

*Mary Castellano*

CREATES

DESIGN PORTFOLIO



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*live + work*



*corporate*



*healthcare*



*correctional  
education*



*art work*



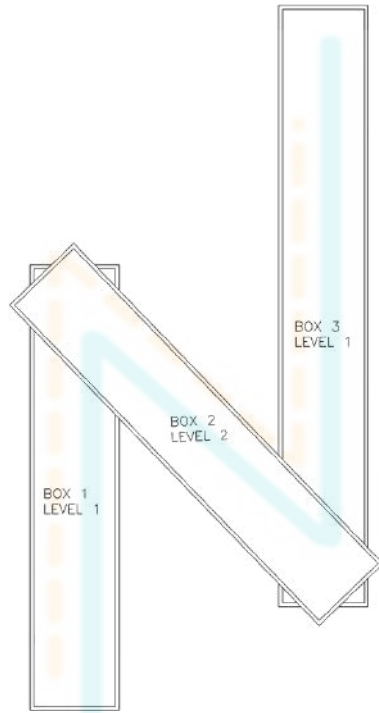
# 1 THE TEXTILE CRATE

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The Textile Crate is a small yet flexible living/working space created out of recycled shipping containers. The space creates a modern and innovative atmosphere while representing its geographical location in Arizona and its Navajo influence. The design solution contains living and workspaces for a young couple, one a Navajo textile artist, the other a photo-journalist. The design offers an indoor/outdoor living and work environment that celebrates its surroundings through its large windows and textile selections. The layout and furniture are designed to best utilize the small space functionally and creatively.



Custom Logo Design



The logo contains the colors that represent the Navajo sacred mountains: blue, yellow, black, and white. The logo showcases a traditional angular Navajo textile pattern in a modern style.

The layout of the shipping containers reflects the shape seen in the logo. It showcases a traditional angular Navajo textile pattern in a modern style.

The space is composed of three shipping containers. One contains a living space, one contains an office and photography studio, and one contains a storefront and storage.



# FLOOR PLAN

Box 1 + 2 = 40' x 8'

Box 3 = 54' x 8'

Total sq. ft. = 967'

1 Showroom

2 Office

3 Half Bath

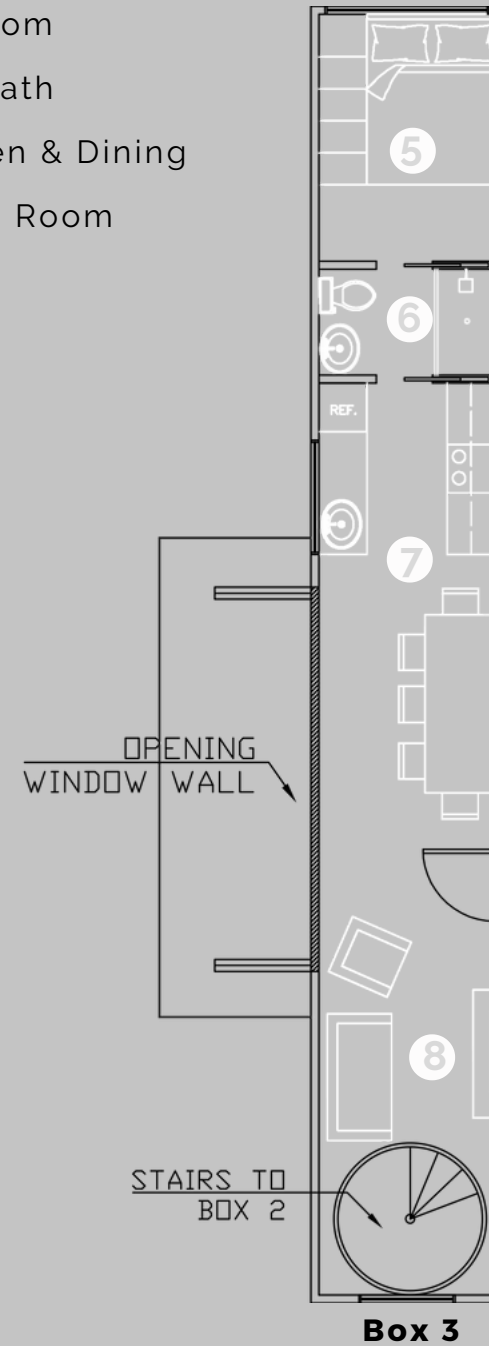
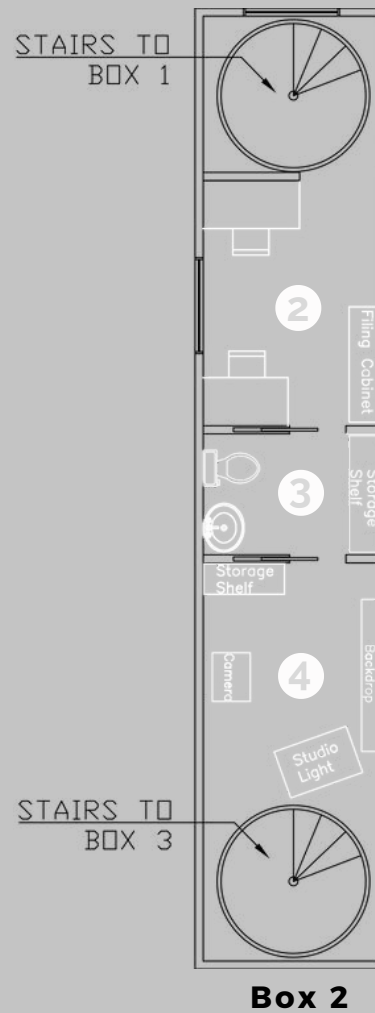
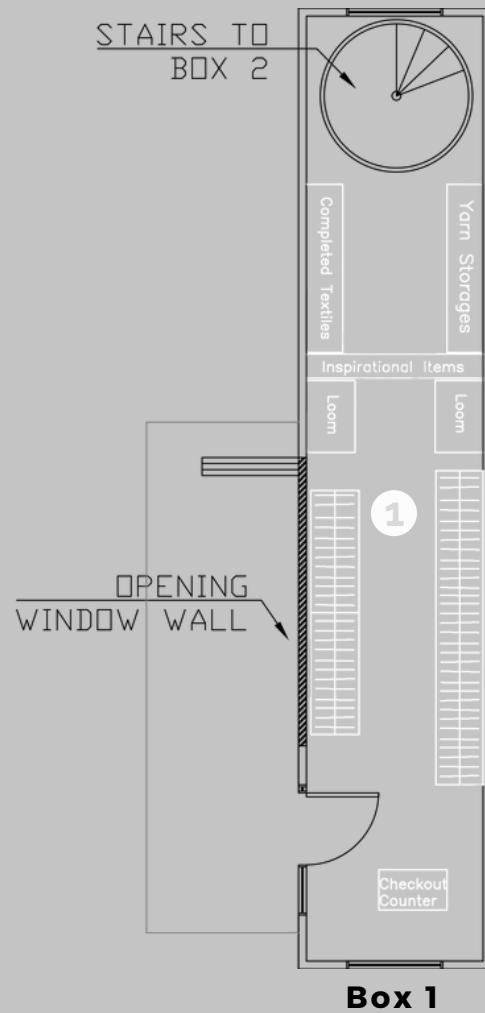
4 Photo Studio

5 Bedroom

6 Full Bath

7 Kitchen & Dining

8 Living Room



# MATERIALS

The materials and finishes used create a modern, colorful, sustainable space that represents the region and the Navajo culture.



Burnt red is a color found the landscape of Arizona



Turquoise is native to Arizona and in Navajo culture, brings good fortune.



The wallpaper selection showcases abstracted Navajo patterns.

# WORKING SPACE

The showroom features a glass window wall that collapses, creating an indoor/outdoor shopping space. Both the textile rack and checkout counter are mobile and can be rearranged when the wall is open. This allows for more retail space and more airflow.





Customers can purchase rugs, blankets, and clothing from the showroom. Two textile looms are located in the showroom, enabling customers to watch and learn about textile creation. The showroom includes a built-in storage space for yarns and dyes for making the textiles.

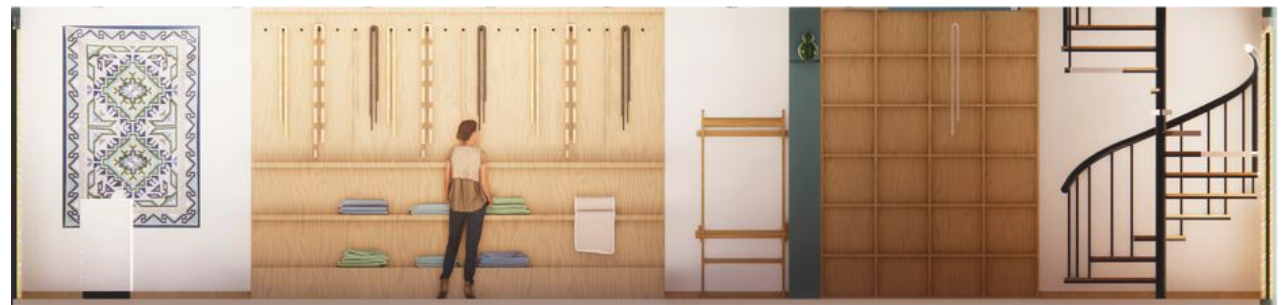
Box #2 includes an office space for both clients and a small photography studio for the photo-journalist.



Box #2 - office space



Box #1 - left elevation

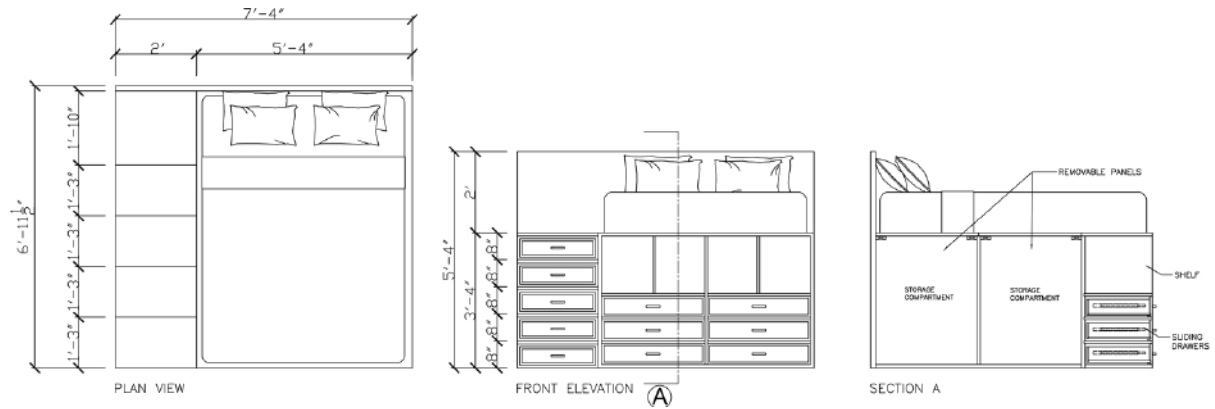


Box #1 - right elevation

# LIVING SPACE

The living space is located in box #3. It features a glass folding wall system. This wall can be collapsed, opening the space to the outdoor deck to create a larger space for guest seating. The bedroom features a custom bed that maximizes storage.





Custom storage bed millwork



Box #3 - right elevation



Box #3 - left elevation



## 2 BETTER BY DESIGN

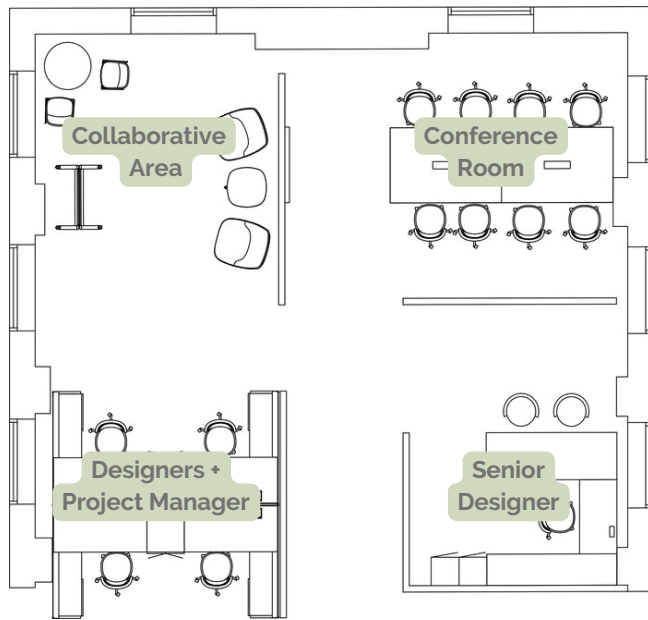
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Better by Design is a firm that includes both interior and graphic designers. The company specializes in biophilic design solutions. The culture of Better By Design is collaborative, creative, modern, and innovative. The office space is designed to reflect and encourage this culture through the space planning, furniture selections, and biophilic elements that add to employee well-being. The space is designed to foster collaboration and communication within the staff with its open workspace and collaborative areas.

The logo reflects the company in its modern font and incorporation of natural elements. The yellow represents creativity.



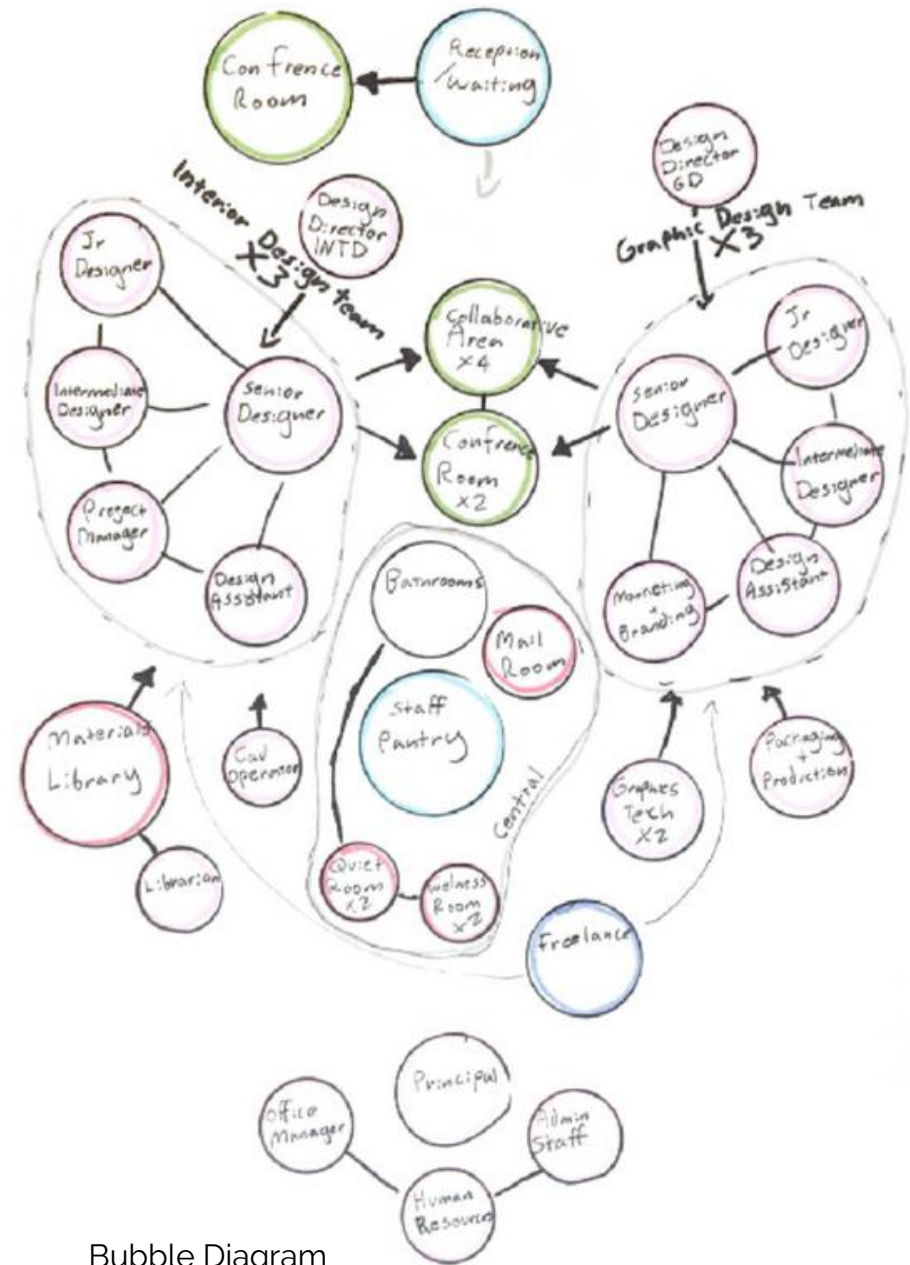
Custom Logo Design



Team Layout Diagram

## DESIGN TEAMS

The diagrams that were developed show the relationships between the spaces. Workers' stations were organized in teams around flexible collaboration areas to encourage teamwork. There are a total of six teams consisting of five members each. Each team is located near a collaborative area and conference room.



Bubble Diagram

# ECOSYSTEM ZONING PLAN

The company wants all their staff to feel equal, so the majority of the workstations are the same size. This, along with the spaces open floor plan, helps employees feel empowered to freely collaborate.

The main entrance, which is used by the general public located on the right side of the plan and is greeted by the reception and waiting area. The employee entrance is located in the center of the plan with a more equal distance to the staff workstations.



# FLOOR PLAN

11,500 total sq. ft.

A Design Team

B Collaboration Area

C Conference Room

D Admin Offices

E Materials Library

F Mail Room

G Reception/Waiting Room

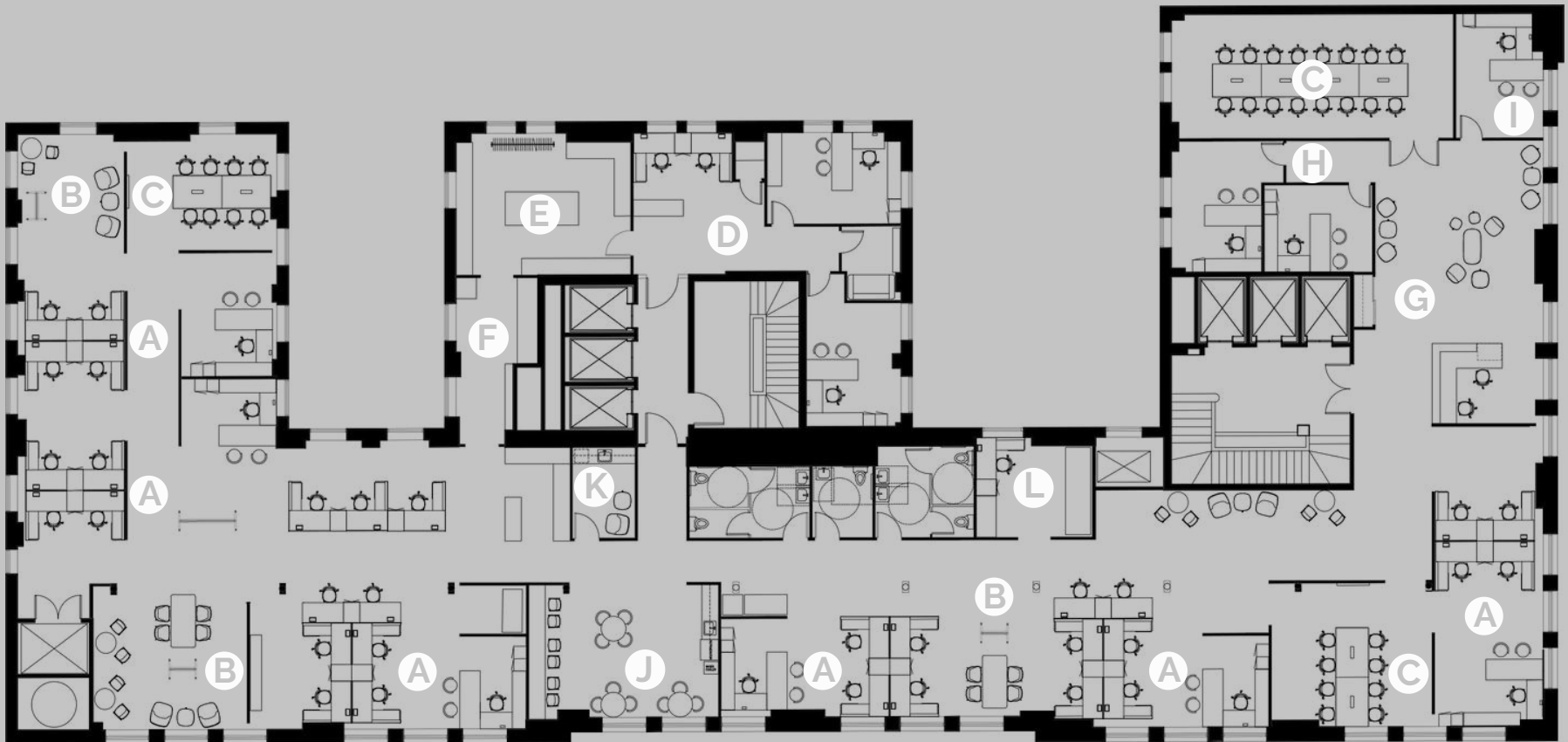
H Design Directors Offices

I Principal's Office

J Staff Pantry

K Wellness Room

L Packaging & Production



## RECEPTION + WAITING

The corporate interior includes biophilic elements such as live walls, plants, and natural materials such as wood. This creates a calm fresh atmosphere that connects those in it to nature. It includes bright pops colors such as yellow and orange that are balanced by the natural elements. Orange inspires creativity and enthusiasm. Yellow inspires creativity, imagination, and inspiration.



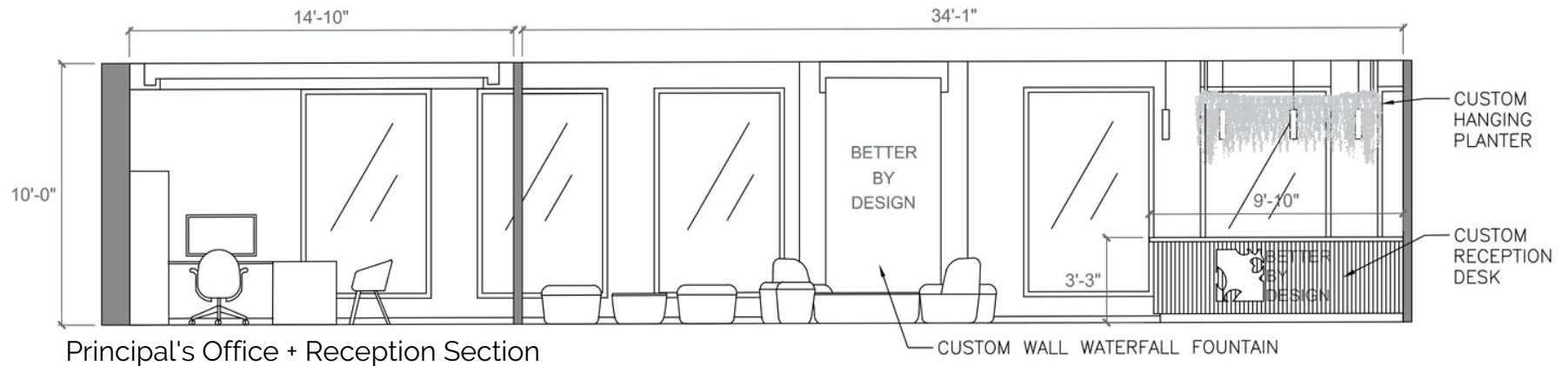




Furniture Selection



Custom Reception Desk



Principal's Office + Reception Section

# OFFICE SPACE

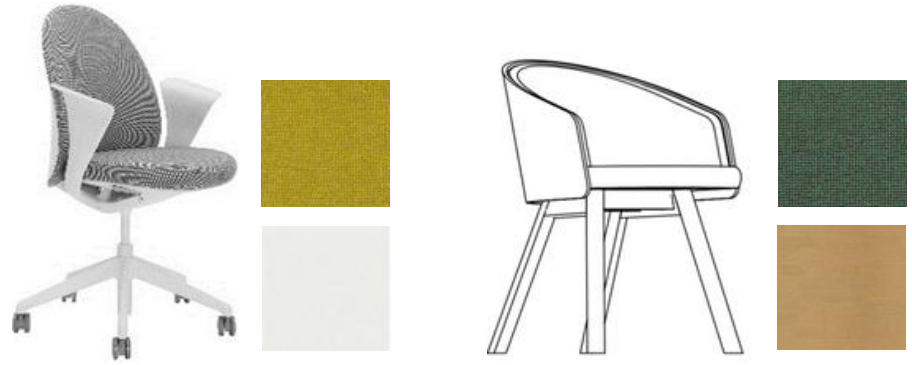
The office space features furniture and desk systems from Technion. Each team is seated in one desk system that is open for easy communication.

The collaboration space include flexible seating, tables, and white boards. They also features live walls that mimic the logo graphic, helping bring the company branding throughout the space.





## FURNITURE SELECTION





## 3 AUTISM CENTER

**H** | This healthcare facility is a center for children with Autism Spectrum Disorder (ASD). Here, patients meet in a welcoming environment with speech and occupational therapy specialists. The design creates a space that is calming, safe, and specifically considers the needs of autistic children. The space incorporates a calming underwater theme with the use of round and curved elements, a blue and green color scheme, and whimsical underwater animals. The design limits elements that can be overstimulating to its users such as light, sound, color, textures, and patterns. Overstimulation for those with ASD can cause manifestations such as headaches, anxiety, or aggression.

**E** |

## DESIGN CONSIDERATIONS

Those with ASD tend to have sensory processing problems seen in overstimulation, auditory issues, and difficulty transitioning through space. Too many sounds, colors, lights, or patterns can be overstimulating.

**Soundproofing** - Acoustical management helps minimize aural overstimulation. Using sound-absorbing materials and soundproofing doors and walls in areas that the patients occupy can help with this.

**Furniture + materials** - Safe, sturdy furniture and durable materials should be used in case of aggressive behavior or accidents. Furniture allows for flexibility as children with different needs and ages will use the space.

**Escape spaces** - Escape spaces allow patients to remove themselves from distractions and overstimulation. This is done through the provision of a sensory room.

**Natural elements** - Elements of nature help create a calm and relaxing environment. Blue and green colors are used along with images of animals to calm patients and connecting them to nature.

## WAYFINDING

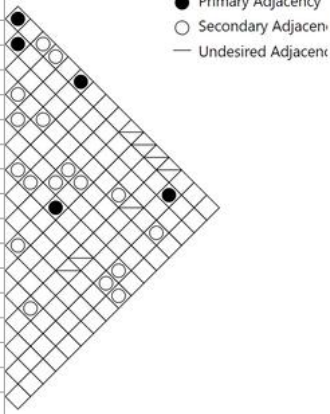
Wayfinding is incorporated in the design allowing patients to navigate the space without stress. The different floorings in the hallways indicate where patient rooms are located, along signs showing a room's number and designated sea animal. The animals utilize brighter and warmer colors to help them stand out against the cool pallet of the facility.



Custom Watercolor Sea Animals



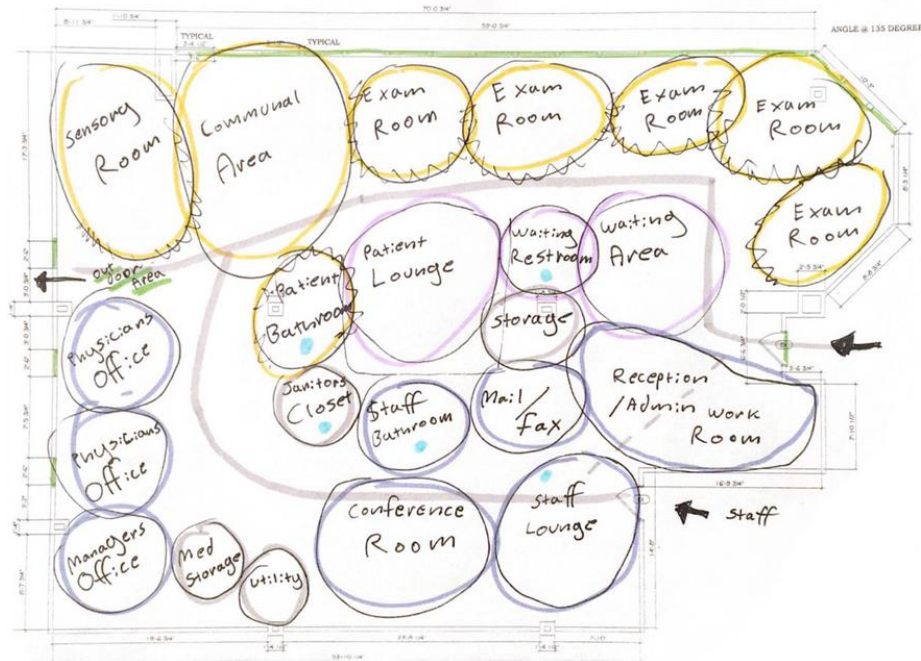
Rooms	Quantity	SF each	Total SF	Public Access	Daylight	Privacy	Plumbing
Waiting Area	1	280	280	Y	Y	N	N
Reception/Admin Workroom	1	250	250	Y/N	N	N	N
Mail Area	1	60	60	N	N	Y	N
Exam Rooms	5	125	625	Y	Y	Y	N
Physician's Offices	2	100	200	N	N	Y	N
Practice Managers Office	1	80	80	N	N	Y	N
Restrooms	3	56	168	Y/N	N	Y	Y
Communal Room	1	250	250	Y	Y	N	N
Sensory Room	1	250	250	Y	N	Y	N
Conference Room	1	200	200	N	N	N	N
Staff Lounge	1	120	120	N	Y	Y	Y
Janitors Closet	1	50	50	N	N	N	Y
Medical storage	1	50	50	N	N	N	N
Utility Spaces	1	60	60	N	N	N	N
General Storage	1	50	50	N	N	N	N
Patient Lounge	1	200	200	Y	N	N	
Outdoor Area	1	300	300	Y	Y	Y	Y



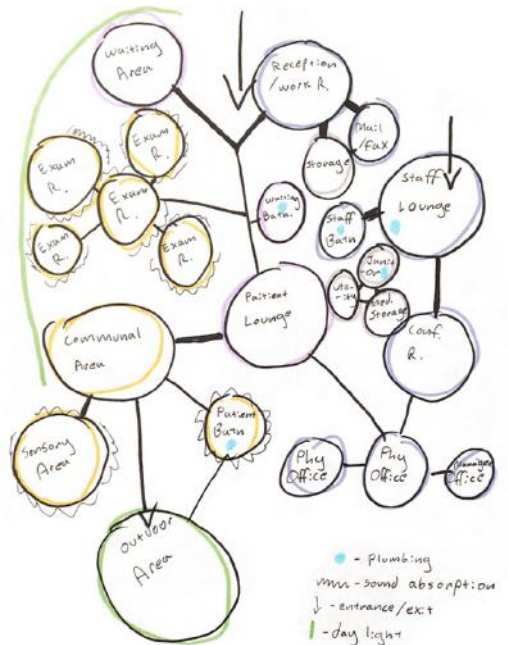
Schematic Diagram + Adjacency Matrix

# SPACE PLANING

Tools such as schematic, adjacency, bubble, and block diagrams were used to develop the floor plan. Circulation and paths of egress were carefully considered. Natural light and soundproofing were both utilized by patient rooms.



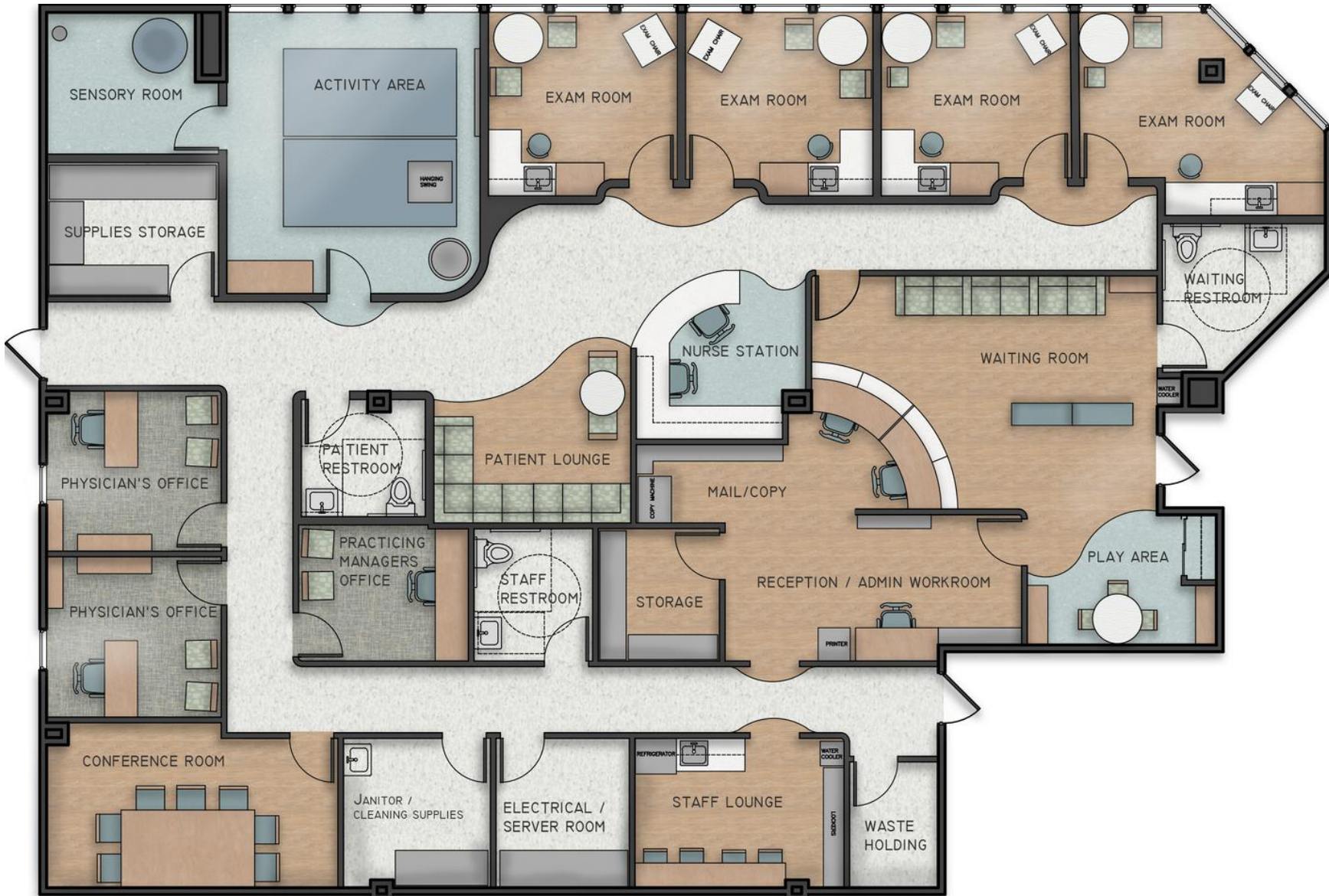
Block Diagram



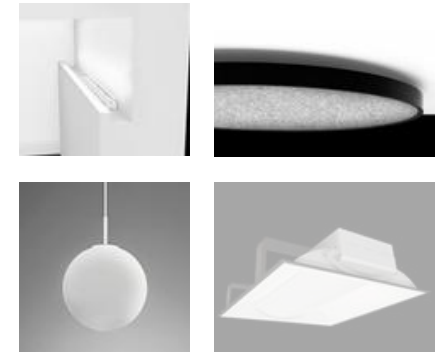
Bubble Diagram

# FLOOR PLAN

3,550 total sq. ft.



# LIGHTING PLAN



LIGHTING LEGEND				
SYMBOL	DESCRIPTION	MANUFACTURER	FIXTURE #	QUANTITY
	LED RECESSED MOUNT 24"X24"	KENALL	AMB22-TW	35
	LED COVE	ALIGHT	ANNULET P5	
	LED ROUND RECESSED 4"	KENALL	MDL4-TW	8
	LED RECESSED 2'-8"	ALIGHT	ATLAS ATL5	11
	LED RECESSED 20"	ALIGHT	ATLAS ATL5	10
	LED SUSPENDED 20"	ALIGHT	ATLAS ATL2	4
	PENDANT HALOGEN VARIOUS SIZES	AI LATI LIGHTS	uv560652	7
	LED UNDERCABINET LIGHTING VARIOUS SIZES	KENALL	MAUCLED-ICT	8

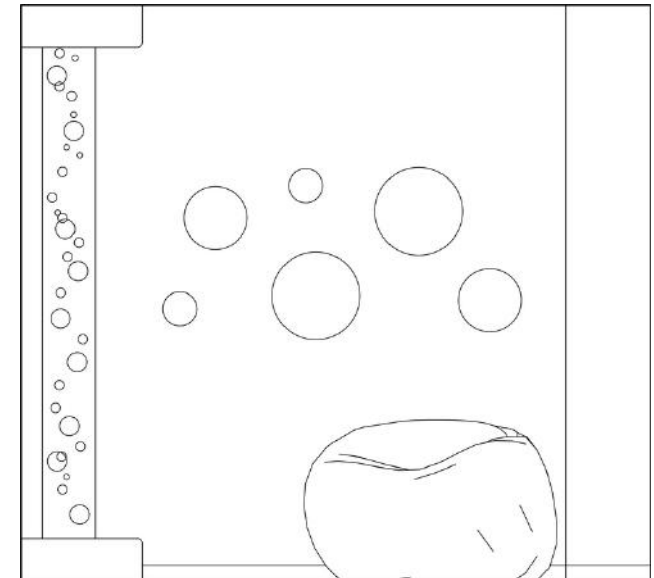
Soft lighting with dimmers allowing patients to control their environments as it impacts their senses. Many of the lighting fixtures provide indirect light in order to avoid glare.



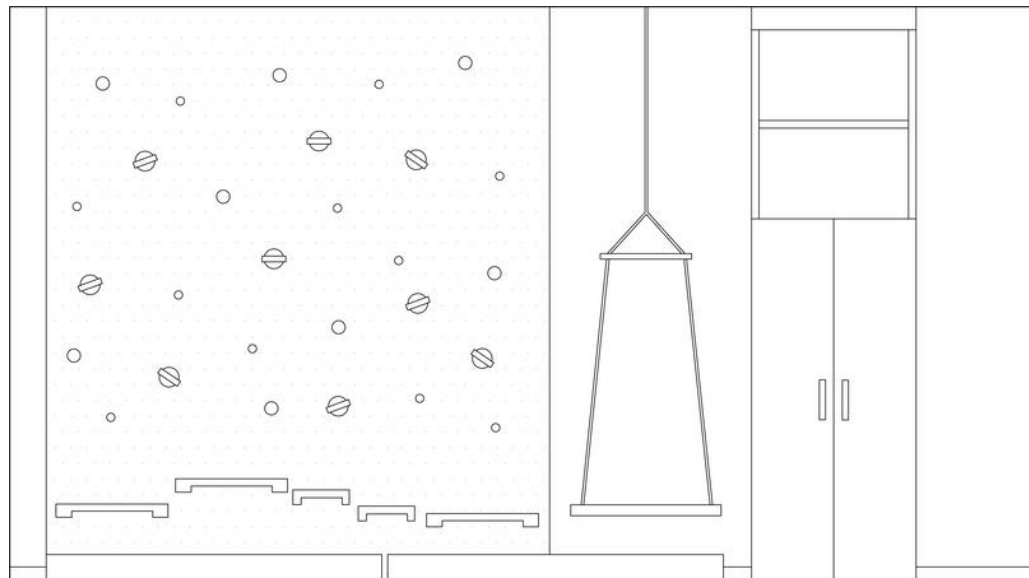
# ACTIVITY + SENSORY ROOM

Sensory rooms combine a range of stimuli to help develop and engage an individual's senses in a controlled manner. Sensory rooms help children with autism to feel calm and focused, and helps them learn to self-regulate their behaviors. The sensory room features soft colorful lighting, soft seating, sensory toys, and a sensory bubble tube.

The activity room is used for physical therapy and group activities. It features crash mats, a sensory platform swing, and a climbing wall.



Sensory Room Elevation



Activity Room Elevation



# RENDERINGS

The waiting area includes seating, a play area, and a custom reception desk with a built-in fish tank.

The hallway includes a nurse's station. It also include bubble-shaped windows leading to the exam rooms. This allows natural light to pass through and for nurse and parental supervision of patients.

Speech and occupational therapy take place in the exam rooms.



Waiting Room



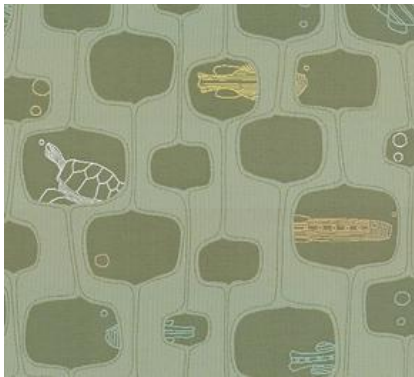
Hallway



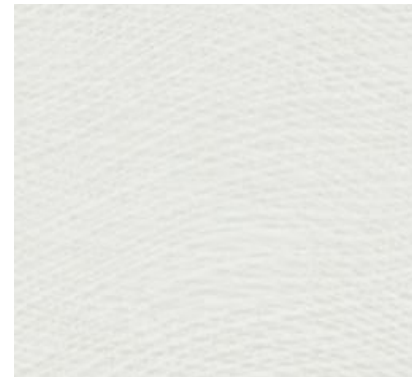
Exam Room

# MATERIALS

Materials were selected to be durable, cleanable, and to meet the needs and codes of a healthcare environment. Vinyl wood flooring was used to add a natural and familiar element to the space. Blue and green colors were used to simulate the colors of the ocean. The wallcoverings emulate waves through their texture.



Upholstery



Wallcoverings



Flooring





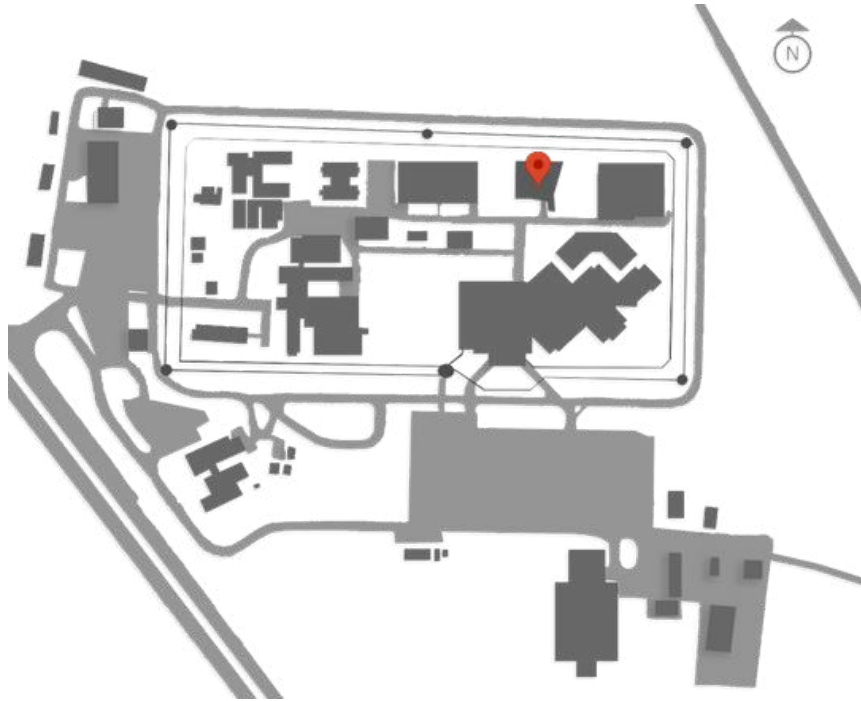
# 4 GROWTH + LEARNING CENTER

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The Sussex Community Corrections Center, located in Georgetown, Delaware, is a minimum to high security prison housing both adult and juvenile inmates. The Growth and Learning Center is a facility within the prison dedicated to the wellbeing, education, and future development of its prisoners. The space is functional, safe, and challenges standard prison design. Within this building, educational, vocational, and rehabilitation programs are offered to students, along with resources to attend college online. The design solution creates a safe space focused on the wellbeing of those inside and connection to the world outside through the use of biophilic design.



Custom Logo Design



Site Plan

## RECIDIVISM

The site is located in Delaware, which has the highest rate of recidivism in the United States, equaling 65.50%. Recidivism is the relapse in criminal behavior or reoffending ending up in reincarceration. Education is one of the most effective ways to reduce recidivism rates. Education can benefit prisoners mentally and in finding work and direction in their lives after being released.



# RESEARCH + CONSIDERATIONS

**Security** is number one in prison design. The safety of inmates and staff must be the priority. It is important for security personnel to supervise inmates at all times virtually, through visual sightlines, or both. It is also important that the furniture and materials are not able to be used as weapons or to hide objects.

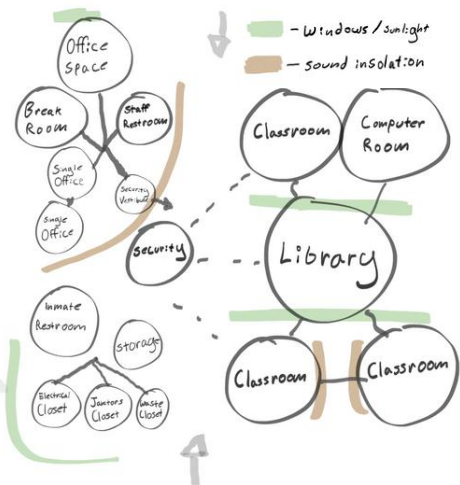
**Mental illness** within the prison system is a large problem. Research suggests that 50% of prisoners have a mental disorder, 89% of prisoners have depressive symptoms, and 74% have stress-related symptoms. Prisons have significant rates of suicide, and it is the most common cause of death within a prison. Prisons are often bleak and sterile spaces that are not conducive to positive well-being and can even aggravate mental health issues in their occupants.

**Staff needs** are often not prioritized in prison design. Working full-time in the prison environment can affect staff satisfaction and mental health similarly to how it affects prisoner mental health. The Growth and Learning Center has a separate peaceful space for staff with all the amenities of a typical office space.

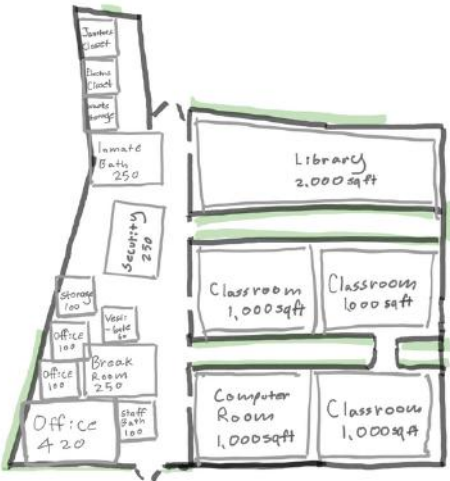
**Biophilic design** is a way that this project creates a space that improves the well-being of its occupants. Biophilic design has been shown to improve cognitive functioning, reduce stress levels, improve one's mood, and improve overall health and wellbeing.

**Prisons designs** are most often depressing and disconnect prisoners from the world around them. The Growth and Learning center creates a space that prisoners want to be in, especially when compared to the institutional environment of the rest of the prison, encouraging them to learn and grow. The space is calming, healing, and gives inmates a sense of self-worth and connection to the world around them (nature). Research shows that where prison interiors provide a more normal environment (as opposed to an incarceration environment), benefits include reduced stress, vandalism, and assaults. Inmates are likely to treat the prison with more respect when the design of the prison communicates that they will also be treated with respect.

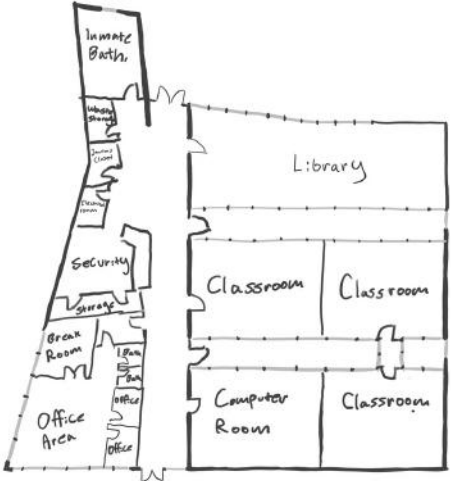
# DESIGN PROCESS



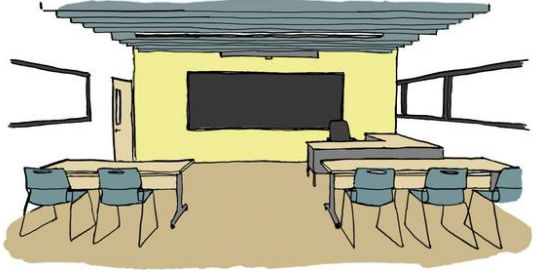
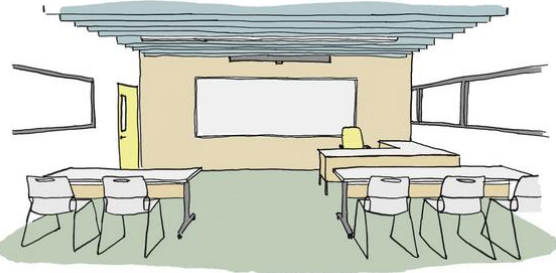
Bubble Diagram



Block Diagram



Preliminary Floor Plan



Color Studies

The design utilizes wood tones and greens, connecting occupants to the natural environment. Yellow is also used to bring more energy and life to the space.

# FLOOR PLAN

15,000 total sq. ft.

- A Library
- B Computer Room
- C Class Room
- D Security
- E Break Room
- F Offices
- G Meeting Room
- H Storage



FLOOR 1

FLOOR 2



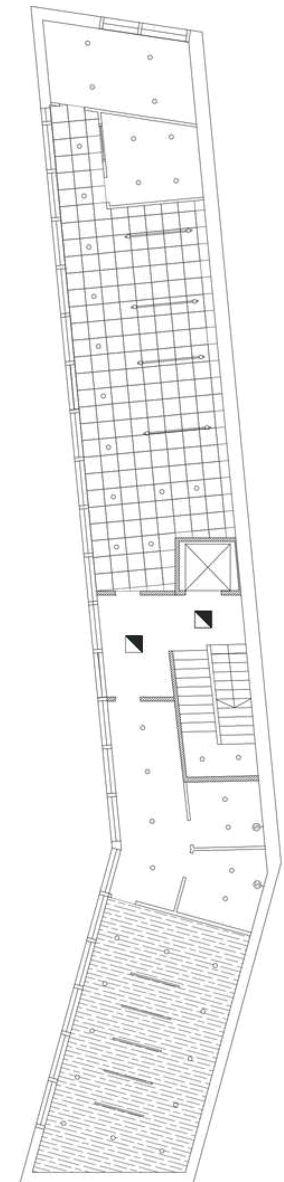
# LIGHTING PLAN

LIGHTING SCHEDULE					
PICTURE	SYMBOL	DETAILS	SIZE	LUMENS	COLOR TEMP.
		Alcon Lighting Model #: SKU 14005-6	24" X 24"	4000lm Dimmable	3500K
		Alcon Lighting Model #: SKU 14008-6	0' - 6"	100-2,499lm Dimmable	4000K
		Alcon Lighting Model #: SKU 12100-10-R	2' x 8'	5323lm Dimmable	2700K-5000K Adjustable
		Alcon Lighting Model #: SKU 12100-20-P	20' x 8'	5000-7499lm Dimmable	2700K-5000K Adjustable
		Alcon Lighting Model #: SKU 14115	24" X 24"	3600lm	4000K
		Kenal Model# MSSL-NR	Dimmable		2700K

CEILING LEGEND		
PICTURE	SYMBOL	DETAILS
		Armstrong Acoustic drop ceiling Model#: CANYON Finish: White
		Ara Acoustic panels Model#: CP-RFV51 Finish: white oak
		SoundPly Cella wood acoustic baffles
		Gypsum board



FLOOR 1



FLOOR 2

# LIBRARY

The library includes seating and tables for studying, a custom librarian's desk, and low-lying bookshelves allowing for more supervision. of prisoners. The courtyard allows natural light to come in from both sides of the library.



# FURNITURE + FINISHES

Furniture, materials, and finishes were chosen with durability, cleanability, and security in mind. Much of the furniture was designed for behavioral health environments which have similar criteria to prisons.



Ceiling Solutions



Wallcoverings



Flooring

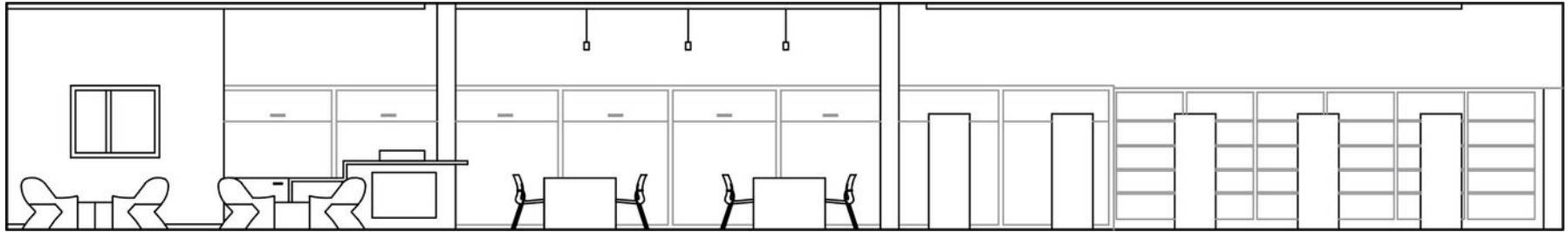


# CLASSROOMS

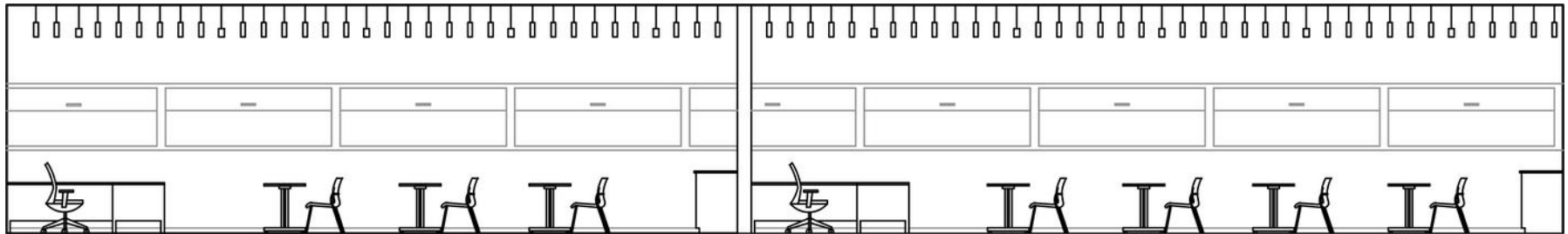
The classrooms feature desks and chairs that can be rearranged or removed to suit the needs of the activity in the space. The hallway wraps around the courtyard, creating a light calming space. Windows from the hallway to the classrooms allow for surveillance and the flow of natural light.



# ELEVATIONS + SECTIONS



Library Elevation



Classrooms Elevation

Library

Classroom

Classroom



Building Section

# 5 WATERCOLOR

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# TABLETOP SCULPTURE

This piece won first place for The Mid-Century Modern Tabletop Sculpture ASID Student Design Competition.

Created from repurposed materials including:

- Wood scraps
- Metal clothes hanger
- Painted melted plastic spoons



*Mary Castellano*

mary.castellano.creates@gmail.com

732-910-5605