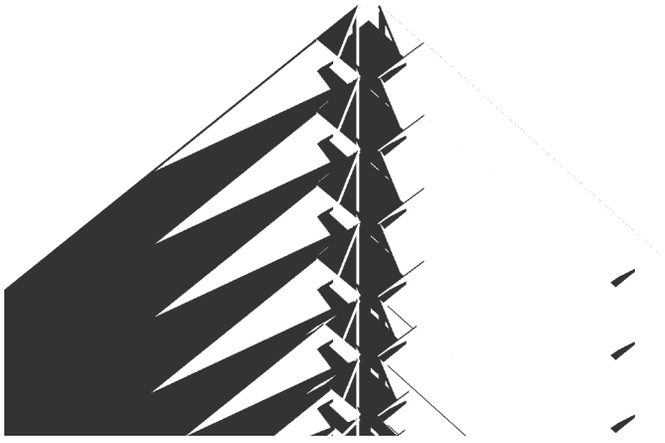
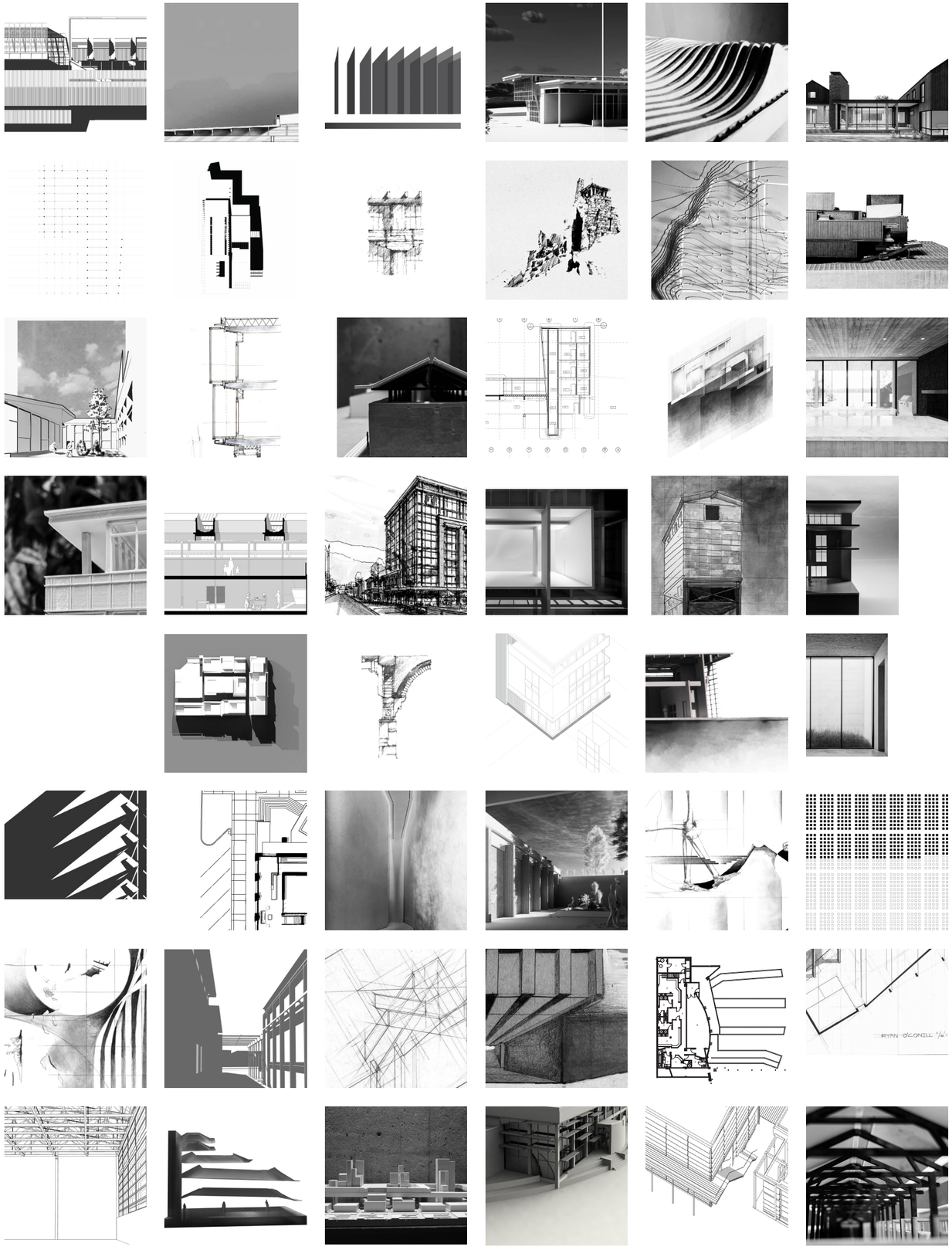


RYAN O'CONNELL | M.ARCH

SELECTED WORKS



EDUCATION

_ **Montana State University**
_ **Rocky Mountian College of Art & Design (RMCAD)**

PROFESSIONAL

_ **Pearson Design Group**
Residential
2023 - Present

_ **Cushing Terrell**
Commertial
Internship 2022-2023

SKILLS

_ Construction
_ Concept Design
_ Design Development
_ Woodworking
_ 3D Printing
_ Laser Cutting
_ Renderig

SOFTWARE

_ Photoshop
_ Illustrator
_ Indesign
_ Rhino
_ Sketchup
_ Revit
_ Lumion
_ Enscape

YEAR: 2023 | **LOCATION:** Aranjuez, Spain | **TYPE:** Urban Farming

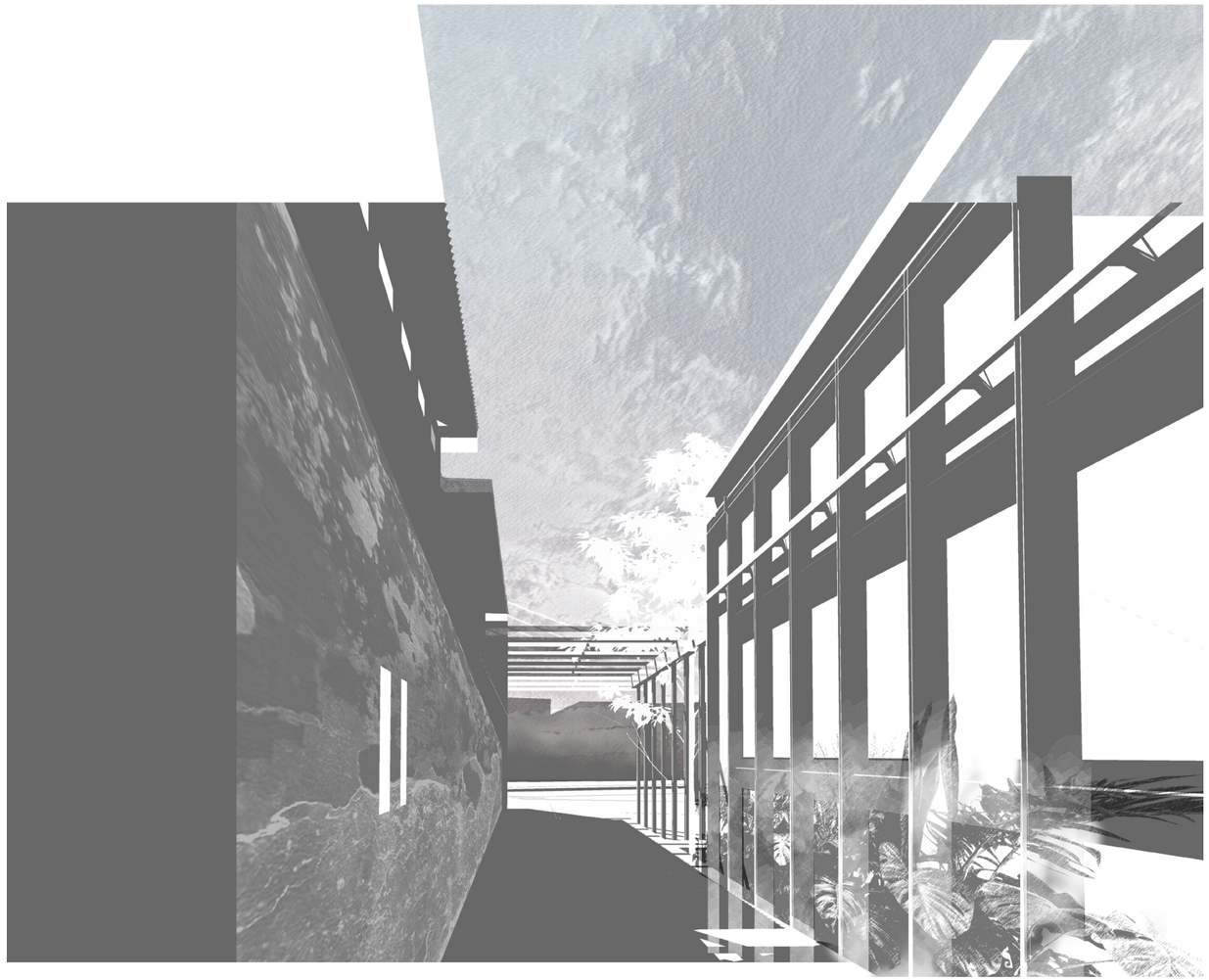
ADAPTIVE REUSE

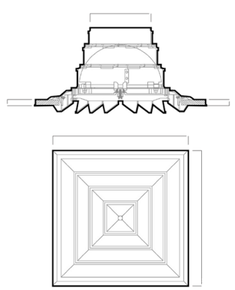
THE HOLDING COMMUNITY CENTER

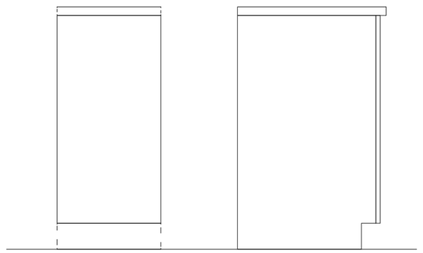
PROJECT BRIEF The course will explore the adaptive reuse of an existing building in Spain as a representative site for architectural thinking/making/designing aligned to the contemporary challenges of the discipline.
The project will develop proposals to adapt an existing, underutilized, mid-scale building into a space that supports culturally relevant programming. In the studio, readymades will be instrumentalized to develop a methodology of intervention that allows students to approach the existing. In architectural proposals, new interventions and layers of the existing will hold equal weight.

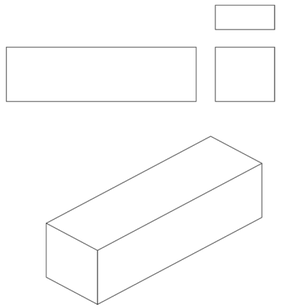
PROGRAM

3,500 SQ FT	Market - Indoor/Outdoor
3,500 SQ FT	Horticulture - Greenhouse/Garden
3,000 SQ FT	Unprogrammed “Event” Space
1,000 SQ FT	Community Kitchen(s)
400 SQ FT	Admin offices
350 SQ FT	Storage
350 SQ FT	Unisex Restrooms
12,100 SQ FT	TOTAL SQFT



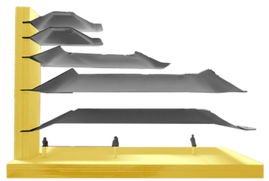


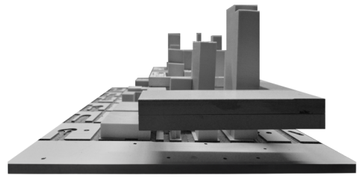


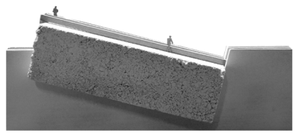


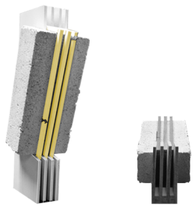
READYMADE the practice of manipulating found objects - typically manufactured - to reformulate their meaning.

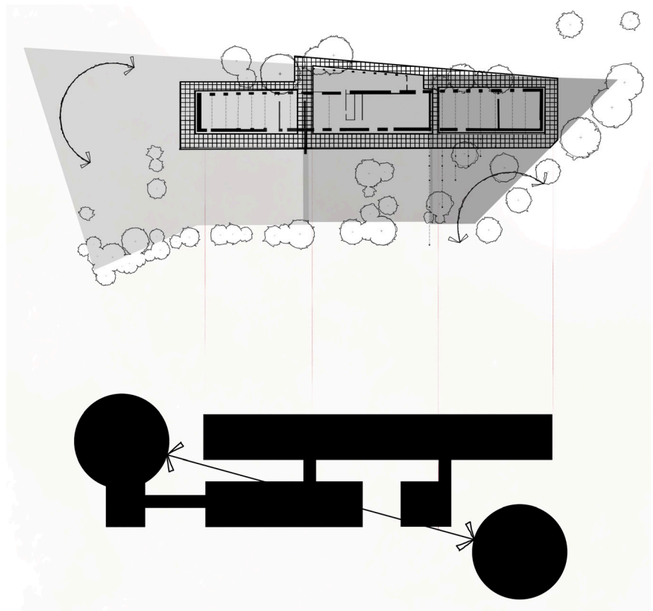
Readymades resist traditional values in art practice such as craft and authorship. The original function of the object is abstracted into pure form thus allowing new values to be ascribed by the artist and the viewer. In architecture, the notion of readymade might translate at the scale of a component to the tectonics of building materials, but it might also translate at the scale of buildings to existing structures.











CEILING AIR DIFFUSIOR UNIT

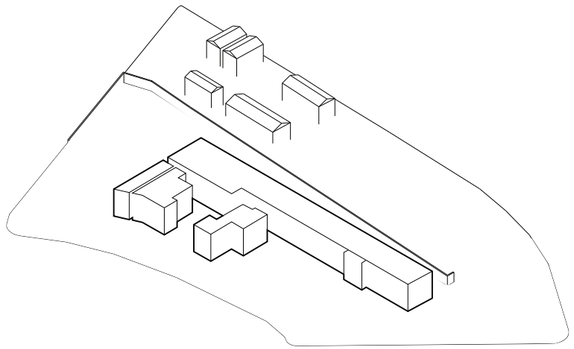
Opperitave verb intervention - wrapping and holding a common building material.

CABINET DOOR FRAME

An expansion of Modernist theories of urban infill - and how we treat urban design / city planning in metropolitan areas.

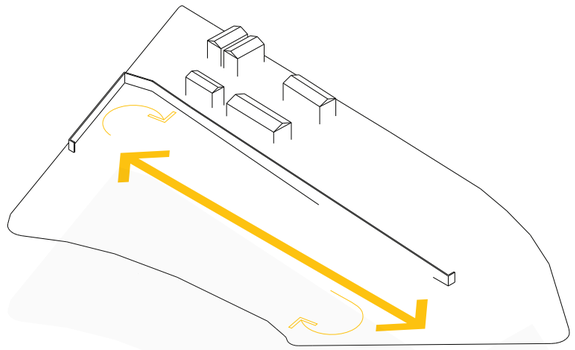
BRICK

Opperitave verb intervention - wrapping and holding a common building material.



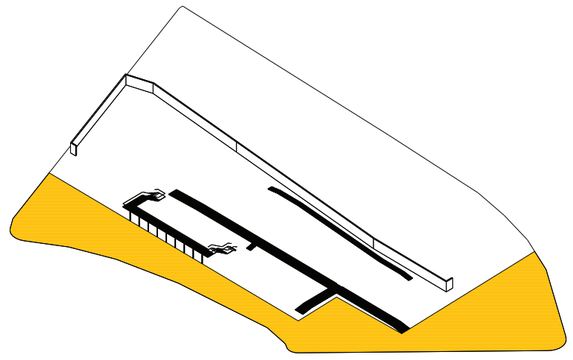
EXISTING CONDITIONS

A 300 year old Slaughterhouse. Traditional European coun moulding on the 3' thick stone exterior walls.



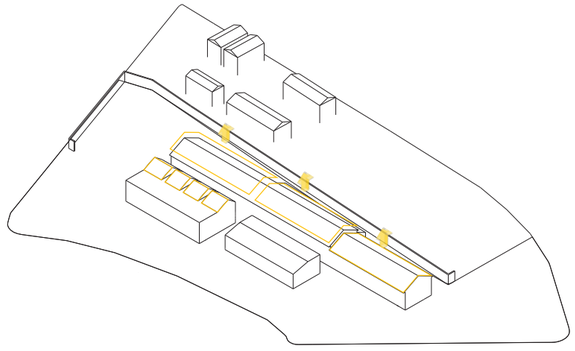
CONNECTION / PUBLIC ZONES

Opening buildings up to the public to blur the line between public and private areas.



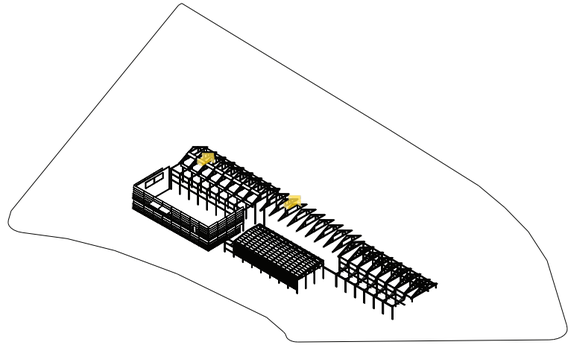
CIRCULATION

Exterior vertical, connection and seperation from public street.



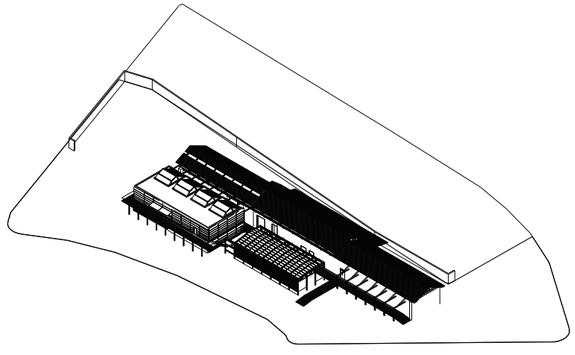
NATURAL LIGHT

Raising existing roof structure to allow for a clearstory band into the space.



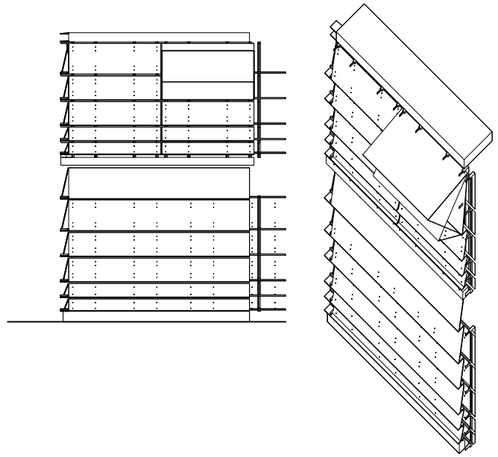
STRUCTURE

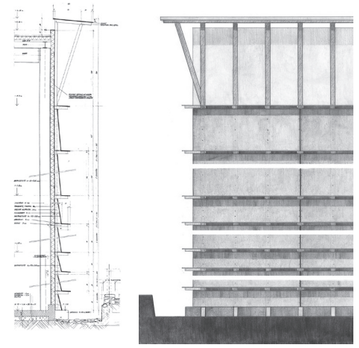
Additional steel structure to prop up raised existing roof structure.



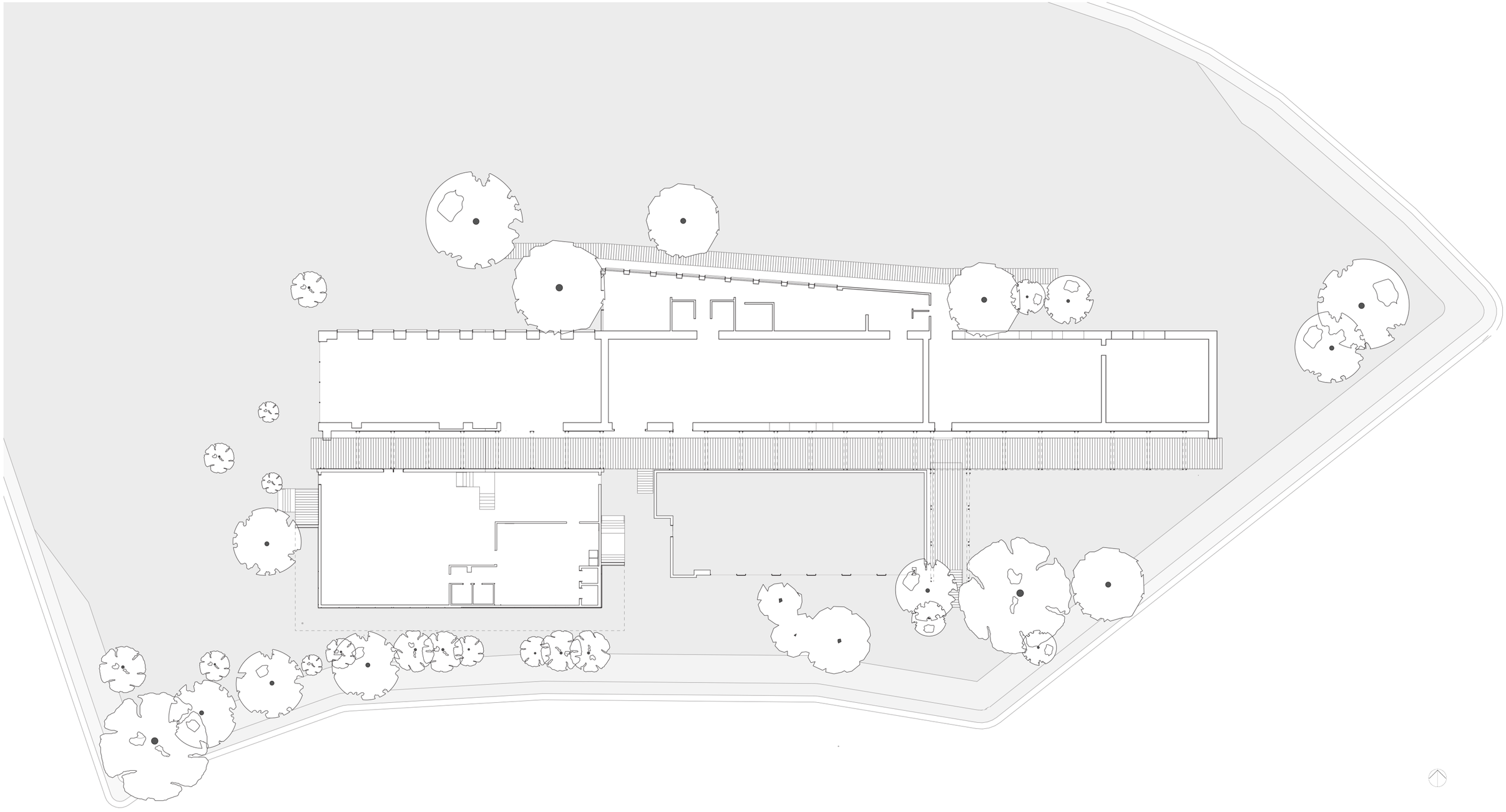
BUILDING INTEGRATION

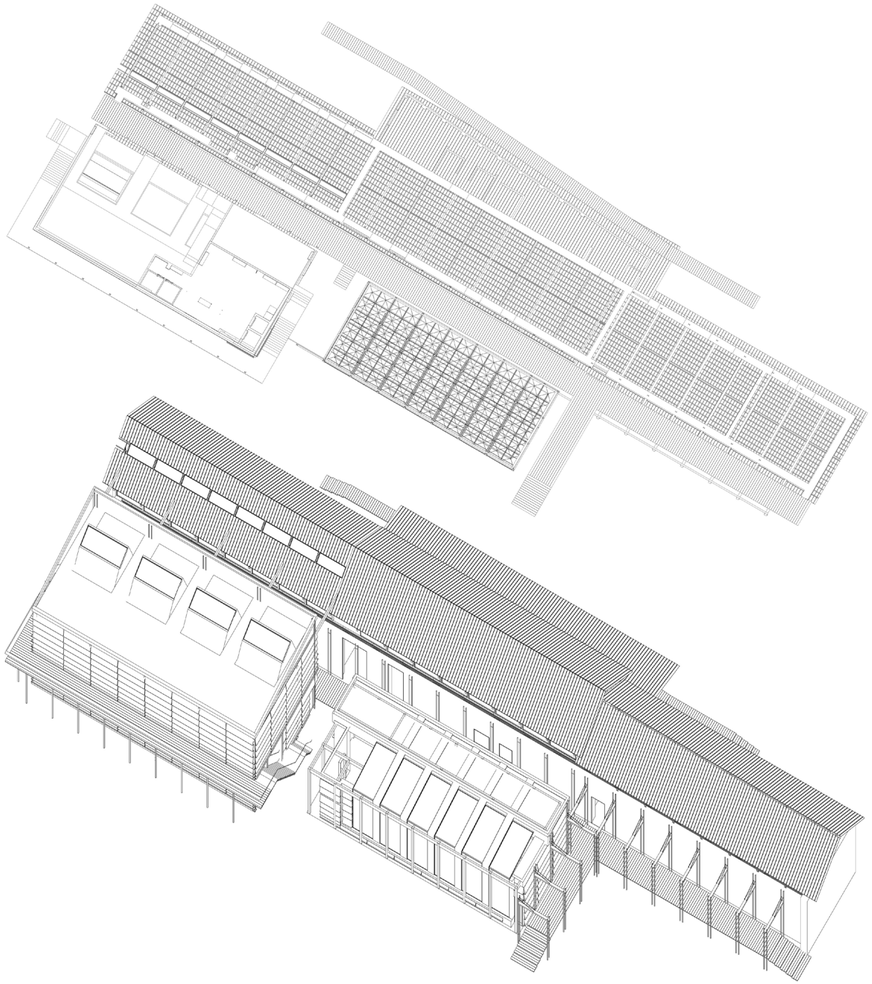
Completed building proposal. Separate buildings for sepreate functions of the community needs.

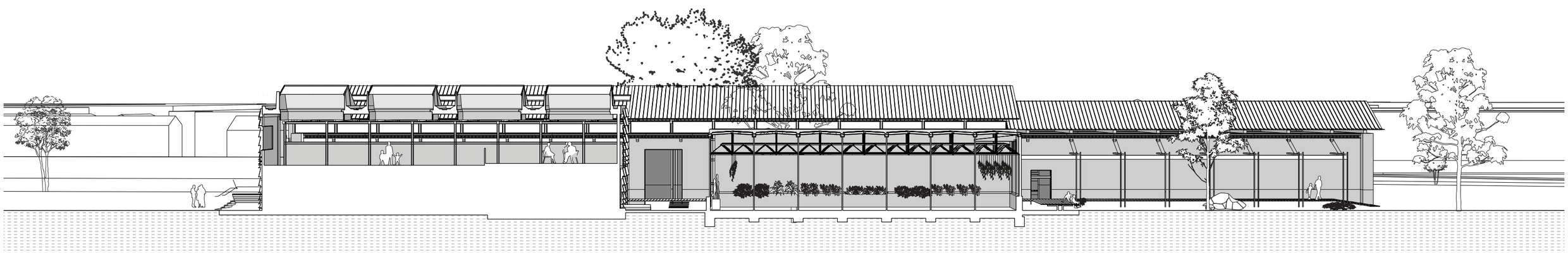


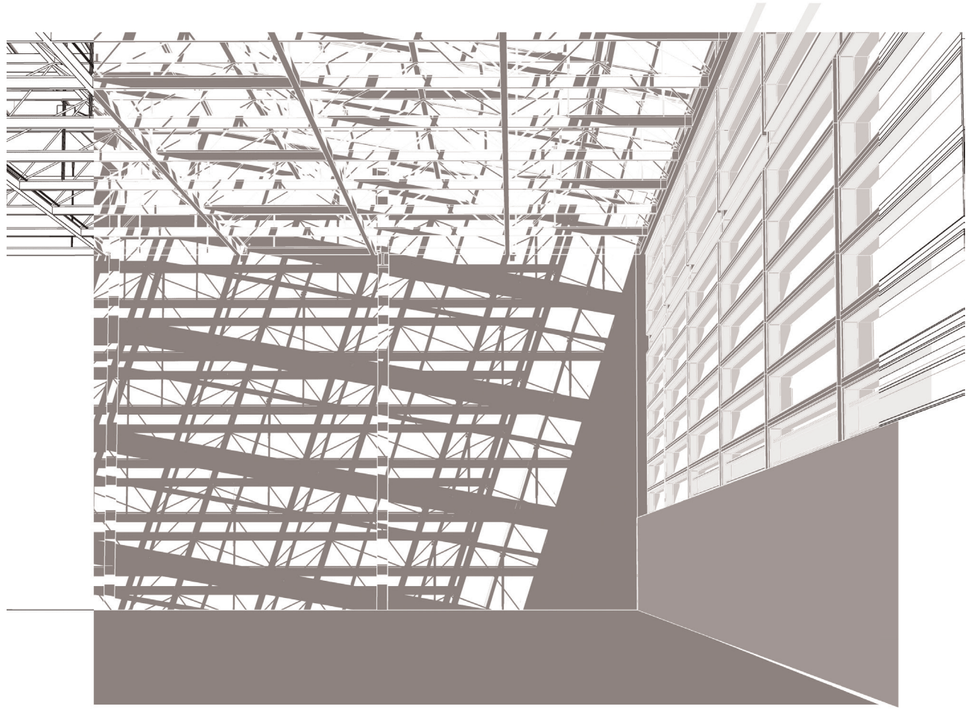


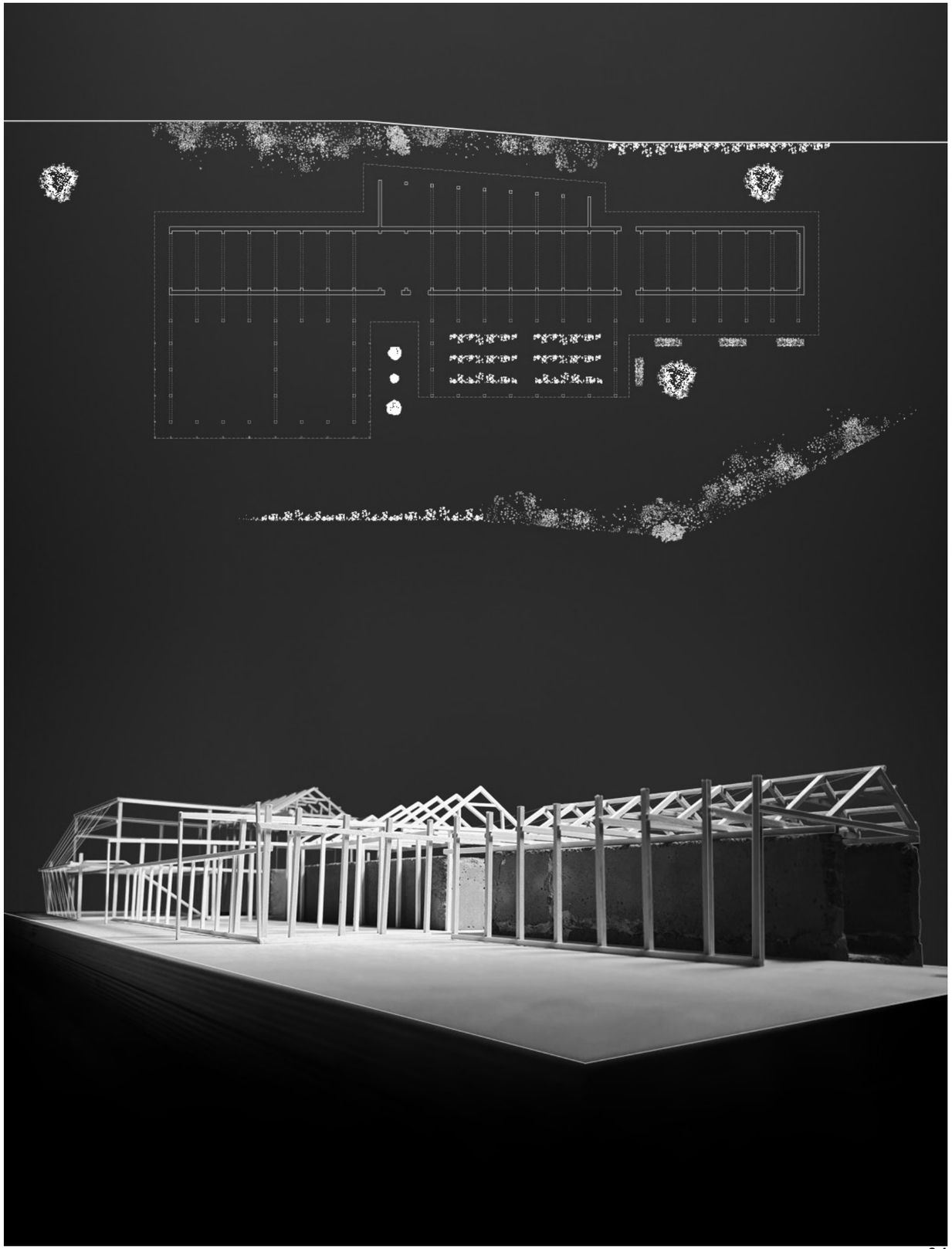
PROJECT PRECIDENT - Ricolla Storage Facility, Herzog & de Meuron. Facade study.

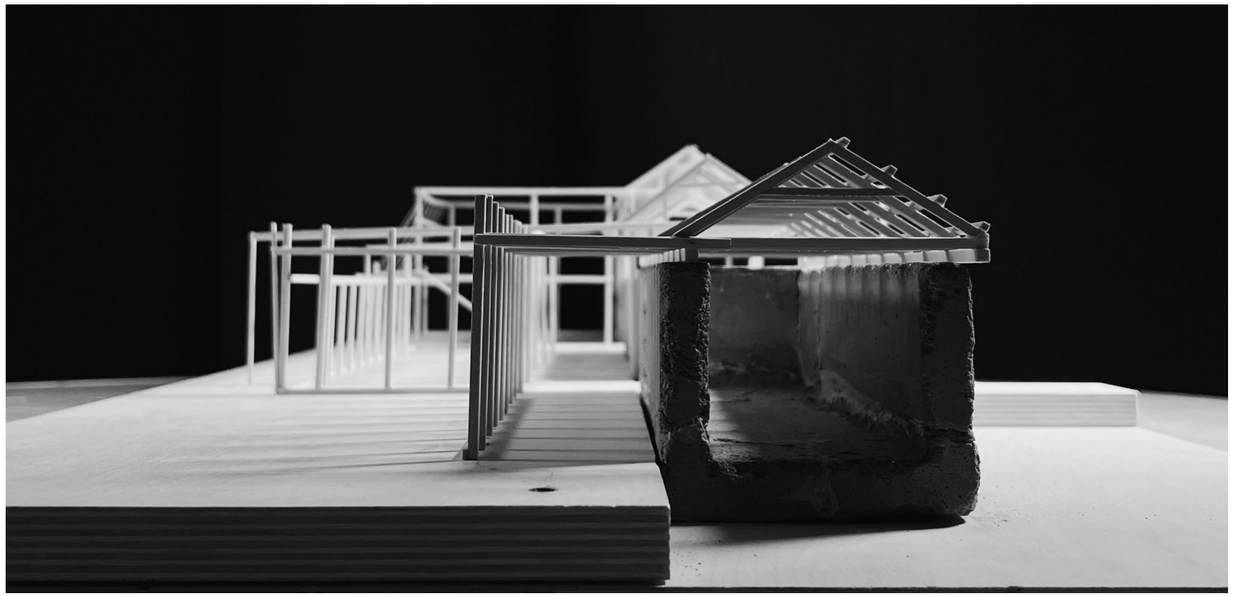


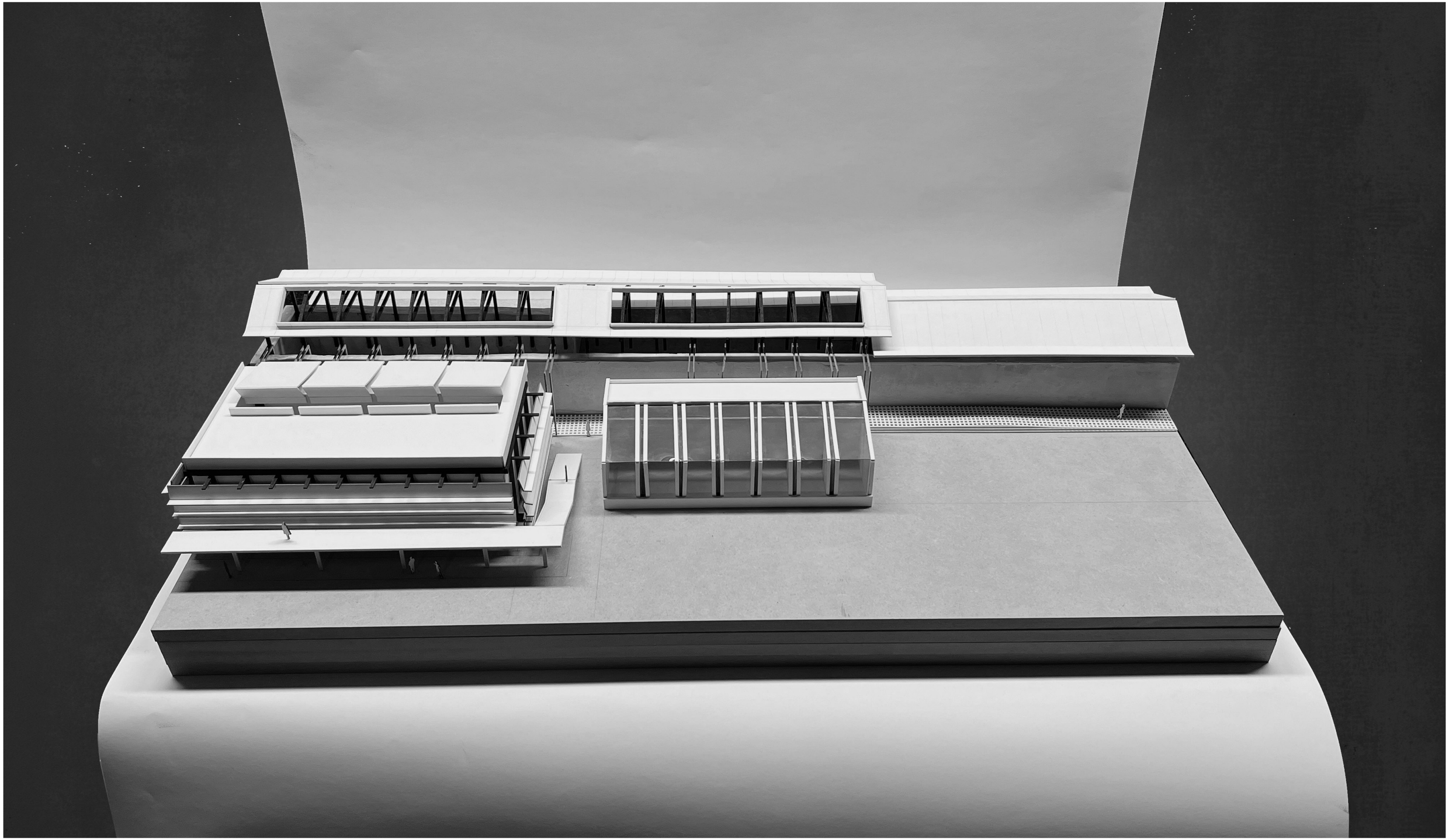












YEAR: 2021 | **LOCATION:** San Francisco, CA | **TYPE:** Mixed-Use

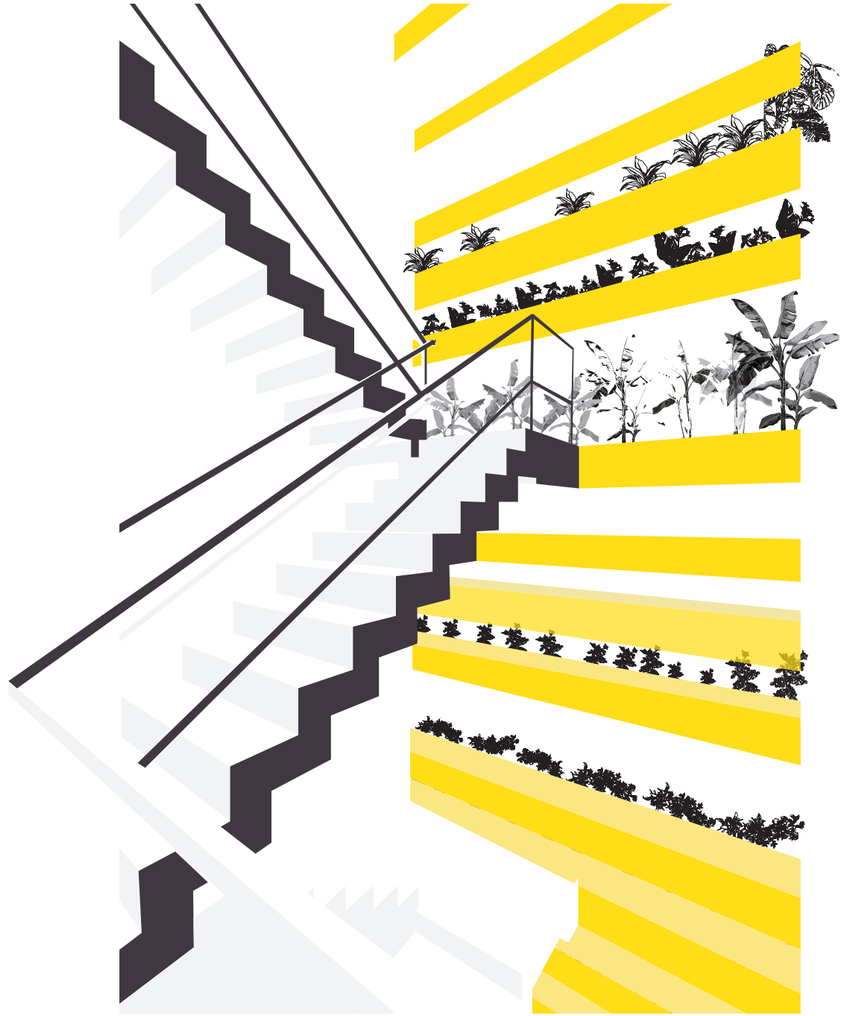
TETHERED SIMBYOSIS

RESIDENTIAL & COMMERTIAL FORGIEN INVESTMENT PROPERTY

"…research indicates that a key thing missing from urban environments is a link to the natural world…"

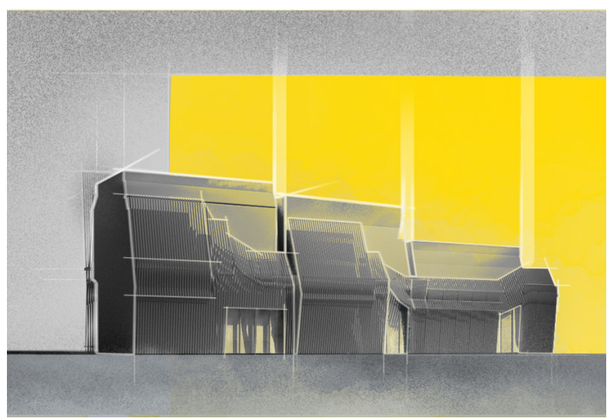
PROJECT BRIEF Young educated people are increasingly moving to major cities. Progressive companies are following their lead, relocating to urban areas, in order to hire talented employees. To attract and retain the best, companies are reimagining the work and its context. A major push is to integrate aspects of nature. However, this rejuvenation is threatened by a rapid increase in costs of living—housing prices are at record highs. A significant phenomenon that is exasperating this surge in costs, is foreign capital real estate investment. Global Surplus Capital (foreign investment) is currently being used to construct office and residential towers in many US cities. The buildings are built with NO intention of being occupied, rather remain empty as "banked" capital. The lack of human activity creates a social void in the middle of an otherwise bustling urban environment. The studio will focus on imagining new architectural typologies that leverage vacant investment buildings as a resource to nurture sensitive plant and wildlife species—a missing aspect of the urban environment—improving nature and human health.

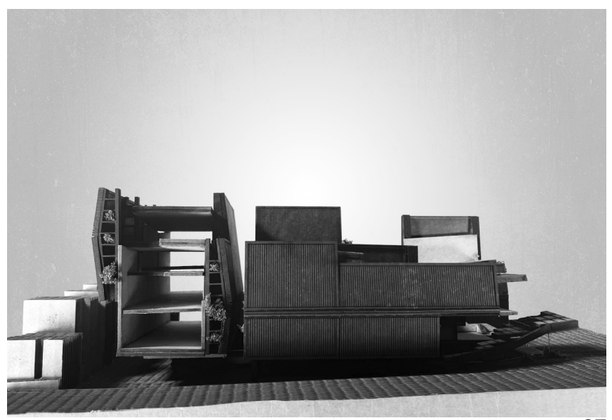
BROOM BUSH + WESTERN UNDERGROUND ORCHID The driving design factor for the project is to create an ecosystem for the perannual western underground orchid to bloom from the soil, that is contained within the wall assembly. Thus intersecting people into the symbiotic relationship between the buch, the orchid, and us.

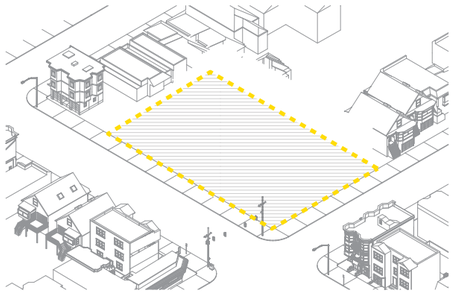


TOP: Interior perspective, interaction between plants and how you would move through the one of the residential units.

BOTTOM: Exterior facade studyy,, considering options for shading / daylight stratagies.

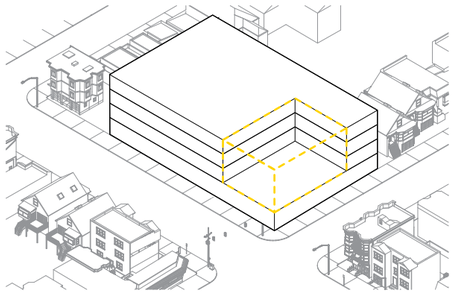






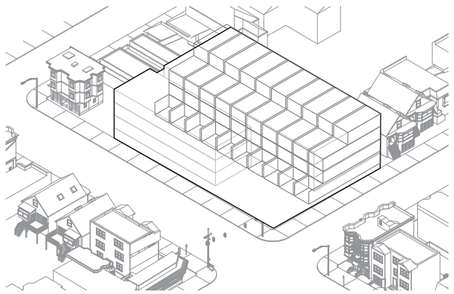
SITE AREA

The site location on the corner of 43th and Irving. South of Golden Gate Park



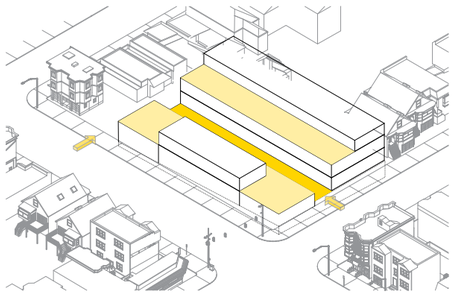
VERTICAL SETBACK

Max height limits 55' with void extrusion to activate the corner adjacent to street



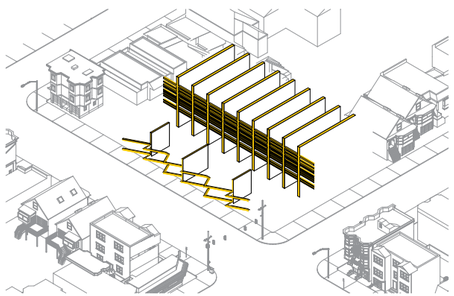
BUILDING DIVISION

Comparting uses of different spaces, focus on integration and shared community space



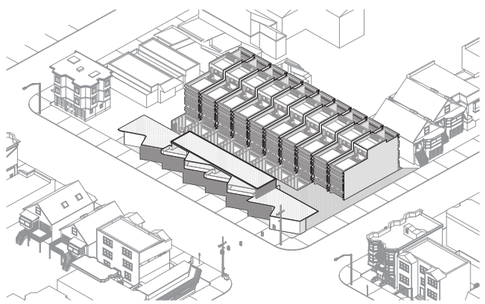
PROGRAM SEPARATION

Inclusion of pedestrians and cars, parking garage located basement level. Access to commertial units for the public and private



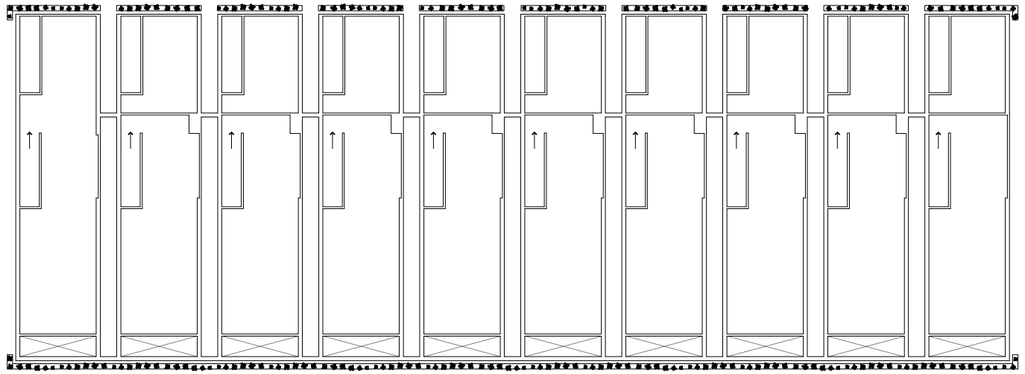
ROOT SYSTEM INFILL

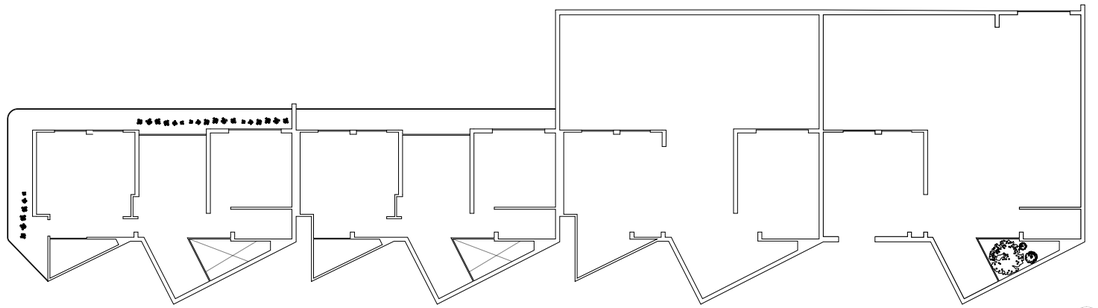
Infil system, integrated root system within the walls that separate unit. Improving sound quality with support of the species.



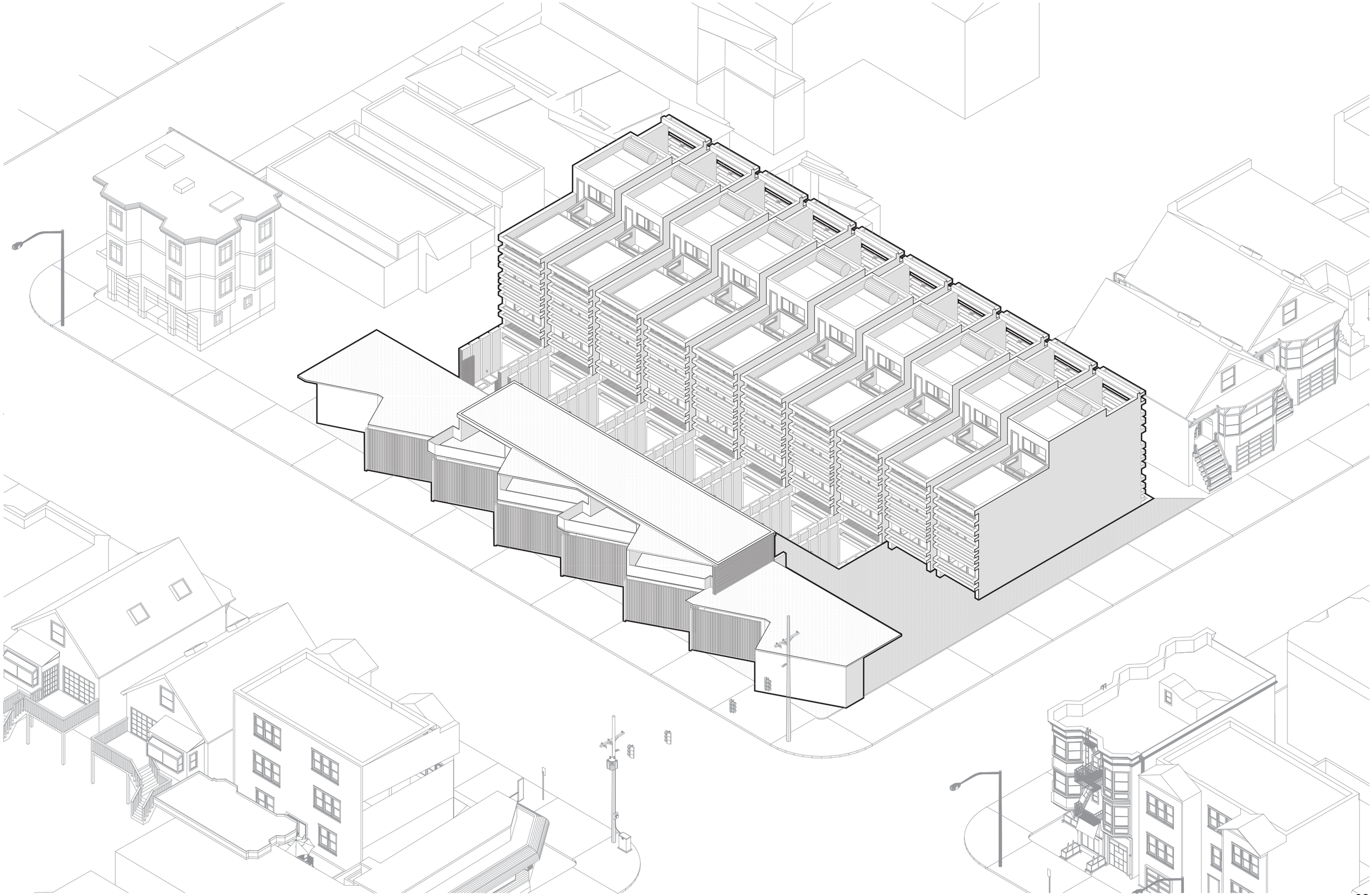
BUILDING INTEGRATION

Completed proposal





TOP: First Floor Plan
BOTTOM: North Exterior Elevation

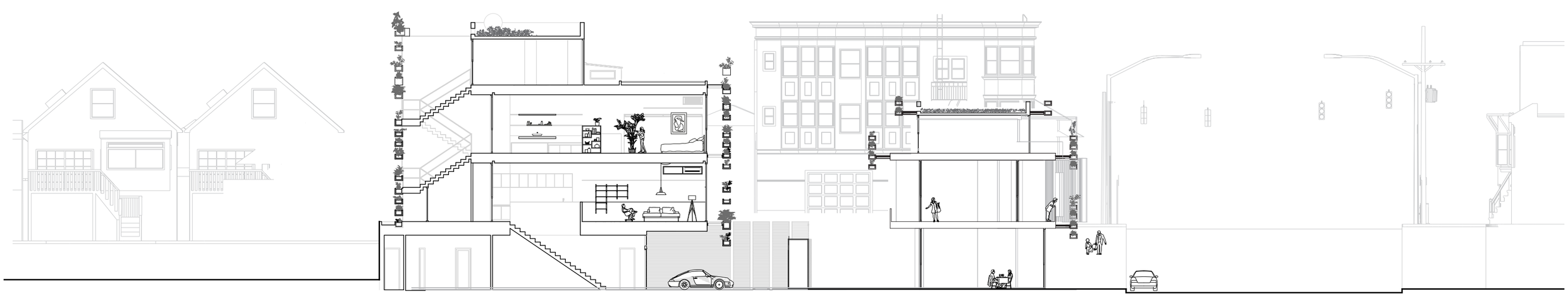


URBAN DENSITY / DAYLIGHTING Getting sunlight in a city is a challenge, especially in San Francisco, as urban developments become denser to increase the investment rate of return by code and zoning ordinances require to have a specific amount of daylight depending on the use of space.

In addition to daylighting strategies, for the buildings we inhabit, adequate sunlight for nurturing the sensitive species and surrounding ecosystem. Creating a healthy environment for us.

PROPOSAL / SYMBIOSIS CONNECTION This project proposes the symbiotic relationship between the broom brush/ fungus/ western underground orchid as a natural system that can grow through the building. Weaving in, outside of and with, as a concept for structuring a new series of spaces that maximizes the conditions for its growth and consequently, the residents of the building.

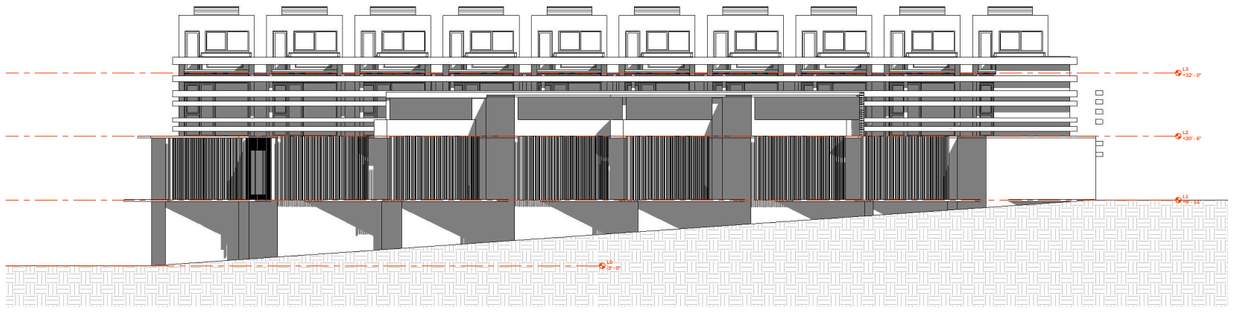
In addition to the close symbiotic relationship with each other, the site is located at 44th and Irving in the Outer Sunset district of San Francisco. Orientated to the south to take advantage of daylighting as well as extending the existing ecosystem of Golden Gate Park. Adjacent to a multi-cultural community with amenities like restaurants, shops, parks, schools, and walking trails to the Pacific Ocean.

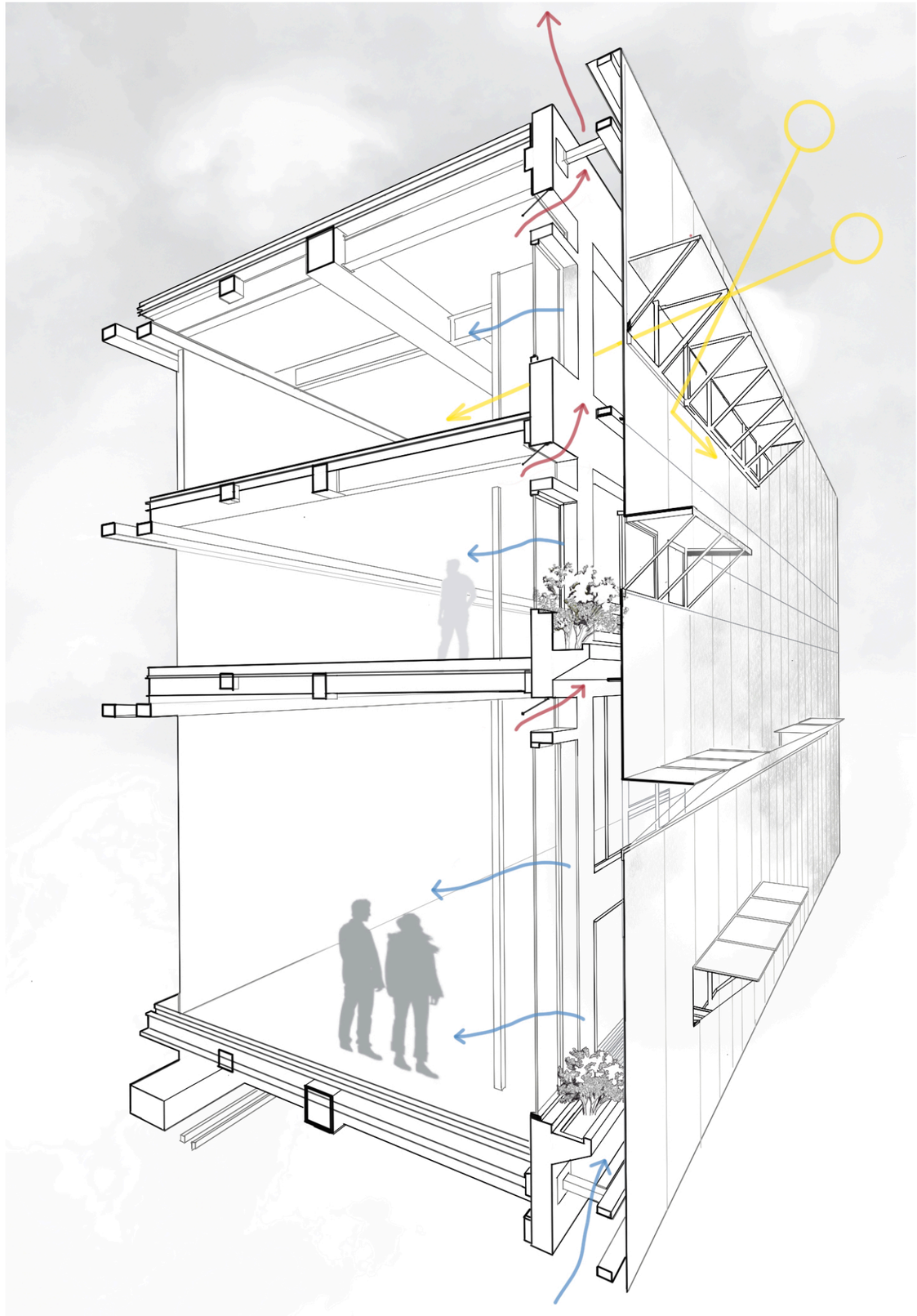


ABOVE: Cross Section

HEALTH / ECOSYSTEM Typically, plants are located on or around our buildings, not usually inside and integrated with the environmental systems of the building. In reference to projects such as the Bullitt Center (top) and iLot (bottom) to utilize systems that mutually benefits people (community) and sensitive species (ecosystem).

IMPACT The benefits of the project are multi-dimensional - benefiting the residents with light, natural ventilation, and a direct connection with nature. Benefiting the investor by keeping operational costs low through passive design strategies in grey water return, solar massing, and overhangs for shading. Benefiting the community by having a sense of respectfulness of the neighboring need for sunlight and air quality. Mirroring systems are set in place on the inside the building itself.





LEFT: South Elevation

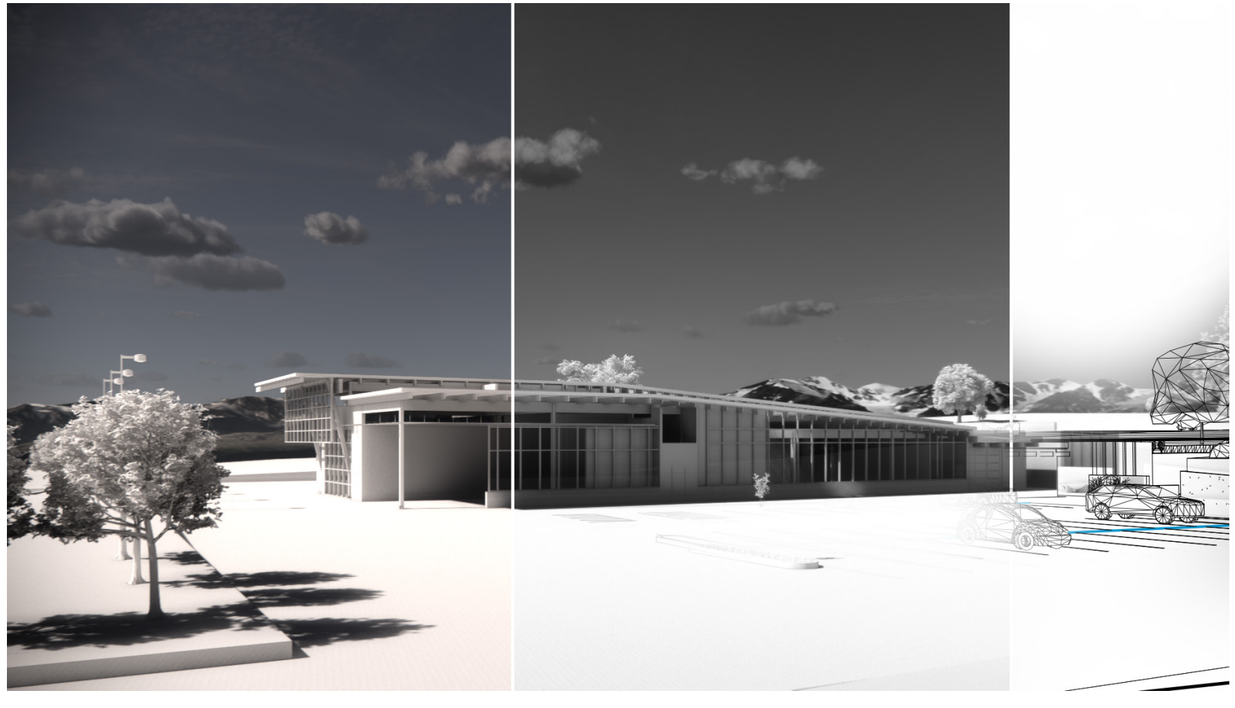
RIGHT: Perspective Section - passive design stratagies, passive cooling access to greenspace for occupants.

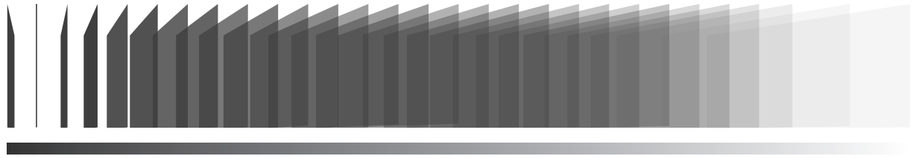
YEAR: 2022 | **LOCATION:** BOZEMAN, MT | **TYPE:** FURENAL

SACRAL PROGRESSION

CREAMITORIUM COLUMBARIUM

PROJECT BRIEF The project proposes a subtle conversation between man and nature to be felt across the site, aligning death with the natural course of the universe. Demonstrating how a building can literally merge with its context, blurring the edge between landscape and architecture.

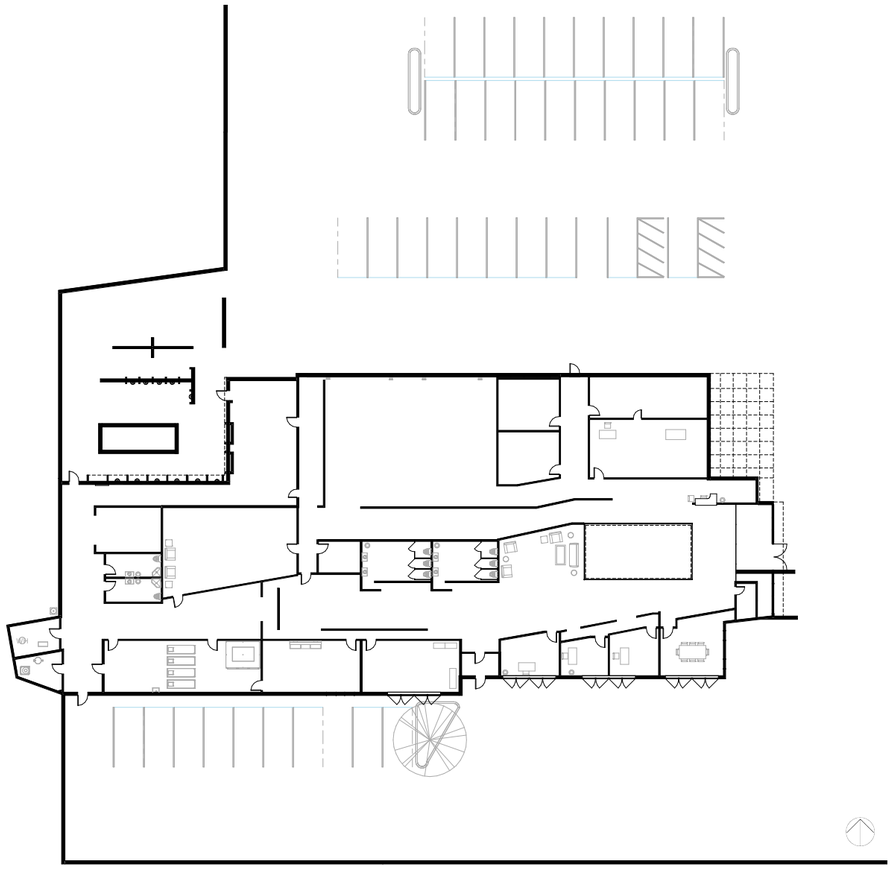




CONCEPT The project proposes a subtle conversation between man and nature to be felt across the site, aligning death with the natural course of the universe. Demonstrating how a building can literally merge with its context, blurring the edge between landscape and architecture.

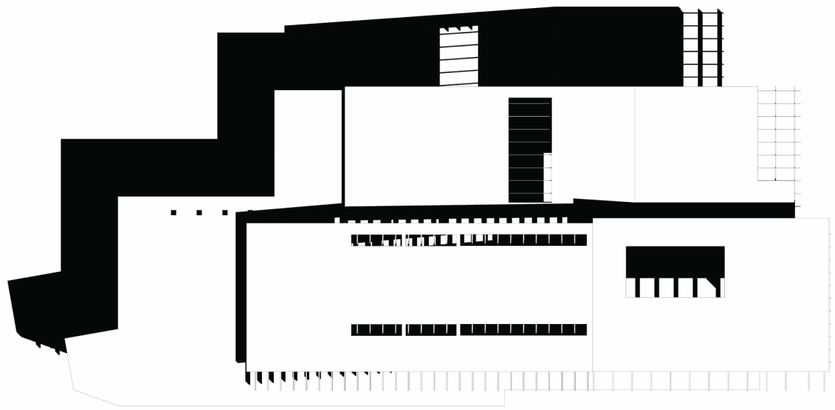
BOTTOM LEFT: Project Exterior perspective

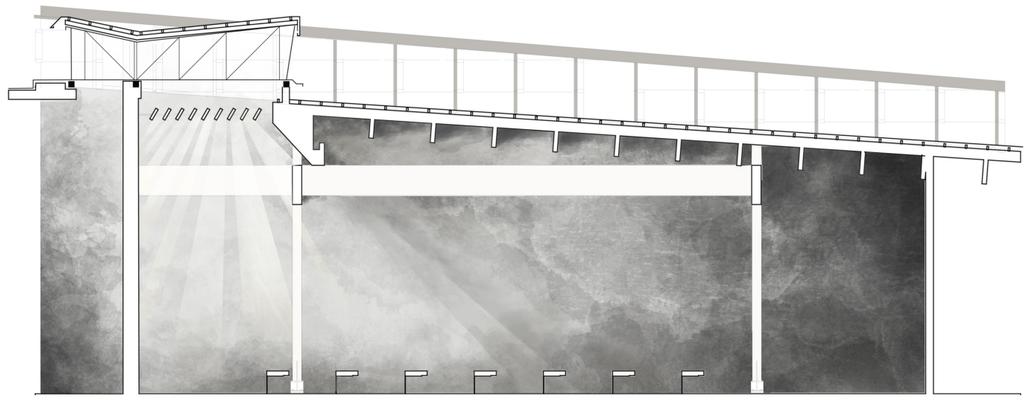
TOP RIGHT: Landscape topography study model, inverted topo lines with paper.



LEFT: First Floor Plan

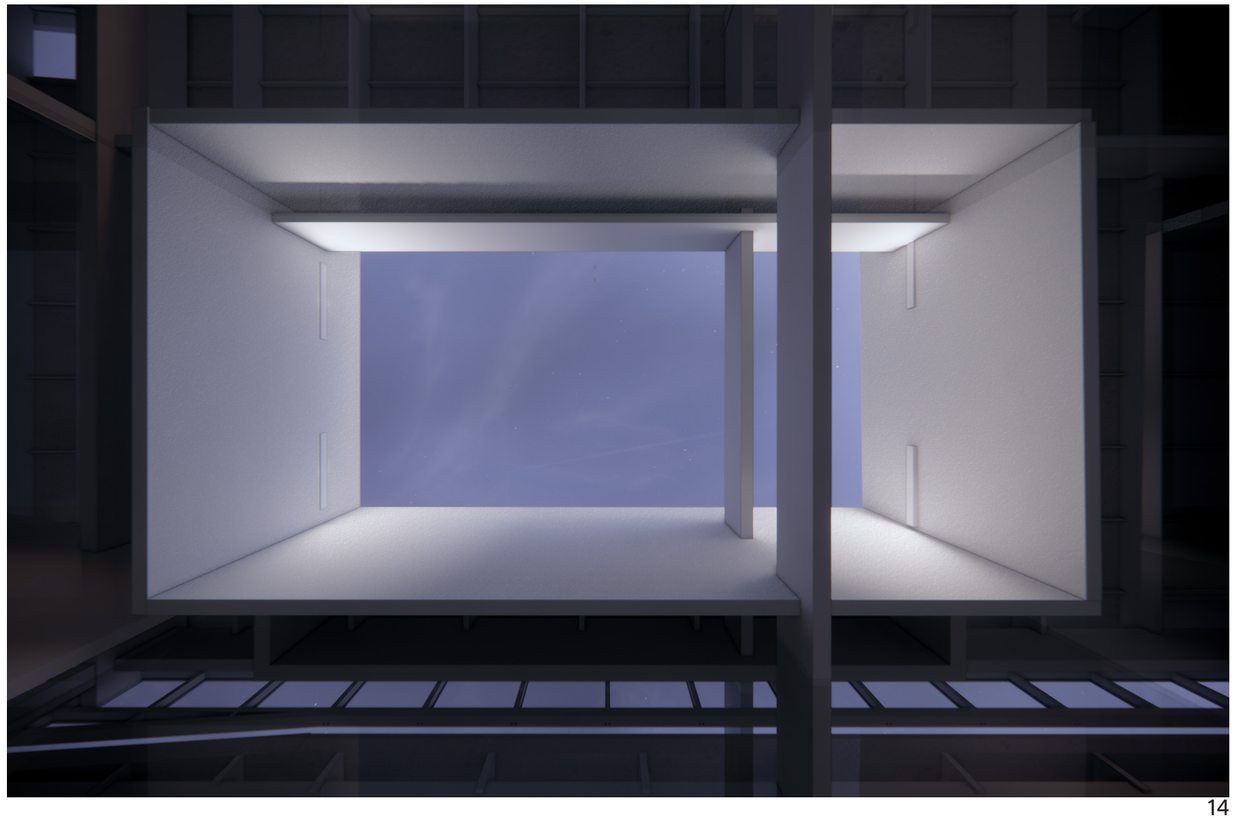
RIGHT: Interior Lobby Perspective

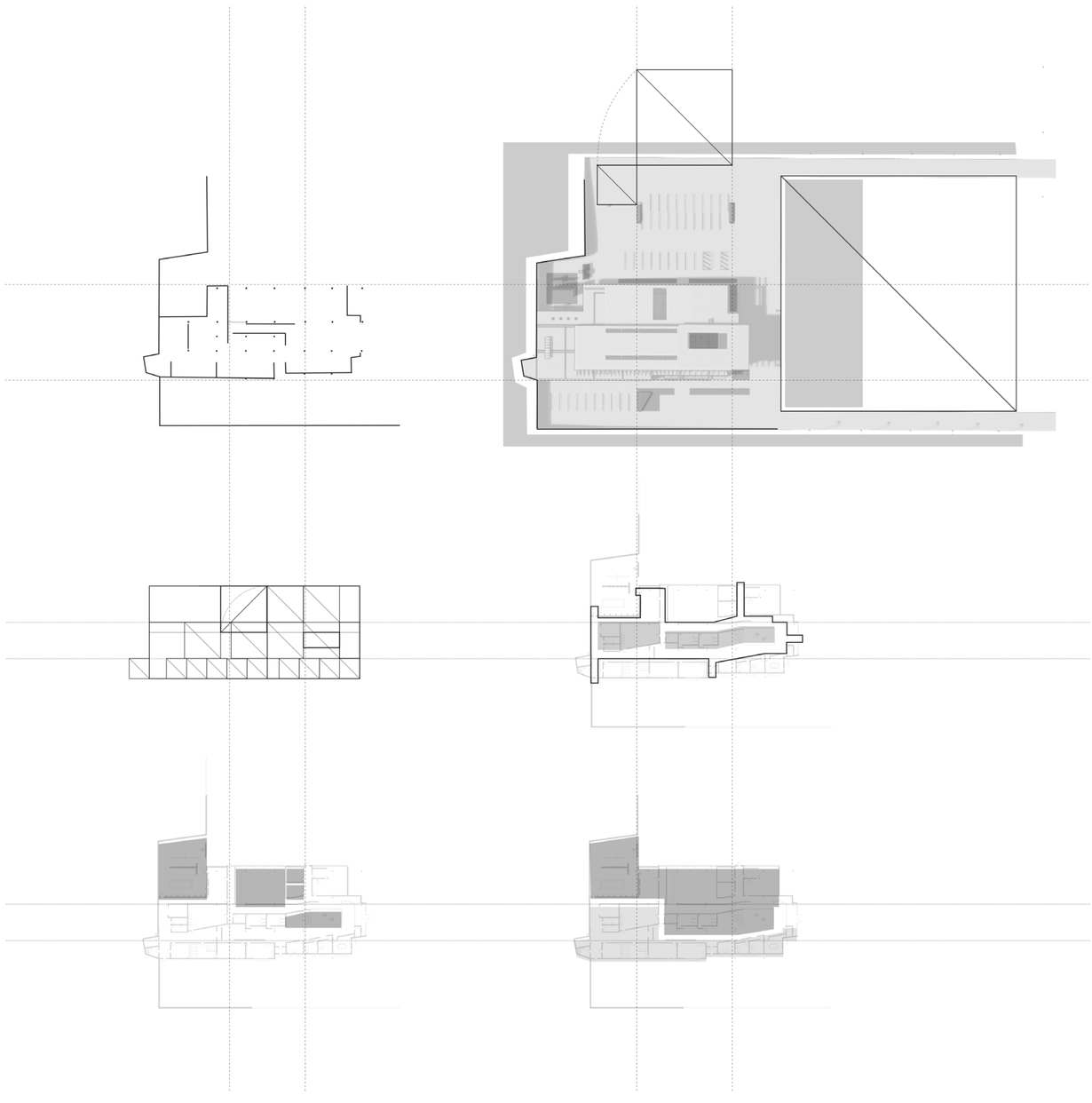


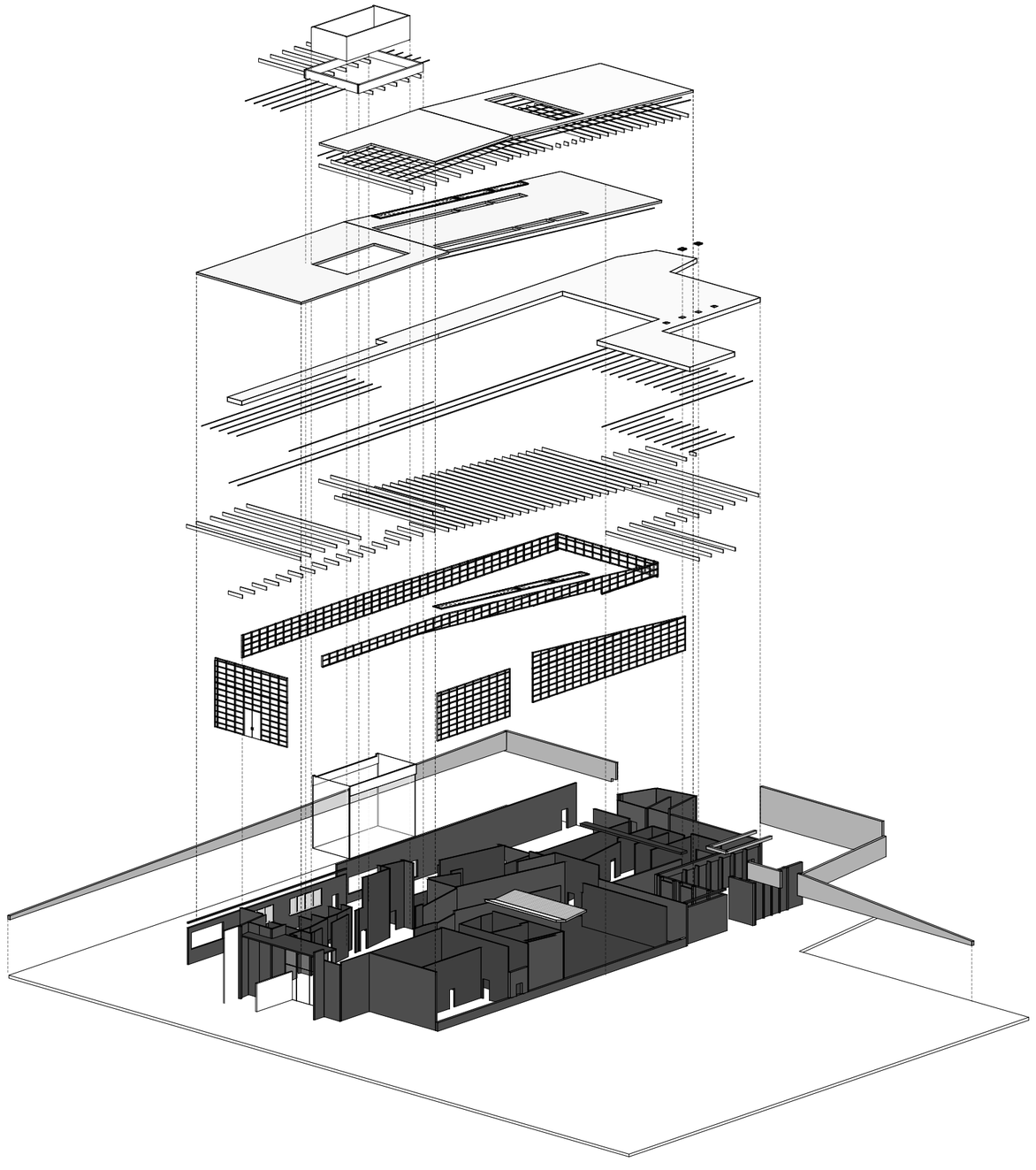


LEFT: Roof Plan

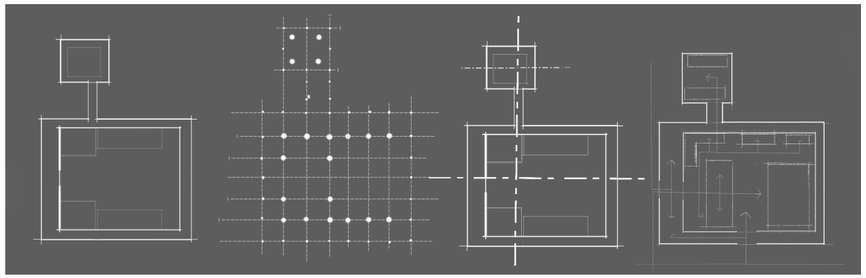
RIGHT: Section - Natural light study. Sacred Cerimonal space

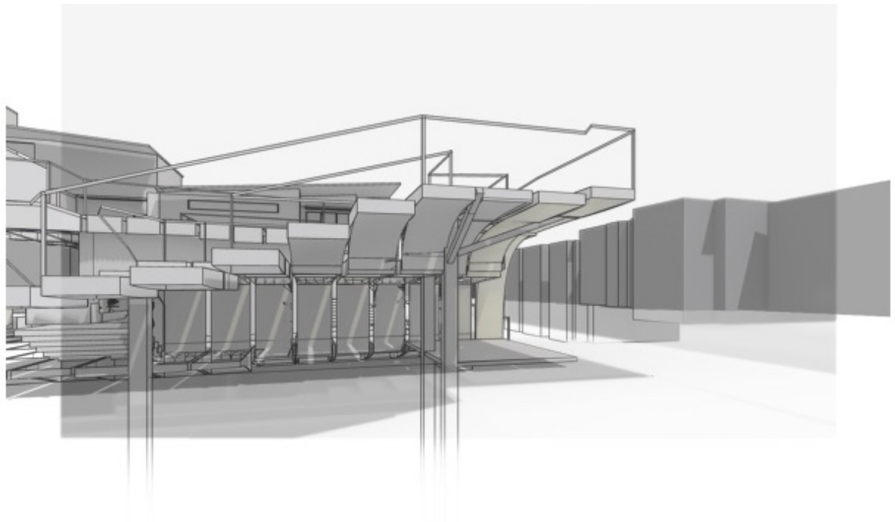


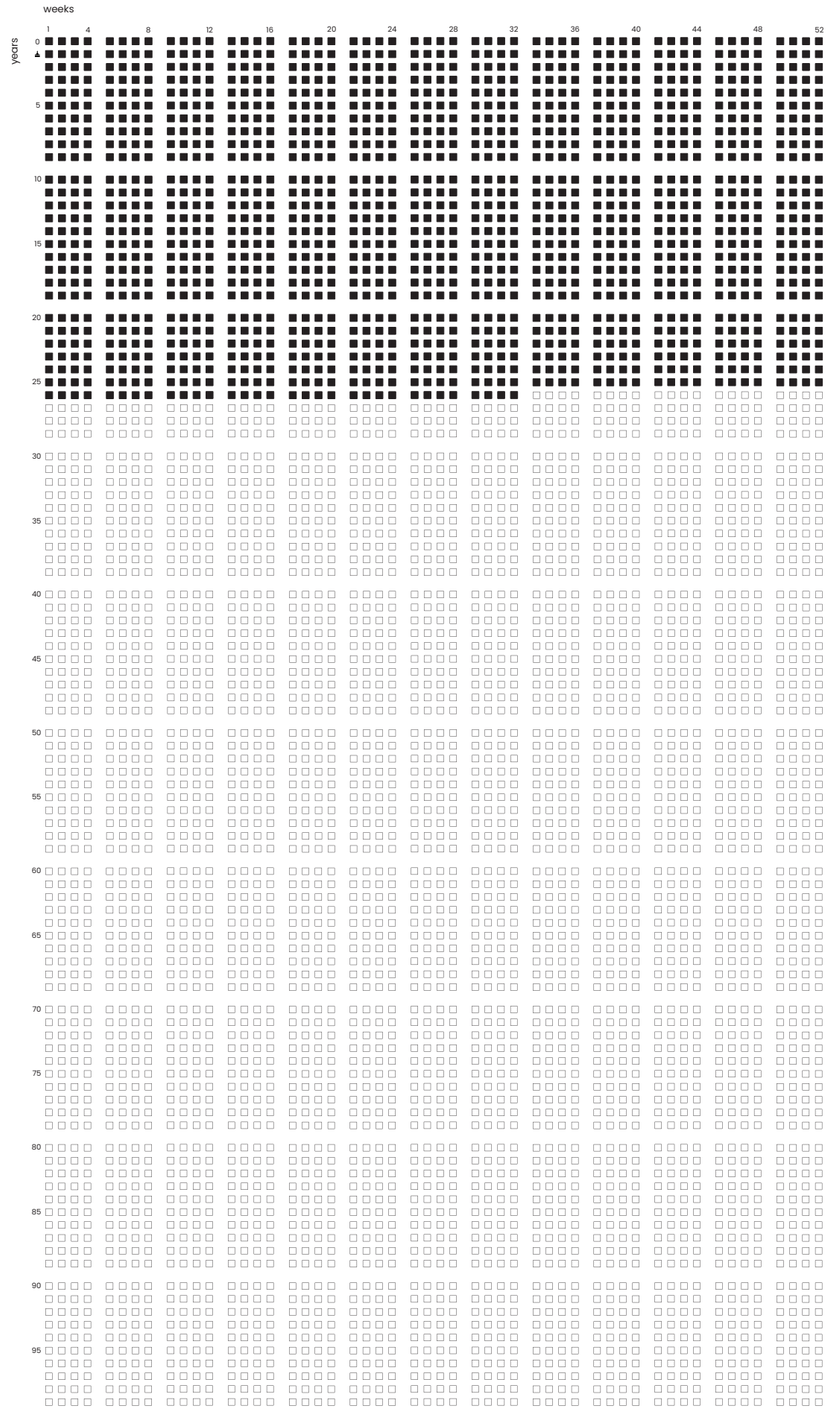




GRAPHICS / PHOTOGRAPHY



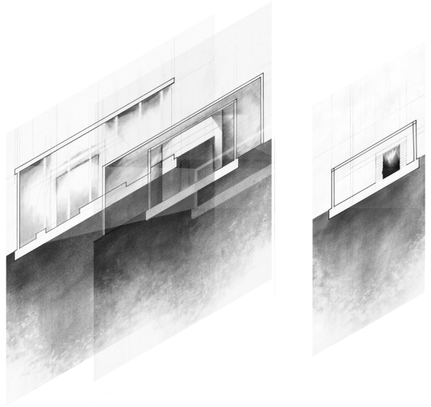


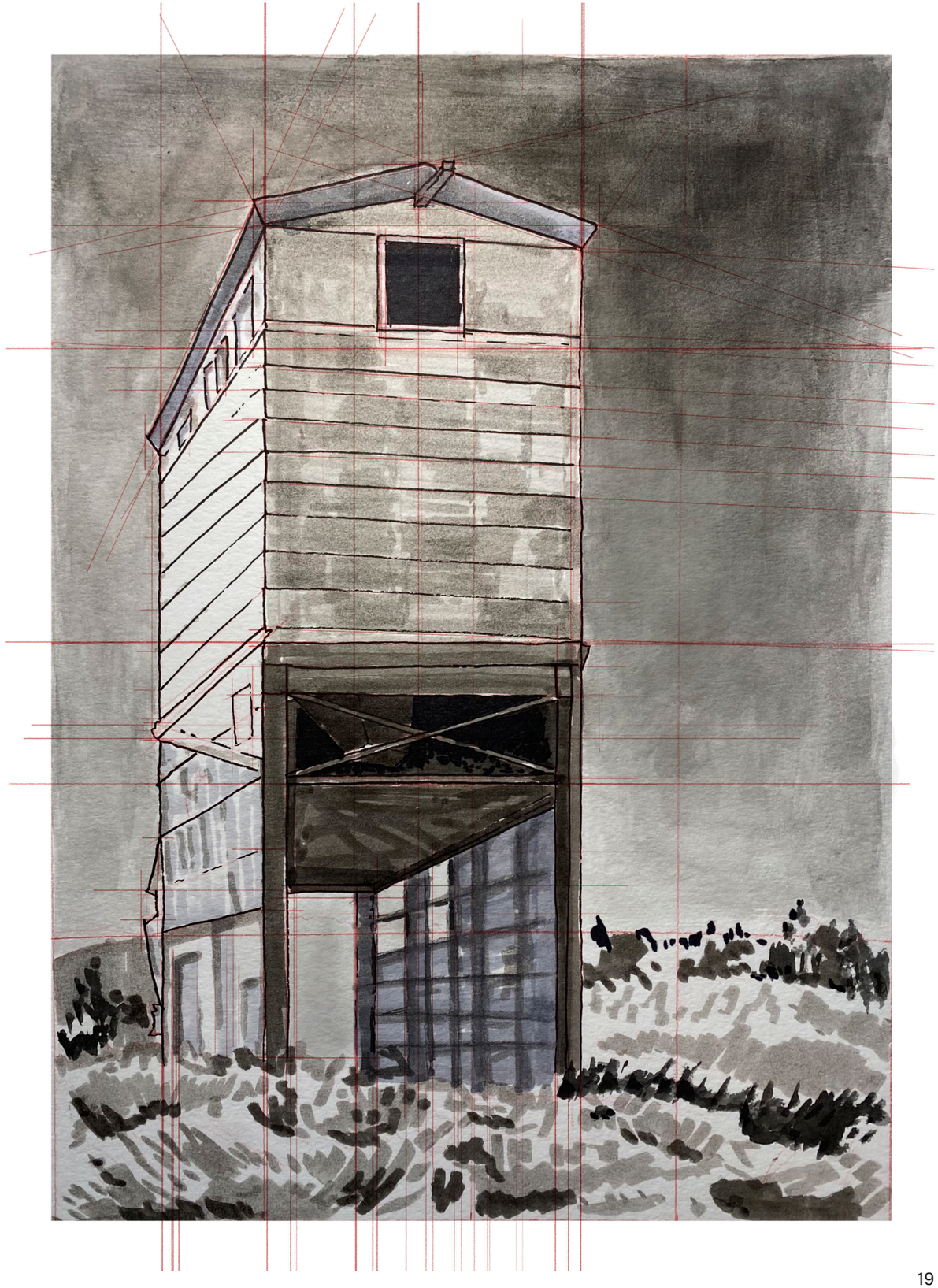


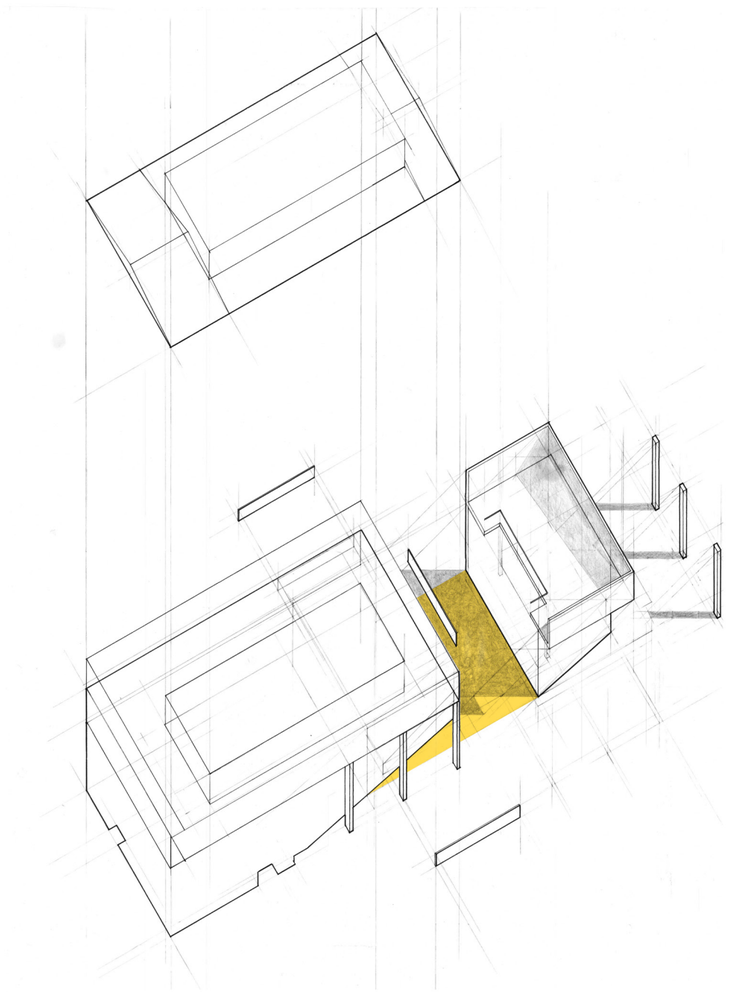
This article is about the philosophical reminder of death's inevitability. For other uses, see Memento mori (disambiguation).

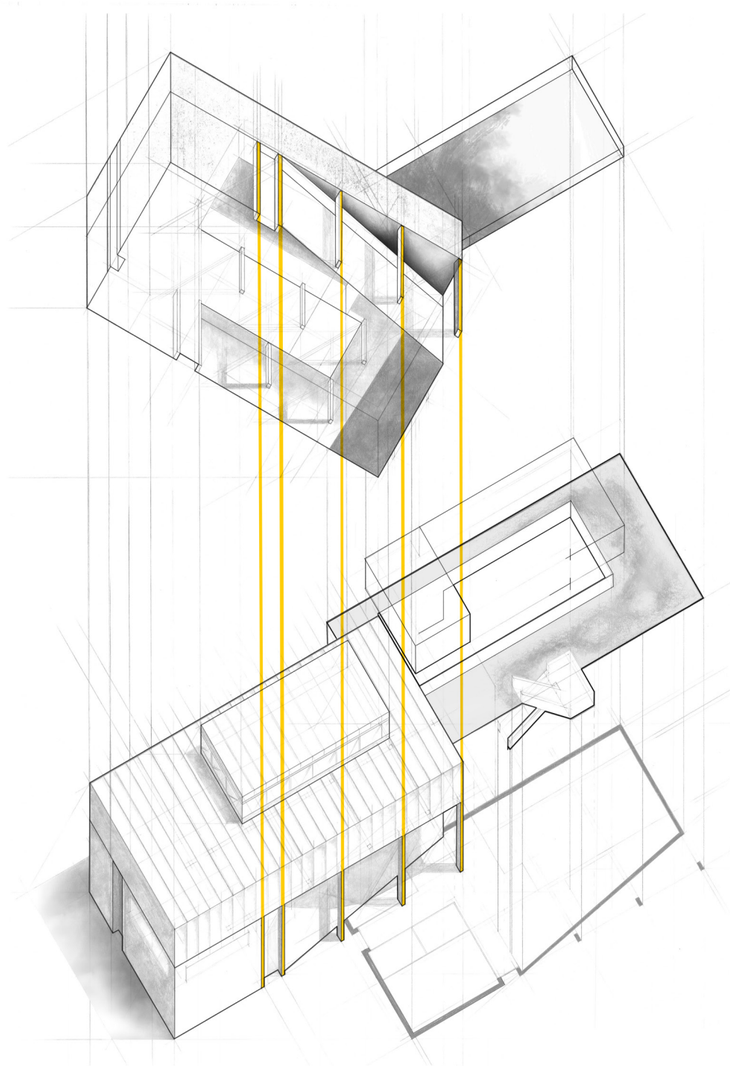
The outer panels of Rogier van der Weyden's Braque Triptych (c. 1452) show the skull of the patron displayed on the inner panels. The bones rest on a brick, a symbol of his former industry and achievement.[1]

Memento mori. Gravestone inscription (1746). Edinburgh. St. Cuthbert's Churchyard.
Memento mori (Latin for 'remember that you [have to] die'[2]) is an artistic or symbolic trope acting as a reminder of the inevitability of death.[2] The concept has its roots in the philosophers of classical antiquity and Christianity, and appeared in funerary art and architecture from the medieval period onwards.



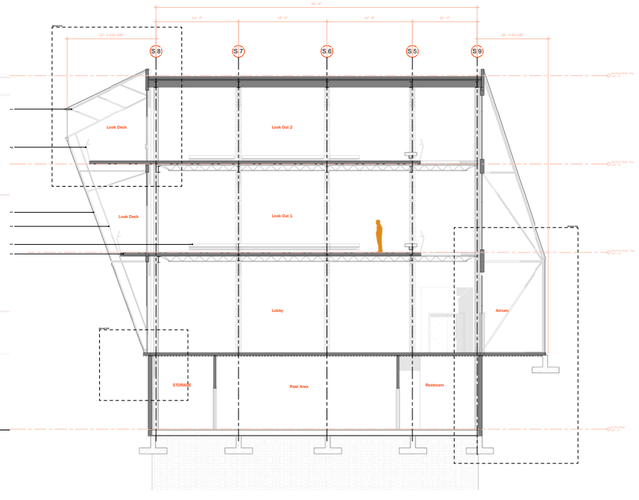


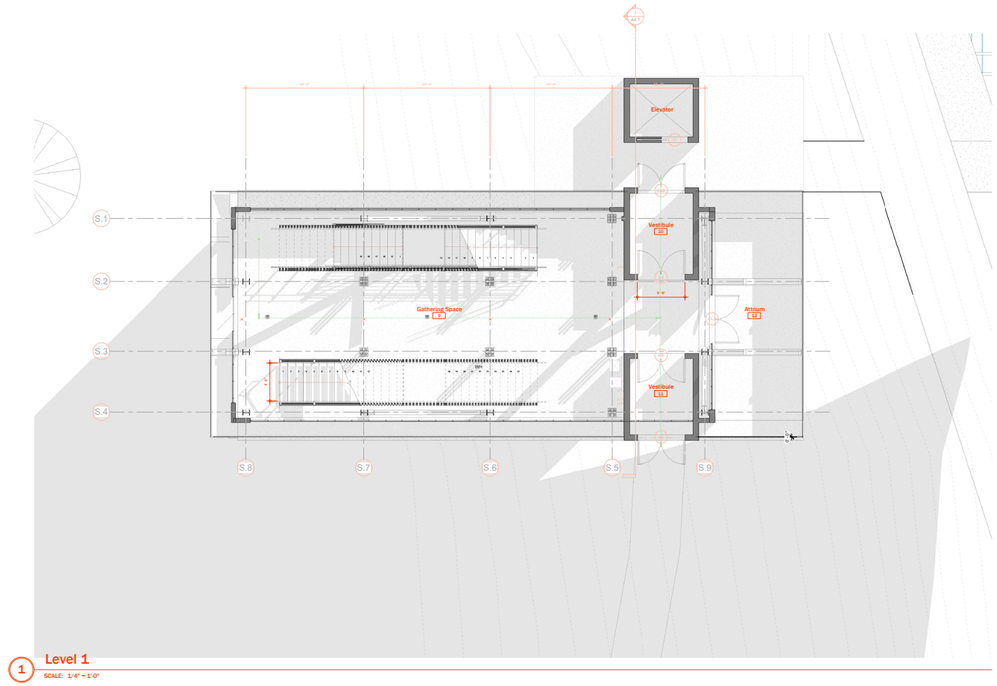




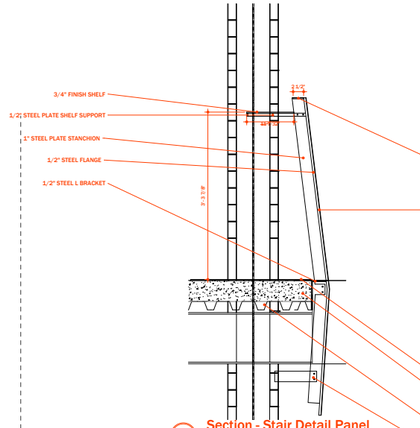
TECHNICAL

BUILDING CONSTRUCTION / ENVIORMENTAL CONTROL SYSTEMS

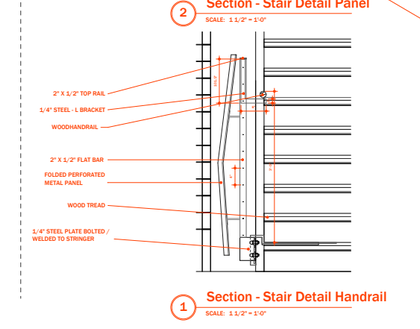




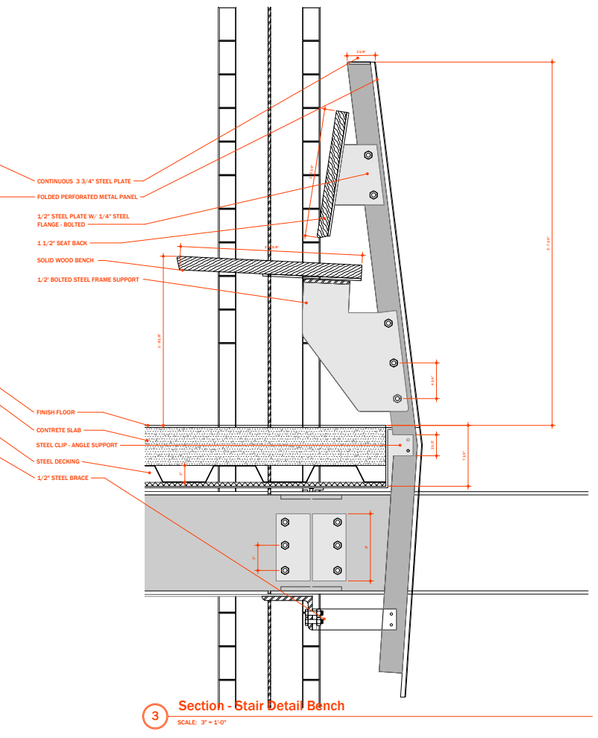
1 Level 1
SCALE: 1/4" = 1'-0"



1 Section - Stair Detail Handrail
SCALE: 1 1/2" = 1'-0"



2 Section - Stair Detail Panel
SCALE: 1 1/2" = 1'-0"



3 Section - Stair Detail Bench
SCALE: 3" = 1'-0"

Sound in Enclosed Spaces

Sunset Crematorium / ECS assignment 10

BOZEMAN, MT

Parker Trost, Elijah Traub & Ryan O'Connell

Manufacturers Name	Sound Seal	Sound Seal
Type of Material	Concrete Blocks / Fiber Inserts / Masonry Grout	Concrete Blocks / Fiber Inserts / Masonry Grout
Sizes Available	Soundcell 12"	Soundcell 8"
NRC Rating	0.70	0.75
Articulation Class	n/a	n/a
Absorption coefficients @ 500 Hz	(painted) 0.55 (unpainted) 0.50	(painted) 0.51 (unpainted) 0.46
Absorption coefficients @ 1000 Hz	(painted) 0.70 (unpainted) 0.70	(painted) 0.75 (unpainted) 0.68
Recommended installation methods	Follow a traditional masonry wall format using standard CMU sizing based on Soundcell size of choice. To grout the backside portion of the unit, begin by placing Soundcell in the correct position as the basepoint, (potentially regular CMU and Stout Face CMU below the soundcell unit based off of intended design), then install the grout inserts which are typically installed in the field. Next, grout the solid back cell of the unit and continue stacking in that order. At the top course of the Soundcell Units, install a standard building paper or felt.	
Recommended Usage	Soundcell resonators utilize a slot-type, stacking, Helmholtz volume resonator to maintain and achieve sound absorption at all different frequencies. The 12½ unit has been able to reach a 100% average absorption efficiency at frequency bandwidths of 100-125-160-200 Hz. Soundcell volume resonators have 77% of its surface area skewed to a (3:12) which in turn gets rid of flutter sound annoyance. Lastly, Sound diffusion can be an issue in typical spaces. This is when sound waves have a randomized reflection and dispersion of its path after bouncing off of irregularly shaped surfaces. Soundcell improves the quality and nature of sound in these spaces by providing desirable diffusion with its innovative grid and unique form.	

Qualitative Acoustic Goal

The gathering spaces shown are meant to be areas for sharing stories of lost loved ones. The larger group gathering space (Fig.1) is a large open space surrounded by hard concrete walls, floors and ceilings which would result in a large amount of reverberation and flutter. The smaller spaces (Fig. 2) for individuals and more intimate groups would have a similar effect. To combat this volume resonators have been selected to lessen the revelation time of the space. The lesser revelation time will create a more pleasant place for conversation. The resonator blocks will sit into the existing wall and be finished to the same paint as the two plaster walls of the room.

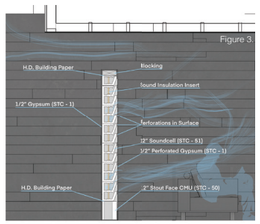
KAAN Architecten - Crematorium Siesegem
Resonant blocked integrated into the wall.

MIT Chapel - Eero Serinen
Bricks are separated allowing for sound to pass into resonating chambers beyond. Integration between the normal brick corse and this intervention is nearly invisable

Sound Seal - Cavity Resonators

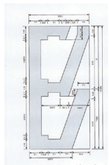
Cavity Resonators

Soundcell resonators utilize a slot-type, stacking, Helmholtz volume resonator to maintain and achieve sound absorption at all different frequencies. The 12½ unit has been able to reach a 100% average absorption efficiency at frequency bandwidths of 100-125-160-200 Hz. Soundcell volume resonators have 77% of its surface area skewed to a (3:12) which in turn gets rid of flutter sound annoyance. Lastly, Sound diffusion can be an issue in typical spaces. This is when sound waves have a randomized reflection and dispersion of its path after bouncing off of irregularly shaped surfaces. Soundcell improves the quality and nature of sound in these spaces by providing desirable diffusion with its innovative grid and unique form.
These are techniques that are useful in gyms, auditoriums, private quiet rooms, as well as sound designer spaces seeking minimal sound disturbances.

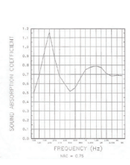


Gathering Space - Acoustical Treatment

The concept of this gathering space is for people who heal through conversing with others to be able to have a space to do so openly. The gathering space needs minimal disturbances while also allowing for clear sound to travel throughout so that conversation can be heard. With this understanding, we are choosing to use Sound Seal's Cavity Resonator system, the Soundcell 8" Unit. This is our primary choice for the space because the 8" units are able to control the sound in the space by cutting out extra noise, improving the sound quality of the space, as well as decreasing any sound annoyances like flutter echo. The 8" Soundcell units themselves will be an elegant way to to work with the acoustics of the space while allowing for light to still come through the waffle slab ceiling. The integrated wall resignators will blend into the walls in the space and take on the language of the waffle slab structure (Figure 1).



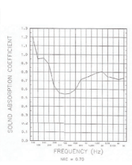
8" Block Detail



Speech Privacy - Acoustical Treatment

The private space will be for those who need a more introverted space to grieve the loss of a loved one, these private spaces need to minimize the sound that leaves the space and to maintain privacy throughout. The original semi partition was constructed out of wood studs 16" o.c. which made the privacy rating "seriously disatisfied". Moving forward, we chose to use the Soundcell 12" Unit instead of the 8" unit. The 12" units have a more absorption efficiency which, reaching a 100% average absorption efficiency for bandwidths at 100-125-160-200 Hz. This is ideal for these spaces because the units will be able to absorb the majority of frequencies of this space, not allowing them to escape the private room, thus maintaining the Privacy needed to grieve. The resonator blocks will be integrated in a partition that separates this space from the main corridor (Figure 2).

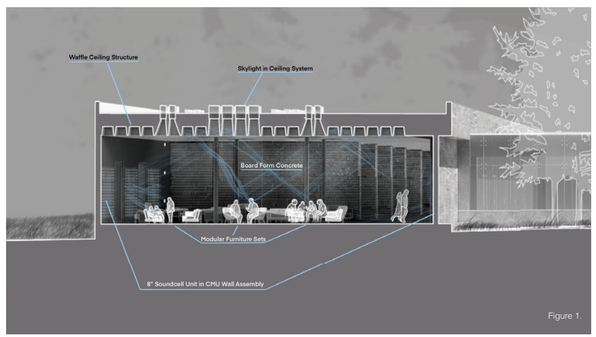
12" Block Detail

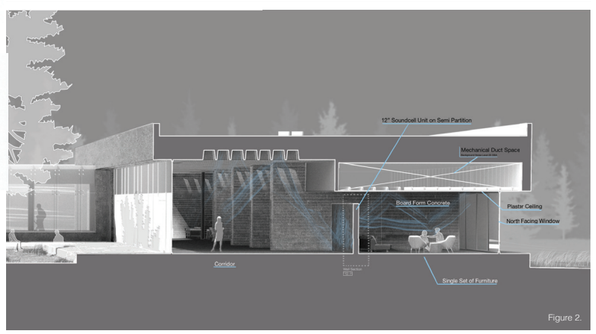


SOUND SEAL

Nominal Width	Type	Reckoned [a] Unit Weight/lbs. Lightwgt ≤ 105 lb./ft³	Reckoned [a] Unit Weight/lbs. Normal Wgt ≥ 125 lb./ft³	STC [b] Lightwgt ≤ 105 lb./ft³ Void	STC [b] Lightwgt ≤ 105 lb./ft³ Back Filled	STC [b] Normal Wgt ≥ 125 lb./ft³ Void	STC [b] Normal Wgt ≥ 125 lb./ft³ Back Filled	NRC [c]	SAA [d]	Bar Core Exposed	% Solid	Equivalent Thickness/in. Void	Equivalent Thickness/in. Back Filled	Fire Resistance [e] Periods/hrs. Lightwgt ≤ 105 lb./ft³ Void	Fire Resistance [e] Periods/hrs. Lightwgt ≤ 105 lb./ft³ Back Filled	Fire Resistance [e] Periods/hrs. Normal Wgt ≥ 125 lb./ft³ Void	Fire Resistance [e] Periods/hrs. Normal Wgt ≥ 125 lb./ft³ Back Filled	R-Value [f] Concrete Density lb./ft³ 105	120	135
Sound Cell®	12"	Regular	41.5	55.0	48	52	55	0.70	0.70	3.38	49.0	5.7	7.3	3.00	4.00	2.75	4.00	5.3	4.5	3.7
	8"	Regular	33.0	44.0	47	NA	49	NA	0.75	0.74	NA	59.1	4.5	NA	2.00	NA	1.50	NA	3.8	3.2	2.6

[a] Values derived via ASTM C140 testing, sample weighing, or by calculations; actual unit weights may vary.
[b] Sound Transmission Class values derived per ASTM E413 testing or by NCMA TEK 13-1B *STC Ratings for Concrete Masonry Walls*; actual installed performance may vary.
[c] Noise Reductions Coefficient values derived per ASTM 423 Specifications; actual installed performance may vary.
[d] Sound Absorption Average values derived per ASTM 423 Specifications; actual installed performance may vary.
[e] Calculated per Equivalent Thickness of Masonry IBC 721.3, NCMA TEK 7-4 *Fire Resistance Ratings of Concrete Masonry Assemblies*; actual installed performance may vary.
[f] R Values derived per NCMA TEK 6-2C-R *Values and U-Factors of Single Wythe Concrete Masonry Walls*; actual installed performance may vary.



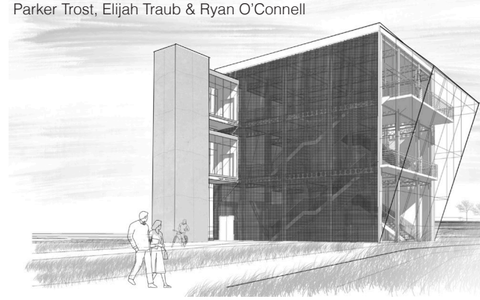


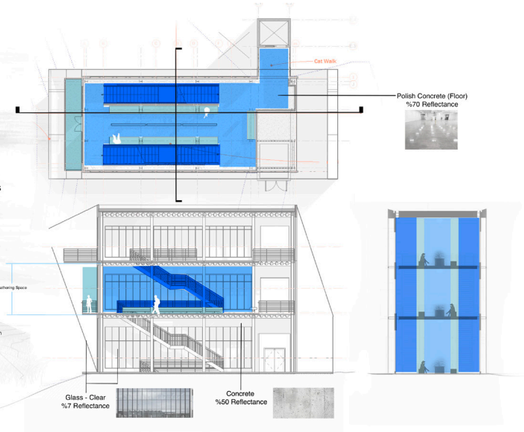
Grondzik, Walter T., and Alison G. Kwok. Mechanical and Electrical Equipment for Buildings. John Wiley & Sons, Inc., 2019.
Sound Absorption Coefficient Chart | JCW. (2022, January 5). Acoustic Supplies. https://www.acoustic-supplies.com/absorption-coefficient-chart/
Sound Seal, ed. "Soundcell Masonry." Acoustical Concrete Masonry Units - Sound Seal: A Catalyst Acoustics Group Company. 2022. https://www.soundseal.com/soundcell.html.

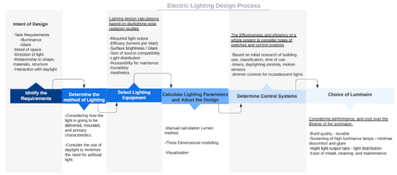
PETES HILL LOOKOUT TOWER / LIGHTING DESIGN

BOZEMAN, MT

Parker Trost, Elijah Traub & Ryan O'Connell



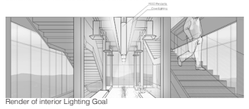




Qualitative Lighting Goal

The overall qualitative lighting strategy to contribute to the emotion of subdued and ambient atmosphere as you progress through the observation tower. Considering factors such that - orientation of the building, times being occupied, interior materials are all contributing factors to the ambiance and mood of the space, in addition to expression of structural and mechanical elements of the building.

Given that over half of the exterior envelope is glazing, flexible and adjustable lighting controls that adapt to the natural lighting conditions will reduce energy consumption and provide antiquate lighting conditions for various activities inside the space.



Render of interior Lighting Goal

Quantitative Lighting Goal

Stairs will need to maintain an average of 5 footcandles on horizontal surfaces and 3 footcandles on vertical surfaces.

For the paths of circulation, the IESNA Handbook recommends an average of 5 footcandles on horizontal surfaces and 3 footcandles on vertical surfaces. However, the circulation plays a large role in the concept of the building. With this being said, the average lighting on circulation surfaces should be more attended to accent lighting. (3-10 Times more than ambient light.) The stairs surround the horizontal circulation so the ambient light would be around 5 fc. – To make the horizontal circulation stand out the accent lighting would be around 15 fc on horizontal surfaces.

The seating areas will be used for conversation and relaxation. The average lux for this type of space is around 50-100 Lux or around 5-10 fc. These areas lie along the circulation paths. However, we would like to draw more attention to the circulation. More specifically an average horizontal illumination of 5 fc and 3 fc for vertical surfaces.

Activities Within The Space

Stairs
Simple and open stairs provide the main approach to the viewing experience and is the primary circulation to move up and through the space. Since it serves its purpose as circulation, it also provides the means of egress through the structure to allow for safe exits. Based on current lighting code, there is to be 5-10fc as a means of horizontal illuminance, 3fc for vertical illuminance, with a total illuminance averaging about 10fc.

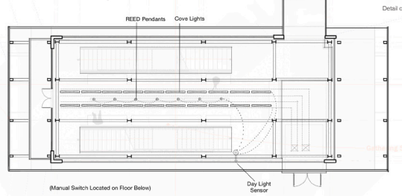
Lounging and Socialization
Due to the site and location of this structure, the environment is attractive for local viewers. With this in mind, each level has seating to allow for rest and relaxation and a clear view of the surrounding environment. With the use of glazing, punched metal siding, and open bay wall sections, the view to the outdoors is clear in the design and position of the seating leverages the experience. The total illuminance for this space is about 13fc to allow for comfortable viewing.

Accented Corridor
Circulation through the building is imperative to the viewing of the surrounding area, it allows for the viewer to get to a safe and comfortable viewing location. Through the use of comfortable lighting and fixtures, these spaces provide this function. There is a blending of this space with the lounging and social spaces as it is integral in the approach and receiving of the experience.

General Lighting System Design

The "15L Concealed Cove LED" Light has been chosen to address the general lighting conditions in the space. The cove will be dropped down and formed using a steel lintel while the light will be focus up towards the HVAC ducts. This is because we would like to highlight these systems, provide general lighting, as well as draw attention to the space illustrated.
The "Reed Pendant" will also be used to draw focus to the main path of horizontal circulation which goes along with our concept of displaying this.
Each of these will be able to be individually controlled with dimming capabilities. This will be necessary due to the high amount of natural light that will enter the space. The Lumen calculation method has been used to determine how many luminaries we will need for our general lighting. To clarify, the space being accounted for is the second story labeled Gathering Space" in the long section. The space is 25' Wide x 70' Long x 15' Tall. The materials in use are Polished Concrete floors and concrete and glass on the walls. See Calculations.

Reflected Ceiling Plan

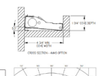


RSP Architects Office
Uses Natural and artificial light to highlight a corridor. Seating and way finding were taken into account

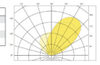
House E - Nueman Hayner Architects
Linear cove lighting along the hallway acts as way finding and provides a gentle lighting quality

Aria Convention Center - Marnell Architecture
Baffles used here hide utilities, while this is not our approach to this project, we did explore this option and thought it worth noting.

15L Concealed Cove LED
Fixture: 15L-CC-AI-24-4-C1-35K-I100-D01-1C-UNV-W3
CCT: 3500 K
Nominal Lumens: 1000 lm/ft
Efficacy: 81.6 Lm/w



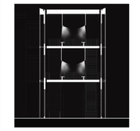
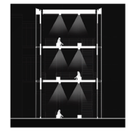
Zone	Lumens	% Luminaire
90-150	76.44	76.90
90-150	74.33	74.80
90-180	10201	100.0
0-180	10201	100.0

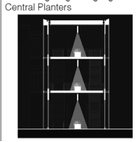


REED Pendant
Fixture: LRD.PN.24.3513.Bk5.60-BB
CCT: 3500 K
Nominal Lumens: 1300 lm/ft
Efficacy: 92.6 Lm/w

Zone	Lumens
0-10	96.49
10-20	278.85
20-30	221.52
30-40	83.59
40-50	23.73
50-60	2.24
60-70	0.95
70-80	0.00

Detail of Lighting System

Task Lighting	 AKTM Series 4" LED Track AKTMLED25L30K8XFL55WH	 VESSEL (P91.P.V.80.T.35.DA.MB.M.PA.M.LRA.2)	 SERIES P91 (FM-W9100-BK)
Lumen Maintenance	35,000 hrs	35,000 hrs	35,000 hrs
Color (CRI, CCT)	90 CRI	90 CRI / 3000 K CCT	80 CRI / 3500 K CCT
Surroundings	Polished concrete, controls for easy adjustable task lighting	Easy to Repair - Good for indoor and outdoor use.	Industrial Look - Long Lamp Life + energy saving
Luminous Efficacy (Lumen / Watt)	64 lm/W	68.6 Lm/w	126 Lm/w
Ballast Characteristics	N/A	N/A	N/A
Power & Energy Consumption	25 L 2921 Lumens Delivered at 45W	120 - 277v, 50/60hz	120 - 277v, 50/60hz
Performance Under Varied Temp.& Hum. Conditions	Suitiable for dry conditions	ETL, CETL, Wet Location Listed IP66	ETL, CETL
Dimming Control Characteristics	Two wire dimming to 10% using many 2 wire forward and reverse phase dimming controls.	ELV, 0-10 V	Xitanium 1%, 0-10V (linear) is Standard
Lamp Life	5 Years	50,000 hrs	50,000 hrs
Use Case	Assembly space - above benches 	Light for Integrated Benches 	Lighting for Benches and Planters 

Accent lighting	 2" LED Lens - D2LED D2LED-2D9LED12L30K8FL35	REED Pendant (LRD.PN.24.3513.BK5.60-BB)	 15L LED Concealed Cove 15L-CC-AI-24-4-C1-35K-I100-D01-1C-UNV-W3
Lumen Maintenance	J-Tube design eliminates need for traditional downlighting housing. Accessed from below ceiling.	N/A - 5 Year Warranty	Concealed Cove - perimeter mounding 25,000 hrs
Color (CRI, CCT)	80 CRI	98 CRI / 3500 K CCT	80 CRI
Surroundings	Downlight briteness concrol suitable of commertial, retail with ambient temperatures.	Great for Bars, but can be used in high cube spaces. (Hallway)	Cove ceiling lighting reflected off baffles
Luminous Efficacy (Lumens / Watts)	65.4 lm/Watt	92.6 Lm/w	81.6 lm/W
Ballast Characteristics	N/A	N/A	N/A
Power & Energy Consumption	120 V @ 80 CRI or 277 V 9L	14 Watts @ 98 CRI 120 - 277 VAC Input Voltage	N/A
Performance Under Varied Temp.& Hum. Conditions	CSA C/US certified for wet locations through branch wiring	ETL Certified for Damp Locations	Indoor use only.
Dimming Control Characteristics	0-10 V flicker-free dimming to 10%. Will draw up to 1 mA	0-10, ELV, 1%, 0% and DMX with Certified Power Supplies	Dim-to-warm tunable white
Lamp Life	5 Years	N/A	5 Years
Use Case	Stair - Handrail 	Accent Lighting to Highlight Central Planters 	Consealed Cove 

YEAR: 2023 | **LOCATION:** BILLINGS, MT | **TYPE:** COMMERTIAL

CUSHING TERRELL

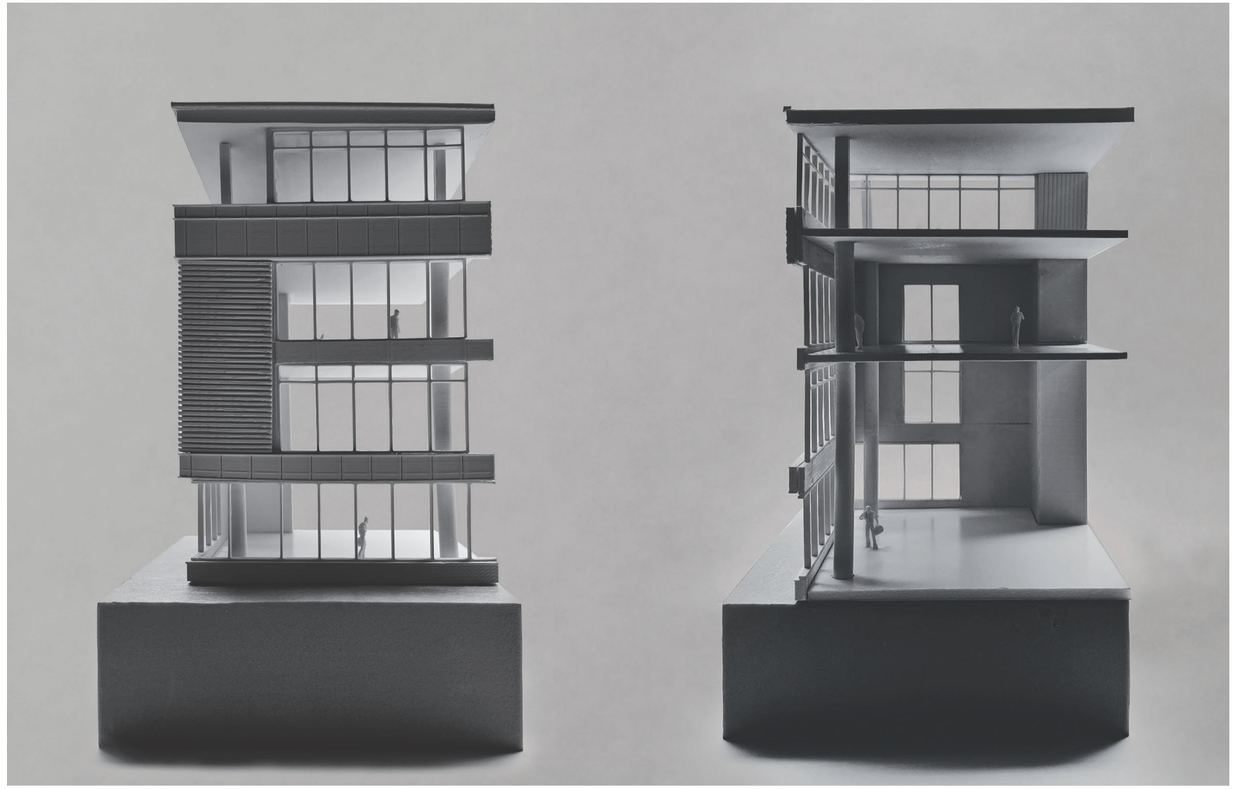
ARCHITECTURAL INTERNSHIP

ABOUT THE FIRM Cushing Terrell's design process begins and ends with research and is characterized by multi-disciplinary collaboration. Knowledge gained from experience that the artful integration of all the systems in a building are the foundation for high performance, sustainable solutions.

The whole is greater than the sum of its parts. The whole is understood in the details. Holistic design considers that each component (exterior and interior architecture, landscape, building systems, details) is considered as part of a greater system of dynamic relationships. By leveraging an integrated design process, we create holistic environments that maximize systems and synergies.

The integrated process at Cushing Terrell thrives on collaboration, trust and transparency, iteration with rigor and attention to detail. It is research oriented with continuous learning and improvement.

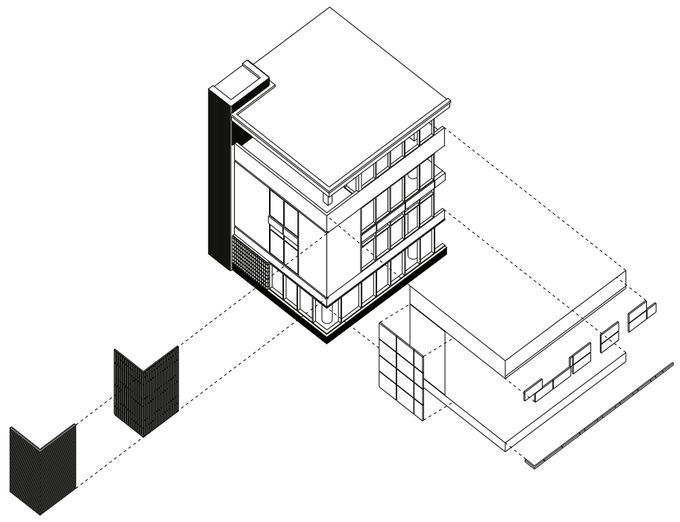
Cushing Terrell®



YMCA BOISE, ID 3D printed model of a corner of the proposed building - exploration of different facade material options. The individual peices representing stone, metal panels, brick and wood slatted compositie all can be removed and swapped out as a means to see how they can effect the overall design of the building.

TOP: Final 3D printed model

BOTTOM: exploded axonometric, facade options.

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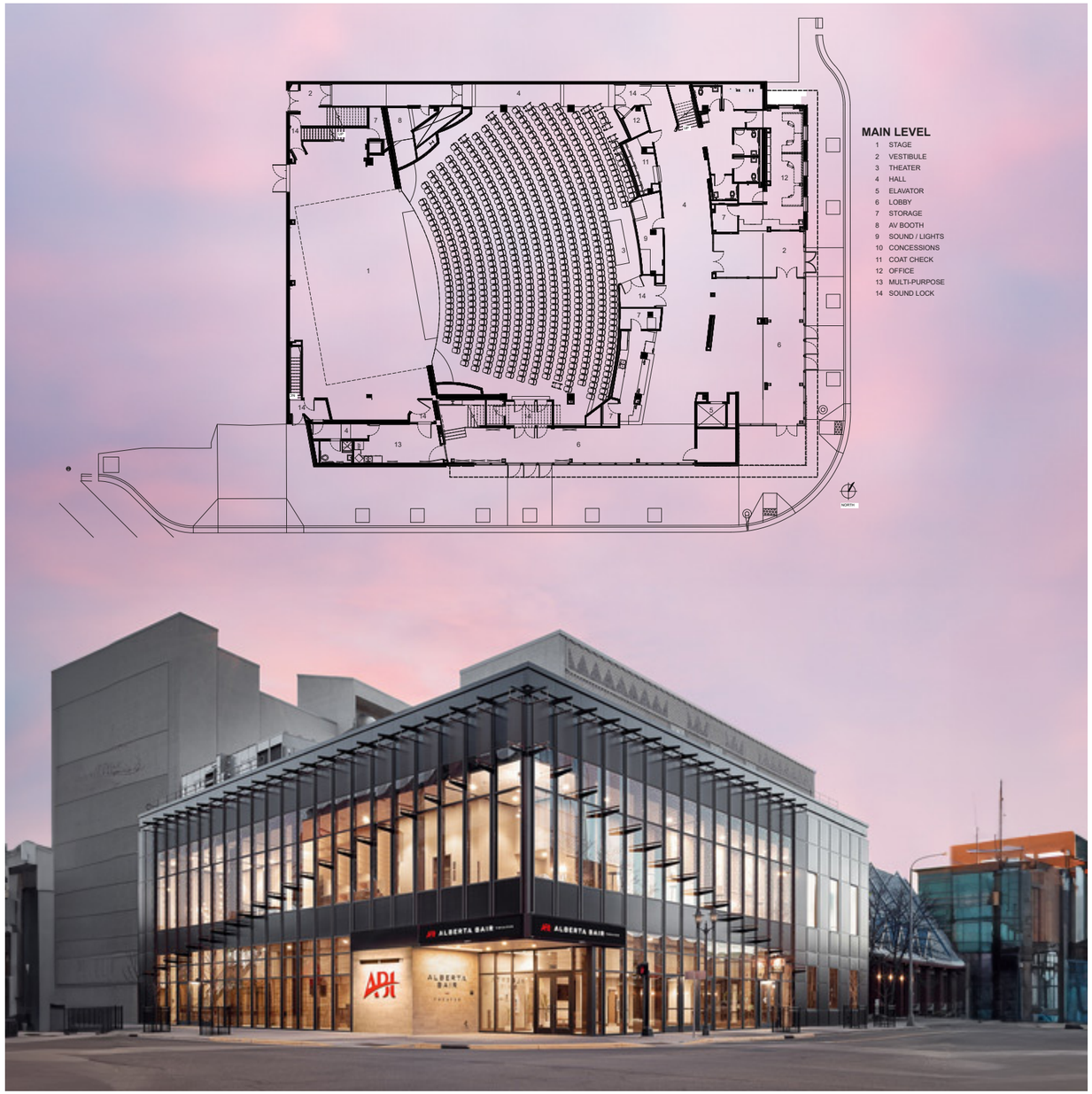
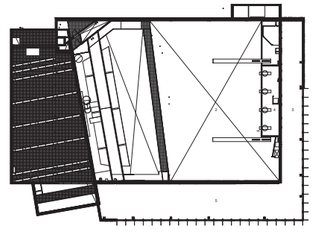
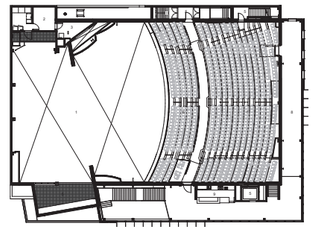
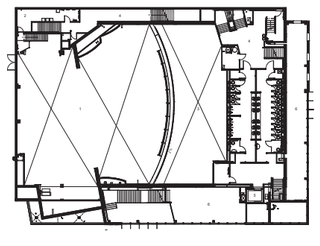
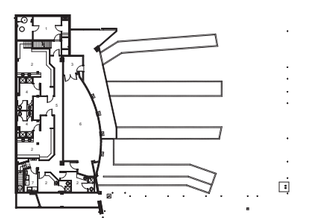


Alberta Blair Theatre: *Presentation Drawings for Submittal for Design Ecellence Awards.*









YEAR: 2024 | **LOCATION:** BOZEMAN MT | **TYPE:** RESIDENTIAL

PEARSON DESIGN GROUP

ARCHITECTURAL DESIGNER

FIRM ROLE / RESPONCIBILITIES Working on primarilily high-end residential houses in Montana, Canada, New Mexico, Wyoming, Utah, and Colorado. My role at the firm is primarily in presentation images and preparing graphical presentations to the client. Much more an intimate approach to architectural design with direct contect with clients in fufilling their wants and need for the project.

EMBRETTSON RESIDENCE

TAOS, NM SKI CABIN

SOUERS RESIDENCE