FAITH VALE

PORTFOLIO 2024-2025

Master of Architecture graduate with CPHC® and LEED Green Associate credentials.

I bridge building science with design for the human experience. My design process pairs modeling and integrated analysis with a strong focus on the human senses.

I use vibrant color, light, and material texture to create spaces that actively engage occupants while remaining deeply rooted in local regionality and context.

As a technical designer, my goal is to prove that high-performance sustainability and rich, human-centric storytelling belong together.

Degrees

Master of Architecture
University at Buffalo
School of Architecture & Planning
2024 - 2026

Bachelor of Science Architecture
University at Buffalo
School of Architecture & Planning
2020 - 2024

Global Studies

Vivienda Collectiva
Technologico de Monterrey
Monterrey, Mexico
Fall 2025

Sustainable Metropolis
Technologico de Monterrey
Monterrey, Mexico
Fall 2025

Grand Tour Redux
University at Buffalo
Southern Europe
Summer 2025

Intro to Urban Planning
Kanazawa University
Kanazawa, Japan
Winter 2024

Sustainable Futures
University at Buffalo x
Monteverde University
Monteverde, Costa Rica
Summer 2023

Stories of Tanzania Sustainability
University at Buffalo
Tanzania
Winter 2023

Relevant Work Experience

Architecture & Sustainability Intern
Wendel Companies

Buffalo, NY | Feb 2024-May 2025

- Produced architectural drawings, 3D models, and renderings using Revit, Enscape, and AutoCAD for multiple project phases
- Performed site inspections of roofs and facades to conduct pre-design fit-out and pre-construction assessments
- Expanded a digital library of sustainable materials
- Coordinated LEED documentation for multiple high-performance building projects
- Supported the refinement of concrete standard specifications through research with the structural and sustainability team
- Executed preliminary energy modeling in cove.tool and developed Revit visuals for integrated energy reports
- Generated diagrams and site plans for various reports like the firm's Annual Sustainability Report
- Conducted EUI and ROI analysis for multi-school window replacements to determine the most cost-effective, high-performance building envelope solutions

Summer Intern
NYC School Construction Authority

Long Island City, NY | Jun 2022-Aug 2022

- Drafted feasibility studies and SHPO documentation during early-stage design phases
- Performed site visits and field inspections to document existing conditions for public school infrastructure
- Collaborated with project managers and engineers to analyze design processes and construction workflows
- Managed Bluebeam Studio sessions to facilitate real-time document review for multi-disciplinary teams and organized project filing systems to streamline team communication

Languages

English (Native)
Spanish (B2)

Relevant Work Experience

Graduate Teaching Assistant

University at Buffalo
School of Architecture & Planning

Buffalo, NY | Aug 2024-May 2025

Courses:
Structures 1 and Environmental Systems 2

- Facilitated the delivery of course content and led labs and interactive sessions
- Evaluated assignments, quizzes, and exams, providing constructive feedback to improve student learning outcomes
- Held weekly office hours to troubleshoot technical issues and clarify complex structural and environmental concepts

Print Lab Assistant

University at Buffalo

Buffalo, NY | Aug 2023-May 2025

- Operated and maintained large-format printers
- Provided technical support for BIM workflows and complex large-format plotting

Sales Associate

Build-A-Bear

Buffalo, NY | Feb 2022-May 2025

- Maintained high-volume retail operations while managing a full-time graduate courseload

Credentials

Certified Passive House Consultant (CPHC)

PHIUS
January 2025

LEED Green Associate

USGBC
April 2026

Software

Revit
AutoCad
Rhino
Illustrator
InDesign
Photoshop
Cove.tool
BEopt
Ladybug
Lumion
Enscape
D5
Bluebeam

Academic Leadership/ Achievements

Academic Excellence Showcase, 2025

Intersight 26 publication, 2024

Intersight 27 publication, 2025

Alpha Rho Chi (APX) - Treasurer, 2023

National Organization for Minority Architecture Students (NOMAS) - Treasurer, 2025

The Effects of Fly Ash and Nylon Fiber Performance of Pervious Concrete (2019-2020)
Long Island Science & Engineering Fair (LISEF) Participant, 2020
Junior Science and Humanities Symposium (JSHS) Participant, 2020
Regeneron Participant, 2020

The Effects of Volume on the Flow Rate, Porosity, and Compressive Strength of Pervious Concrete (2018-2019)
Long Island Science Congress (LISC) 2019

Northwell Health Spark! Challenge 2019

References

Christopher Osterhoudt
Wendel Companies
cwosterhoudt@gmail.com
716-688-0766

Randy Fernando
University at Buffalo
randyfdo94@gmail.com
973-452-2148

Chris Romano
University at Buffalo
ctromano@buffalo.edu
716-228-1339

CONTENTS

01

SEEING THROUGH THE SENSES

Year: Spring 2022
Studio: Architecture Design Studio 201 / Prof. Greg Serweta
Location: ArtPark Buffalo, NY
Work: Individual
Software: Rhino, Autocad, Photoshop

Exploring what a rest-stop for all meant. The aroma museum highlights the beauty of the nature around it. A pallet cleanser for the senses. The structure includes smell exhibition rooms, a community greenhouse, private and public seating, along with an all-inclusive bathroom and storage space. The elongated walls of rammed earth and polycarbonate create a forced perspective; The smells of the rooms are associated with the perspective view of where the species is located. The building materials, the native culture, accessibility on the site, and the phenomenology of smell and space all carefully curated to emphasize a total sensory driven experience.

SITE ANALYSIS - AROMA MAPPING

SITE PLAN

RENDER OF THE AROMA MUSEUM

LATITUDINAL SECTION

AROMATIC MODEL

LONGITUDINAL SECTION

02

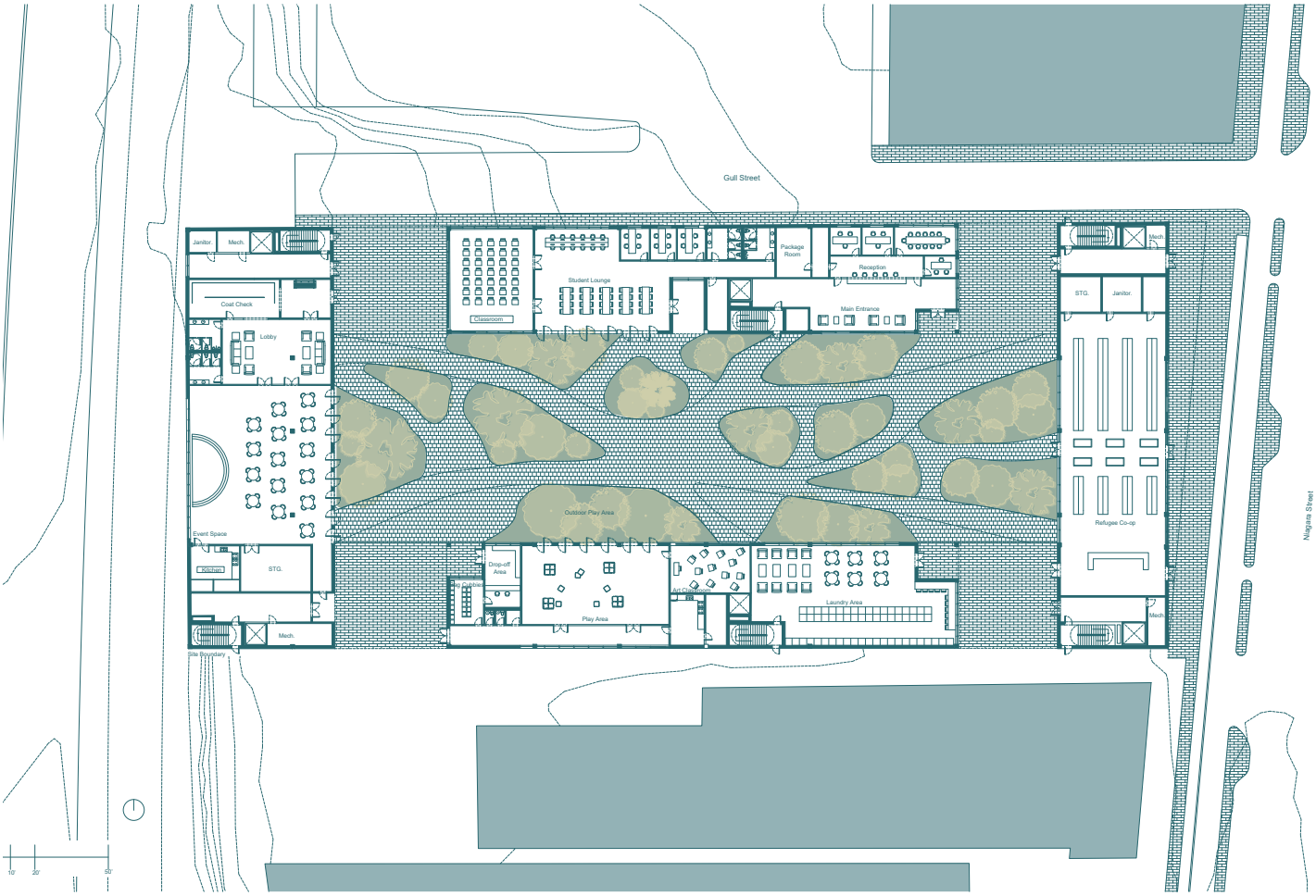
COOPERATIVE NETWORK

Year: Fall 2023
Studio: Architecture Design Studio 601 / Prof. Jason Sowell
Location: Black Rock, Buffalo, NY
Work: Faith Vale and Jasmin Ferreiras
Software: Rhino, AutoCad, Lumion, Photoshop

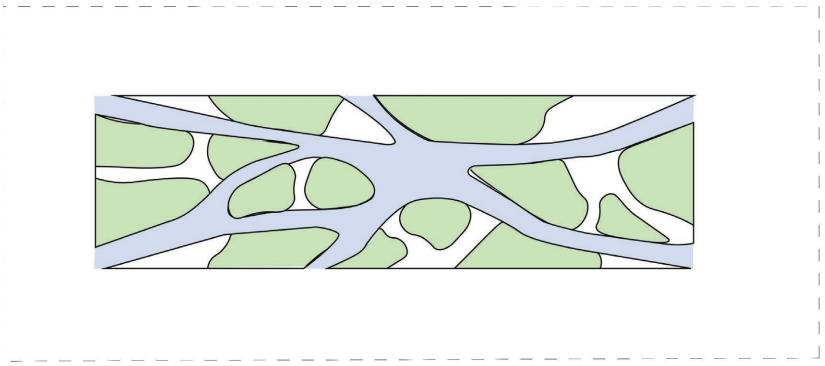
A re-imagined “living network” as a collective housing model for refugees starting new in Buffalo. By weaving co-op spaces like a greenhouse, classrooms, and a cooperative market directly into the complex, the architecture creates a series of active nodes. These spaces go beyond providing shelter; they’re designed to generate jobs, revenue, and the social foundation needed for a truly self-sustaining community.

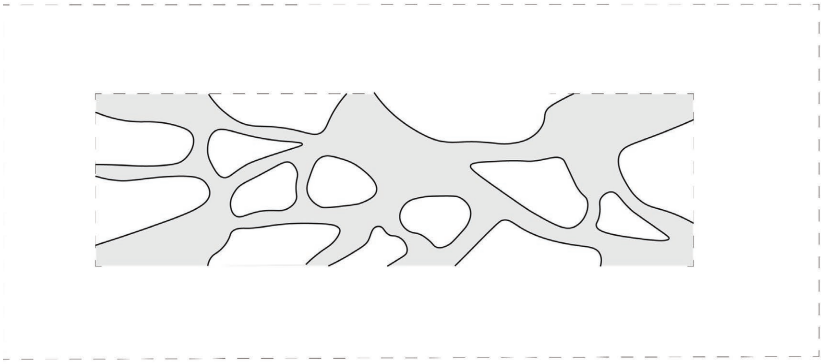
RENDER OF HOUSING COURT YARD

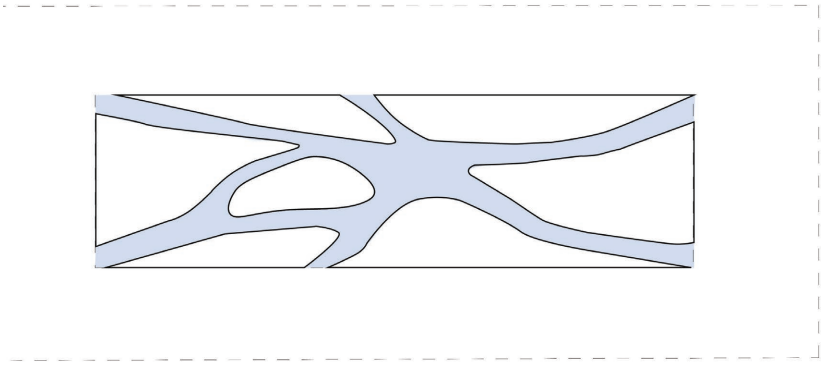
SITE PLAN

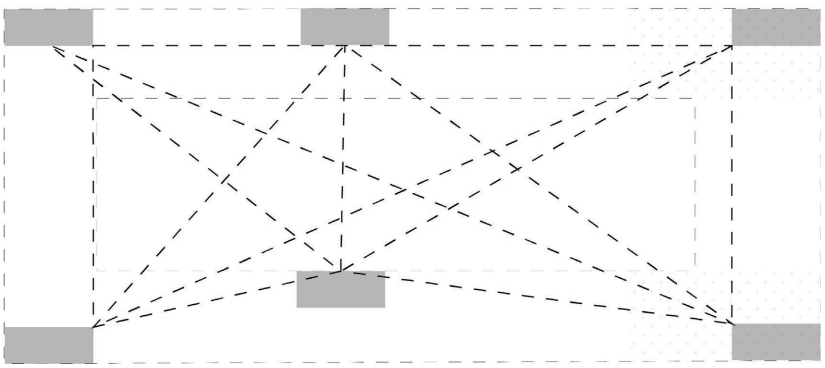

Gull Street
Janitor
Mech.
Coat Check
Lobby
Event Space
Kitchen
STG.
Mech.
Site Boundary
Classroom
Student Lounge
Package Room
Reception
Main Entrance
Outdoor Play Area
Drop-off Area
Play Area
Art Classroom
Laundry Area
Mech.
STG.
Janitor.
Refugee Co-op
Mech.
Niagara Street
10'
20'
50'

SECTION MODEL

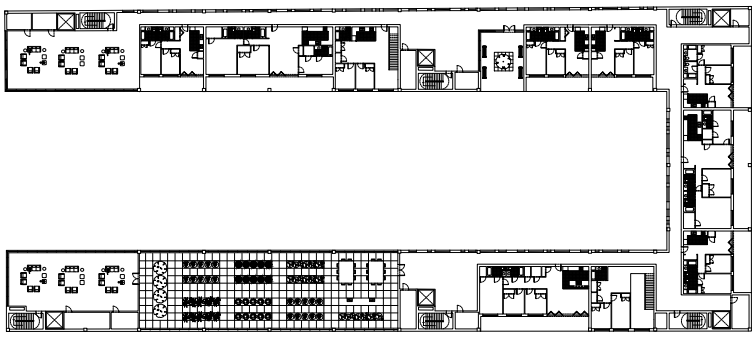








03



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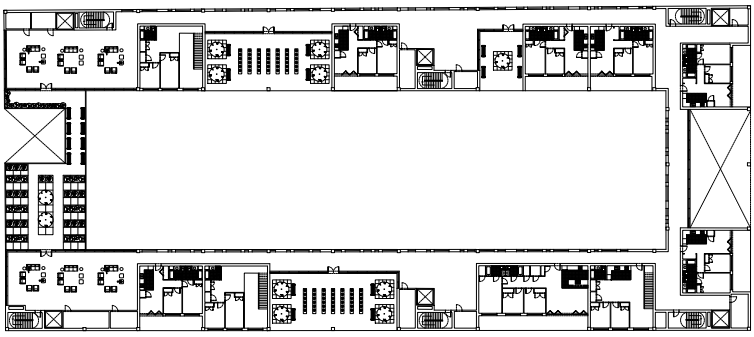
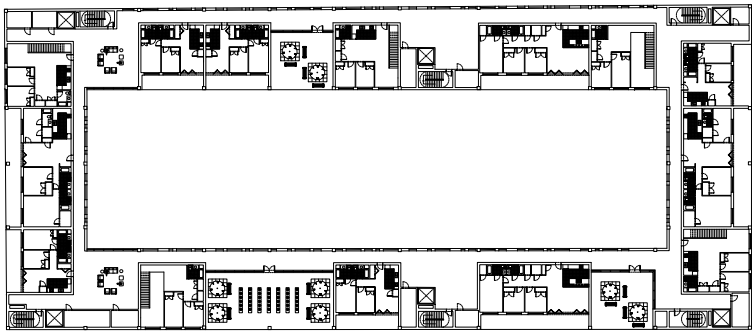
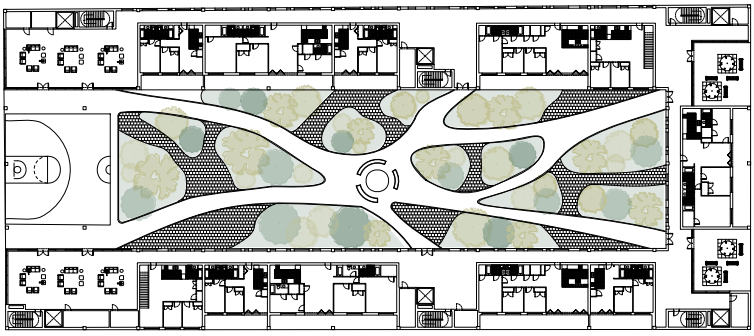


01



GROUND FLOOR



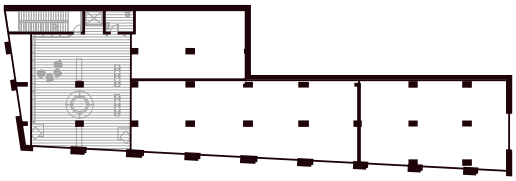
03 UN-VAULTING THE ARCHIVE

Year: Fall 2024
Studio: Prof. Brian Carter
Location: Tribeca, New York, NY
Work: Individual
Software: Rhino, Revit, D5, Photoshop

In downtown Manhattan, the project examined how spatial language such as arches and vaults can redefine accessibility and inclusivity in architecture. The design drew from the expressive power of arches: from grand, vaulted halls to intimate, catacomb like reading spaces. Using scale and rhythm to create a spectrum of experiences and reinterpreting the traditional monumentality of the library, often associated with prestige and exclusivity, the project sought to democratize elegance, offering refined architecture for all.

RENDER OF TEENS LIBRARY

05



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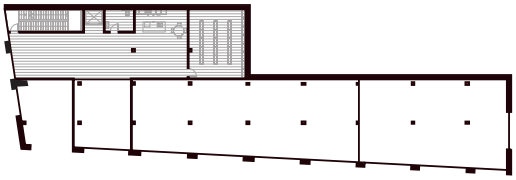

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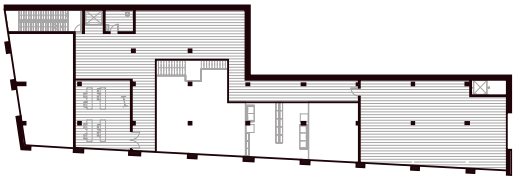
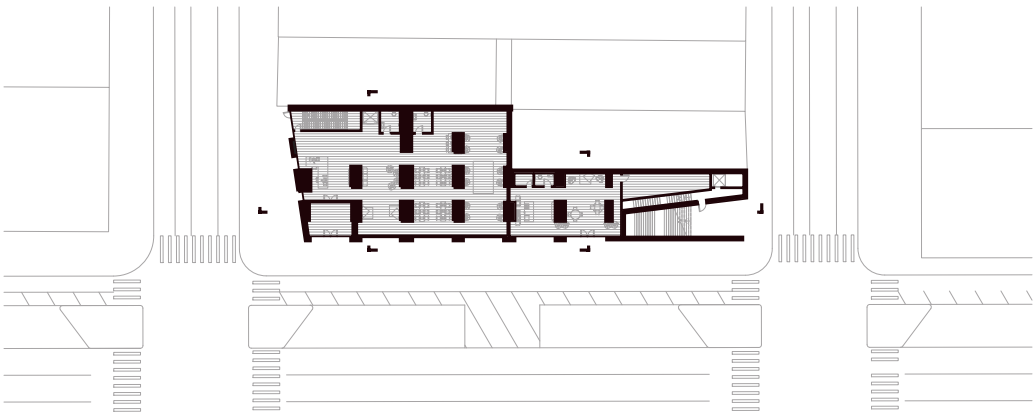
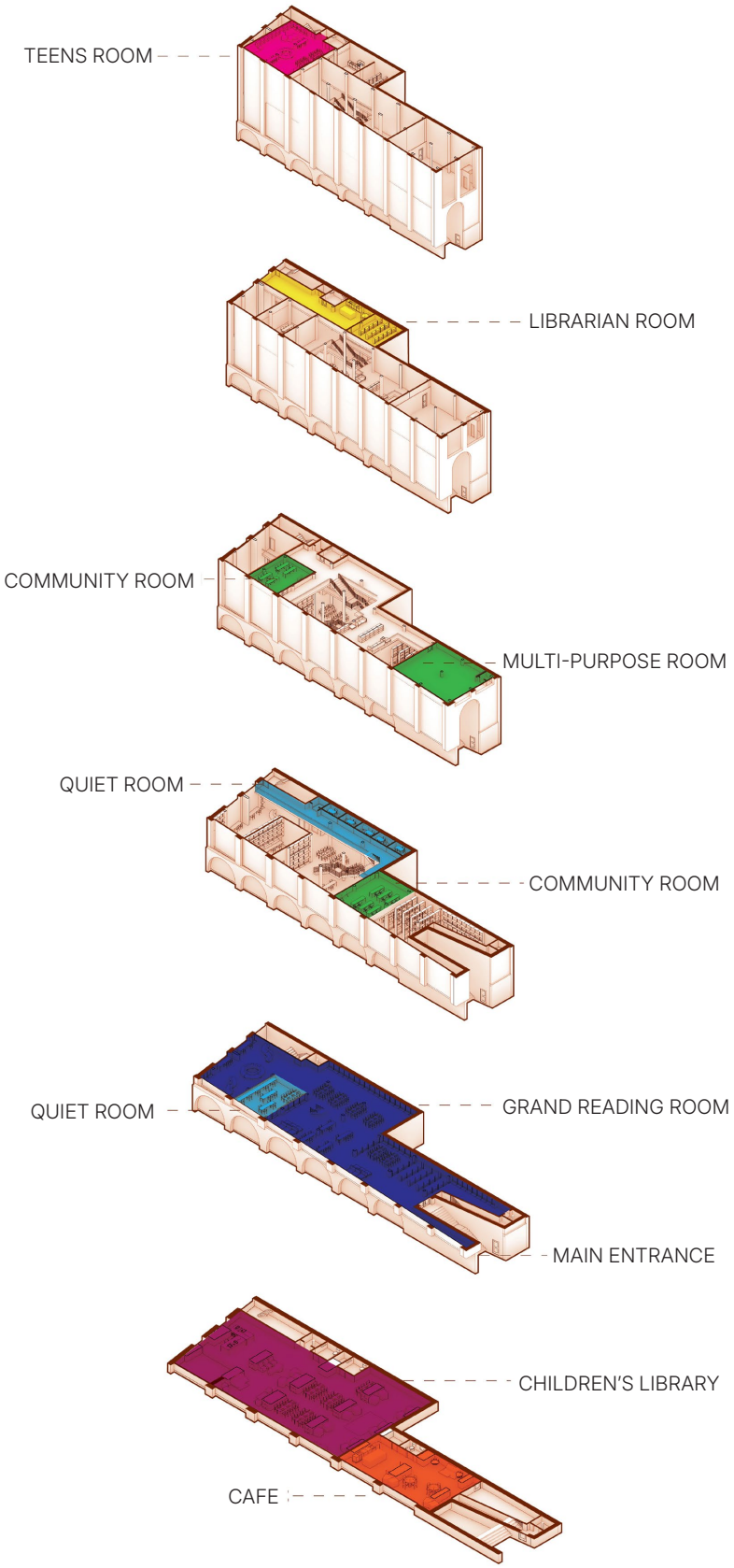


02

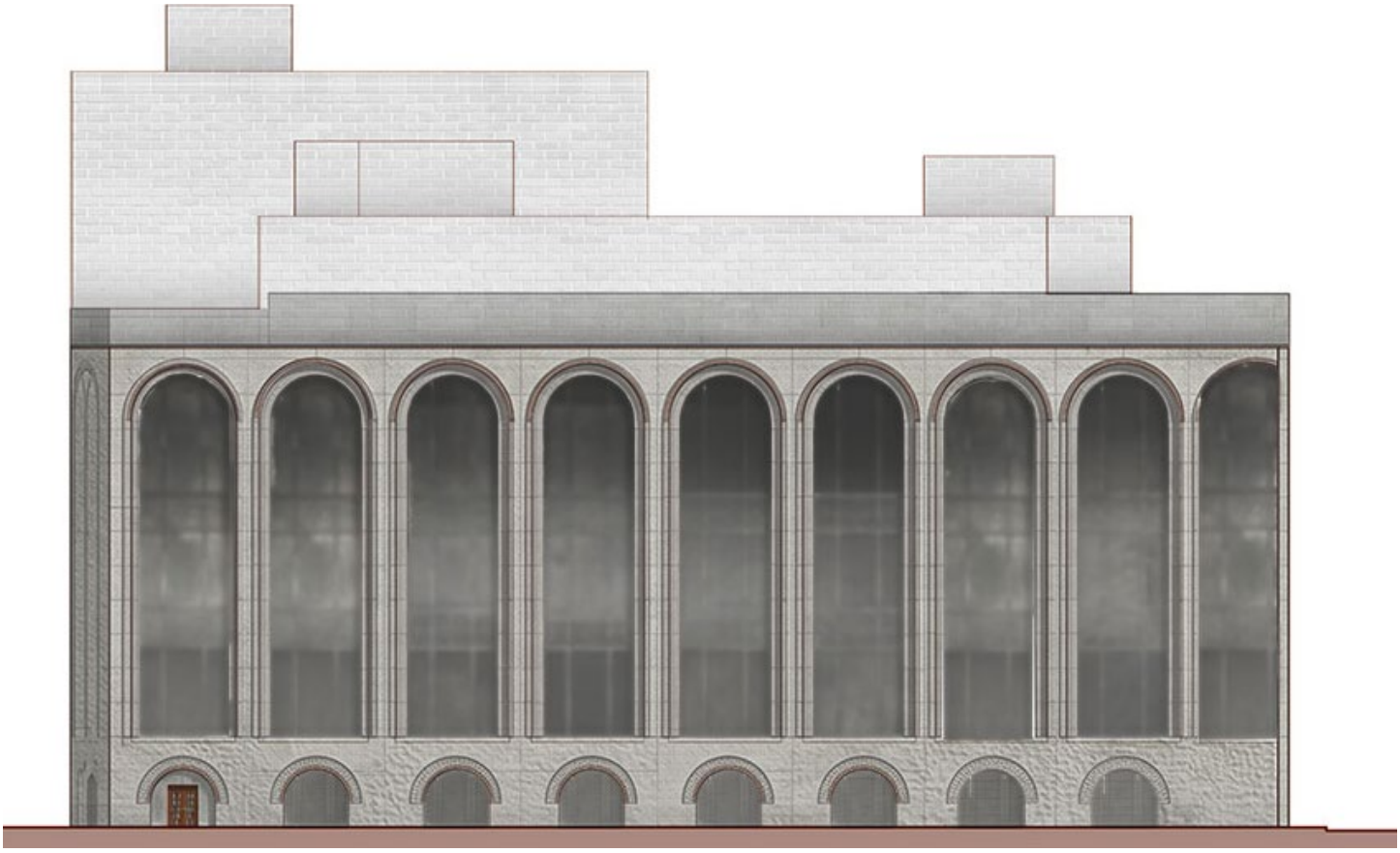
01

GROUND PLAN

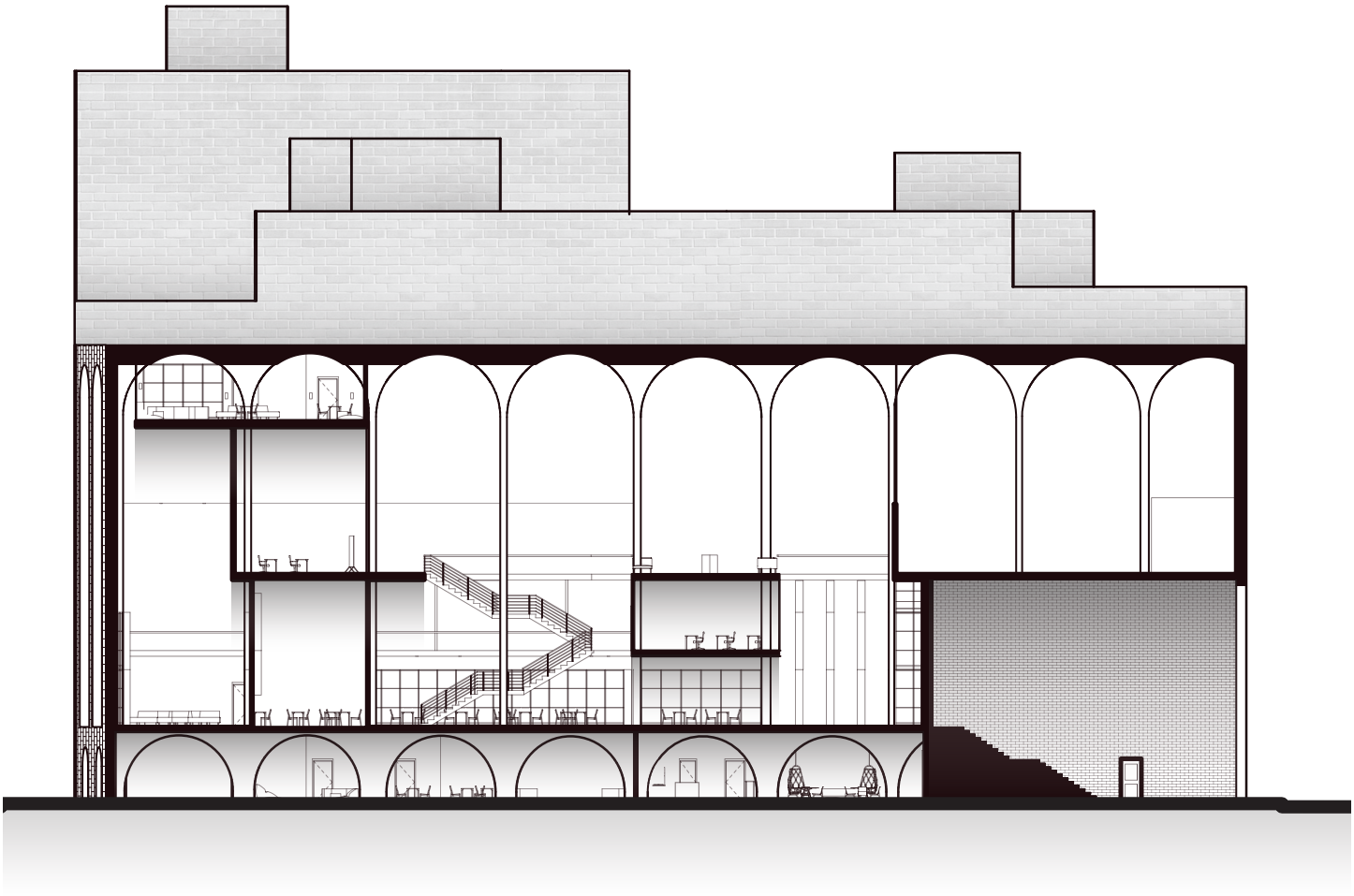



TEENS ROOM
LIBRARIAN ROOM
COMMUNITY ROOM
MULTI-PURPOSE ROOM
QUIET ROOM
COMMUNITY ROOM
QUIET ROOM
GRAND READING ROOM
MAIN ENTRANCE
CHILDREN'S LIBRARY
CAFE

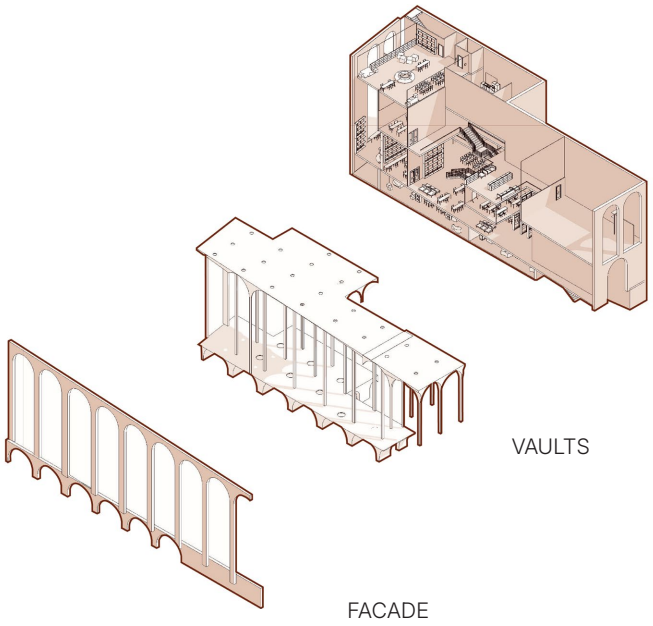
MATERIAL ELEVATION



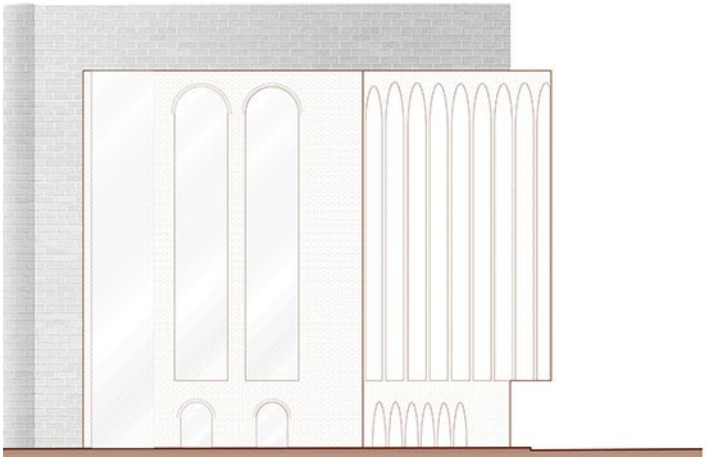
LONGITUDINAL SECTION



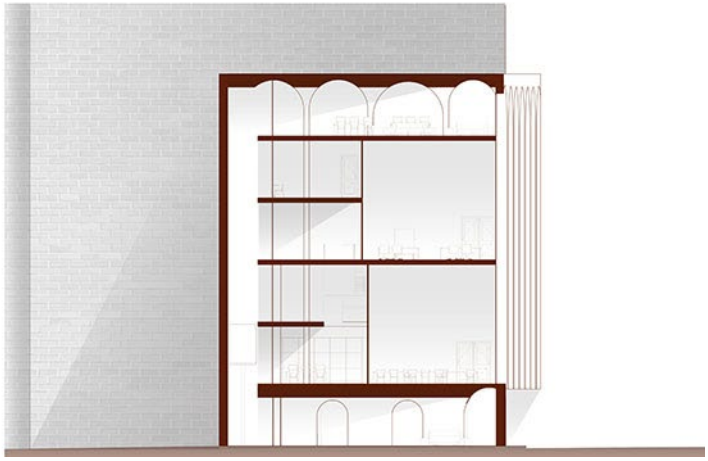
RENDER OF CIRCULATION/READING SPACE



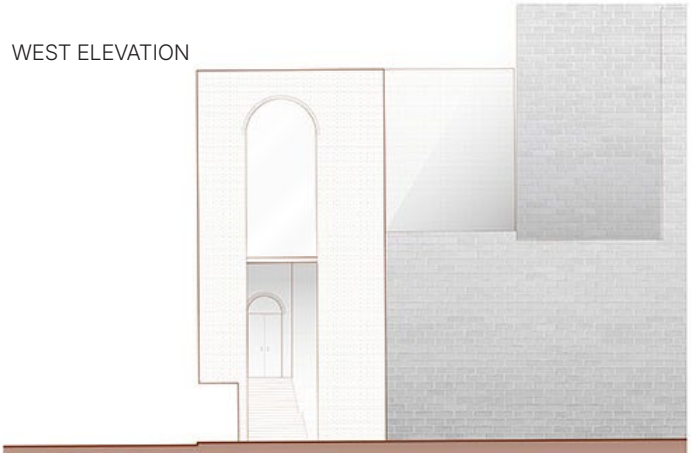
EAST ELEVATION



EAST SECTION



WEST ELEVATION



WEST SECTION

04 LOCK-LINE

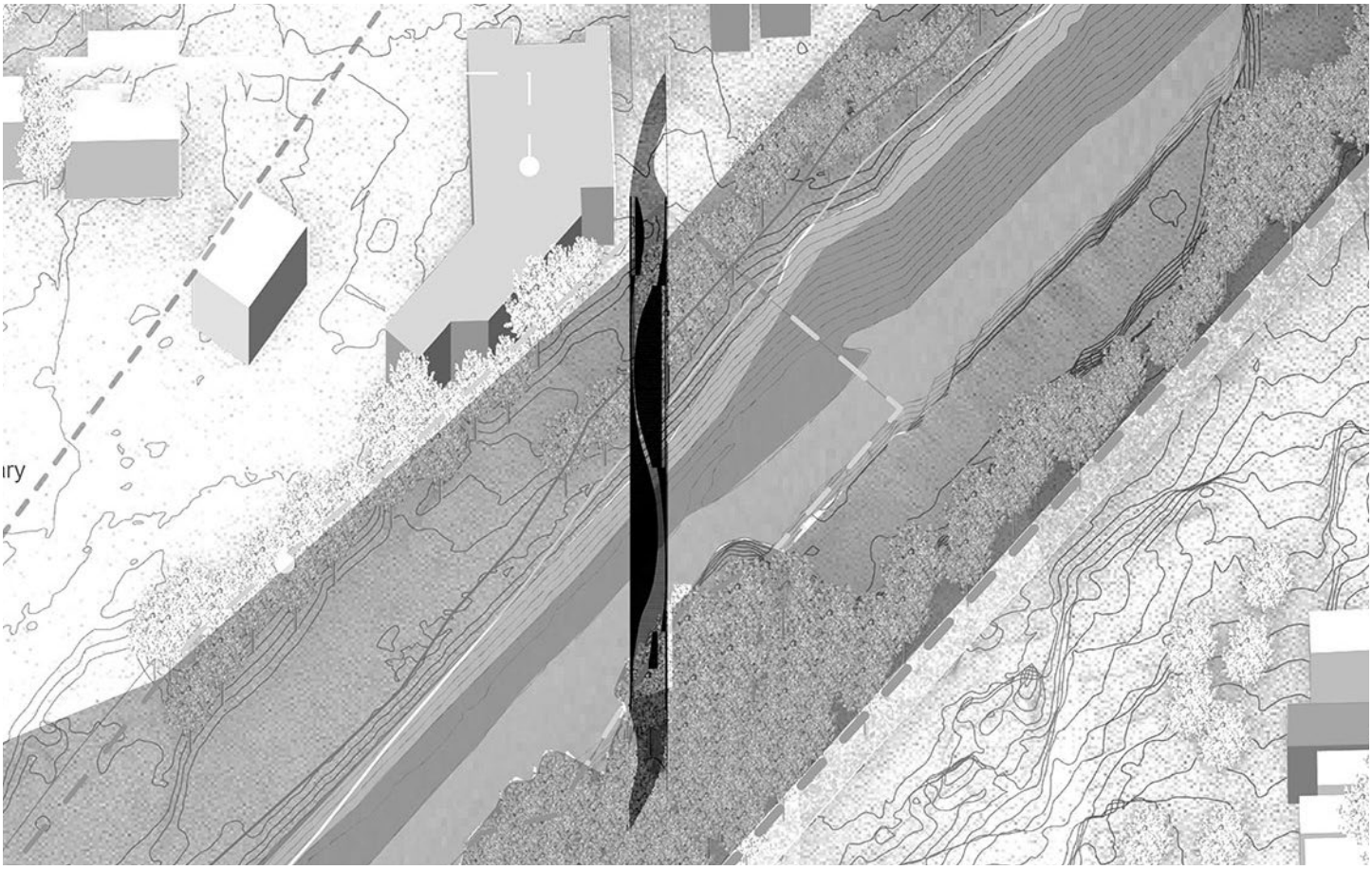
Year: Spring 2025
Studio: Prof. Tiffany Xiu
Location: Lockport, NY
Work: Individual
Software: Rhino, Grasshopper, AutoCad, Photoshop

This timber footbridge serves as a sensory break to the city's car-heavy infrastructure. The 220-foot modular design reconnects fragmented green spaces and the Erie Canal through a human-scale path. Built with prefabricated timber trusses on a pre-stressed concrete base, the bridge uses shifting wall heights and curated views to create moments of compression and release. More than just a crossing, the structure invites pedestrians to pause and engage with the natural rhythms of the landscape.

RENDER OF BRIDGE EXPERIENCE

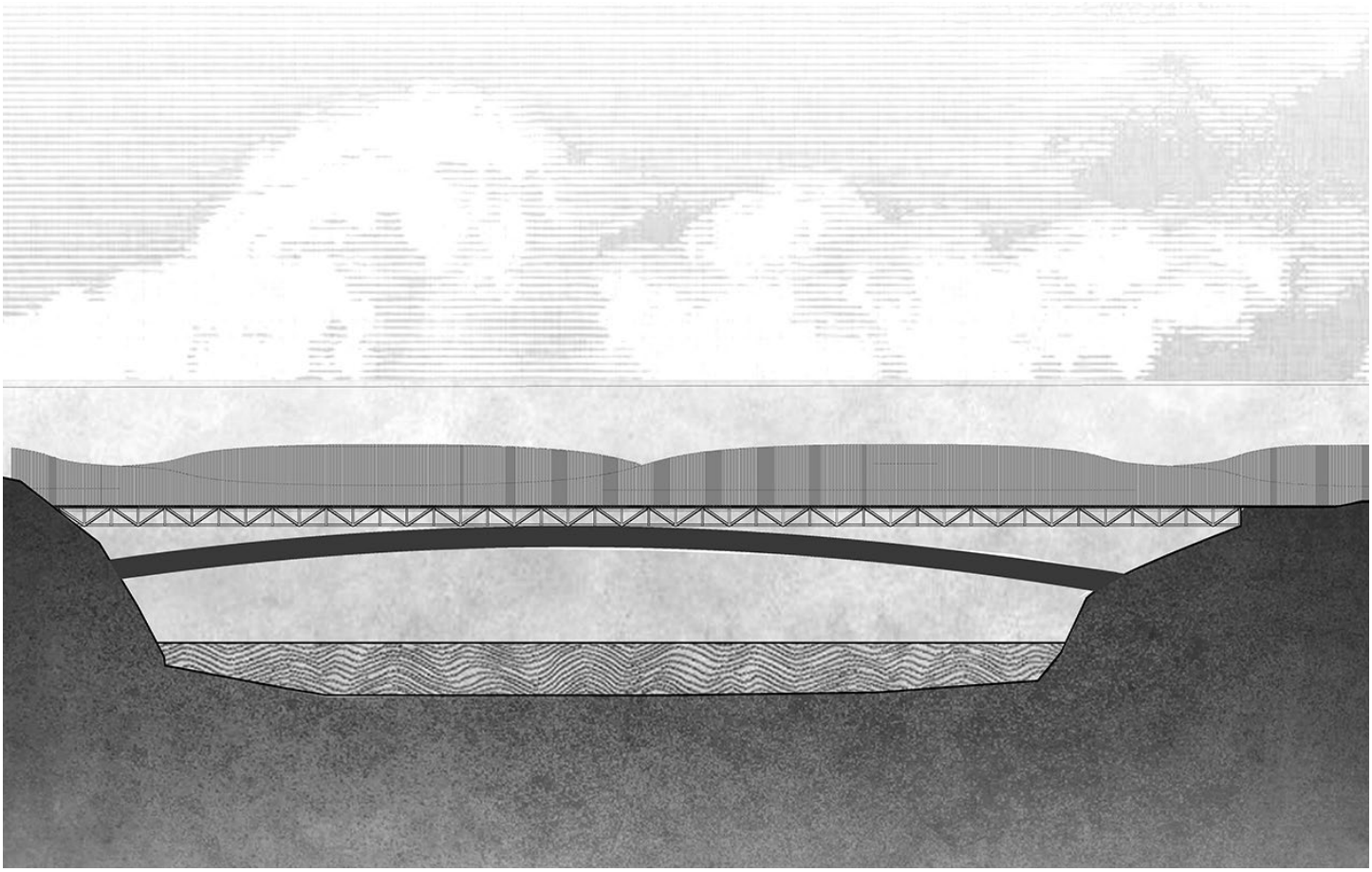
SITE ANALYSIS - MAPPING EXISTING PROGRAM

SITE ANALYSIS - MAPPING EXISTING PROGRAM

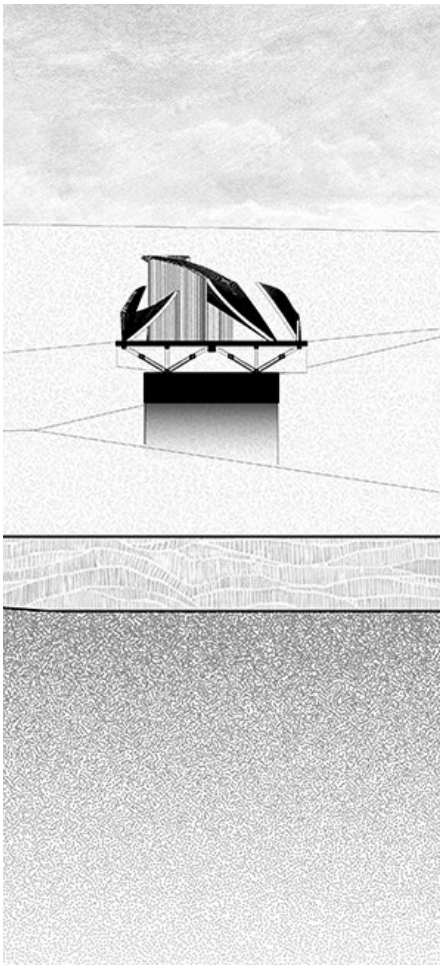


FRAMING PLAN

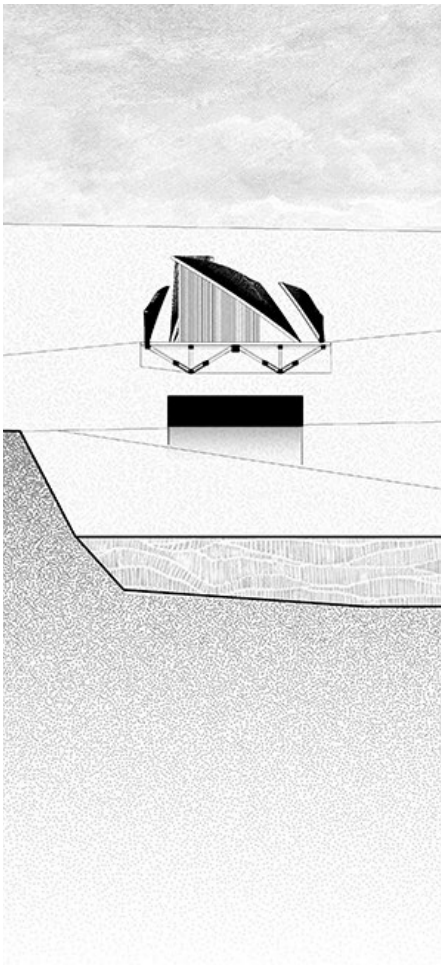
LONGITUDINAL SECTION



SHORT SECTION OF BRIDGE



2ND SHORT SECTION OF BRIDGE



SECTION MODEL

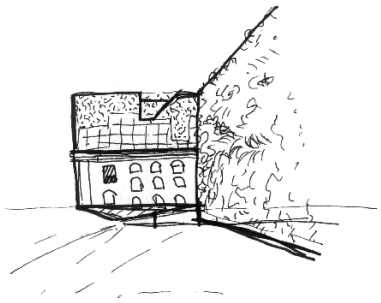
RENDER OF ONE ENTRANCE

RENDER OF OPPOSITE ENTRANCE

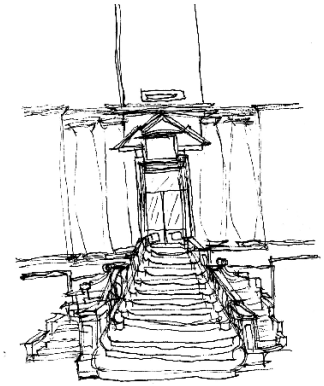
05 THE GRAND TOUR REDUX: SOUTHERN EUROPE

Year: Summer 2025
Studio: Prof. Greg Delaney and Michael Hoover
Work: Individual
Software: Photoshop, Hand Sketches

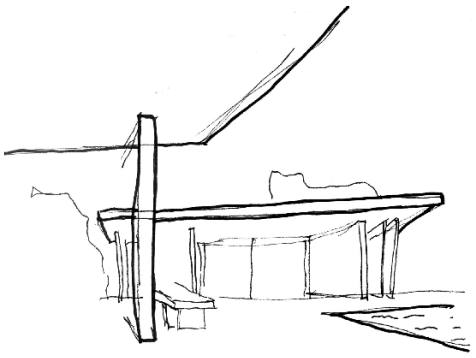
An extensive study abroad exploration of architecture, landscape, and urbanism across Portugal, Spain, France, Italy, and Croatia. Conducted as a mobile classroom, the course emphasized on-site learning through sketching, analytical observation, and discussion. The sketches shown document a range of architectural experiences. From ancient sites to modern works, illustrating studies of form, proportion, materiality, and atmosphere across Europe's diverse built environments.



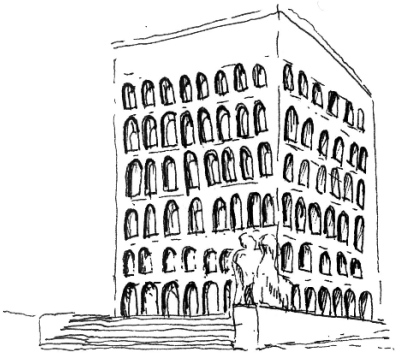
CAIXAFORUM MADRID



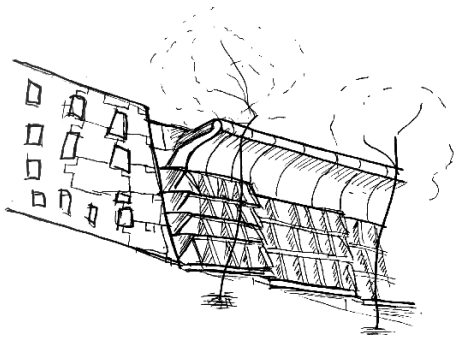
LAURENTIAN MEDICI LIBRARY



MIES VAN DER ROHE PAVILION

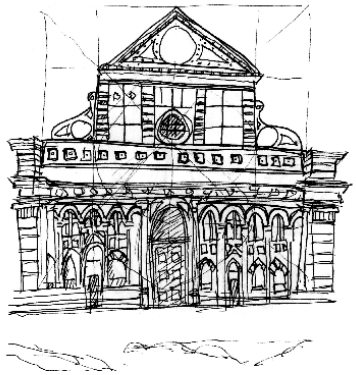


PALAZZO DELLA CIVILTÀ ITALIANA

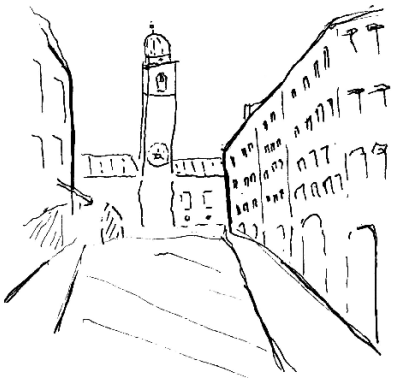


IGUALADA CEMETERY

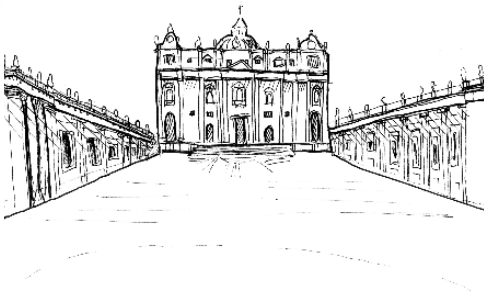
TEMPIETTO OF SAN PIETRO



SANTA MARIA NOVELLA

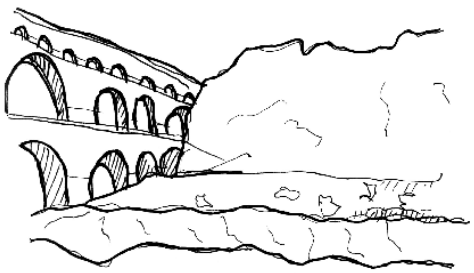


OLD DUBROVNIK

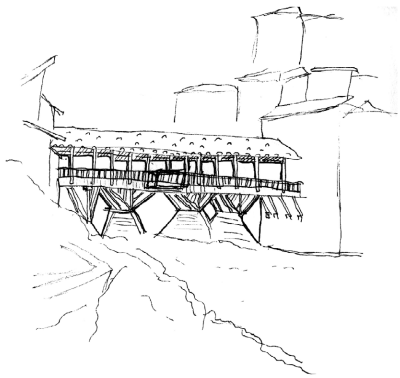


SAINT PETER'S BASILICA

PIAZZA NAVONA



PONT DU GARD

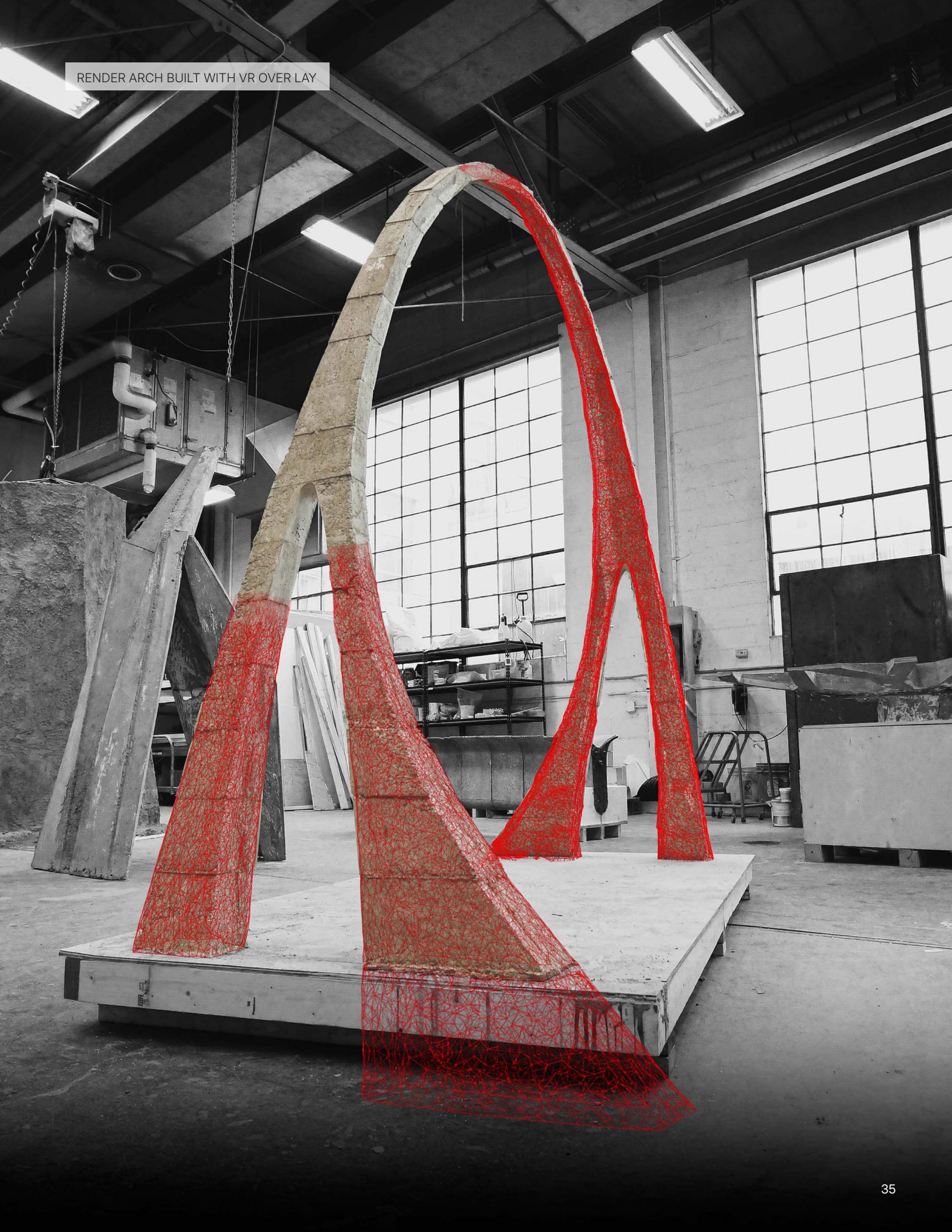


PONTE VECCHIO BASSANO

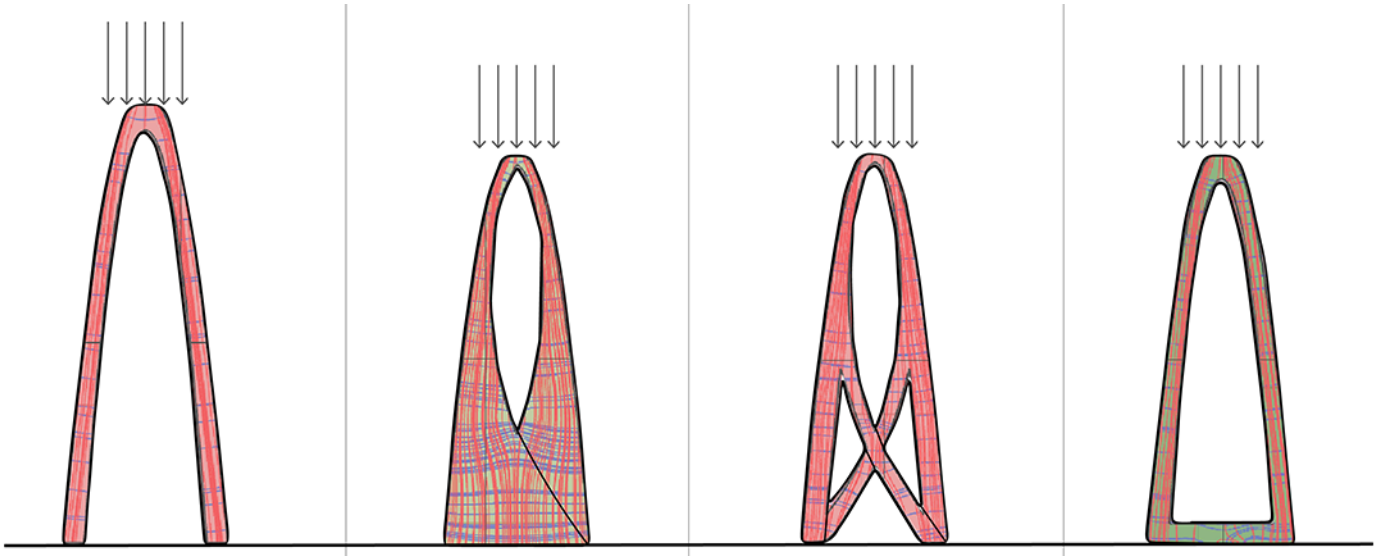
06 TWIN ARCHES

Year: Fall 2024
Studio: Prof. Chris Romano, Randy Fernando, Michael Hoover
Work: Faith Vale, Jasmin Ferreiras, Mel Wu, Sandra Zarub, Yerlene Torres, Joseph Glatz, and Ian Simmons
Software: Rhino, Grasshopper, AutoCad, Photoshop, WaterJet, 3D Printing, VR, Karamba

This research prototype re-imagines concrete as a sustainable, lightweight material through advanced fabrication. Using Karamba 3D for structural optimization, we designed a twisting parabolic arch that distributes forces across four legs like an X-brace. The final 465-lb vault was realized at full scale using a hybrid of 3D-printed molds, 5-axis water jet-cut form-work, and traditional corbeling, minimizing waste without sacrificing structural integrity.

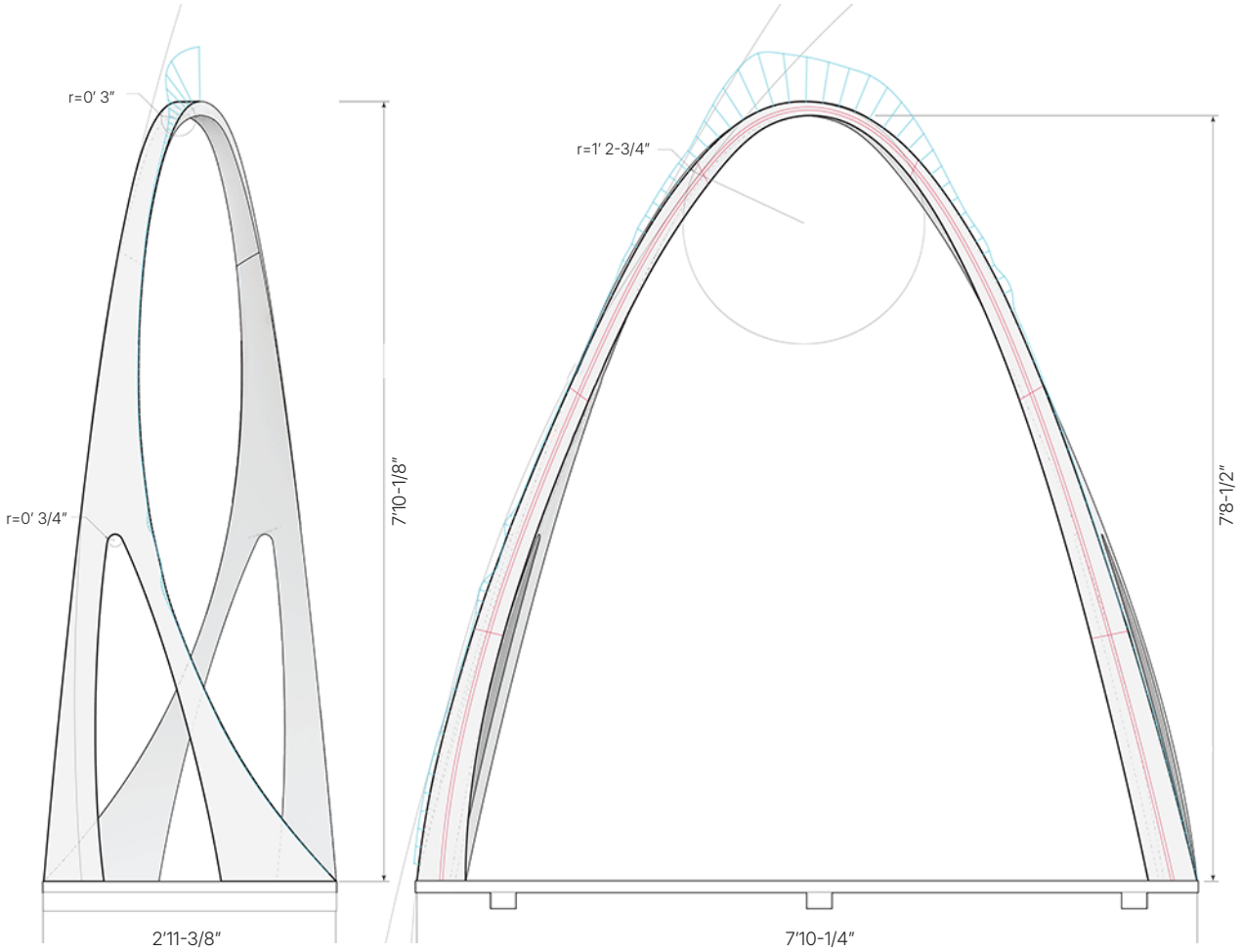

RENDER ARCH BUILT WITH VR OVER LAY

KARAMBA ANALYSIS ON DIFFERENT ITERATIONS

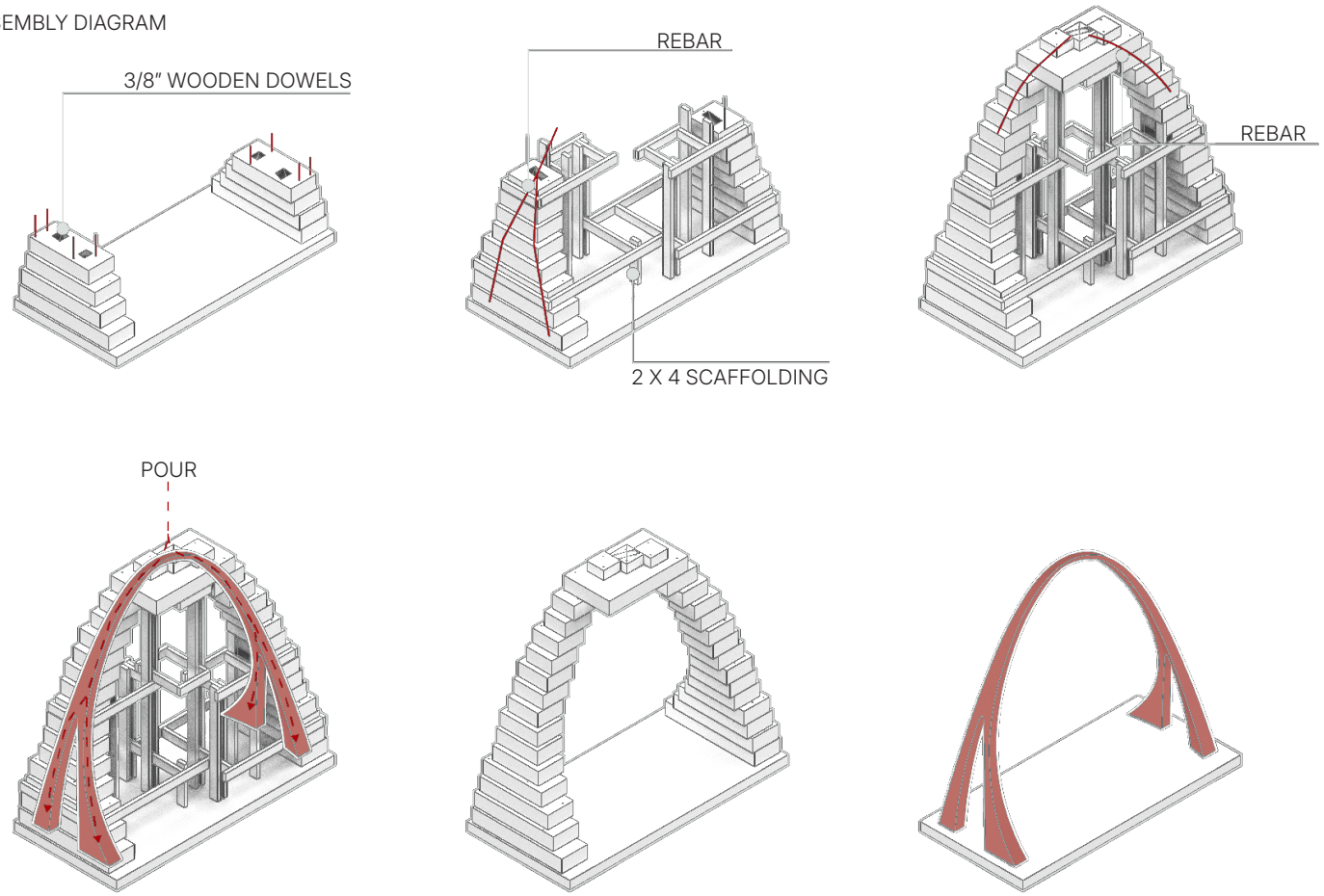


Form 1 | Form 2 | Form 3 | Form 4

ELEVATIONS AND RADII ANALYSIS



ASSEMBLY DIAGRAM

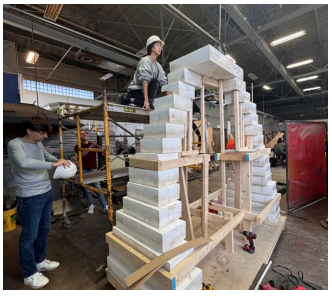










07 SUSTAINABILITY

Wendel Companies: Architectural & Sustainability Intern

Year: 2024-2025
Software: Revit, Enscape, Illustrator, Photoshop, Cove.tool, Bluebeam, Autocad

Various Projects: Fire Stations, Transit Facilities, Commercial Fit-outs, Schools, and Public Spaces

At the firm, I collaborated closely with the architecture and the sustainability team to deliver technical construction drawings, renderings, and site assessments. On the technical side, I developed the comprehensive site plans and diagrams required for formal LEED certification, while executing energy models for complex restoration projects to optimize performance and calculate EUI metrics. The following pages from the 2025 Annual Sustainability Report best illustrate some scope, depth, and impact of the work I focused on.

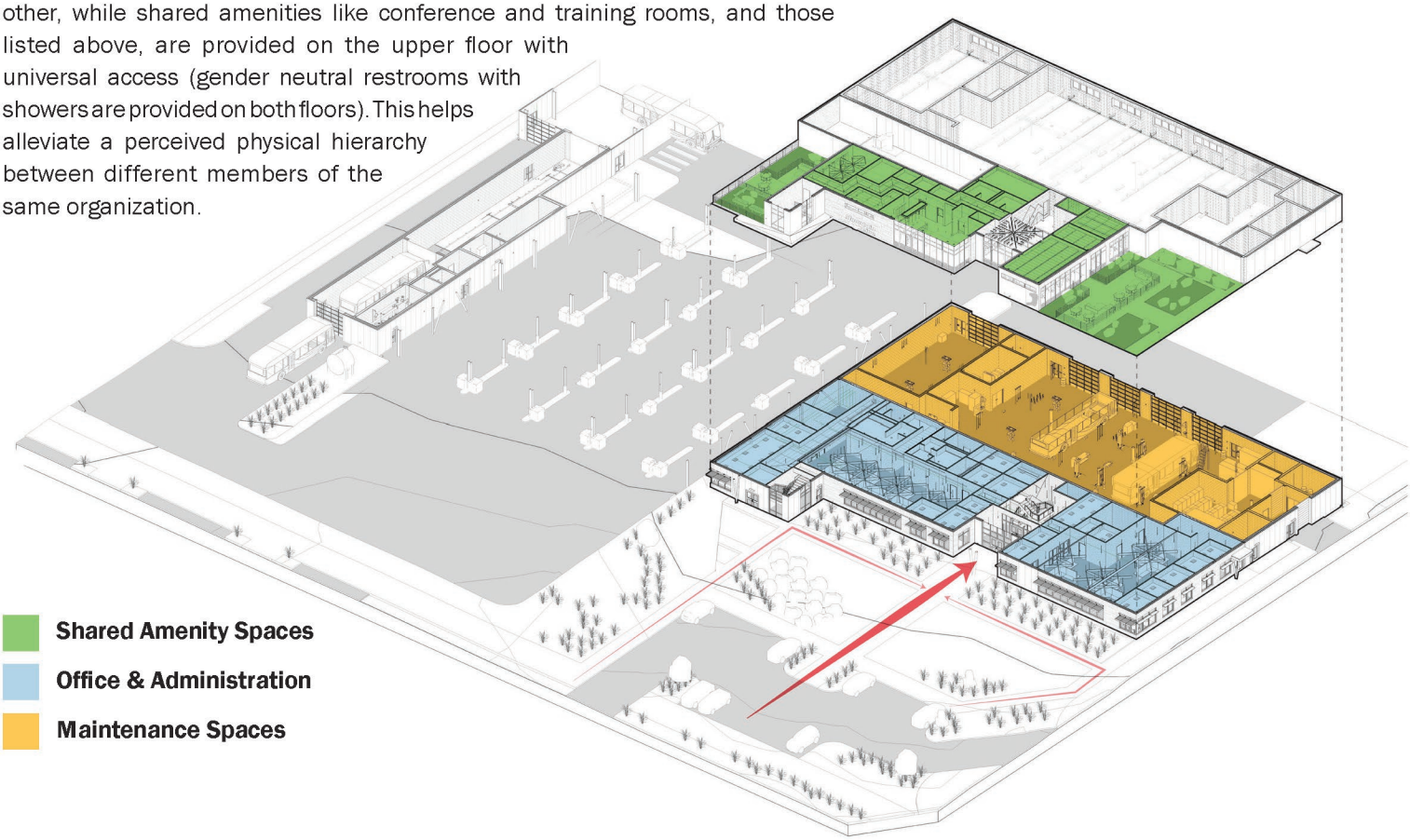
EQUITY

IN OUR BUILDINGS

A less quantifiable side to sustainability is equitable design, and how any potential user (human or otherwise) might interact with a design. This can be looked at across three categories; human equity, community equity, and ecosystem equity.

At the human level, code requirements help govern accessibility based on physical abilities, but layering in additional social and cultural considerations adds depth to what it means to design equitably. The buildings we design see a wide diversity of users, and many of them are public facing; the building's ability to accommodate any potential human user is an important consideration in the earliest programming phases. Providing gender neutral and family restroom facilities, either in lieu of or in addition to male and female restrooms, ensures comfort is afforded to all. This is a baseline for nearly all projects, whether it's a bus maintenance facility, a public safety building, or cultural and community facing project. Privacy rooms for new mothers, prayer rooms to support religious customs, and other wellness or relaxation rooms for longer term occupants are also inclusions in many of our space planning exercises.

At the Mountain Line MOAB in Missoula, MT, the administration and maintenance employees are consciously consolidated on the same level and adjacent to each other, while shared amenities like conference and training rooms, and those listed above, are provided on the upper floor with universal access (gender neutral restrooms with showers are provided on both floors). This helps alleviate a perceived physical hierarchy between different members of the same organization.



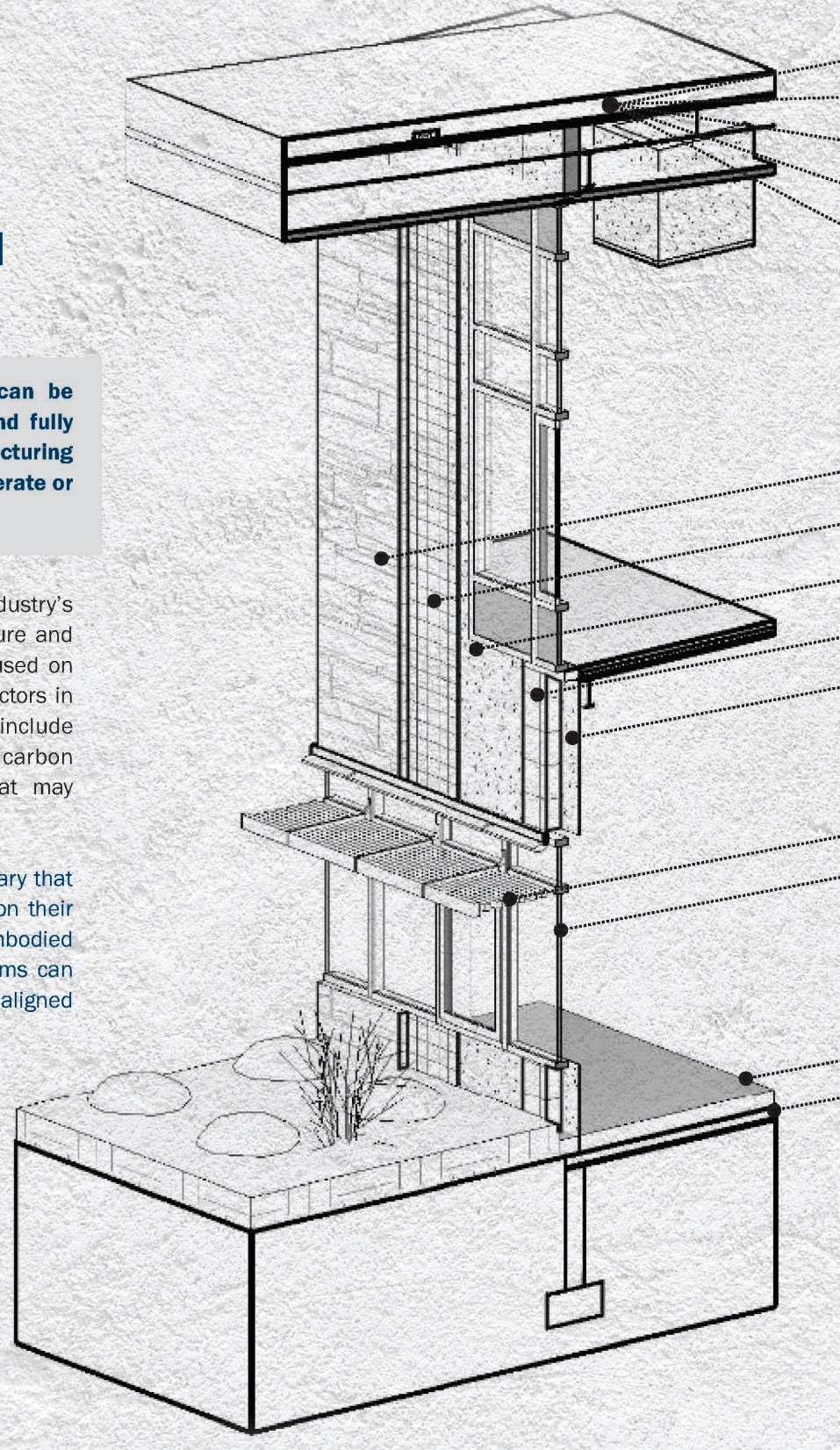
MATERIALS & HEALTH

Embodied Carbon and Material Transparency

Operational carbon emissions from buildings can be addressed through efficient envelope design and fully optimized electric systems. However, the manufacturing and transportation of building materials still generate or embody a level of carbon emissions.

Our energy team focuses on reducing the industry's operational carbon emissions, while the architecture and structural engineering teams are increasingly focused on a project's embodied carbon emissions. Critical factors in specifying acceptable materials for our projects include a manufacturer's transparency with processes, carbon emissions, and product material ingredients that may cause health concerns.

Our team is developing a Sustainable Material Library that ranks typical products and manufacturers based on their transparency, material ingredients, and levels of embodied carbon. By establishing this database, design teams can efficiently select pre-vetted products that are more aligned with a higher design standard.



wendel

- Metal Roof
- Felt Wrap
- Plywood Sheathing
- Polyisocyanurate Insulation **[R-34.8 ci]**
- Plywood Sheathing

- 3 5/8" Stone Cladding
- 3" Mineral Wool Continuous Insulation **[R14]**
- 5/8" Gypsum Sheathing
- 6" Batt Insulation
- 5/8" Gypsum Board

- Sun Shading Devices
- Curtain wall system
  - **U-Value= .34**
  - **Double glaze**
  - **Low E-Coated**
  - **Argon filled**

- Concrete Slab Floor
- EPS – Below Grade Insulation **[R-20]**

Mineral Wool Insulation

Concrete and insulation are two major culprits of significant embodied carbon contributions in construction projects. Studies have shown that the cement sector alone, which is the primary ingredient in concrete, is responsible for up to 7% of the world's industrial energy use, and contributes up to 7% of total global carbon emissions. And while increased insulation levels can reduce a building's energy use, and therefore operational carbon emissions, one recent study finds that for XPS (one very common building insulation material), "it is not reasonable to expect the operational carbon savings to ever outweigh the embodied carbon of the material itself."

This year, Wendel's sustainability and structural engineering teams developed three recommendations for all concrete-using projects moving forward:

1) Include Specifications for Type 1L Portland Limestone cement for all concrete mix types (reducing embodied carbon by around 10%).

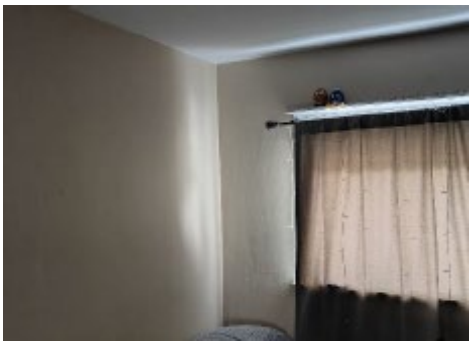
2) Require concrete mix designers to submit environmental product declarations for all mix designs on a project, which quantifies the global warming potential of that mix design.

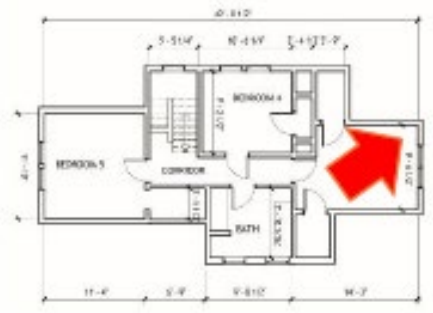
3) Require the global warming potential of any mix design falls below a required threshold (as informed by the Carbon Leadership Forum), with that threshold gradually lowering over time.

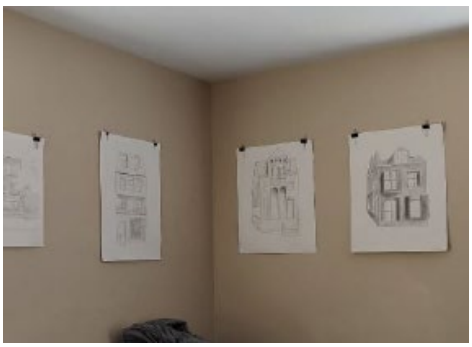
Wendel's sustainability and architecture teams are also constantly fine-tuning insulation recommendations for all projects, starting by significantly reducing or altogether eliminating the use of high GWP and off-gasing insulations like XPS and 3rd generation closed cell spray foams in favor of insulations like mineral wool and EPS.

CIP Concrete

THERMAL IMAGING WHERE HEAT LOSS WAS LOCATED







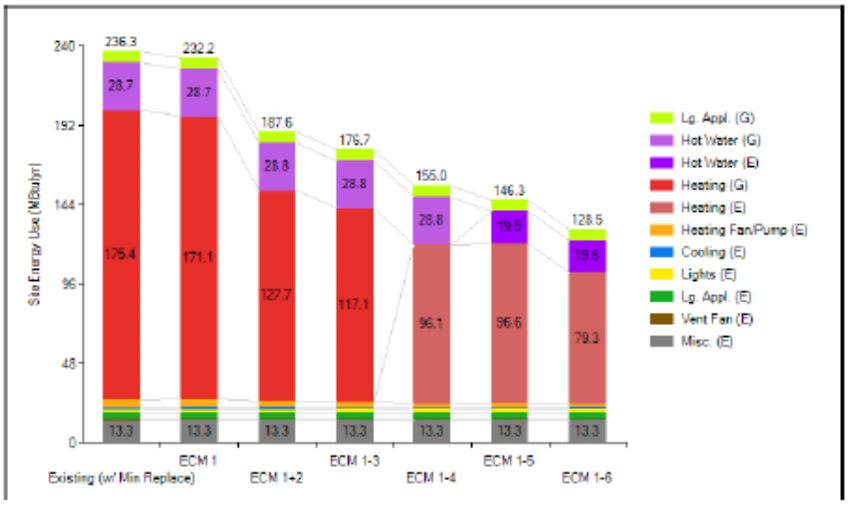
Weatherization

Coursework tailored around BPI Building Analyst Professional (BA-P) standards

Year: 2025
Work: Faith Vale and Ian Simmons
Software: Revit, Flir Camera, BEopt, Excel

Executed full-scale residential energy audits utilizing professional blower door testing apparatus and thermal imaging cameras to identify building envelope deficiencies. Simulated building energy performance using BEopt software to calculate estimated EUI improvements, project life-cycle costs, and return on investment (ROI) metrics for deep energy retrofits.

Outputs	Existing	ECM 1:	ECM 2:	ECM 3:	ECM 4:	ECM 5:	ECM 6:
Description of Change		Air Sealing	Roof Insulation	Wall Insulation	New Furnace	New Hot Water Tank	Sealing Ducts
Estimated Energy Savings							
Total Site Energy (MBtu/yr)	236.3	232.2	187.6	176.7	155	146.3	128.5
Heating (MBtu/yr)	175.43	171.09	127.69	117.09	96.07	96.62	79.28
Hot Water (MBtu/yr)	28.74	28.74	28.79	28.81	28.76	19.5	19.5
Misc. (MBtu/yr)	13.26	13.26	13.26	13.26	13.26	13.26	13.26
Large Appliances (MBtu/yr)	3.78	3.78	3.78	3.78	3.78	3.78	3.78
Lights (MBtu/yr)	1.86	1.86	1.86	1.86	1.85	1.85	1.85
Cooling (MBtu/yr)	1.5	1.5	1.39	1.34	1.34	1.34	1.33
Heating Fan/Pump (MBtu/yr)	4.41	4.31	3.22	2.94	2.28	2.3	1.88
Estimated Cost Savings							
Annual Utility Bills ($/yr)	2280.37	2240.80	1810.40	1705.21	1495.80	1411.84	1240.07
Annual Utility Savings ($/yr)		39.57	469.97	575.16	784.57	868.53	1040.30
Estimated ECM Cost ($)		$1,751.00	$6,751.00	$10,938.00	$15,938.00	$ 17,650.10	$ 20,584.10
Simple Payback (Yrs)		44	14	19	20	20	20

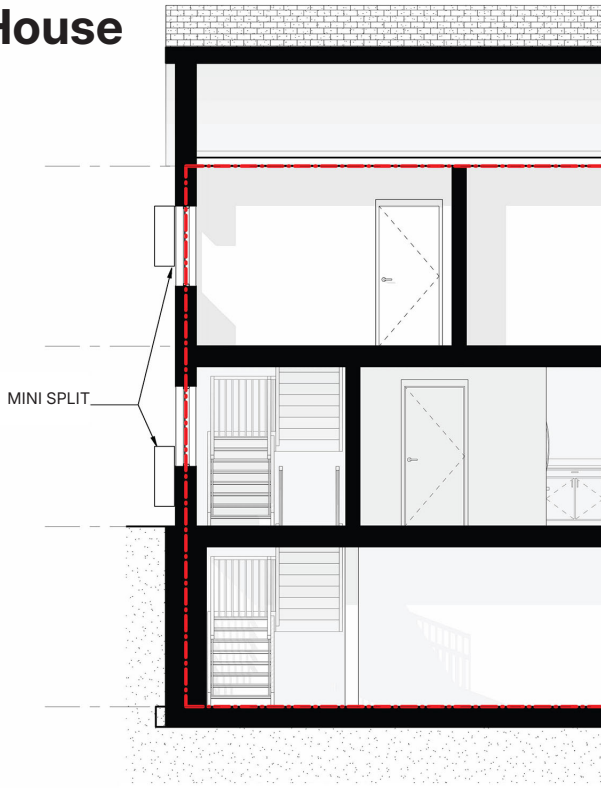


Environmental Systems & Passive House

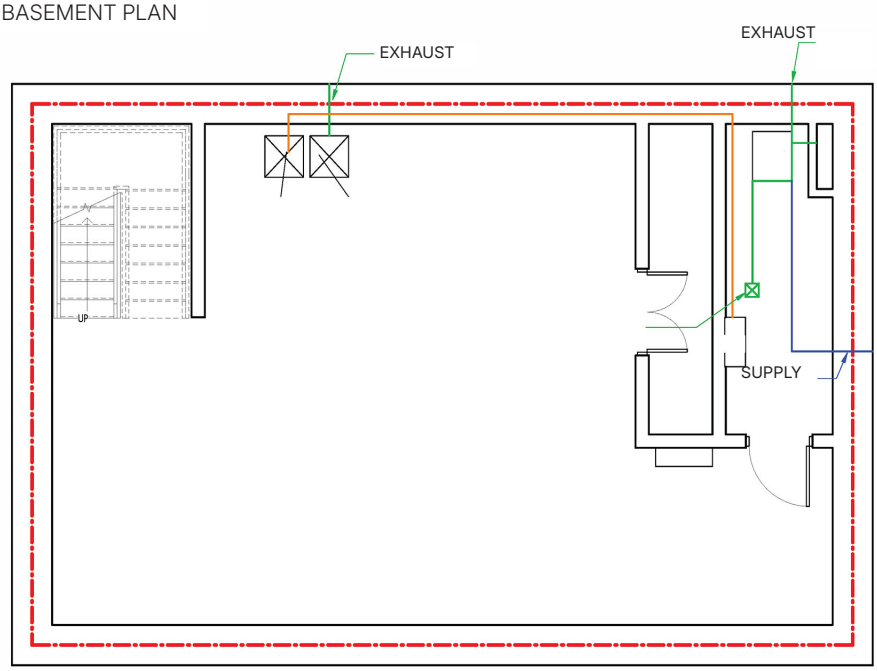
Year: 2025
Work: Faith vale, Joe Glatz, Yerlene Torres, Ian Simmons
Software: Revit, BEopt, Excel

Researched the integration of high-performance structural and thermal envelopes with active and passive building systems. Conducted climate-specific studies utilizing advanced digital forensics and modeling tools to evaluate solar geometry, daylighting, natural ventilation, indoor air quality, and acoustics. Developed comprehensive technical representations demonstrating how optimized mechanical, lighting, and solar systems seamlessly interface with architectural form and material constraints.

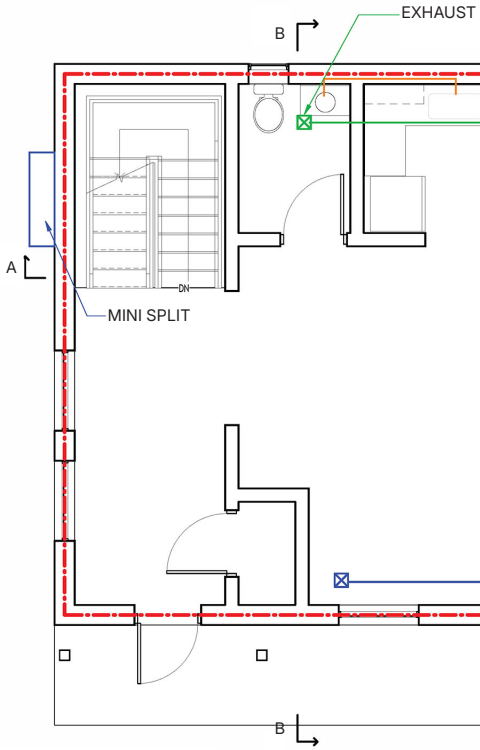
SECTION A-A



BASEMENT PLAN

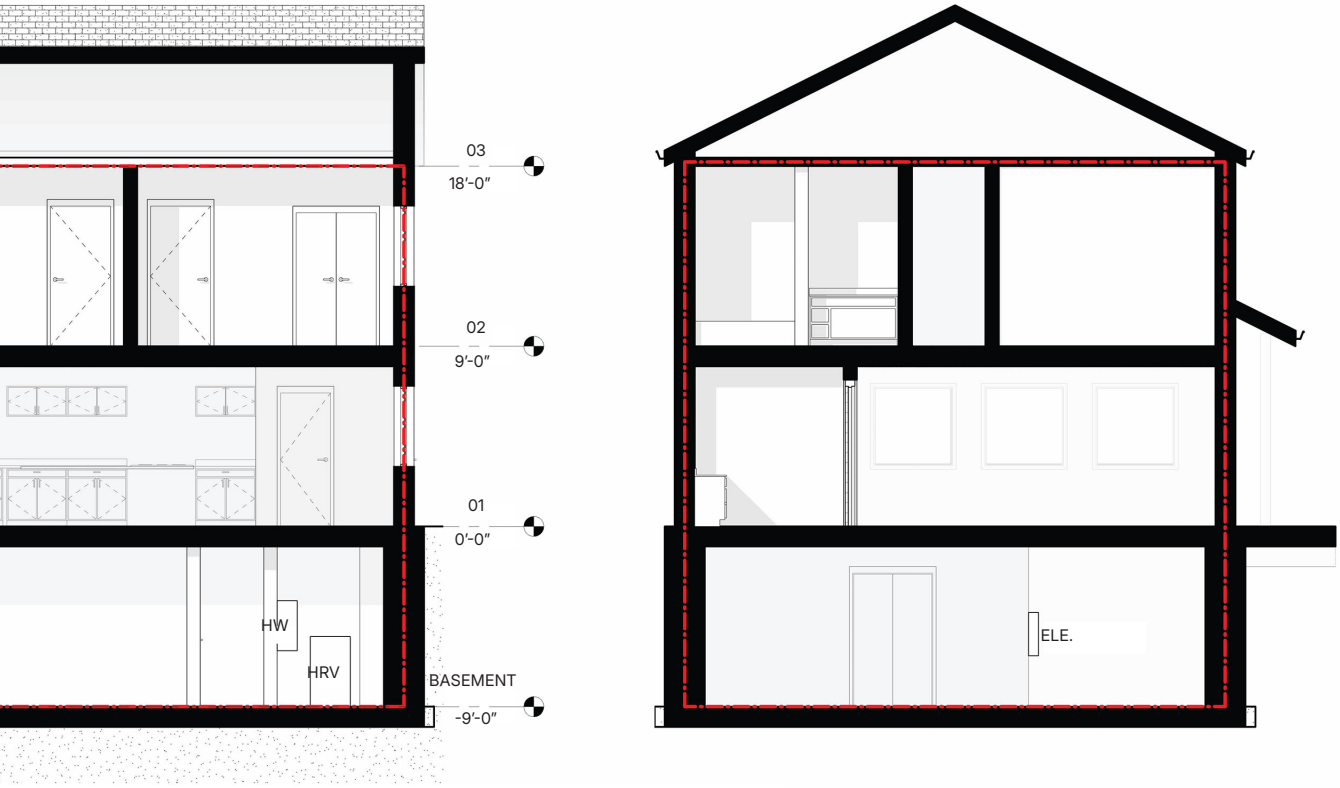


FIRST FLOOR

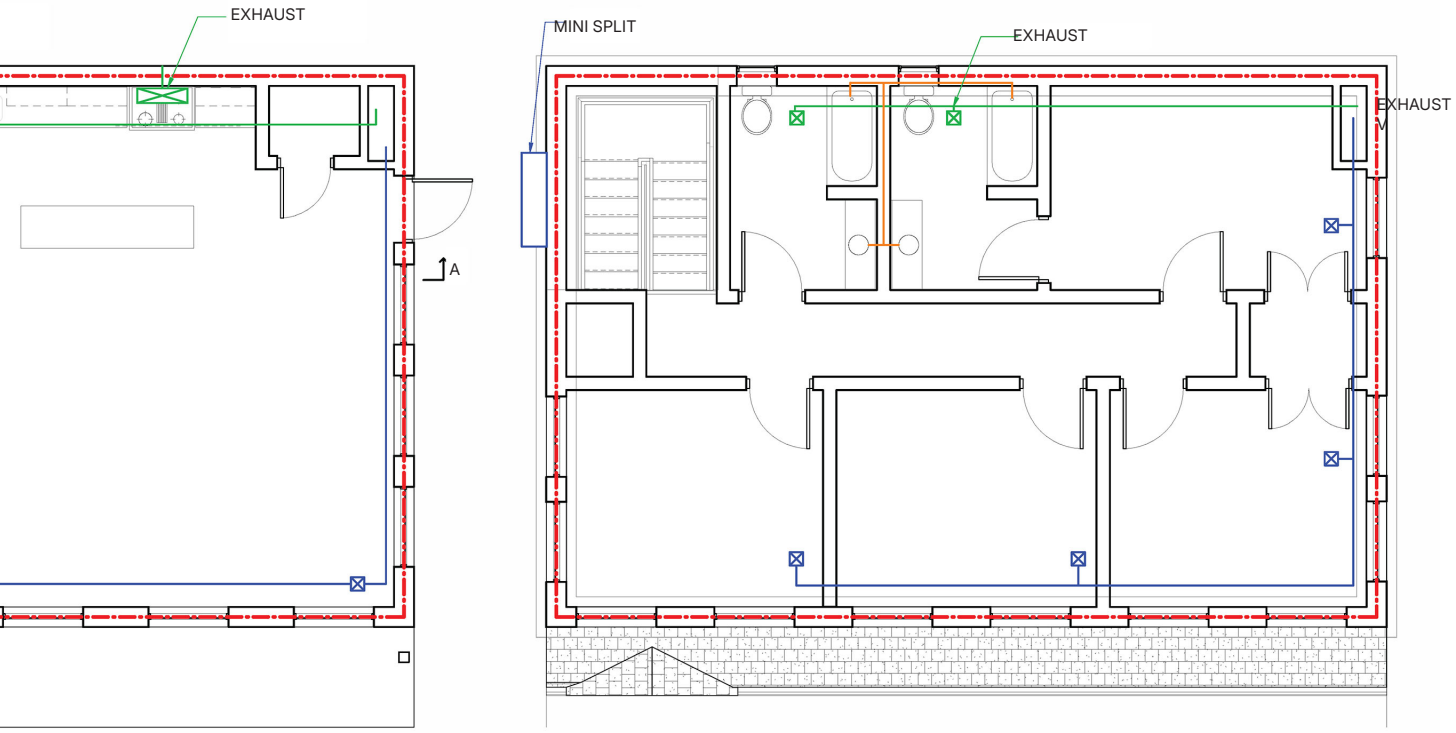


THERMAL BOUNDARY

SECTION B-B



SECOND FLOOR



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