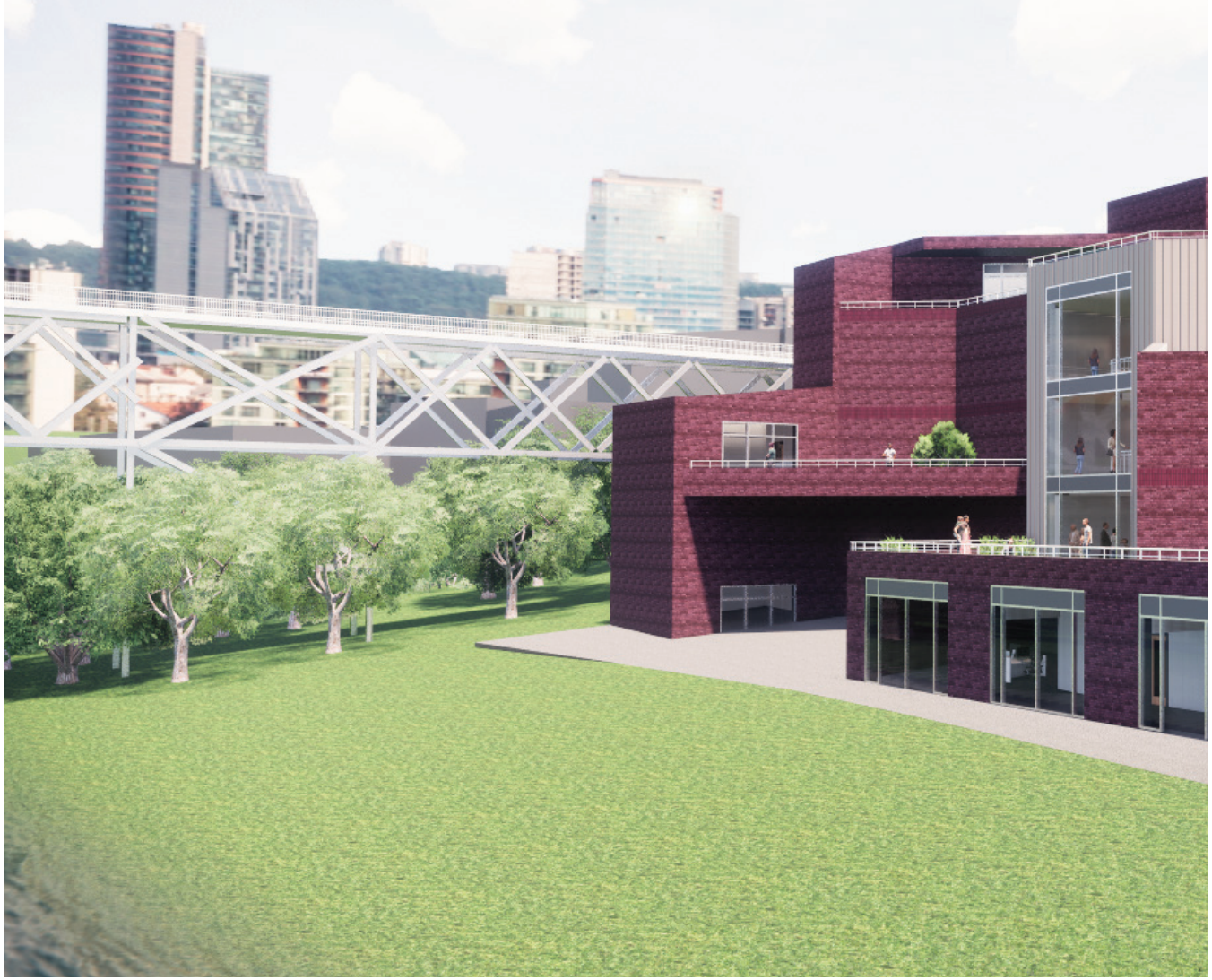
ARCHITECTURAL SIGN LANGUAGE

"The language of signs and language of architecture each encompass their own strengths and weaknesses. Each language is not transparent, they are both an unspoken communication that must be learned before it can be fully understood." -A. Danielson



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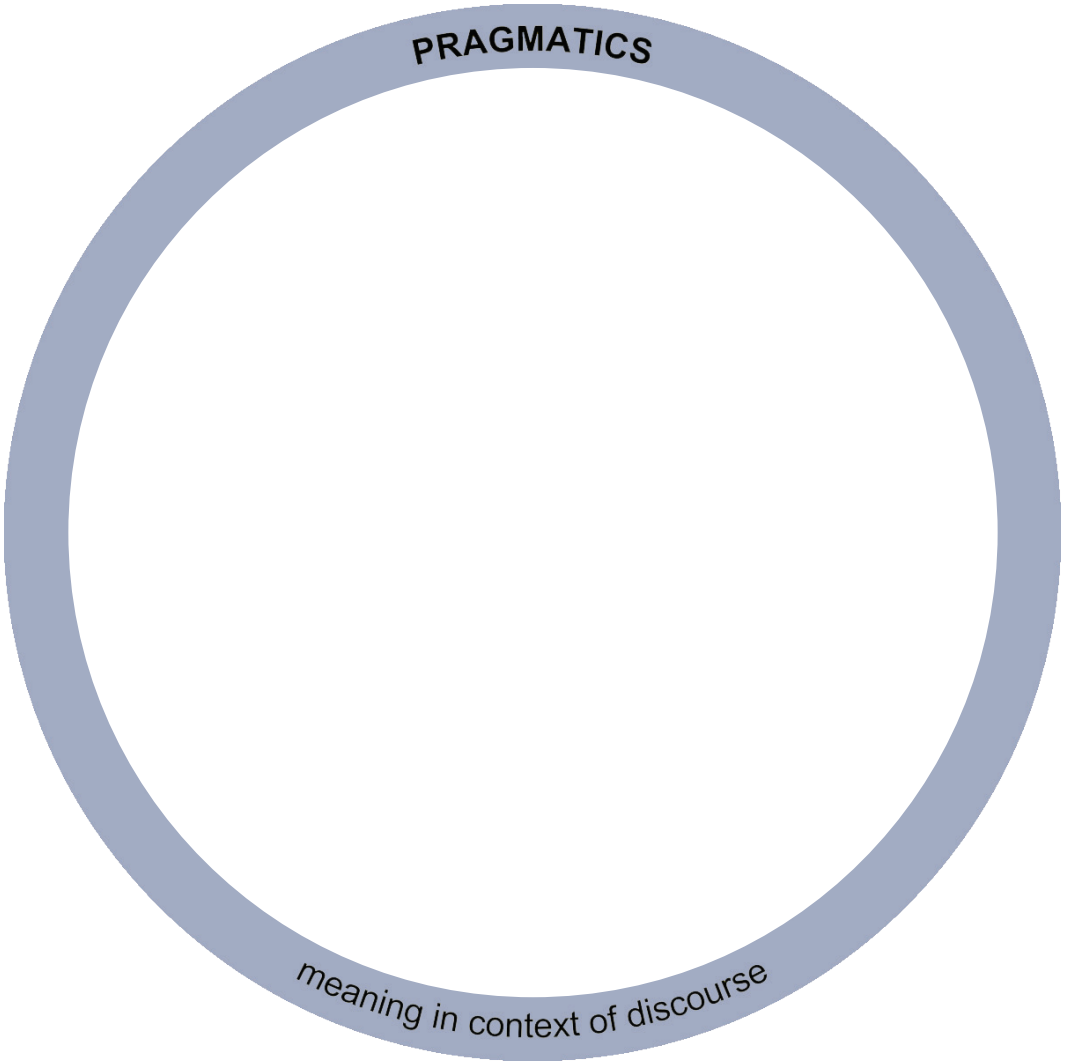
what is language?



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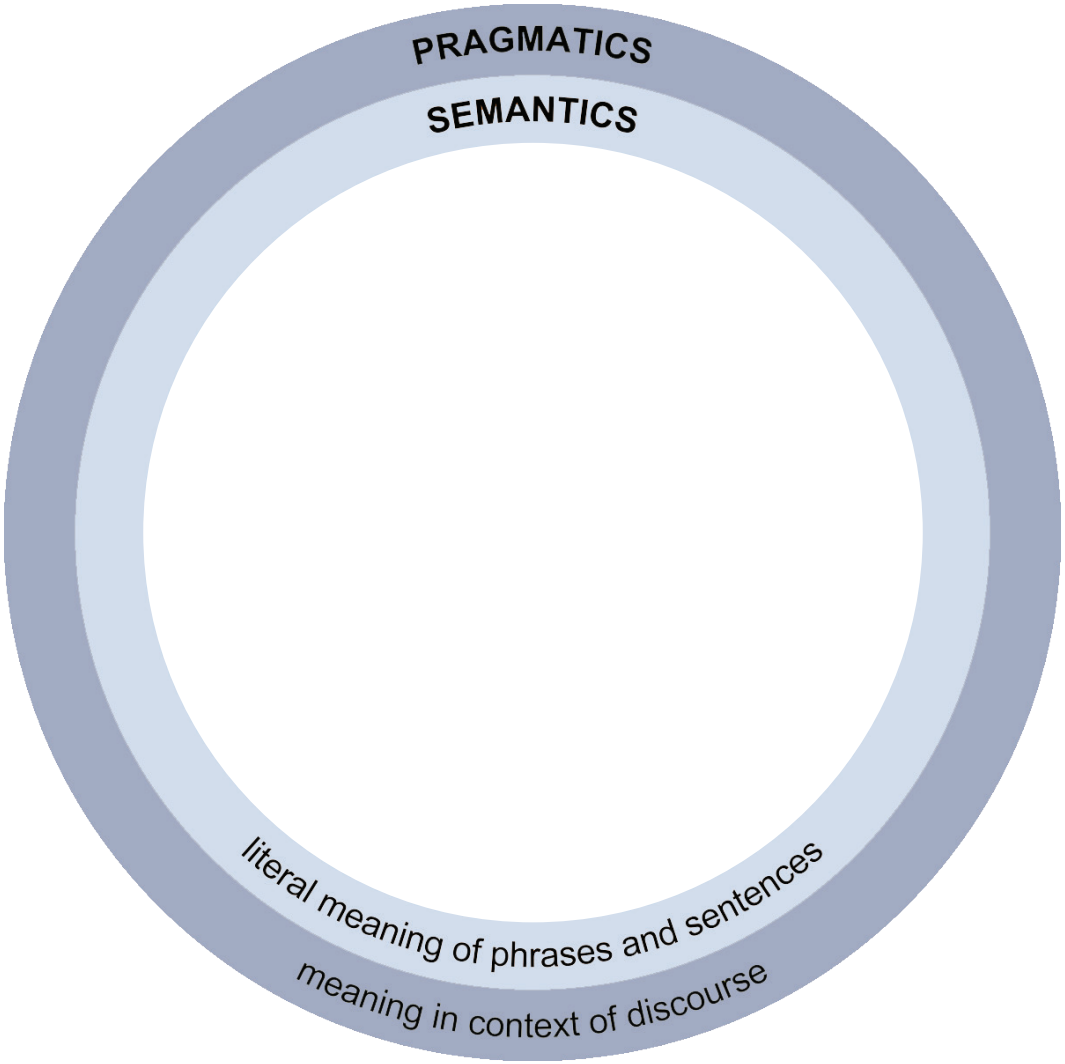

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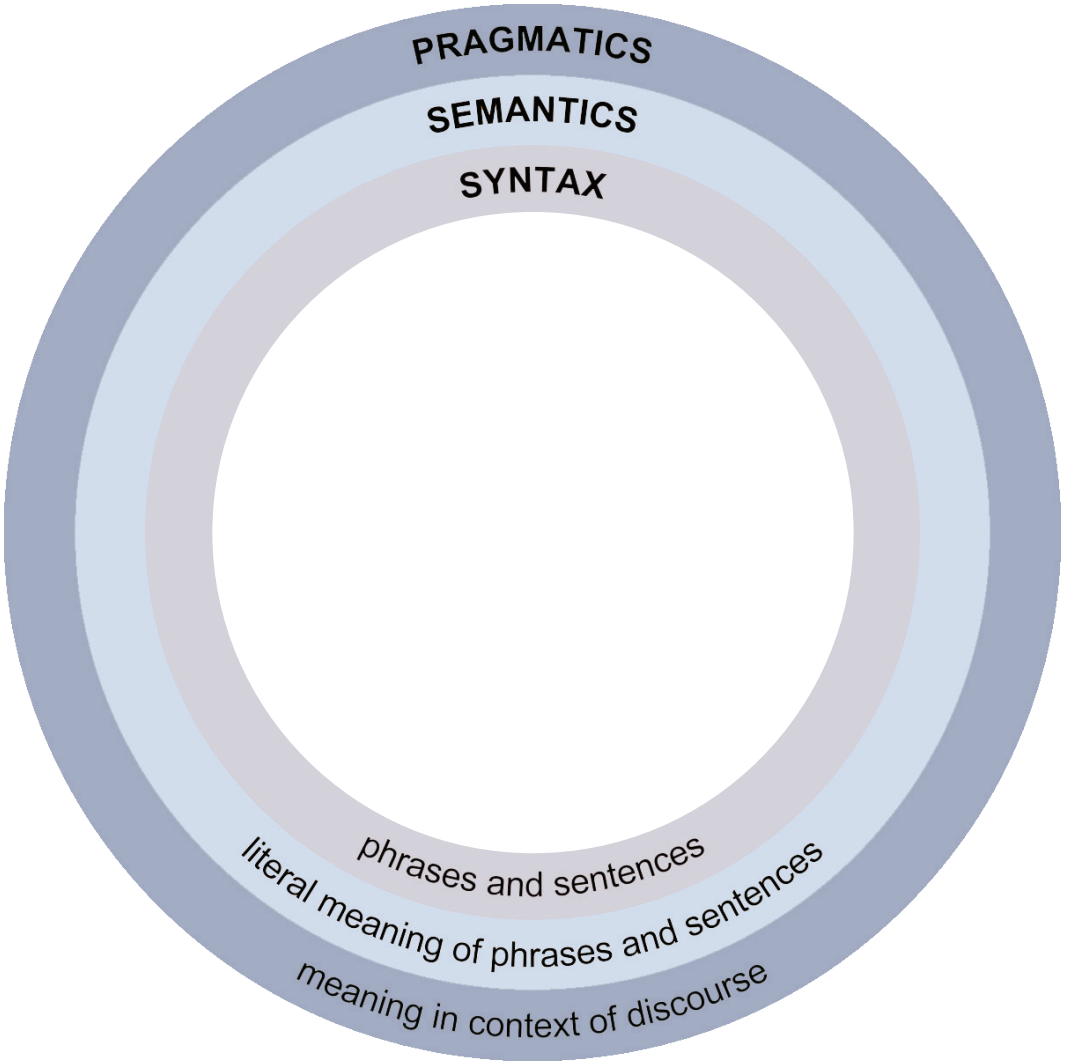

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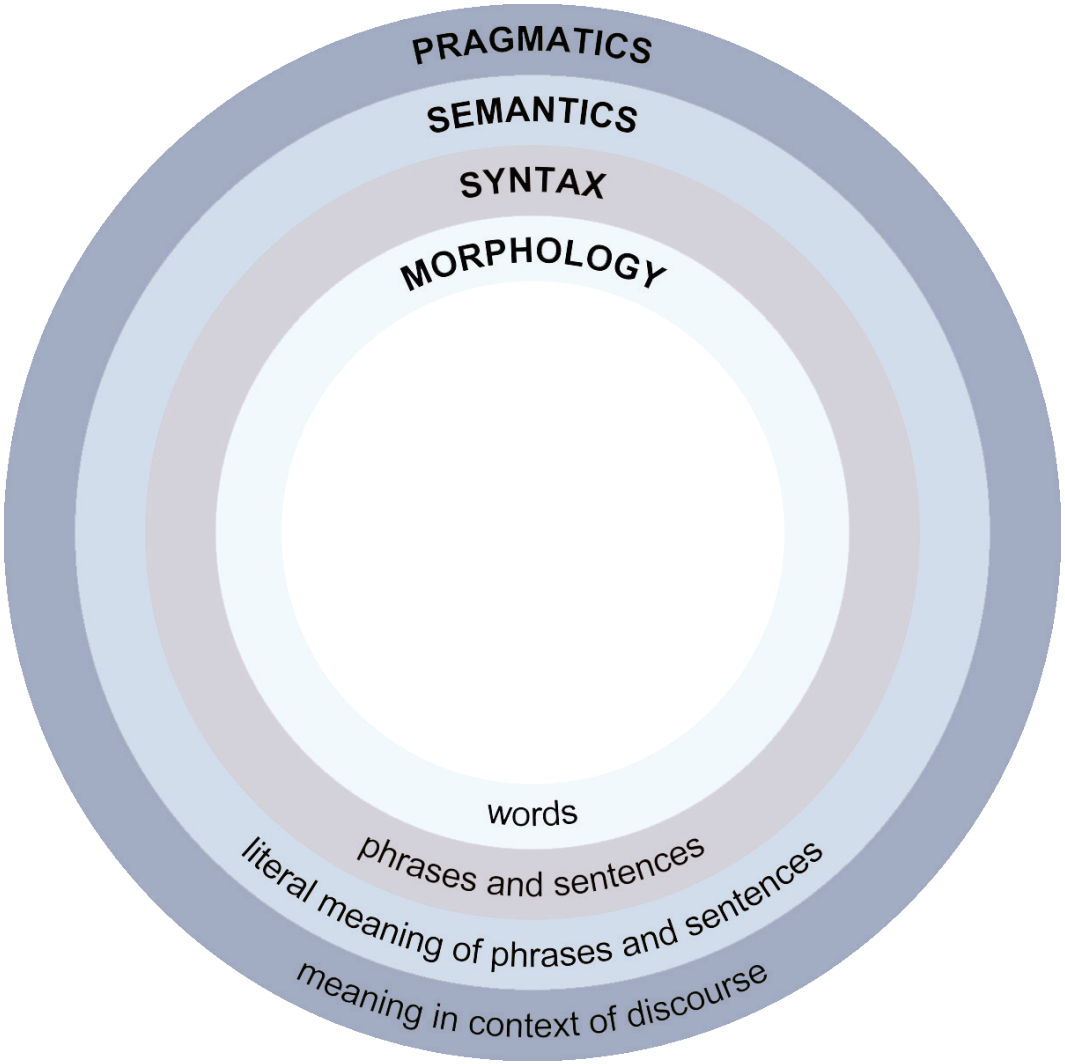

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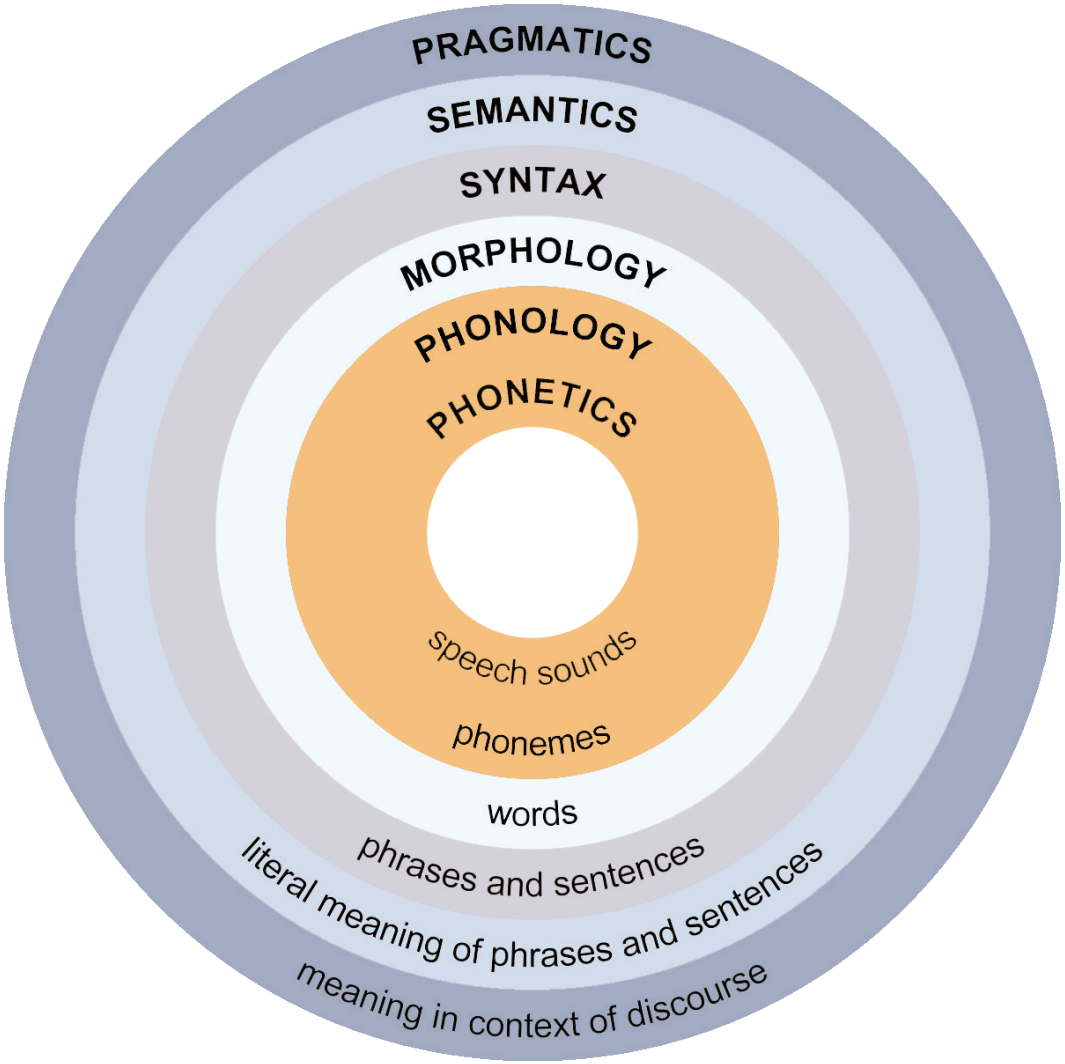

what is language?

what is a sign?

1st ORDER RELATION	2nd ORDER RELATION	3rd ORDER RELATION	
			FIT TO BE SIGNS
			RELATION OF SIGN TO REFERENT
			MOTIVATION

what is a sign?

1st ORDER RELATION	2nd ORDER RELATION	3rd ORDER RELATION	
QUALITIES			FIT TO BE SIGNS
			RELATION OF SIGN TO REFERENT
			MOTIVATION

what is a sign?

1st ORDER RELATION	2nd ORDER RELATION	3rd ORDER RELATION	
QUALITIES	VISENTS		FIT TO BE SIGNS
			RELATION OF SIGN TO REFERENT
			MOTIVATION

what is a sign?

1st ORDER RELATION	2nd ORDER RELATION	3rd ORDER RELATION	
QUALITIES	VISENTS	SYSTEMS	FIT TO BE SIGNS
			RELATION OF SIGN TO REFERENT
			MOTIVATION

what is a sign?

1st ORDER RELATION	2nd ORDER RELATION	3rd ORDER RELATION	
QUALITIES	VISENTS	SYSTEMS	FIT TO BE SIGNS
ICONIC			RELATION OF SIGN TO REFERENT
			MOTIVATION

what is a sign?

1st ORDER RELATION	2nd ORDER RELATION	3rd ORDER RELATION	
QUALITIES	VISENTS	SYSTEMS	FIT TO BE SIGNS
ICONIC	INDEXIC		RELATION OF SIGN TO REFERENT
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what is a sign?

1st ORDER RELATION	2nd ORDER RELATION	3rd ORDER RELATION	
QUALITIES	VISENTS	SYSTEMS	FIT TO BE SIGNS
ICONIC	INDEXIC	SYMBOLIC	RELATION OF SIGN TO REFERENT
			MOTIVATION

what is a sign?

1st ORDER RELATION	2nd ORDER RELATION	3rd ORDER RELATION	
QUALITIES	VISENTS	SYSTEMS	FIT TO BE SIGNS
ICONIC	INDEXIC	SYMBOLIC	RELATION OF SIGN TO REFERENT
DISPLAY			MOTIVATION

what is a sign?

1st ORDER RELATION	2nd ORDER RELATION	3rd ORDER RELATION	
QUALITIES	VISENTS	SYSTEMS	FIT TO BE SIGNS
ICONIC	INDEXIC	SYMBOLIC	RELATION OF SIGN TO REFERENT
DISPLAY	ASSERTION		MOTIVATION

what is a sign?

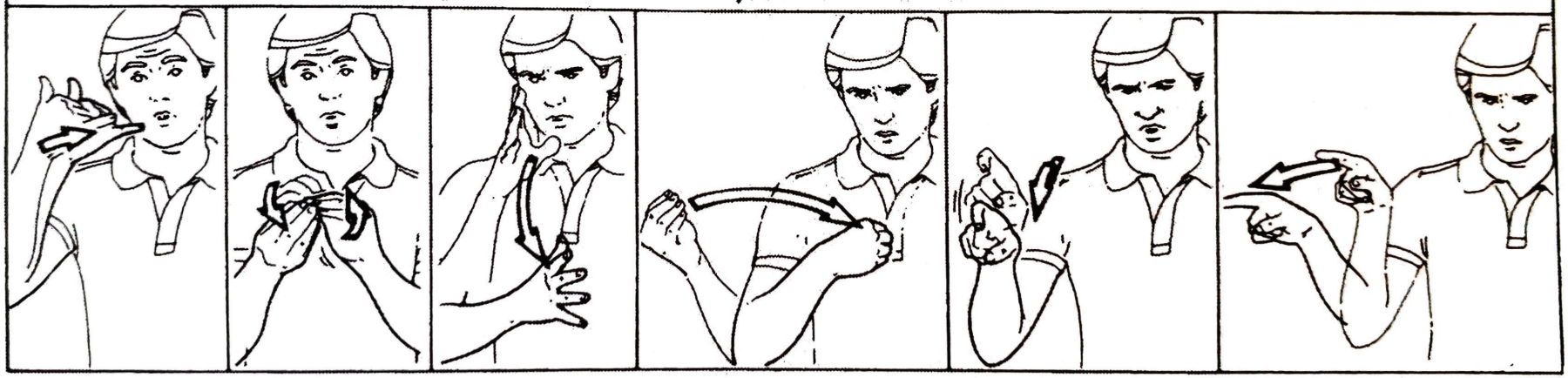
1st ORDER RELATION	2nd ORDER RELATION	3rd ORDER RELATION	
QUALITIES	VISENTS	SYSTEMS	FIT TO BE SIGNS
ICONIC	INDEXIC	SYMBOLIC	RELATION OF SIGN TO REFERENT
DISPLAY	ASSERTION	CONCLUSION	MOTIVATION

what is a sign?

american sign language

t

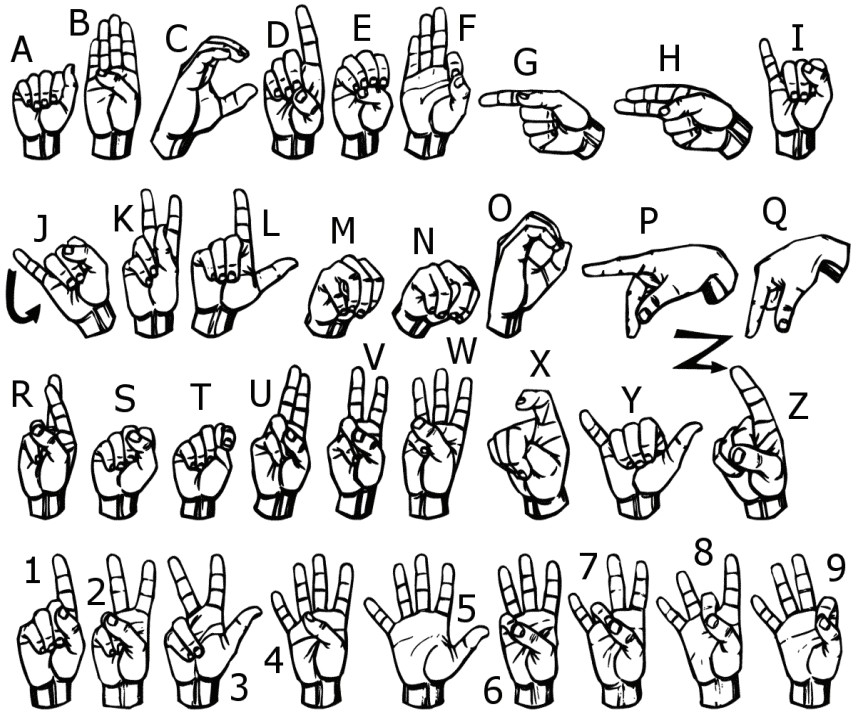
TELEPHONE NUMBER WOMAN SHE-GIVE-ME. SHOULD SHE.
'The woman should give me the telephone number.'



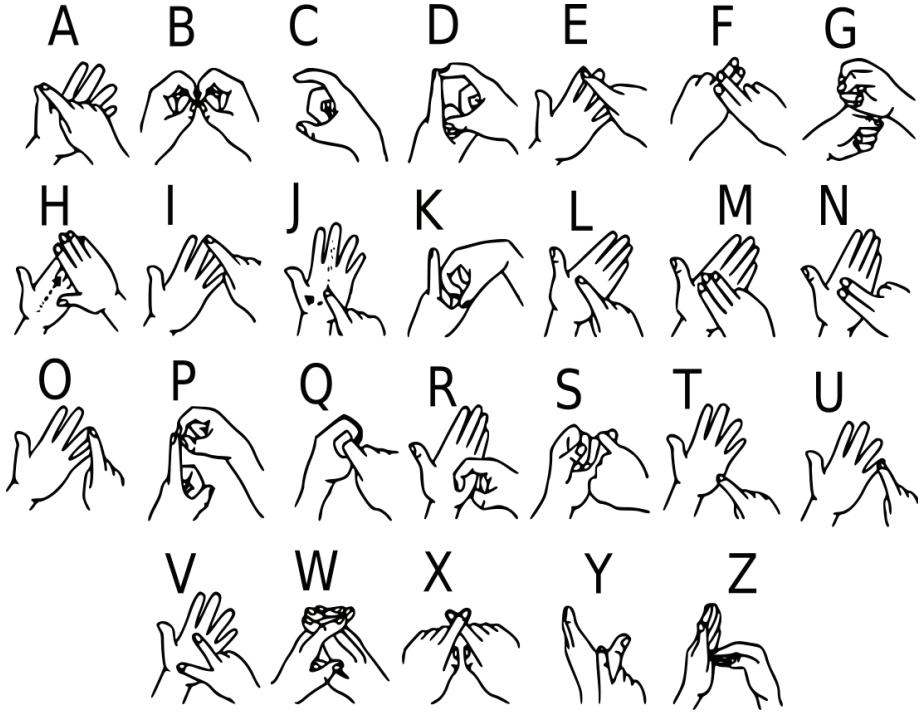
t

A. THAT BICYCLE WOW EXPENSIVE. 'That bicycle there is really expensive.'

AMERICAN SIGN LANGUAGE

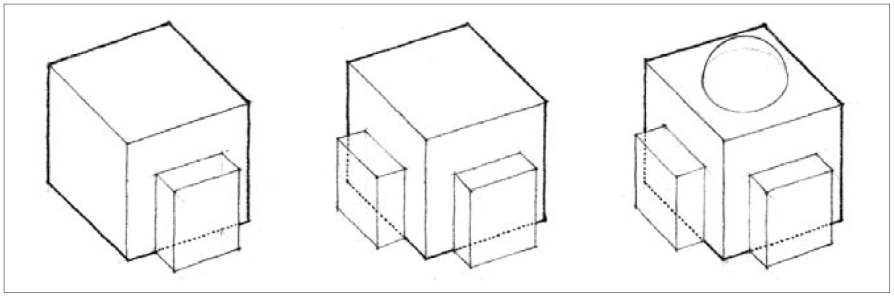


BRITISH SIGN LANGUAGE



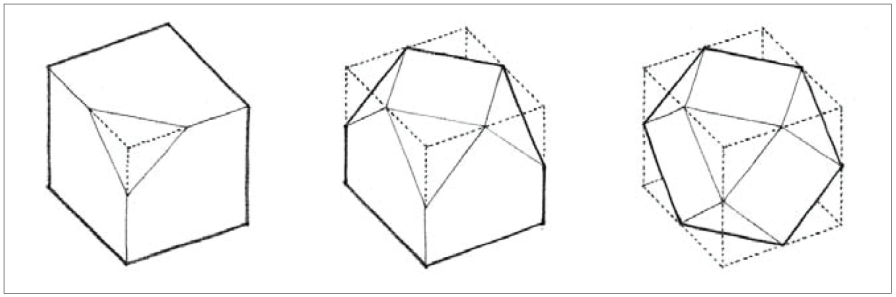
american sign language

MORPHOLOGY



Additive Transformation

A form can be transformed by the addition of elements to its volume. The nature of the additive process and the number and relative sizes of the elements being attached determine whether the identity of the initial form is altered or retained.



Subtractive Transformation

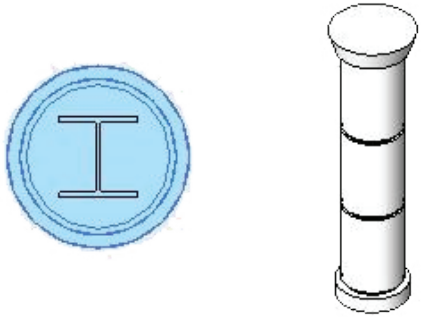
A form can be transformed by subtracting a portion of its volume. Depending on the extent of the subtractive process, the form can retain its initial identity or be transformed into a form of another family. For example, a cube can retain its identity as a cube even though a portion of it is removed, or be transformed into a series of regular polyhedrons that begin to approximate a sphere.

PHONOLOGY

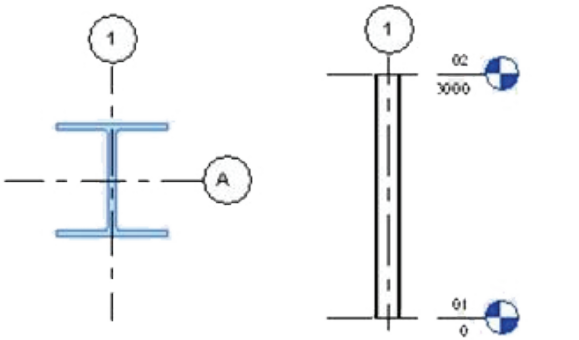
architectural sign language

INFLECTION

ARCHITECTURAL COLUMN



STRUCTURAL COLUMN



PHRASE

Enclosed

forming a public galleria or private corridor that relates to the spaces it links though entrances in a wall plane;

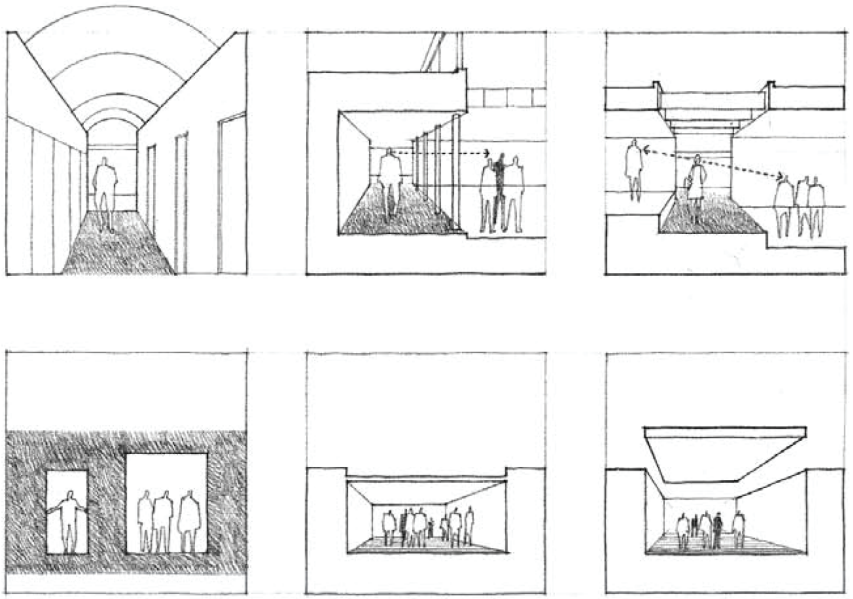
Open on One Side

forming a balcony or gallery that provides visual and spatial continuity with the spaces it links;

Open on Both Sides

forming a colonnaded passageway that becomes a physical extension of the space it passes through.

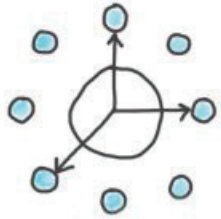
The width and height of a circulation space should be proportionate with the type and amount of movement it must handle. A distinction in scale should be established between a public promenade, a more private hall, and a service corridor.



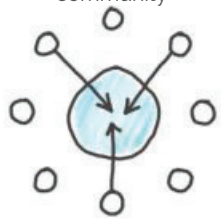
architectural sign language

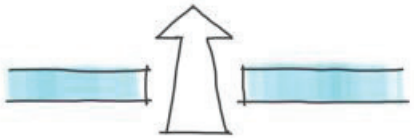
SYNTAX

SPATIAL ORGANIZATION

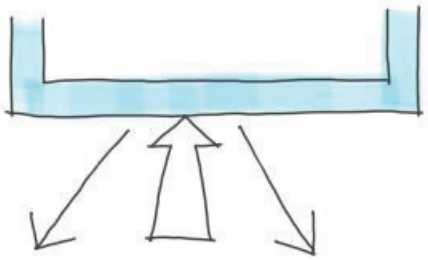


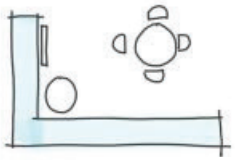
Individual vs. community



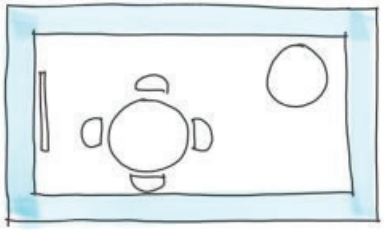


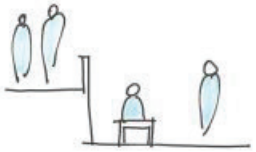
invitation vs. rejection



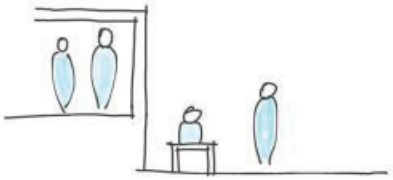


openness vs. enclosure

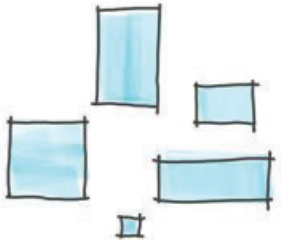




integration vs. segregation



combination vs. dispersion



architectural sign language

DeafSpace

SPACE & PROXIMITY

SENSORY REACH

MOBILITY & PROXIMITY

LIGHT & COLOR

ACOUSTICS

DeafSpace

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DeafSpace

Language Units	American Sign Language (ASL)	Architecture Sign Language (ArchSL)	DeafSpace as ArchSL
Lexicon: language framework = combined conventions	Ex. Language (vocab.) Signs, finger spelling, facial expressions, & additional body movements	Architectural Elements (listed below) Primary elements (FSO) Point, line, plane, volume	"What is DeafSpace?" The DeafSpace philosophy outlines specific elements of design suitable for DeafSpace.
Phonology: the study of speech sounds	(hand movements, shape, location) Ex. FATHER, MOTHER, FINE These signs all have the same handshape but signed in different locations on the body.	Form (FSO) "Architectural form is the point of contact between mass & space. Forms, textures, materials, etc. all combine to articulate space." Architectural form contains different materials, i.e. a plane, it is one primary element but embodies different phonologies by the material of that plane. Ex. The plane being made of wood, marble, brick, concrete, etc. *Pronunciation* expression of an architectural form based on material use *Inflection* a change in form to express the functionality of an element	Sensory Reach (tactile cues) Deaf people can "read" their surroundings, they are highly attuned to visual and tactile cues that aid in their awareness and spatial orientation within the built environment. *Pronunciation* expression of an architectural form based on material use *Inflection* a change in form to express the functionality of an element
Morphology: study of words & means of units, ex. Suffix & prefixes	Ex. Free vs. Bound Signs Free- AGAIN, SEE, YOUR (stand-alone sign) Bound- TEACHER, 2-WEEK, 1 year ago (compound sign)	Form & Space (FSO) Defining space & Surface articulation; changing the base plane to articulate the specific environment. *Morpheme* the variation in a forms' topology	Space & Proximity A visual-spatial language such as ASL requires enough distance between signers to accommodate the characteristics of a signed conversation. *Morpheme;* combined smaller units to form a larger element
Syntax: sentence construction, word order	ASL has many sentence structures and formations Ex. GIRL KICK BALL (The girl kicked the ball) or BALL(t), GIRL KICK (The ball was kicked by the girl) Vs. BALL KICK GIRL (The ball kicked the girl)	Organization (FSO) Spatial relationships & Spatial Organization; like the construction of sentences, the construction of laying out spaces in a particular environment. Space grammar. *Syntax* the combination and spatial relationship between both interconnected and adjacent spaces	Mobility & Proximity Moving between spaces can be a hazardous during signed conversations. During this transition, the signer is constantly scanning their surroundings and adjusting their path accordingly. Wide paths and fewer sharp corners ease navigation during conversation. *Syntax* the combination and spatial relationship between both interconnected and adjacent spaces

comparison chart

Language Units	American Sign Language (ASL)	Architecture Sign Language (ArchSL)	DeafSpace as ArchSL
Semantics: sentence meaning, the application of combining syntax	Ex. (reference *Syntax* example) Context contributes to the meaning of the signs and sentence	How you come to understand the meaning of the arch. paragraph Circulation (FSO) the means of navigating through related spaces (semantics); in terms of organization (syntax) Semantics how architectural elements acquire meaning	Light & Color the proper application of lighting and color in a deaf-friendly space is crucial to minimize eye strain Semantics how architectural elements acquire meaning
Grammar: language rules, combined paragraph of semantic sentences Rules applied to a setting as a whole	Focus on the topic or question first. Gives an understanding/preface to what the sentence (conversation) is going to be about.	Rules for expressing arch. ideas Principles (FSO) "Order: condition in which each part of a whole is properly disposed w/ reference to other parts & purpose to produce a harmonious arrangement" Like writing an essay, introduction, body, conclusion. Syntax the combination and spatial relationship between both interconnected and adjacent spaces	Proximity to the signer and signed characteristics of a signed language Syntax the combination and spatial relationship between both interconnected and adjacent spaces
Language: method of combining elements, conveyed meaning of a topic Combined language units form the resulting language	Ex. Facial expressions, body position, hand movements, language signs & finger spelling all combine to produce ASL	Elements in place of the architectural solution. How are these elements interpreted by the user? To convey the desired meaning; combination of elements to provide a meaning in architecture. Phrase a grouping of elements together to form a unified element or space, creating formation	Light, Color, Acoustics Combined elements in a space. Phrase a grouping of elements together to form a unified element or space, creating formation

Signed Language Elements: "verbal" sign itself; "non-verbal" facial expressions, body position

Architectural Elements: proportion, color, arrangement, scale, intimacy (mood), light, materiality, landscape (context), style, form, point, line, plane, and

comparison chart

Buildings **communicate** through their own language. Proportion, color, material, and scale are all elements that are being communicated within the building. This communication happens between building systems, the environment and the user.
Goal: effectively design a building that communicates with the site, city environment, and most importantly, the community.

"The City of Rochester has the largest population deaf and hard-of-hearing individuals (per capita) in the United States" (York, M., 2006).
Goal: design a facility with elements of **DeafSpace** design. Utilizing DeafSpace design elements will inform deaf and hard-of-hearing individuals about this inclusive design intention of the space.

Since the economic recession in the early 1990s, the population density of Downtown Rochester has decreased and sits at a stand still for growth.
Goal: to develop a **destination** through restoration site development and site context. The first part to creating a destination is initiating the conversation between the site and building typology, only then can a destination be produced and occupancy and density downtown begin to rise again in Rochester.

project emphasis

Signing Zones
The area around the body where the sign language occurs is known as the signing zone. The design elements surrounding one who is signing should be distraction free and provide a neutral background. This lessens the amount of eye strain for the person reading the signs.

Color
Contrast is vital for reading signs more clearly. A mixture of colors that do not provide an adequate contrast from the signer makes it more difficult to read and sometimes understand the signs being communicated. The same is to be understood about the use of patterns in design.

Sight Lines
The sense of sight is essential for the use and understand of sign language. Hanging objects or objects that pose a visual obstruction should be avoided during design. Unless the object is hung intentionally to create privacy.

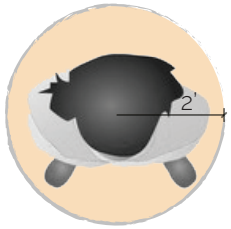
Light
When entering or exiting a space, the pupil of the eye adjusts accordingly to the intensity of the light. The quality of natural light in a space is an important factor to consider for eliminating eye strain while signing. Natural light fills a space while eliminating the amount of shadows on faces or within the signing zone. Keeping a consistent light level with natural or diffused artificial light decreases the time it takes for the eye to adjust and eliminates excessive eye strain.

Intersections
Most commonly know as the crossing of paths, include but are not limited to hallways, corridors, doorways, and walls. These are a couple examples of potential collision areas. It is very important to provide clear visual connections between adjacent spaces to prevent these potentially dangerous collision areas. Design solutions include translucent surfaces that allow the visual of someone on the other side while still providing a feeling of privacy. This element is commonly used in office doors.

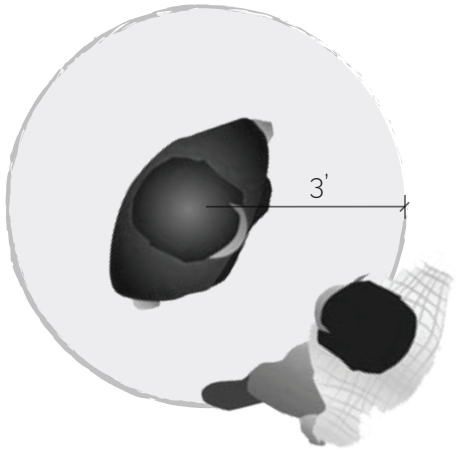
Room Layout
Sign Language is not a linear language and cannot be communicated without eye contact. A standard classroom layout is linear and faces one direction, but with the use of sign language a curved, circular arrangement is more conducive to clear eye contact.

Material
When one sense is reduces or eliminated, the remaining sense are enhanced. Wood is a great material for the transfer of vibrations. In the case that someone who is deaf, if an individual is approaching from behind the deaf individual would feel the vibrations from their foot steps through the wood floor and turn around to see the person walking up to them.

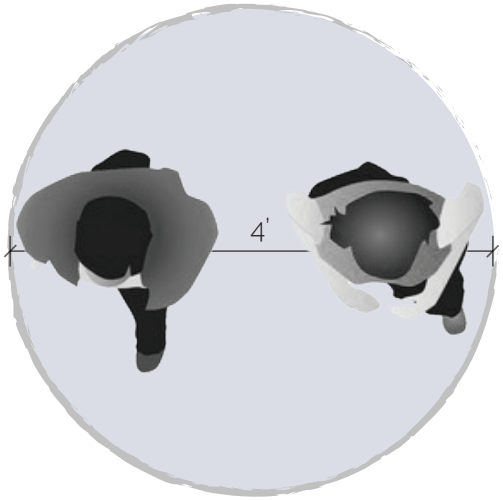
performance criteria



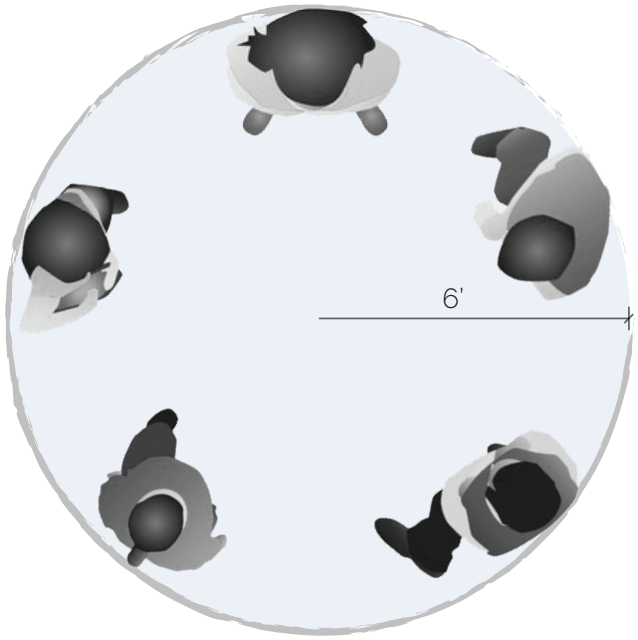
Proximal
Signing Space



Intimate
Conversation

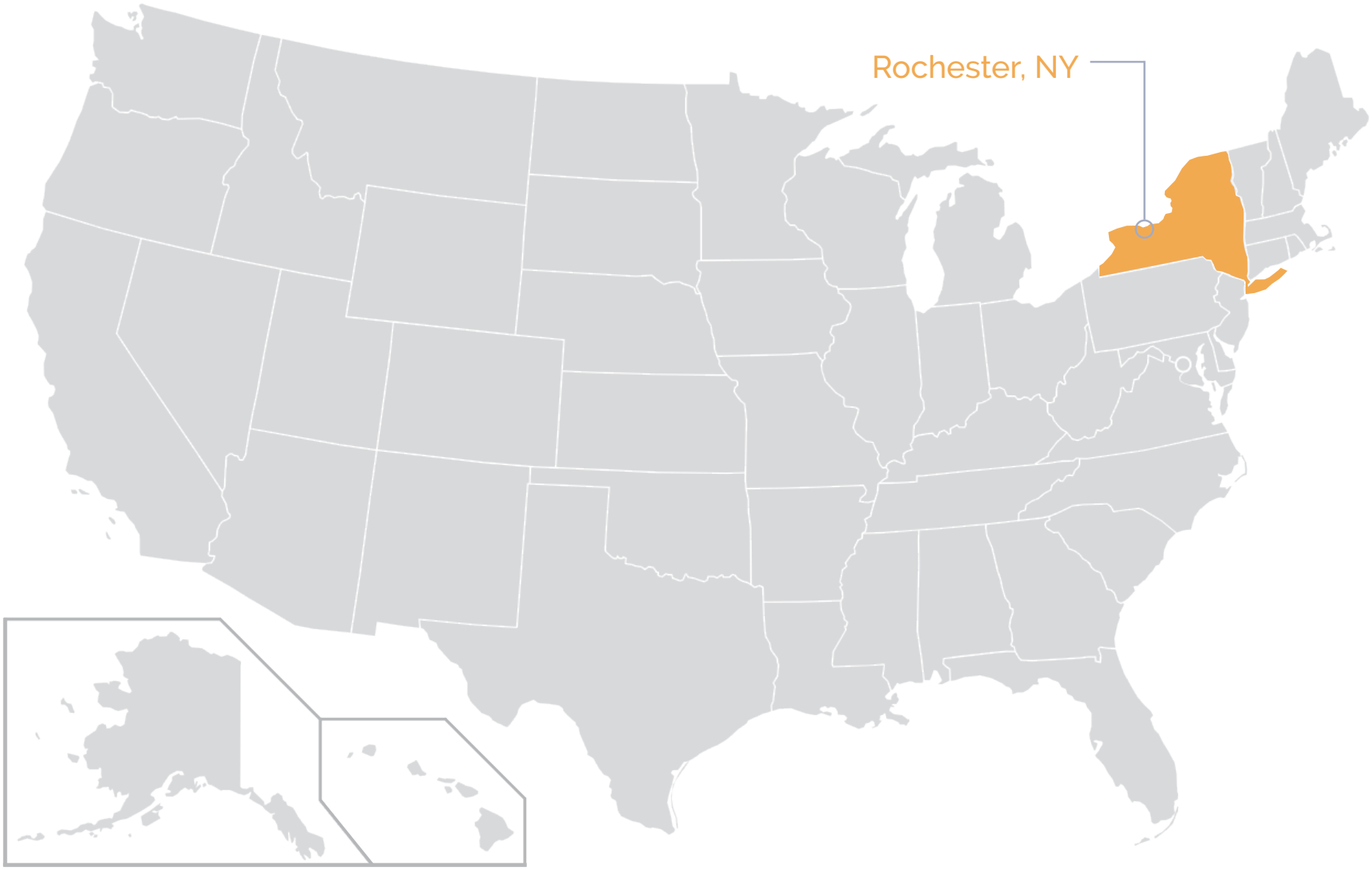


Signing while Walking



Open Conversation

proximal space diagrams

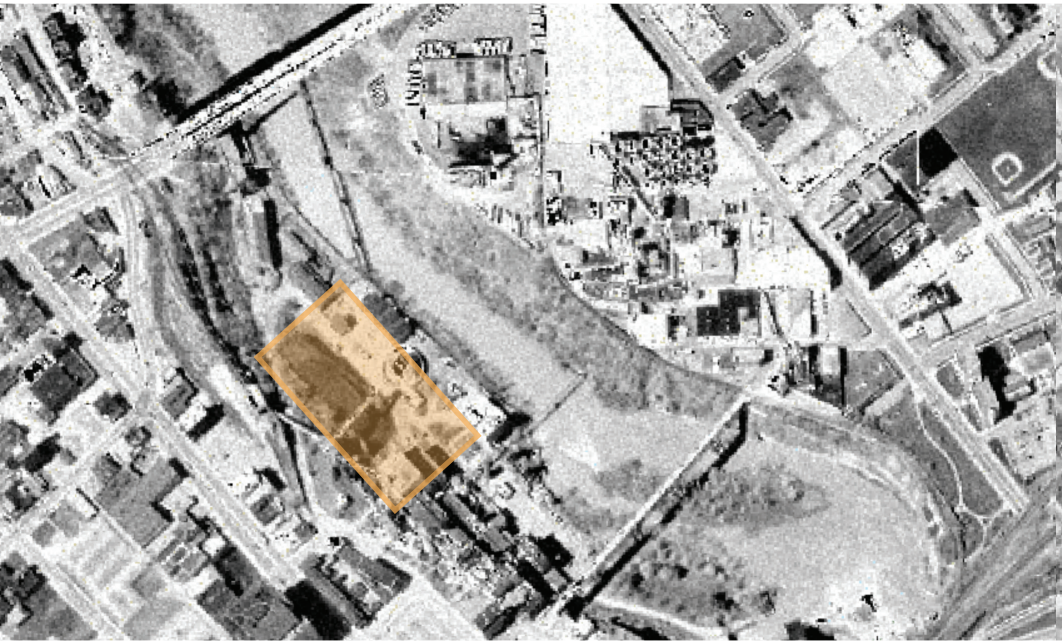


site information

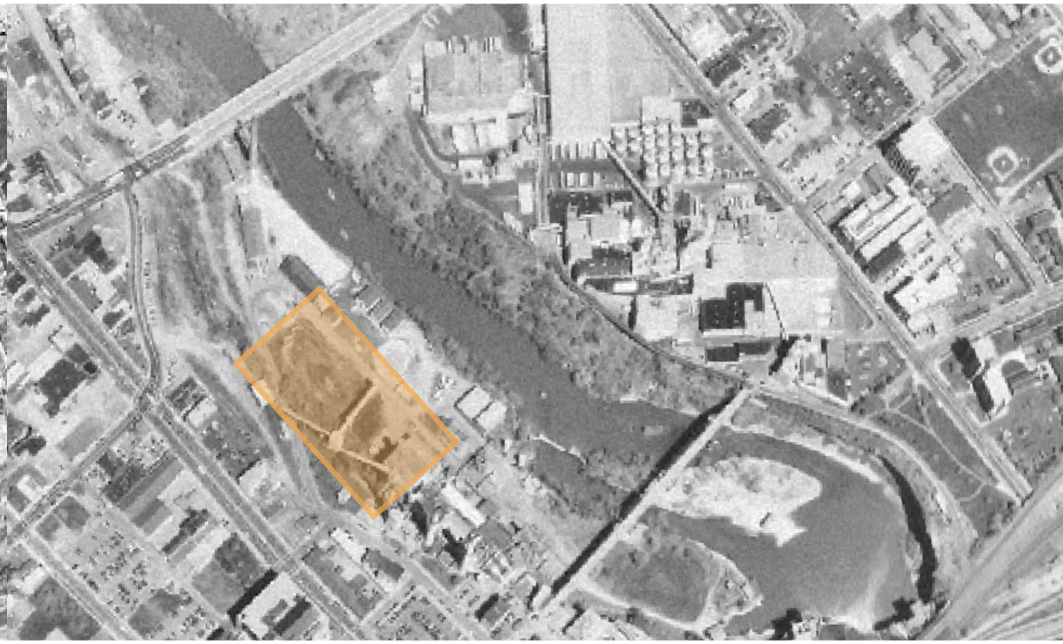
site context

1951

1961



1988



1999

site history

2003

2007

site history

1 | one of the largest and oldest continually operating breweries in the United States.

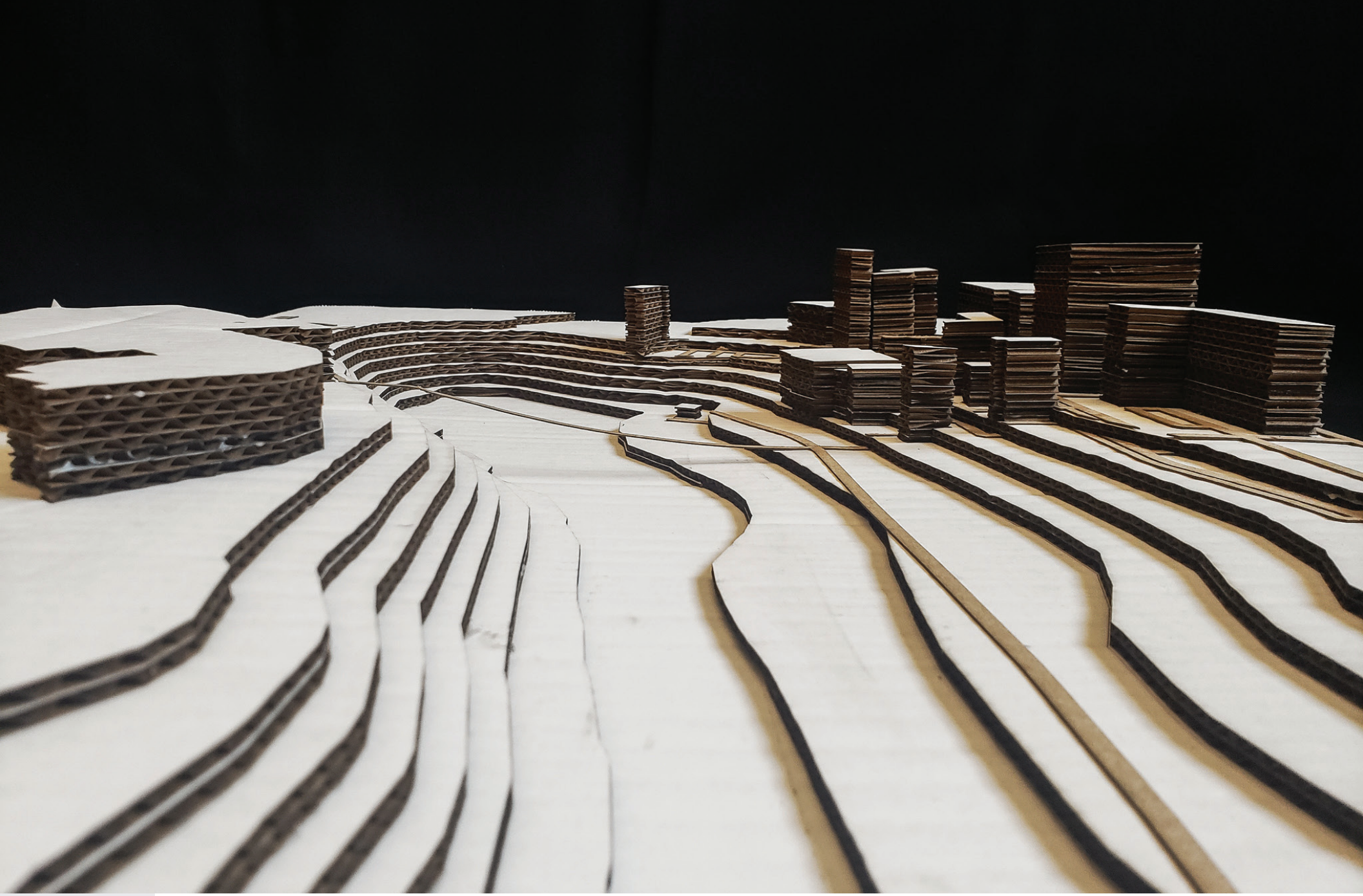
2 | water from the falls used to be diverted and used to feed various area flour mills.

3 | originally built in 1891 as a road bridge but later converted to a pedestrian bridge and renamed after Rochester's sister city in France, Rennes.

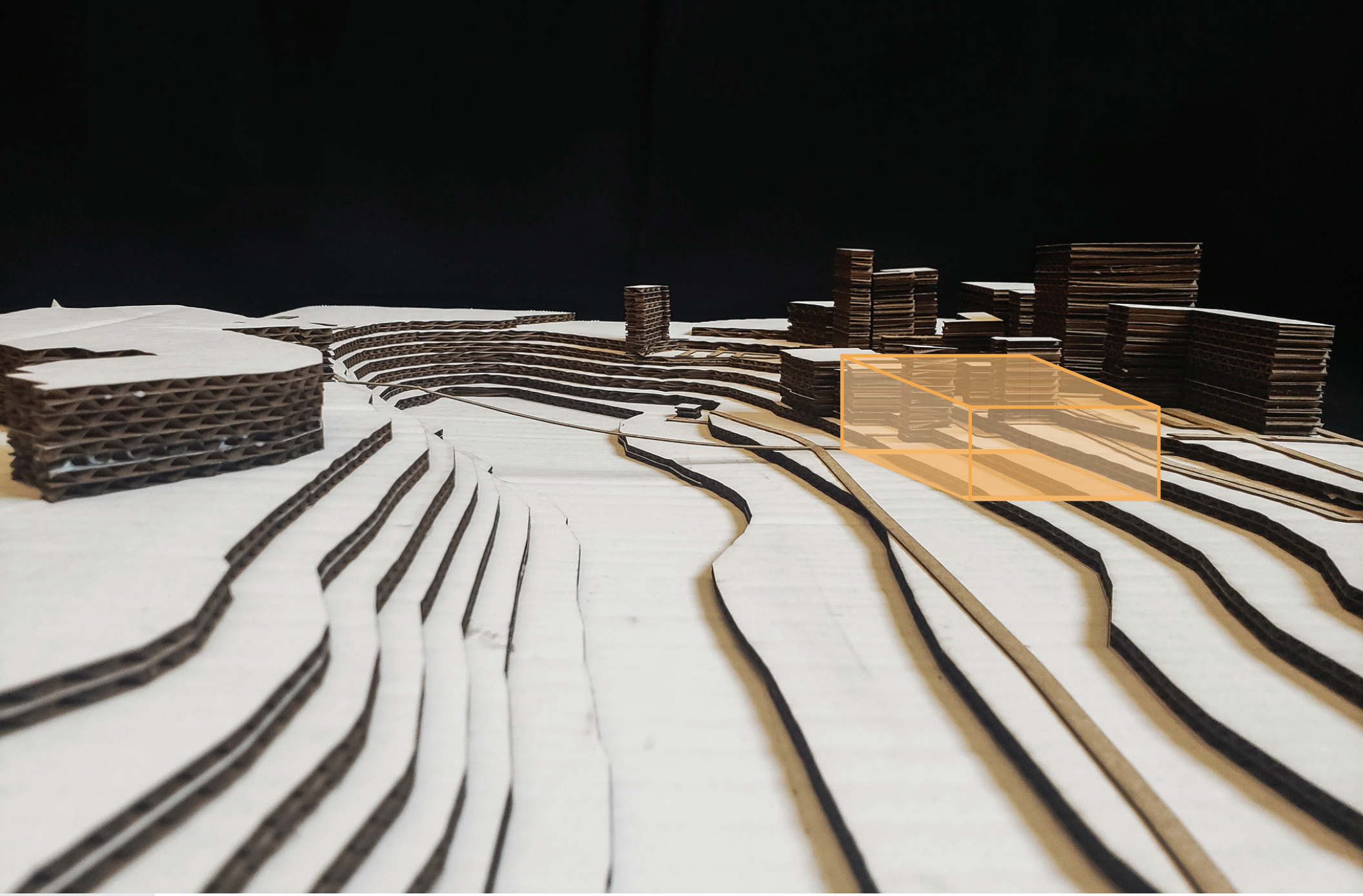
site context

site model

site model



site model



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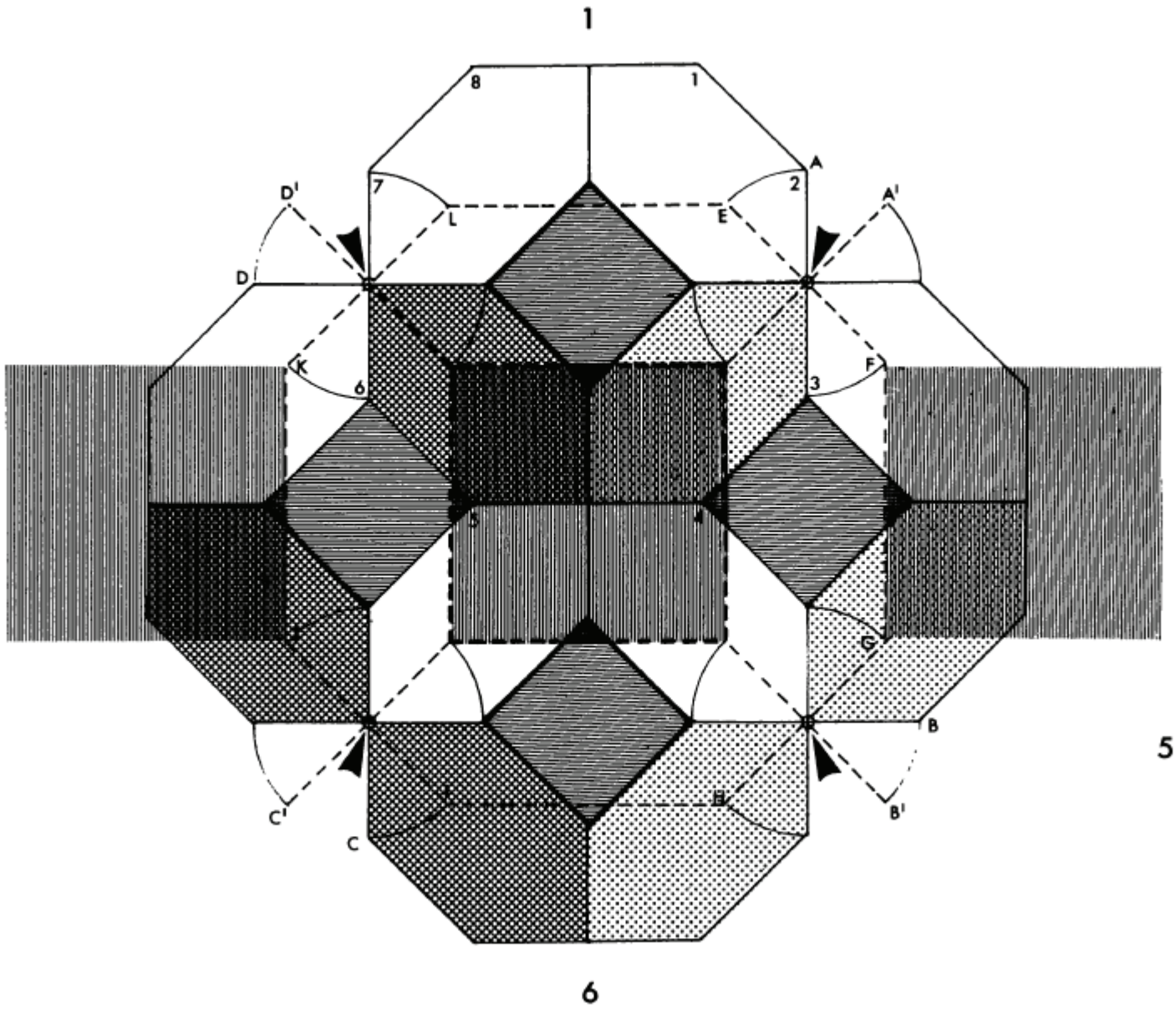
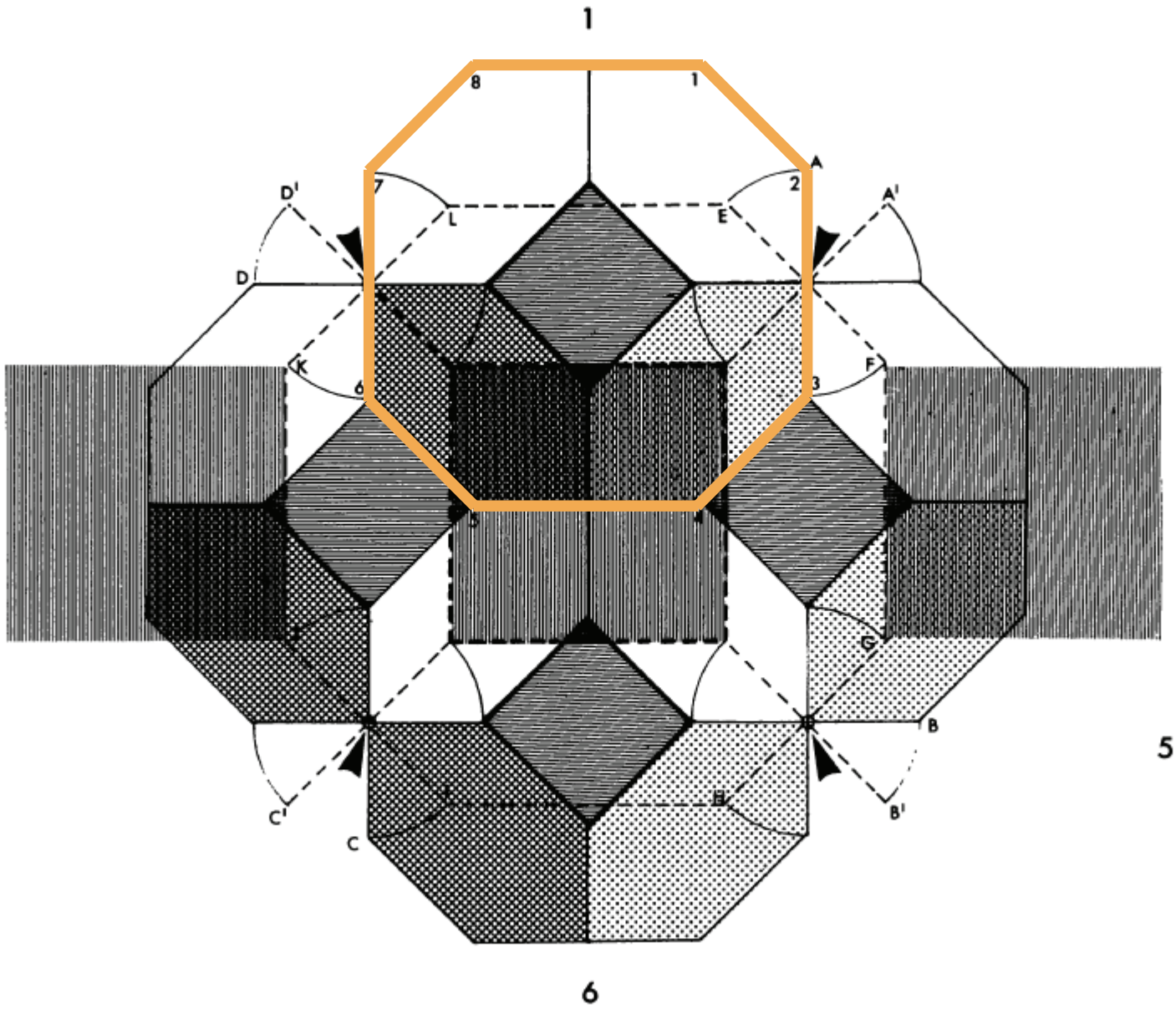
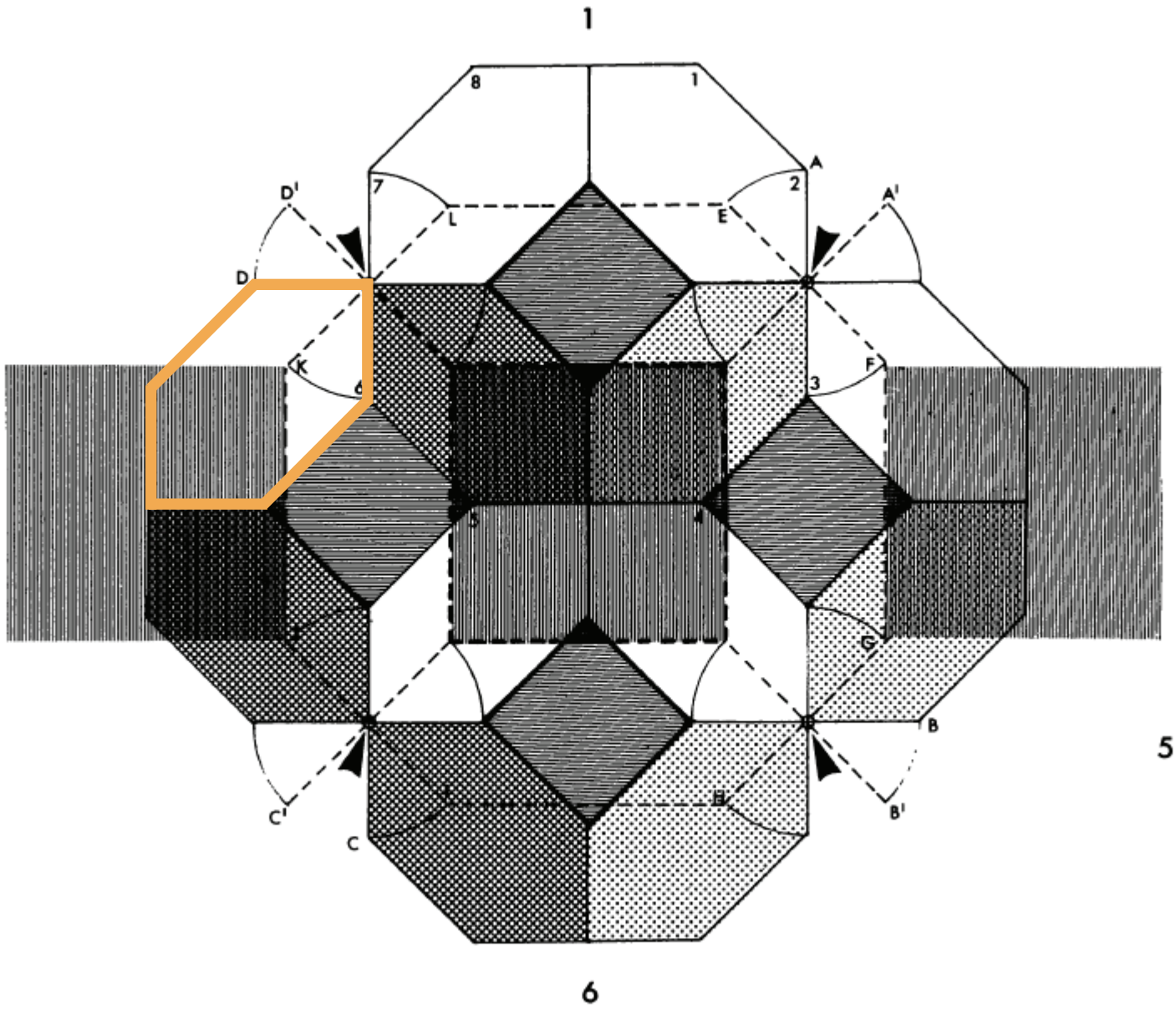


space filling geometry



space filling geometry



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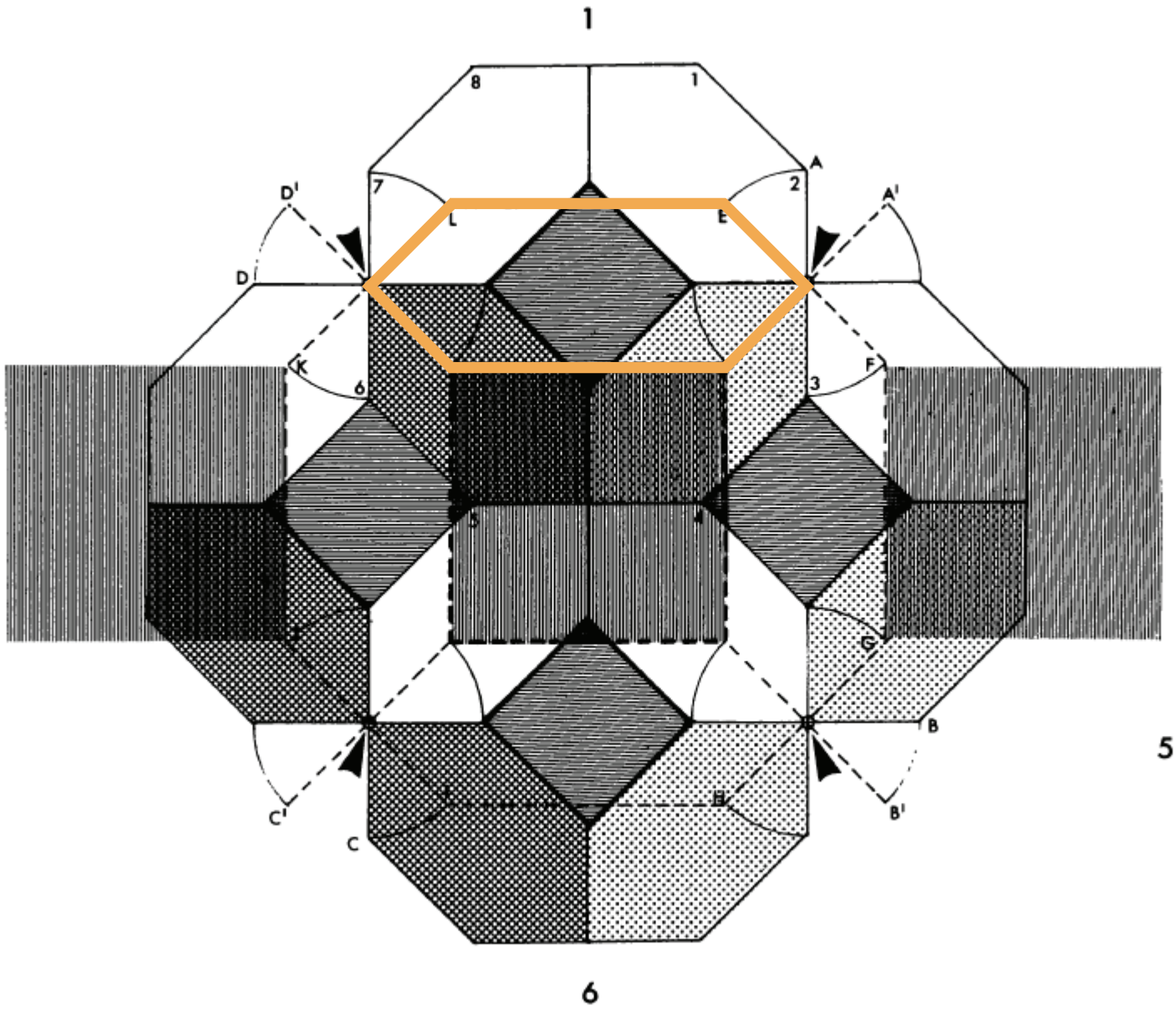

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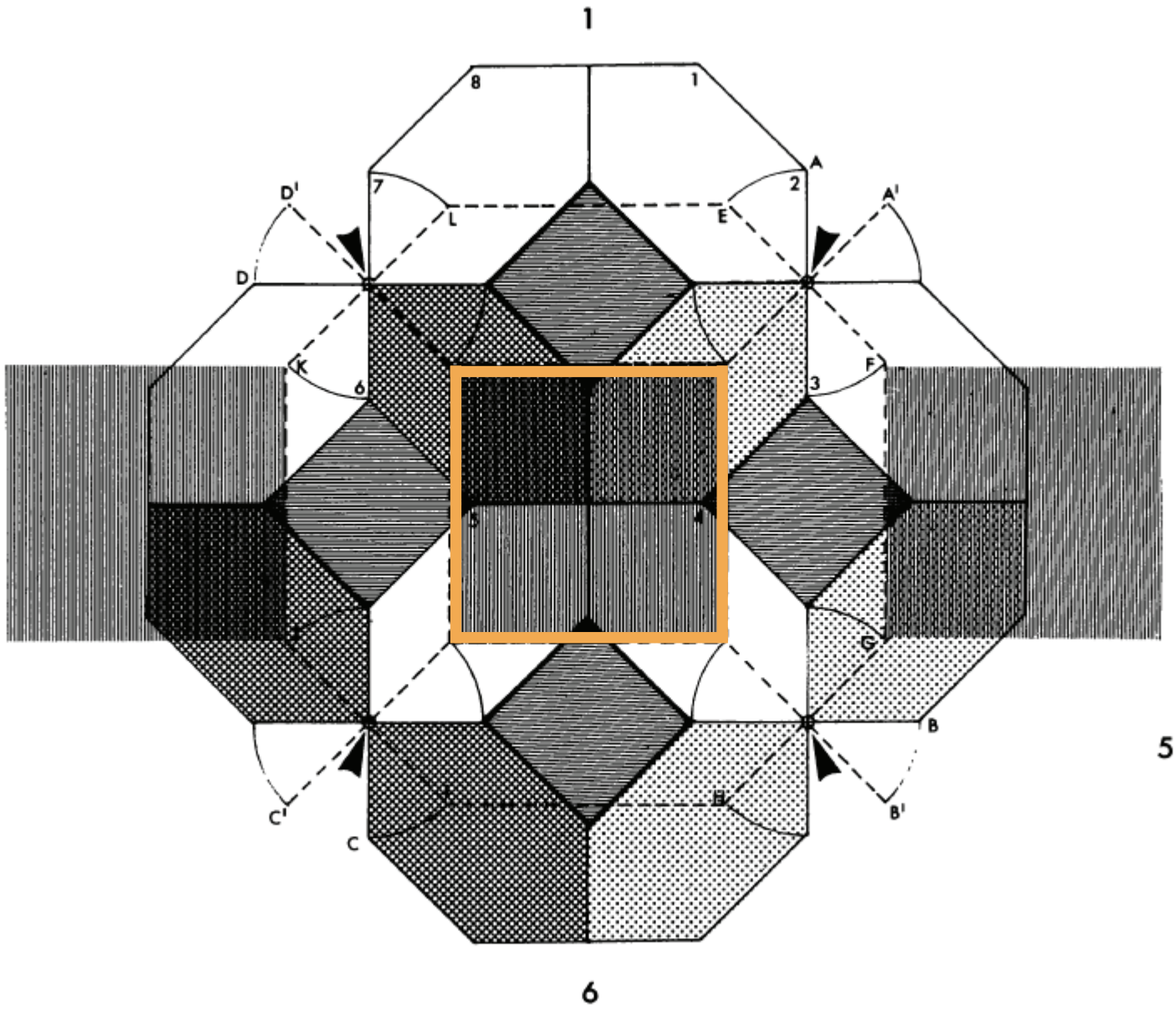

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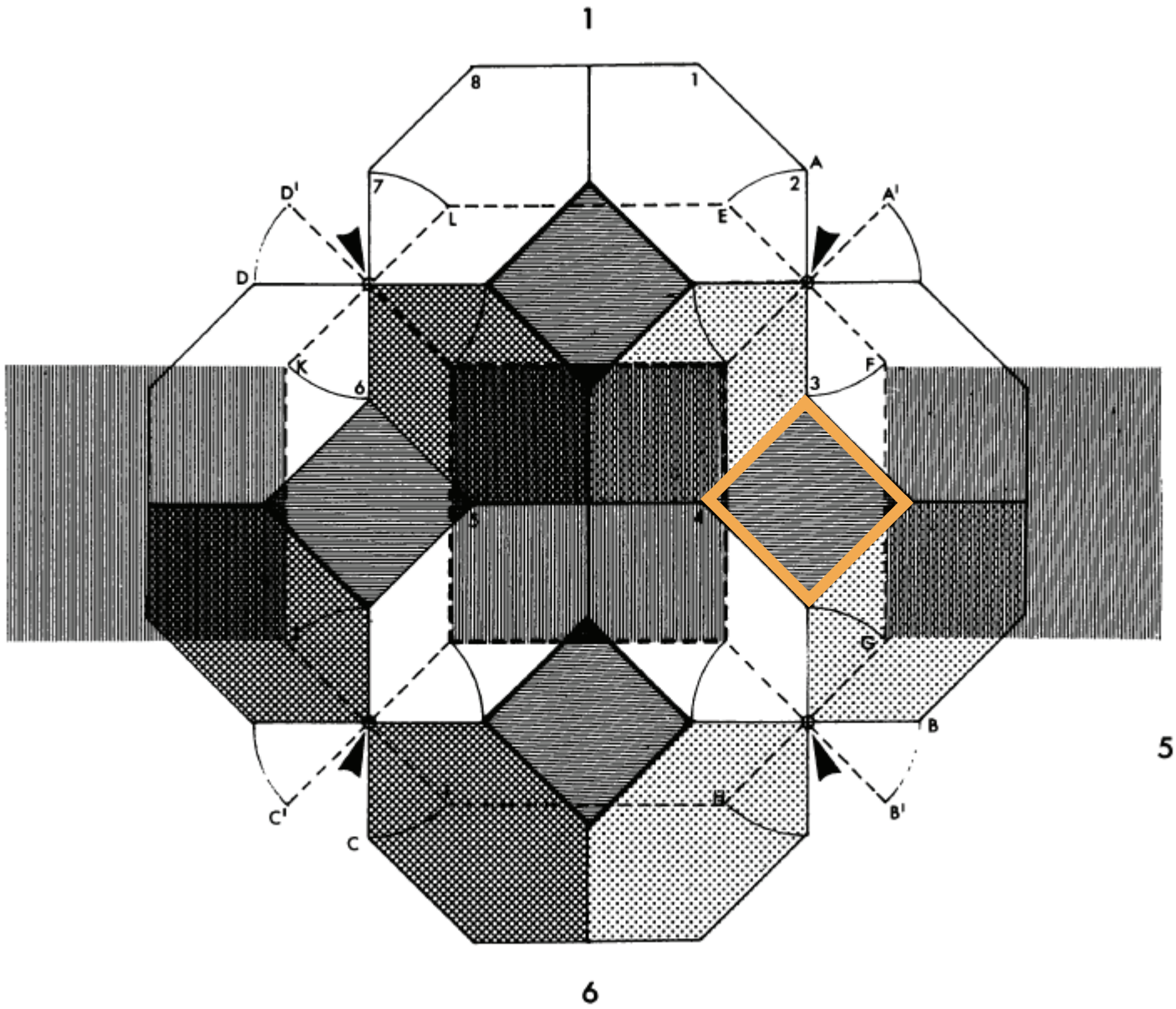

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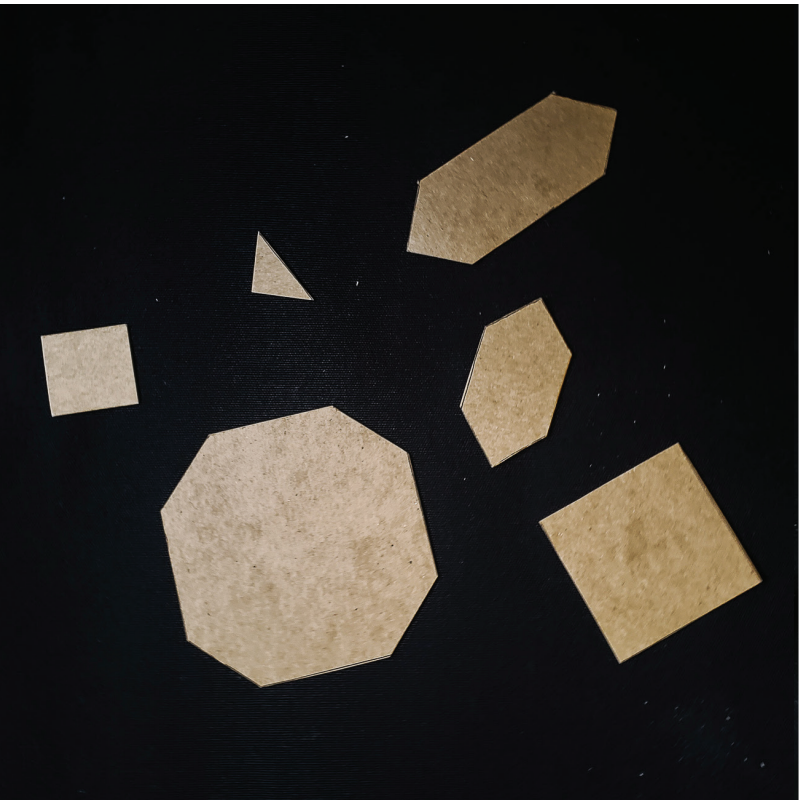
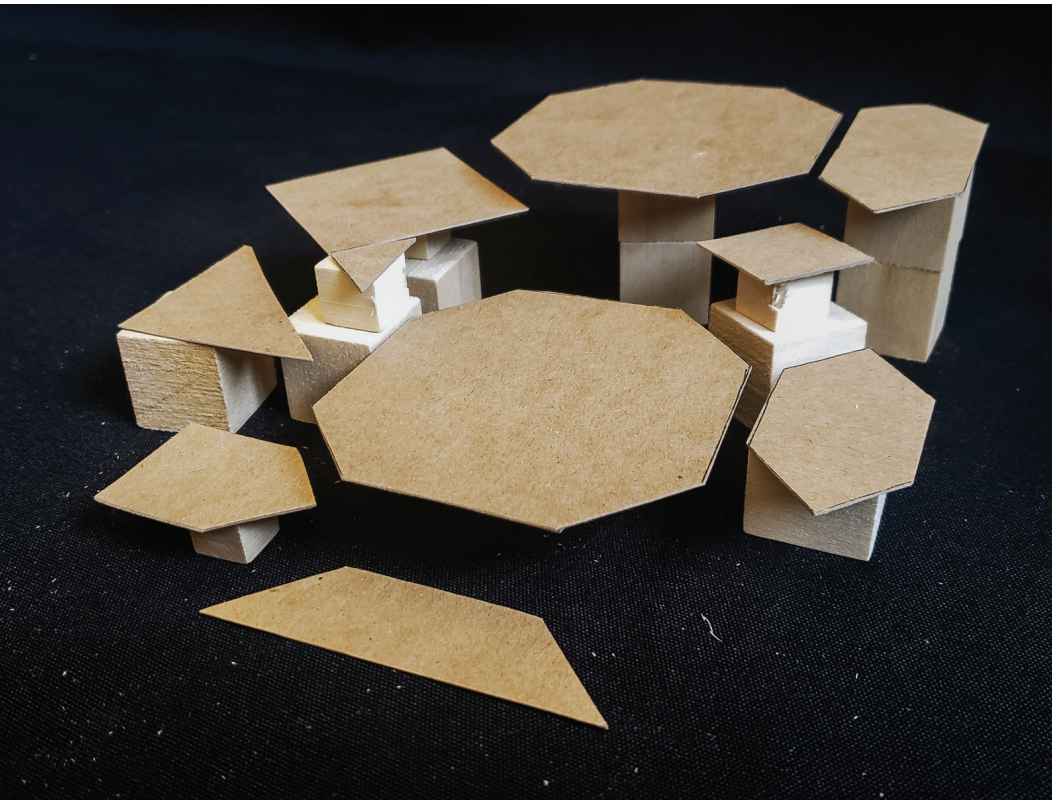
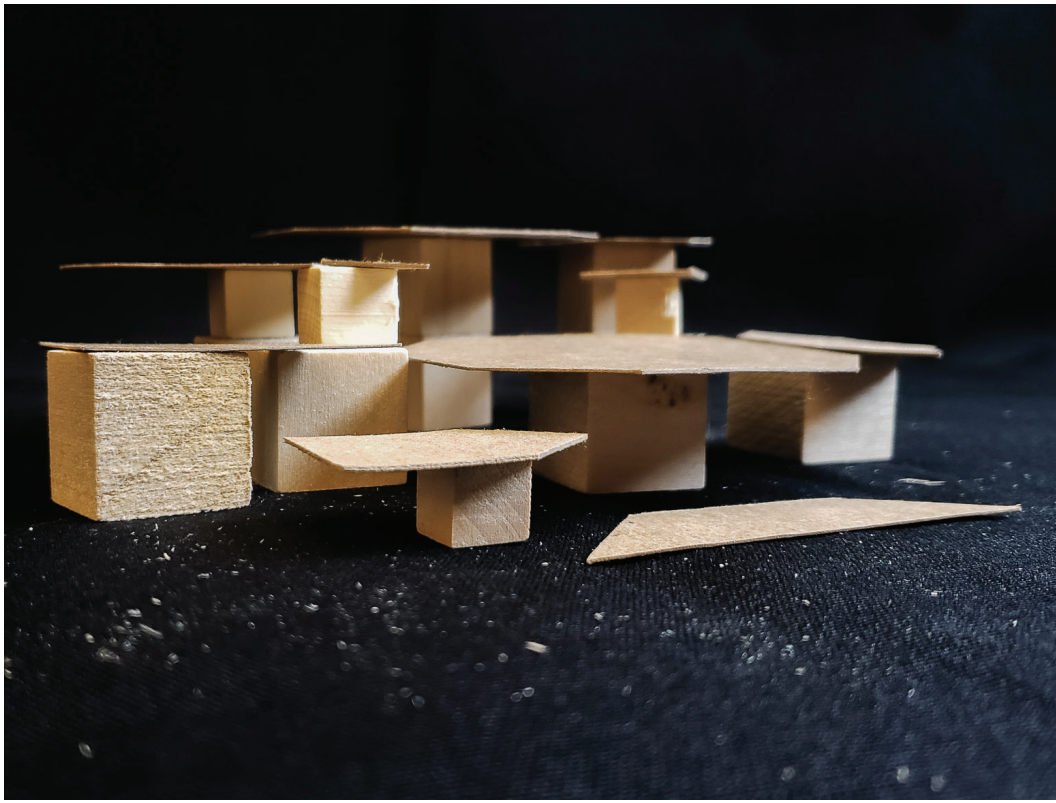


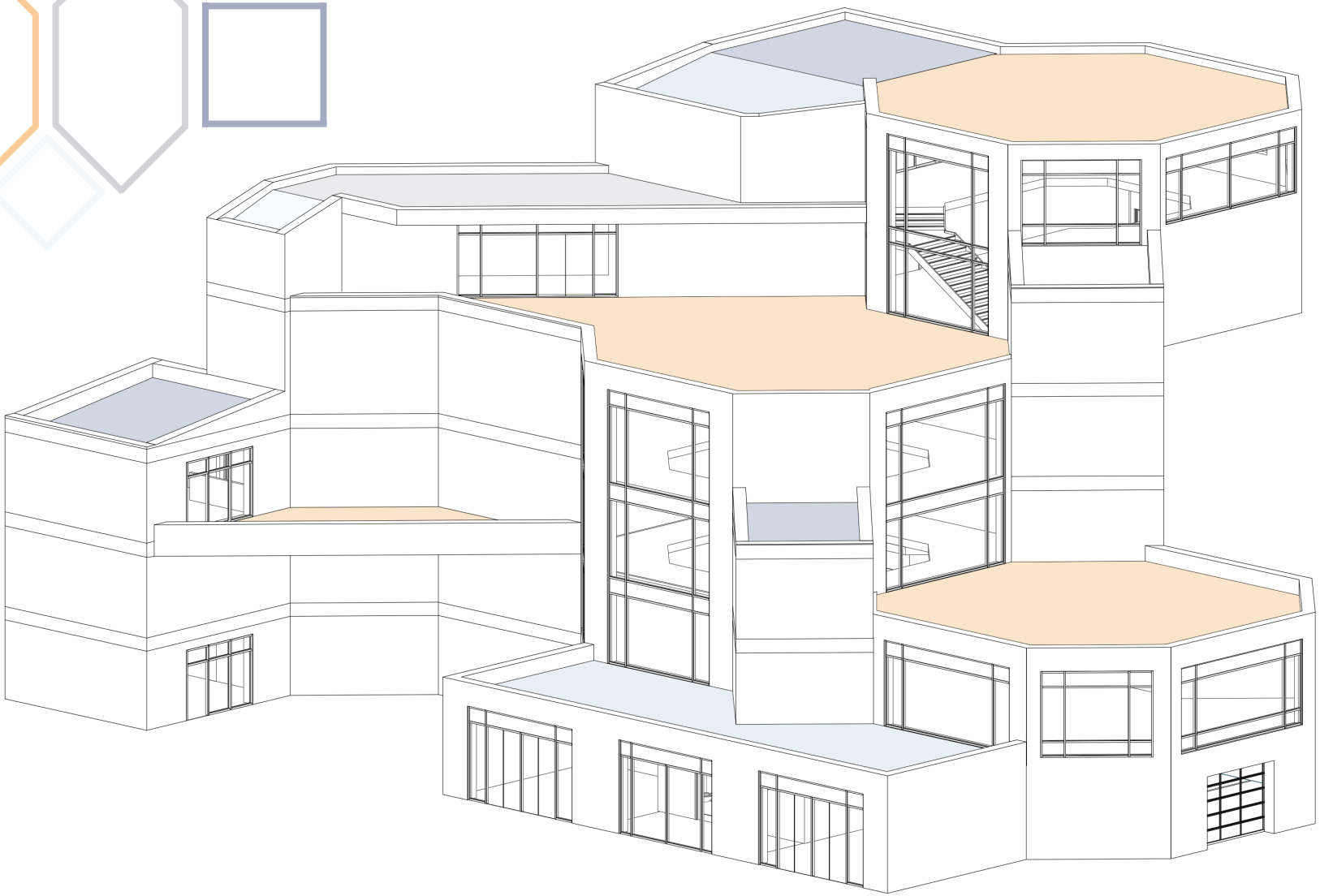
model process





design solution

Space filling geometry applied



building perspective

How is architectural sign language expressed in the design?

lexicon

"All form begins with a point ... then the point moves and becomes a line ... eventually the line becomes a place and planes crash and erect into 3d structures" -F. Ching

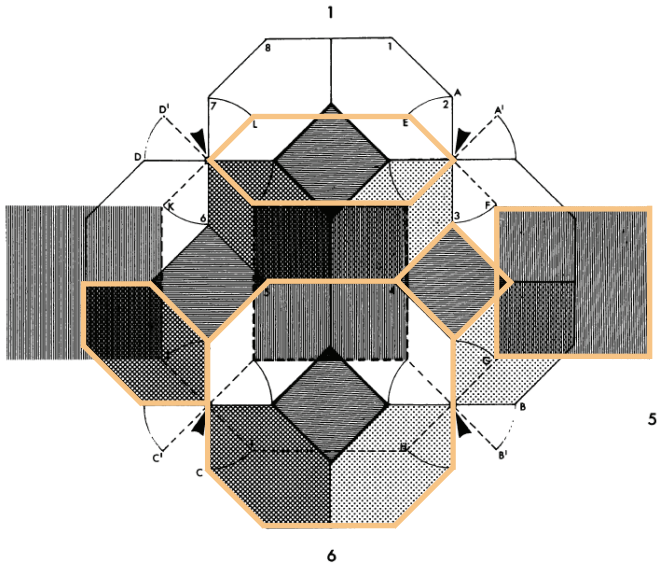
a position in space

contains properties of length, direction, and position

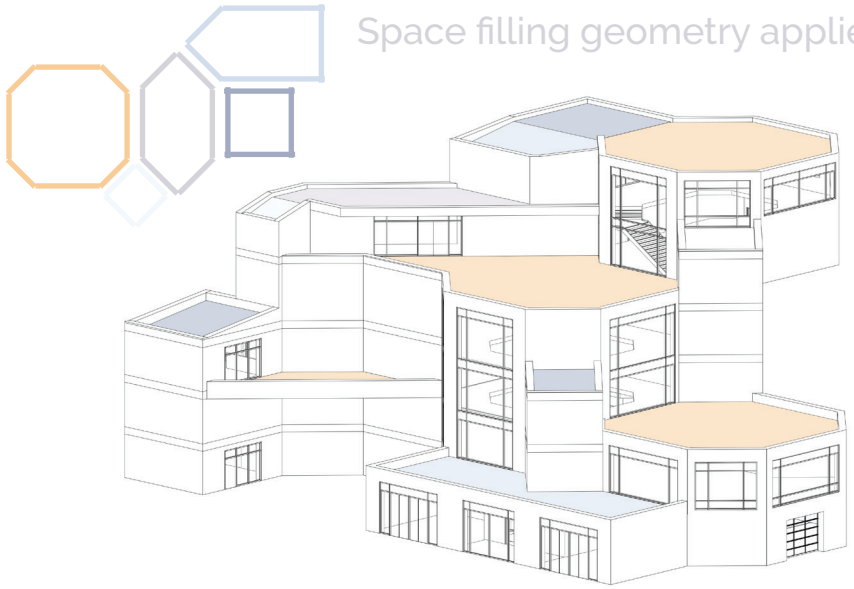
contains properties of length, width, shape, surface and position

contains properties of length, width, depth, form & space, orientation and position

Space Filling Geometry



Space filling geometry applied



design solution

design solution

phonology

Pronunciation is the expression of an architectural form based on the material used. How is the building communicating to the surrounding elements?

Inflection expresses a change in functionality of an element or space.

Exterior brick facade exhibits characteristics of the historic district located in the neighborhood behind the building.

Exterior metal panel reflects the nature of the industrial district and the Genesee Brewery, located directly across the Genesee River. It also communicates the location of the large gathering spaces within the building.

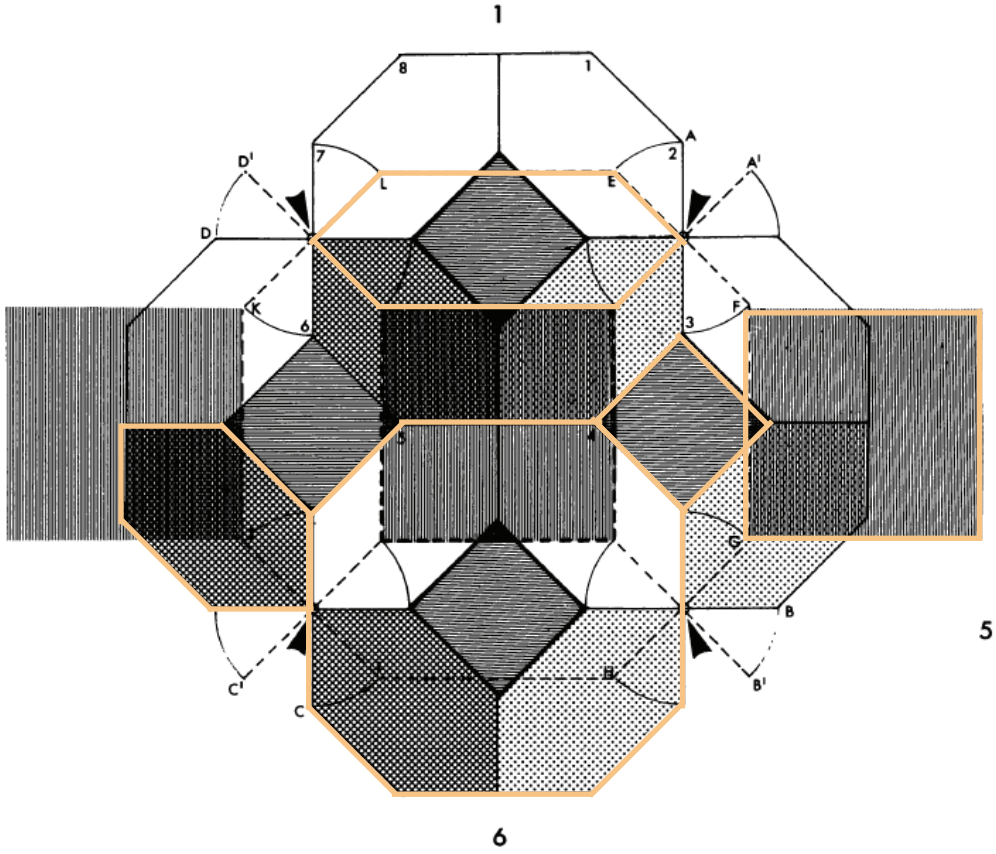
Using large amounts of glazing allows the building to continue a communication between the site and the surrounding site landscape.

The cascading design of the building communicates with the surrounding site context my mimicking the High Falls located adjacent to the site.

design solution

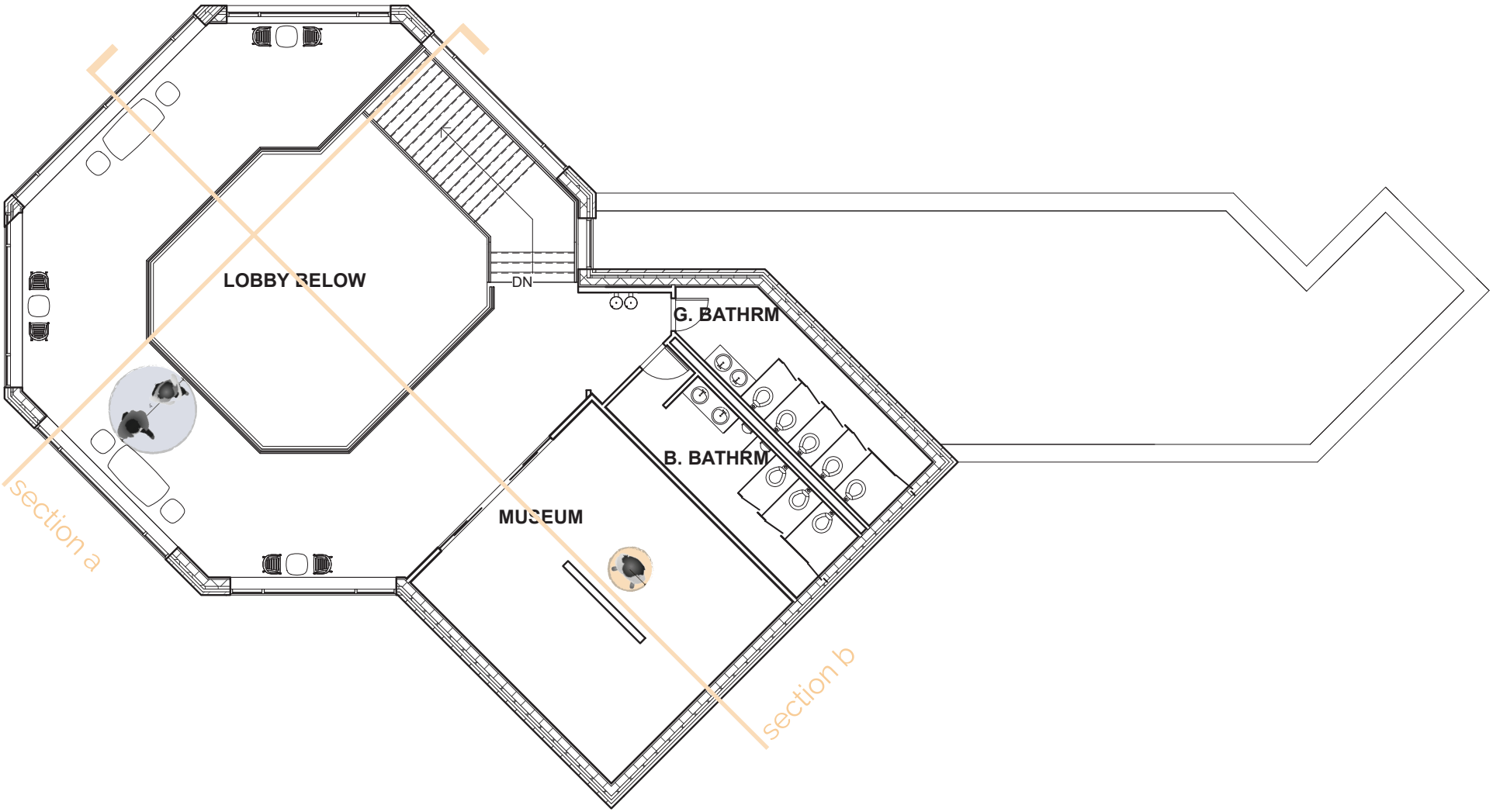
morphology

A morpheme in architecture is the variation in a form's topology. This also includes the combination of smaller units to form a larger element or form.



design solution

level 6 floor plan



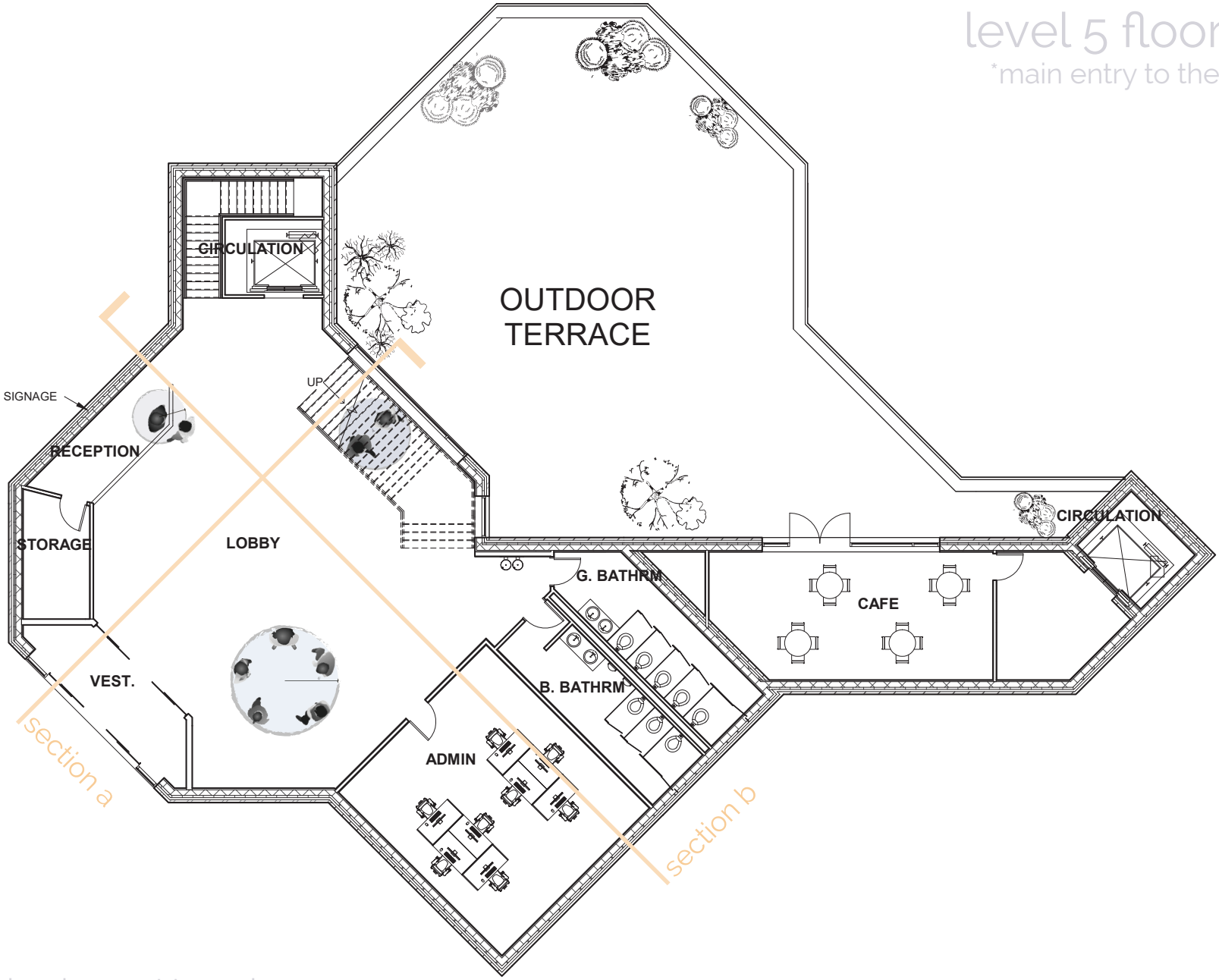
*drawings not to scale

design solution

N

level 5 floor plan

*main entry to the building

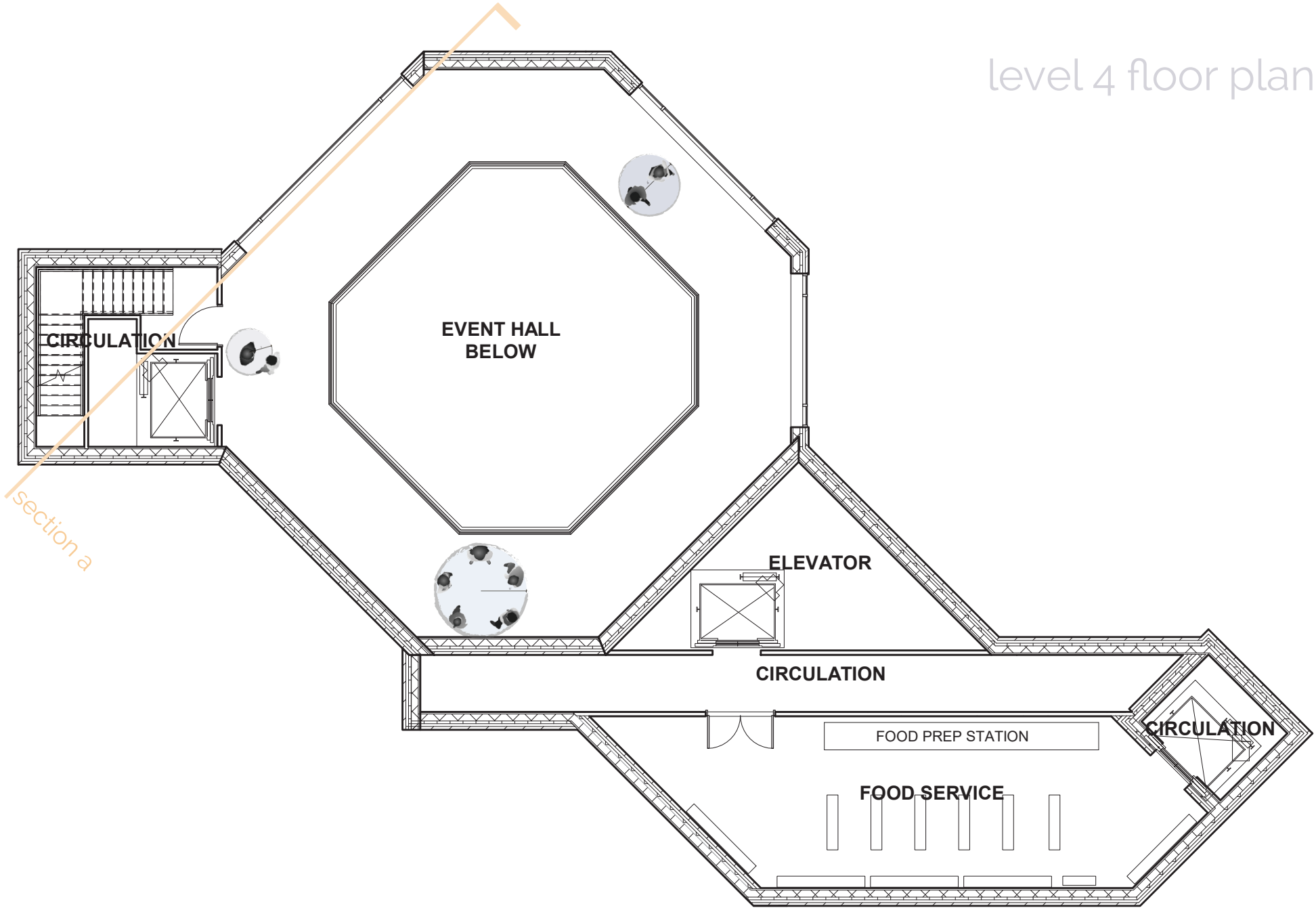


*drawings not to scale

design solution

N

level 4 floor plan

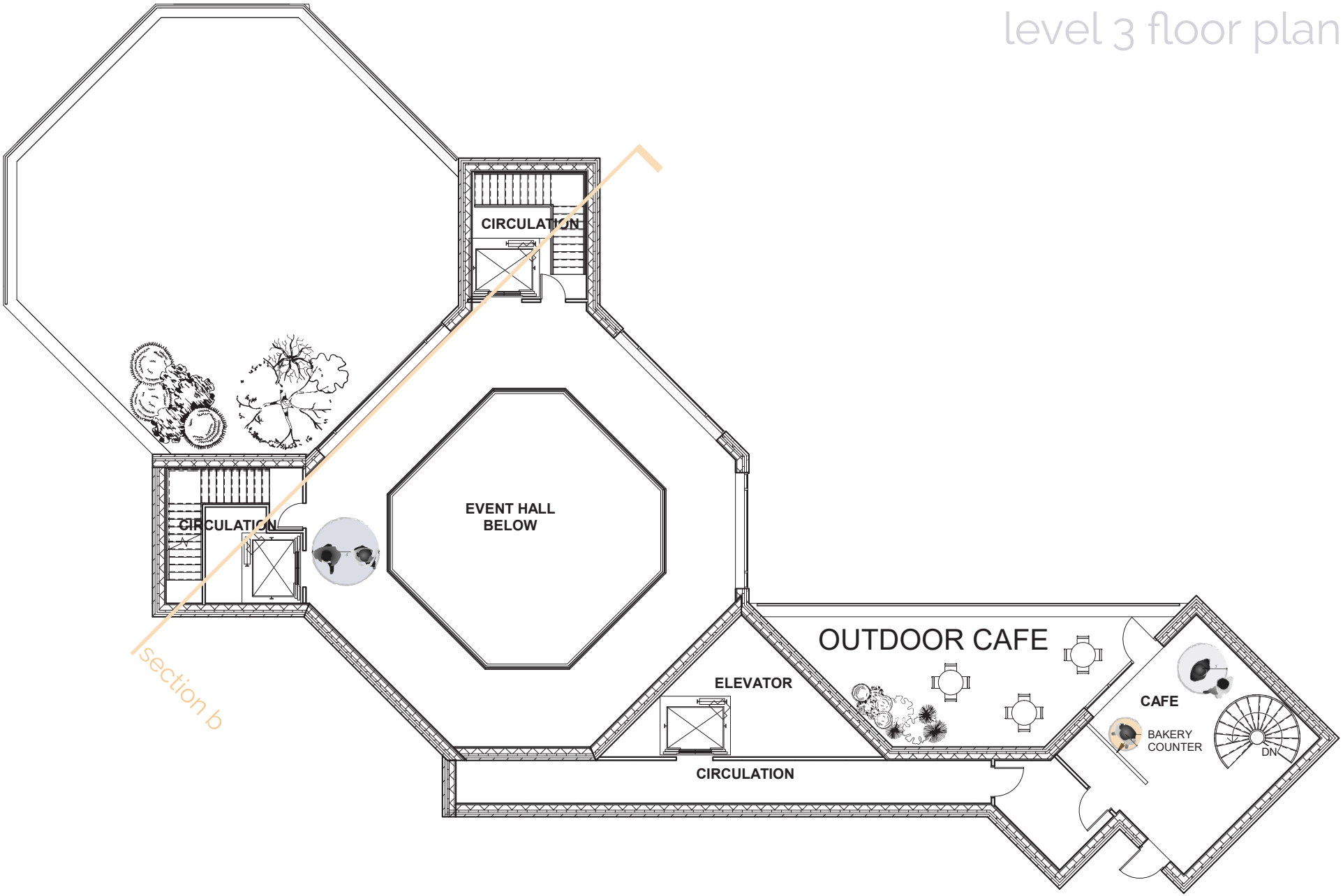


*drawings not to scale

design solution

N

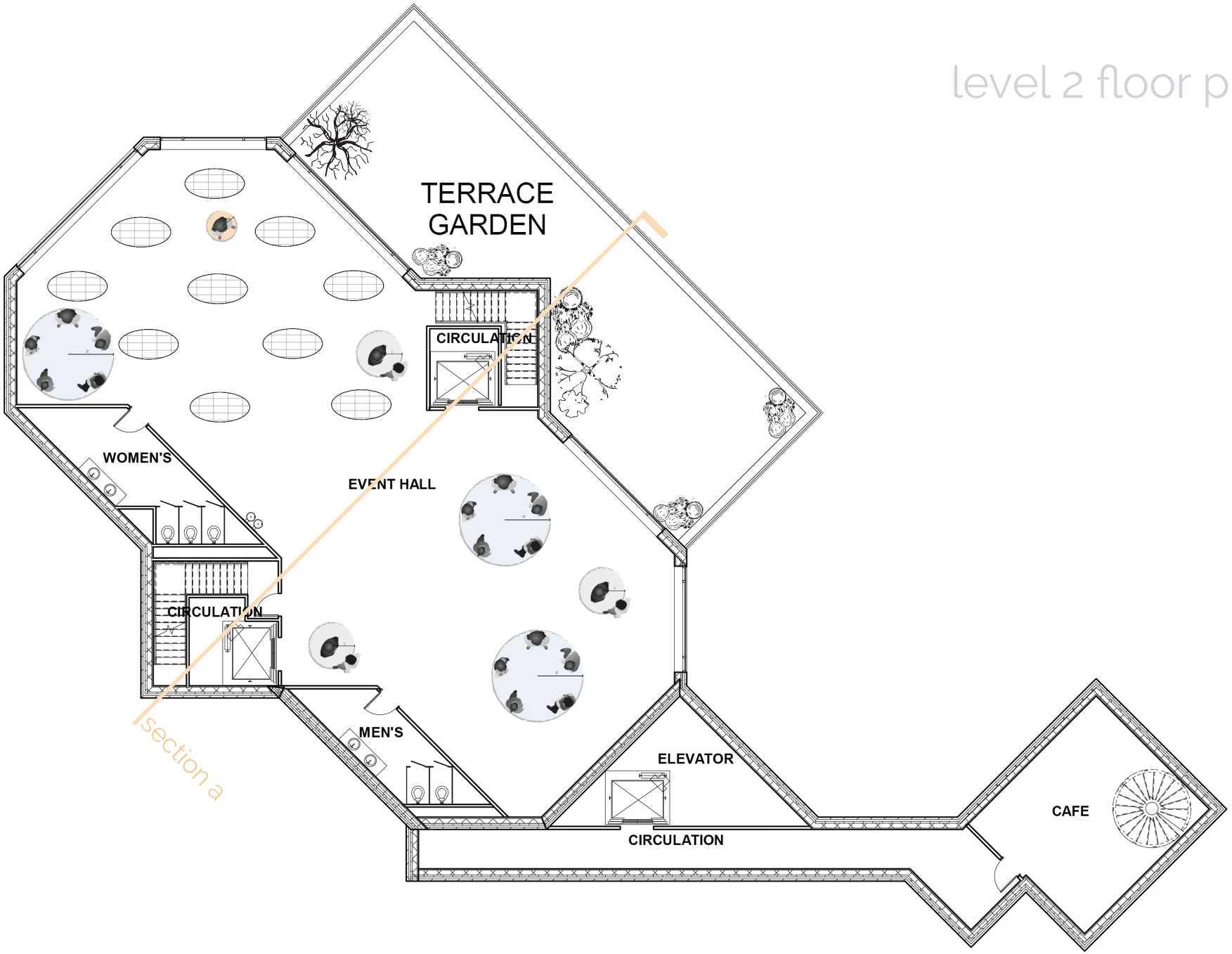
level 3 floor plan



*drawings not to scale

design solution

level 2 floor plan

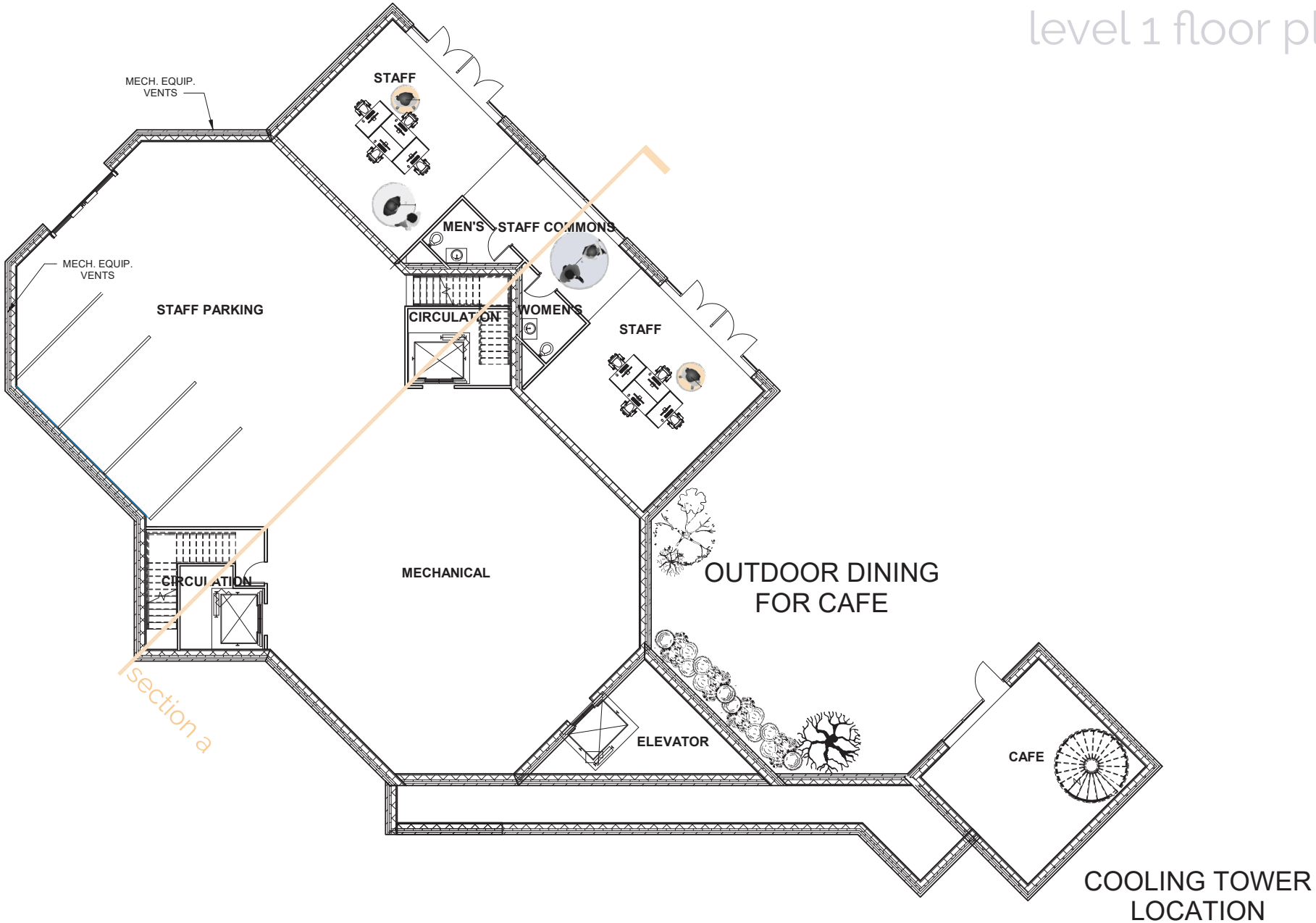


*drawings not to scale

design solution

N

level 1 floor plan



*drawings not to scale

N

design solution

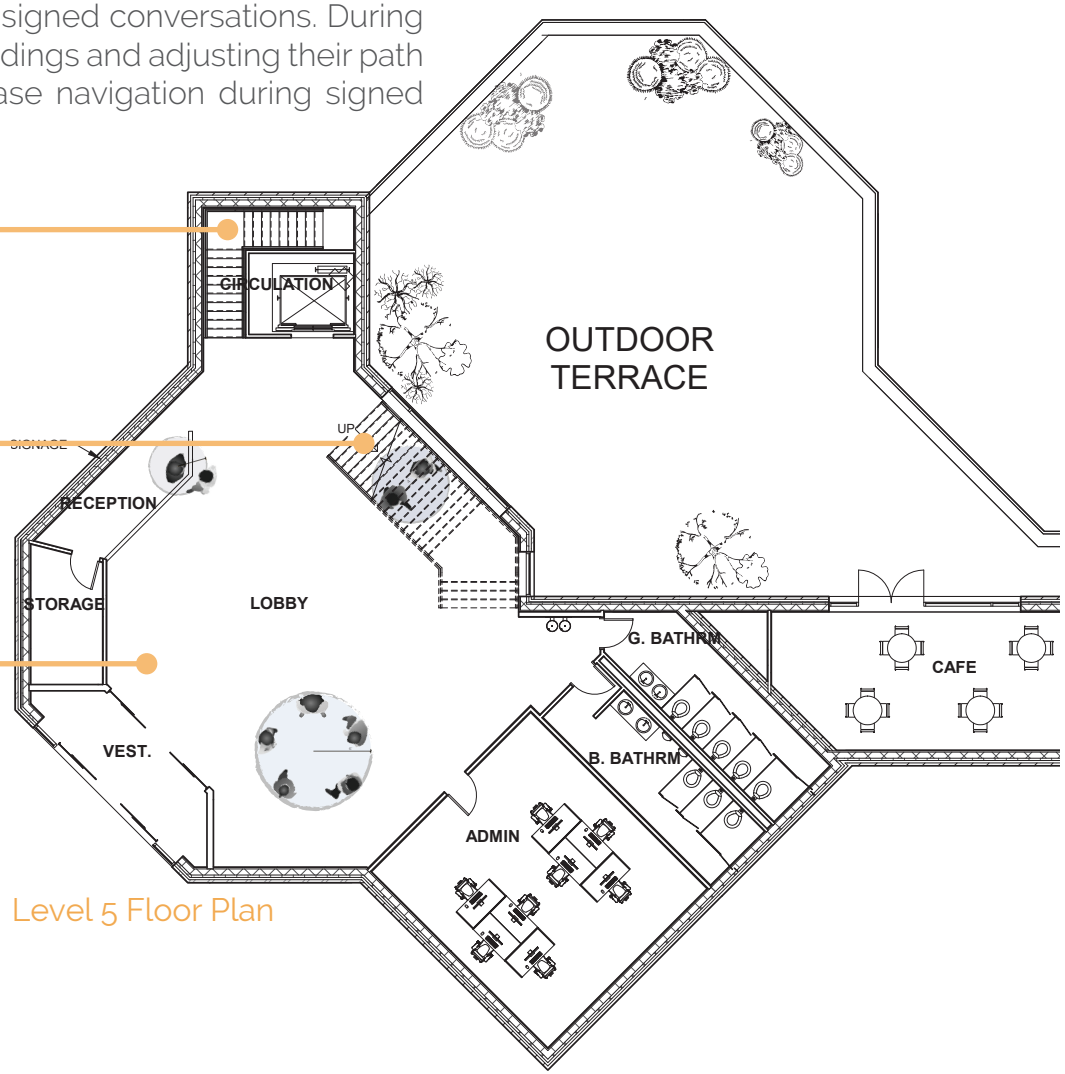
syntax

Syntax is the combination and spatial relationship between interconnected and adjacent spaces. Moving between spaces can be hazardous during signed conversations. During this transition, the signer is constantly scanning their surroundings and adjusting their path accordingly, Wide paths and fewer sharp corners help ease navigation during signed conversation.

This is a rare sharp corner in the building, the main purpose of this stair is for emergency vertical circulation.

The stairs located directly across from the main entry to the building was designed to ease signed conversation during vertical circulation. The slight bend mimicking the perimeter of the room was also designed with the same intent.

The large octagonal shape of this gathering space decreases the potential of tripping hazards, easing any navigation concern a Deaf or heard of hearing individual may have.



Level 5 Floor Plan

design solution

building section a

design solution

Large windows on North elevation provides naturally diffused daylighting, helping prevent and lessen eye strain

Opportunity for sight-lines between levels

building section b

Half-height walls provide increased visibility and easy communiction

Increase visibility through doors into adja-cent spaces

design solution

sentences & semantics

Semantics is the sentence meaning or the application of combining syntax. The composition of architectural sentences and semantics convey meaning. It can also be described as how one comes to understand the meaning of architectural elements in the built environment.

Certain colors, especially muted blues and greens, contrast will with a variety of skin tones, making them easy on signers' eyes. Although those colors are used in the carpet pattern they are still effective in reducing eye strain because they are blend in with their surrounding instead of competing for the attention of the eye.

Increasing the amount of windows on the North elevation of the building is most ideal for naturally diffused light to enter the building. However, if the sun gets too intense there is technology, such as *Sage glass,* that uses electrochromic glass and it can be manually or automatically controlled to let in exterior light.

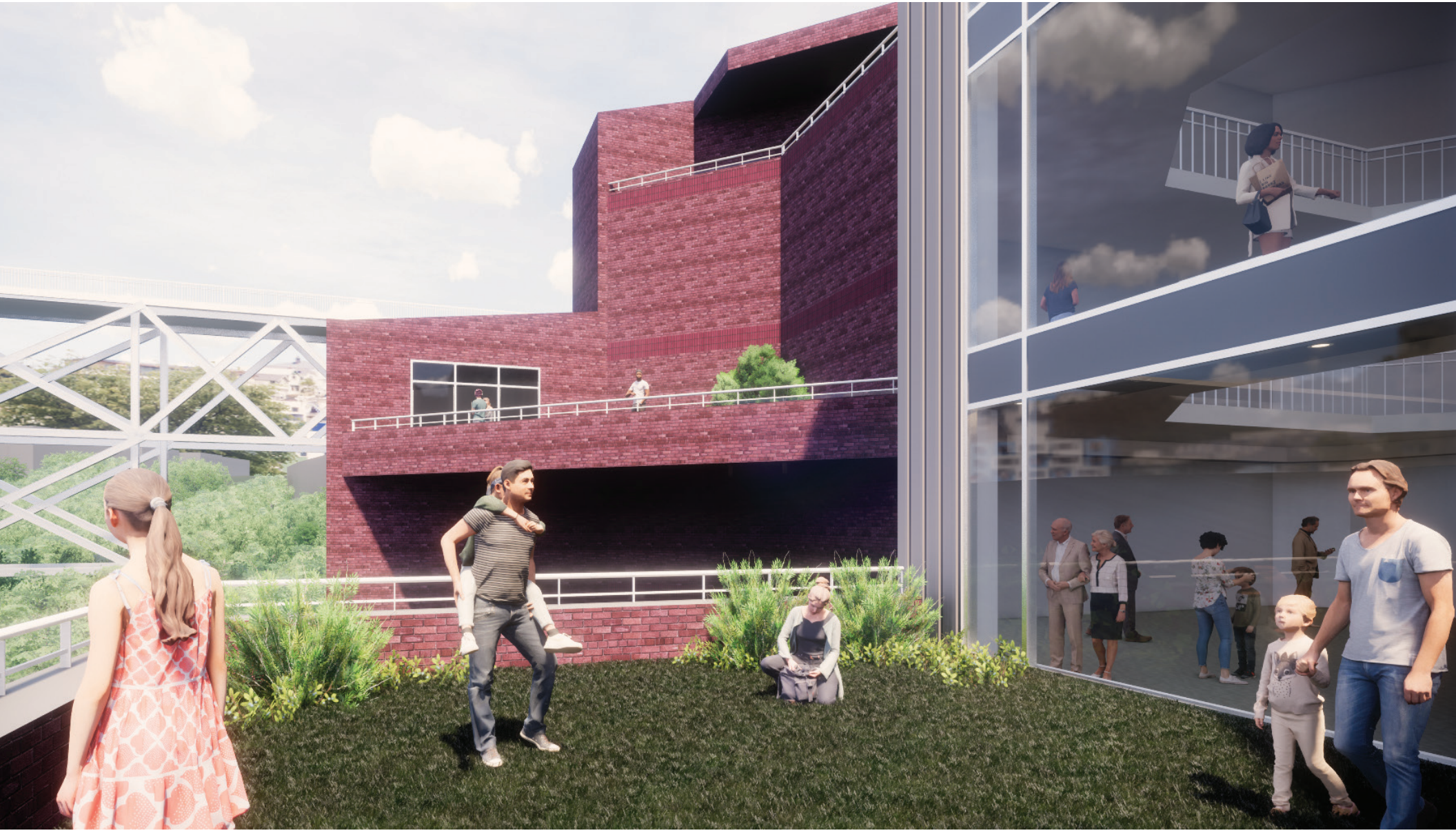
Lighting should be soft and diffused, avoid dimness, and backlighting, glare, and abrupt changes in illumination levels. One of the best solutions when using artificial lights is to use up-lit fixtures. This will illuminate the harsh direct light that would otherwise occur and increase eye strain.

design solution

design solution

design solution

design solution



design solution

language

An architectural phrase groups elements together to form a unified element or space, creating a sense of formation through a built environment. Light, color, and acoustics are designed for optimal space performance and satisfaction. The rendering below is a perspective looking into the building from the main entry doors. There is a clear combination of in-direct natural light coming through the North facing windows. The large hanging lights do not emit any direct artificial light that could enhance eye strain. Translucent glazing in the bathroom doors let you know if someone is coming or going from the space, the hardwood floors conduct the vibrations of footsteps, and the balcony of the level above is designed with softer materials to minimize any unwanted acoustic reverberations that may travel up from the main entry lobby. The lobby balcony was designed to encourage conversations between levels and spaces.

design solution