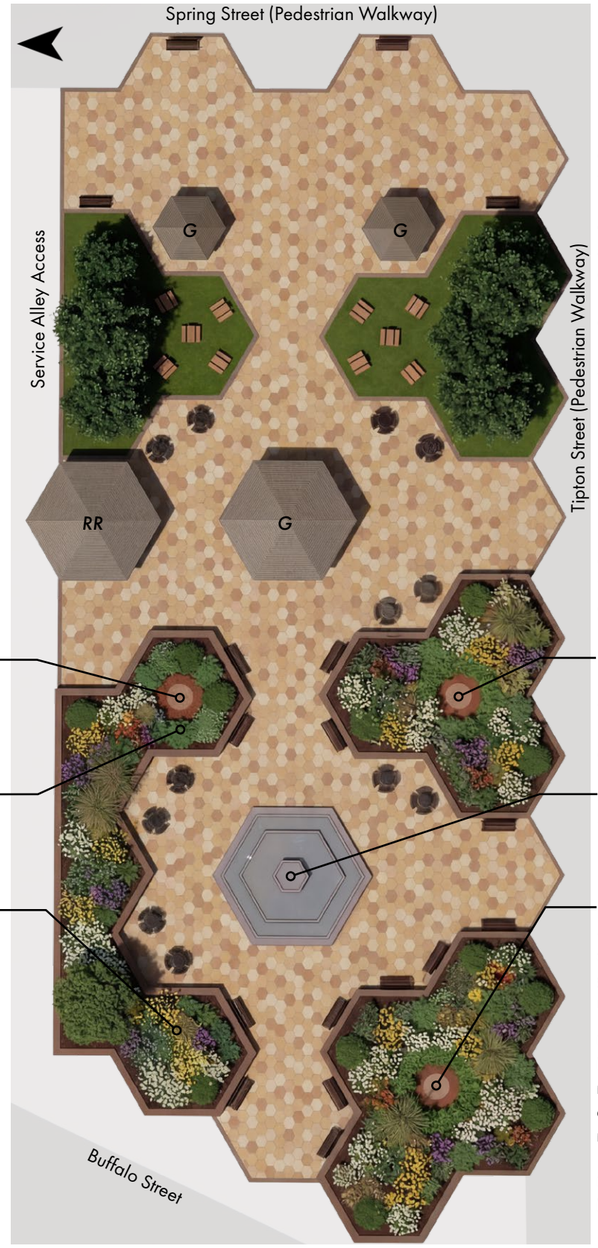


Downtown Johnson City Existing Traffic Conditions



Downtown Johnson City Proposed Changes

Schematic Site Analysis of Downtown Johnson City — *Scale - 1" = 200'*



Pollinator Plaza
A reimagined city parking lot turned native-plant urban pocket plaza that blends seating, wayfinding, and educational elements with protected pollinator habitat, turning everyday public space into working ecological infrastructure and social architecture.

Protected Species
Native bees (including ground-nesting and cavity-nesting species), butterflies and moths, hoverflies, and beetles. Its layered native plantings provide continuous nectar and pollen across seasons.

Overwinter Refuge
Leaf litter and bunch-grass zone left intact through winter to protect dormant pollinators.

Observation Edge
Designed for viewing and education while keeping nesting areas set back.

Refuge Buffer Planting
Dense native perennials and grasses that screen nests, reduce disturbance, and extend forage season.

Planting Strategies
Pairing butterfly milkweed, purple coneflower, bee balm, and blazing star with little bluestem and switchgrass to provide four-season color, habitat, and drought-tolerant structure.

Pedestrian Priority
Raised planters, seat-back edges, and bollards define a vehicle-free envelope while preserving service access at the alley. Circulation stays ADA-clear and directs movement cleanly between street walkways and social nodes.

Acoustic Enviornment
Layered planting and back barriers pull the plaza out of the Main Street echo-chamber by blocking sightlines and interrupting hard-surface reflections. Shade and evapotranspiration cool the space, making it comfortable.

Nesting Core
Protected habitat node with concealed nesting modules and stable micro-climate. No public access.

Moisture Station
Shallow damp soil or pebble basin to support hydration, and cooling.

Ground-Nesting Patch
Sunny, well-drained sandy soil pocket for ground-nesting bees. No mulch, minimal irrigation.

Garden Maintenance
Minimal watering required with seasonal cutback, weeding, and mulch refresh.

G - Gazebo
RR - Restroom

A pedestrian-first plaza that converts leftover parking into everyday community space while protecting native bees through targeted habitat zones.

Rendered Site Plan of Spring Street Pollinator Plaza — *Scale - 1" = 30'*