



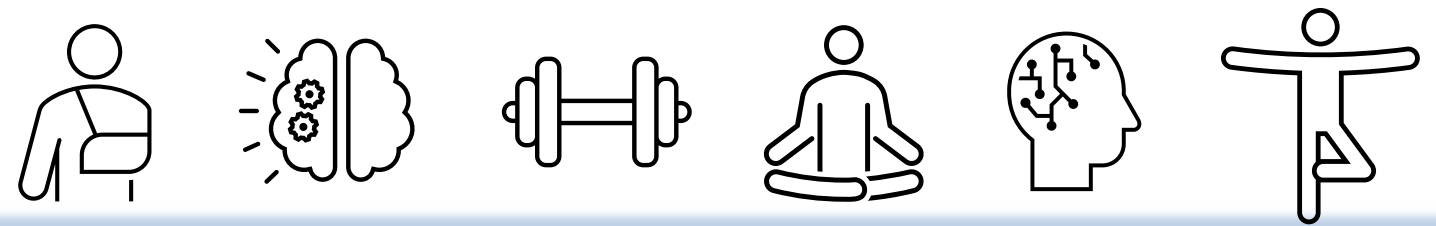
Isaac Stauffacher & Marcus Mack
Spring 2023

Needs Statement

"At [Mind, Body, & Sport Therapy], our primary goal is to always put the health and welfare of the [community] first". We believe that no matter who you are, discomfort shouldn't slow you down, and injury definitely shouldn't stop you (Mayo Foundation for Medical Education and Research, 2022).



Statement of Intent



According to Jie Yin (2020), "Human health and well-being have been affected by the quality of environments that people live in" (p.1). It is imperative for us as designers to **understand environmental psychology when designing a built environment**. As the interior designers focusing on creating a community-based physical rehabilitation center focused on health improvement, we must consider physical and emotional well-being.

MBS Therapy will be designed to encompass elements that will reduce patient's stress such as **acoustical control, clear wayfinding, and the use of natural materials**. This facility will be focused on developing a healthy relationship between materials, structure, and the user's frame of mind. Using materials from the earth, that display the beauty of nature, will bring the relationship between humans and nature closer (Zhang, 2016). We are highlighting the functionality of the space to ensure that patients, staff, any other users of the space feel welcomed, supported, and comfortable.

We will be implementing **universal design solutions, inclusivity, materiality, accessibility, and biophilic design**. We have researched each of these topics in depth and have incorporated them into previous projects preparing us for the professional practice of interior design. Now that we have gotten a taste of the professional practice through our internships, we have been able to focus on specific spaces this will be helpful for this project.



Goals & Objectives

Utilize biophilia to bring a sense of calmness to all users

- Simply looking at nature, or materials that look like nature is significantly more affective in promoting restoration from stress...Mimicking nature with the use of color, texture, and organic shapes will help reduce blood pressure and muscle tension (Nyrud & Bringslimark, 2010).
- To bring the distance between human and nature closer, we will utilize natural materials that emulate earth and stone (Zhang, 2016).
- Utilize green and local manufacturers, durable and long-lasting materials reduce our carbon footprint as much as possible (Zhang, 2016).
 - Specifically use Marmoleum flooring throughout because of its organic carbon negative composition (P. Warner, personal communication, 2022).

Create a psychologically sound rehabilitation center that motivates recovery

- Use bright and neutral colors to evoke moods of positivity to help users recover faster (Abbas et al. 2021).
- To improve the sensory experience of patients, we will promote physical movement throughout the space with multiple areas dedicated to recovery (Abbas et al. 2021)
- Increase the perception of space by utilizing natural lighting with transom windows. This will elevate mood, creativity, and motivation (Cubicoon, 2021).
- "Art in healthcare environment can be a helpful device to reduce stress among patients as well as visitors." (Mirzaei, 2017, p. 33)
- The use of wall graphics throughout the space will give the patients a visual to help focus on their recovery (Arroyo M., personal communication, 2022).
 - "Using elements that are simple distractions helps edit away stress." (D. Dimond, personal communication, 2022)



Goals & Objectives

Incorporate inclusivity and accessibility to welcome any and all users

- Incorporate hallways/pathways that are wider than ADA guidelines to ensure all equipment can easily be moved throughout the space, as well as any person (S. Bierscheid, personal communication, 2022).
- Ensure we have created a design with barrier free spaces (J. Arroyo, personal communication, 2022).
- Incorporate AD Systems Examslide barn doors to improve accessibility. These are gasketed for sound control, which also helps limit distraction (J. Arroyo, personal communication, 2022).
- A dedicated telehealth room will elevate the design by giving providers and patients flexibility in scheduling and communications (J. Arroyo, personal communication, 2022).

Emphasis staff needs and wants to create a good working environment

- In treatment rooms, the staff's work area will be closest to the door. This provides security relief for the staff in case of emergency (S. Bierscheid, personal communication, 2022).
- Incorporating hoteling stations allows external providers a space to work when visiting. This gives an opportunity for specialists to come as well as offers relief in case of understaffing (S. Bierscheid, personal communication, 2022)
- The use of materials, colors, and textures will vary between patient's rooms, staff areas, and gymnasium space to compliment the different moods for each space.

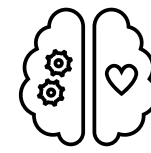


Mind, Body, and Sport: How interior design impacts the psychology of physical therapy

The purpose of this research is to determine how the psychology of a space affects recovery in physical therapy. The goal is to answer how an interior designer can create a functional space that appeals to the psychology of the user's mind. Designers can appeal to the psychology of the user's mind by incorporating design features that are comfortable and motivating. The findings of the survey resulted in participants favoring **biophilic design elements** and **accessibility** throughout a physical therapy clinic. These two design features elevate a physical therapy design by appealing to the user's psychology.



Literature Review



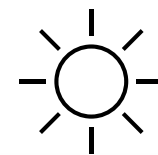
Psychology

"Findings from several studies suggest that simply looking at nature, as compared with built scenes that lack nature, is significantly more effective in promoting restoration from stress as reflected in outcomes such as reduced blood pressure, skin conductance, and muscle tension. Stress-reducing influences have been found when viewing videotapes of nature vs urban scenes" (Nyrud & Bringslimark, 2010, p. 203).



Motivation

Motivation between patient and provider will be established when the facility meets "formal therapy needs along with the need for choice, fun and social supports during treatment, creating an environment that empowers patients to pursue physical activity" (Santoyo, 2020, p. 80).



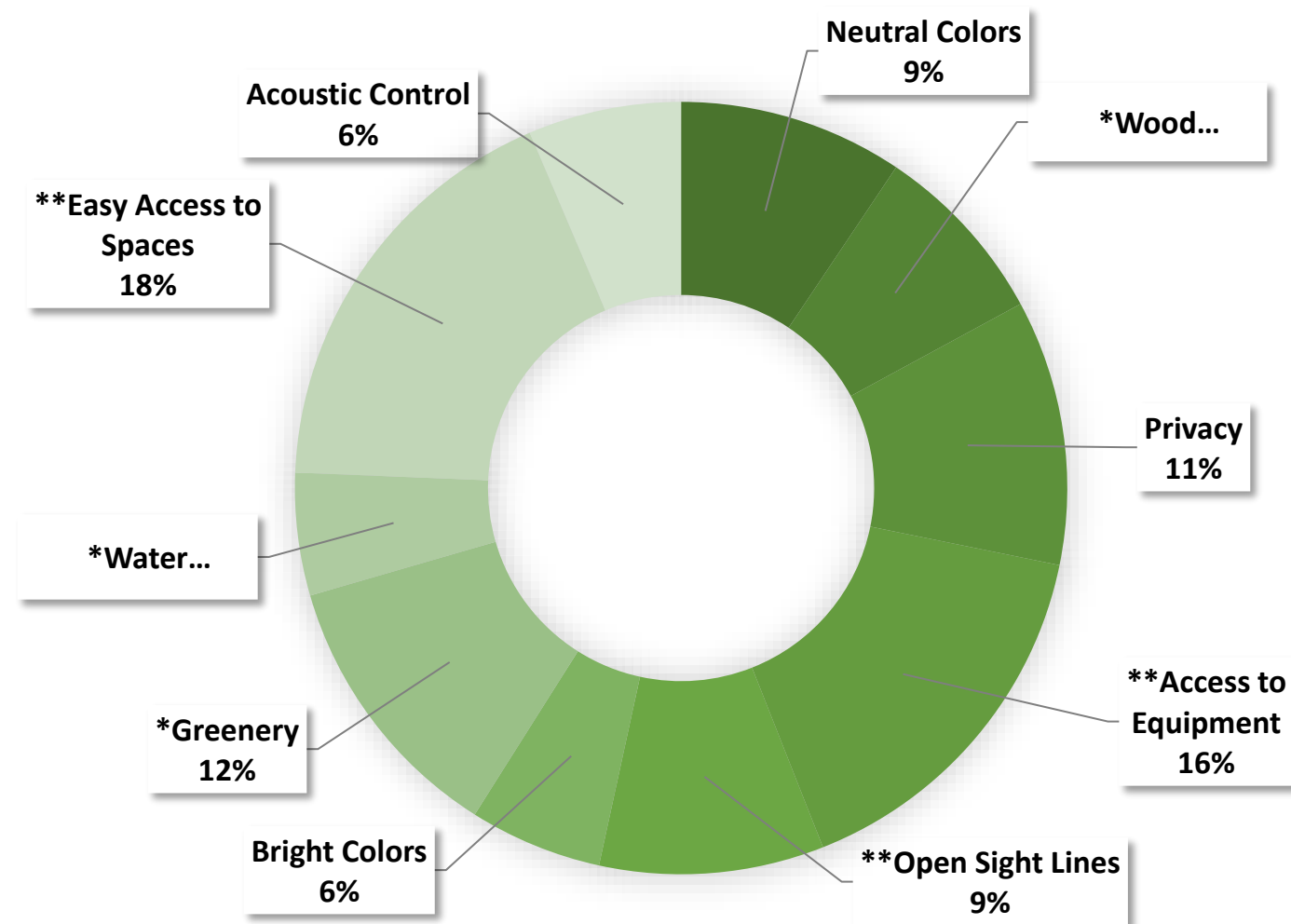
Comfort

"Design factors such as space planning, lighting, furniture, and color have a significant influence on the patients' satisfaction. On the contrary, the aspects of wayfinding, safety, air quality and accessibility do not affect their level of satisfaction" (Syafiqah Aljunid et al., 2020, p. 240).



Survey Results

Which elements positively affect interior spaces?

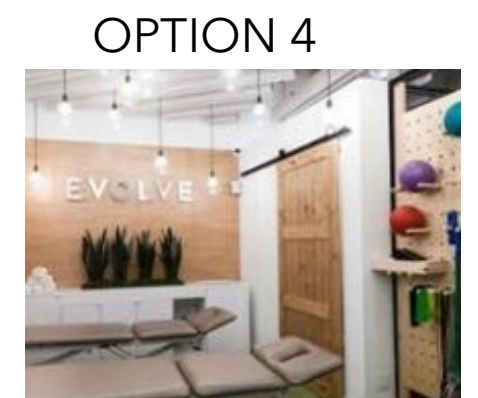
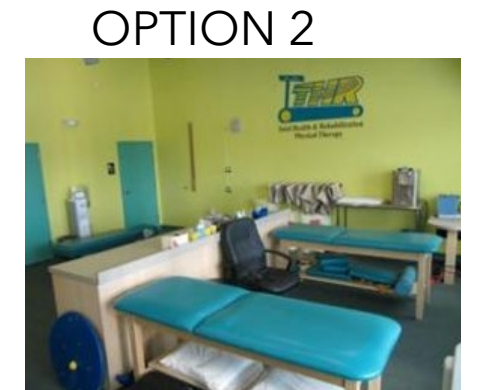
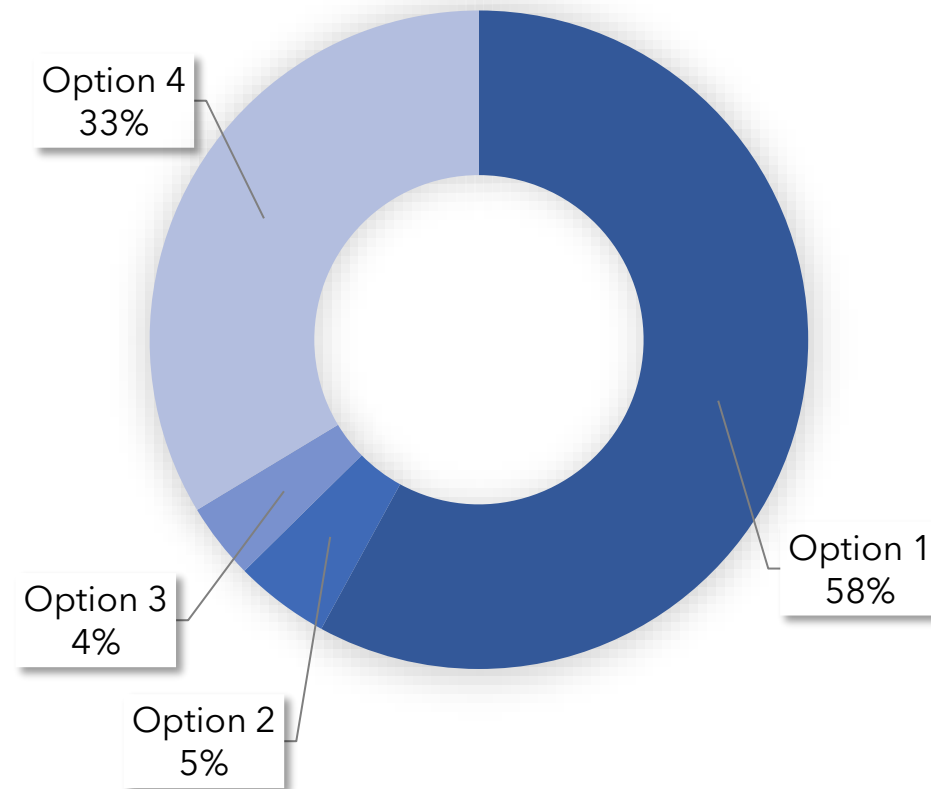


Did your physical injury psychologically affect you?

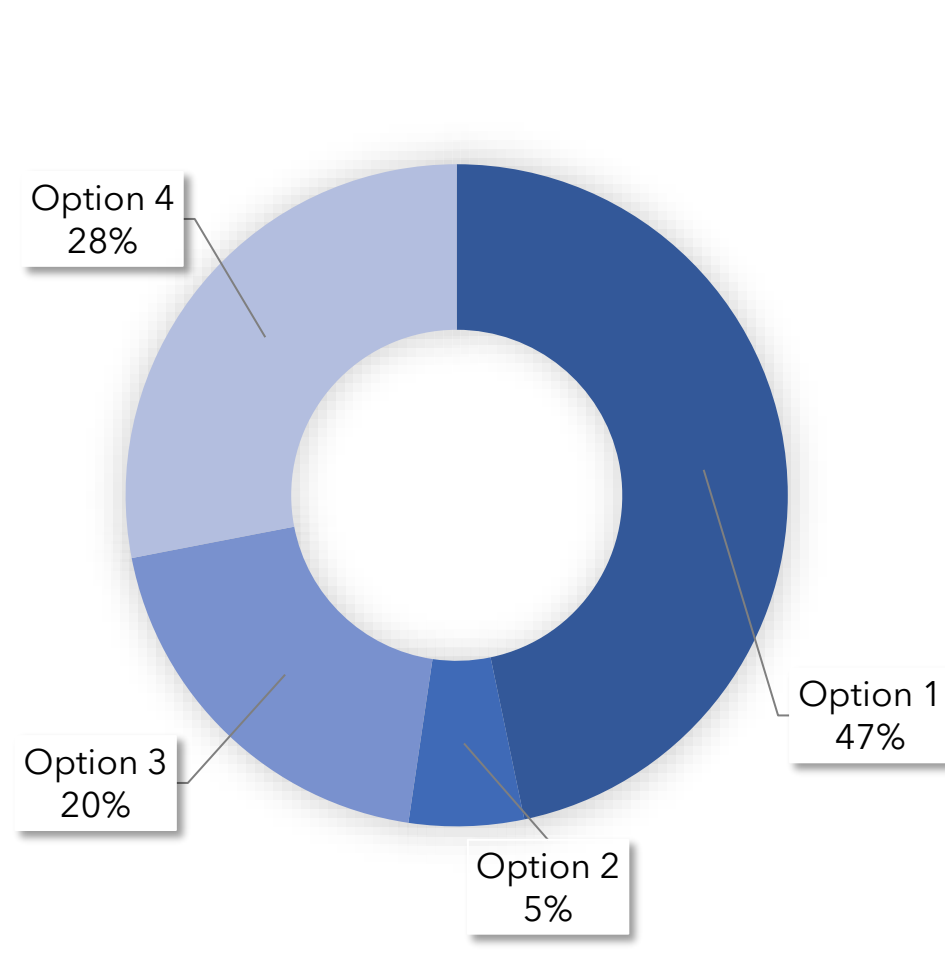


Survey Results

Which treatment room feels most comfortable?



Which active space feels most comfortable?



OPTION 1



OPTION 2

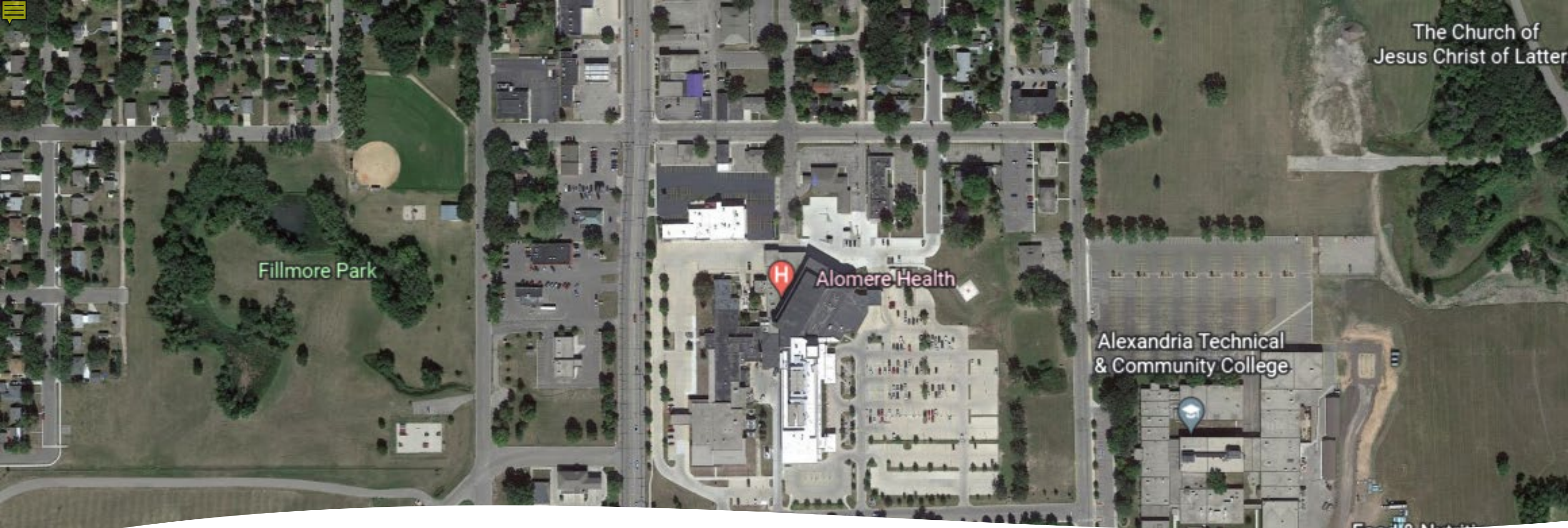


OPTION 3



OPTION 4





Existing Conditions

Site Analysis

Alexandria, Minnesota, is in the heart of West Central Minnesota with a population of almost 14,000 that is consistently growing year-to-year (alexandriamn.city, 2022). Alexandria is surrounded by lakes, making it a summer hub for all smaller communities around ranging all the way to North Dakota. With being in west central Minnesota, snowy winters are inevitable. This city is known for all the outdoor activities that are offered. Because of its location, many sports teams from surrounding areas come together to practice, compete, and share their love for activity.



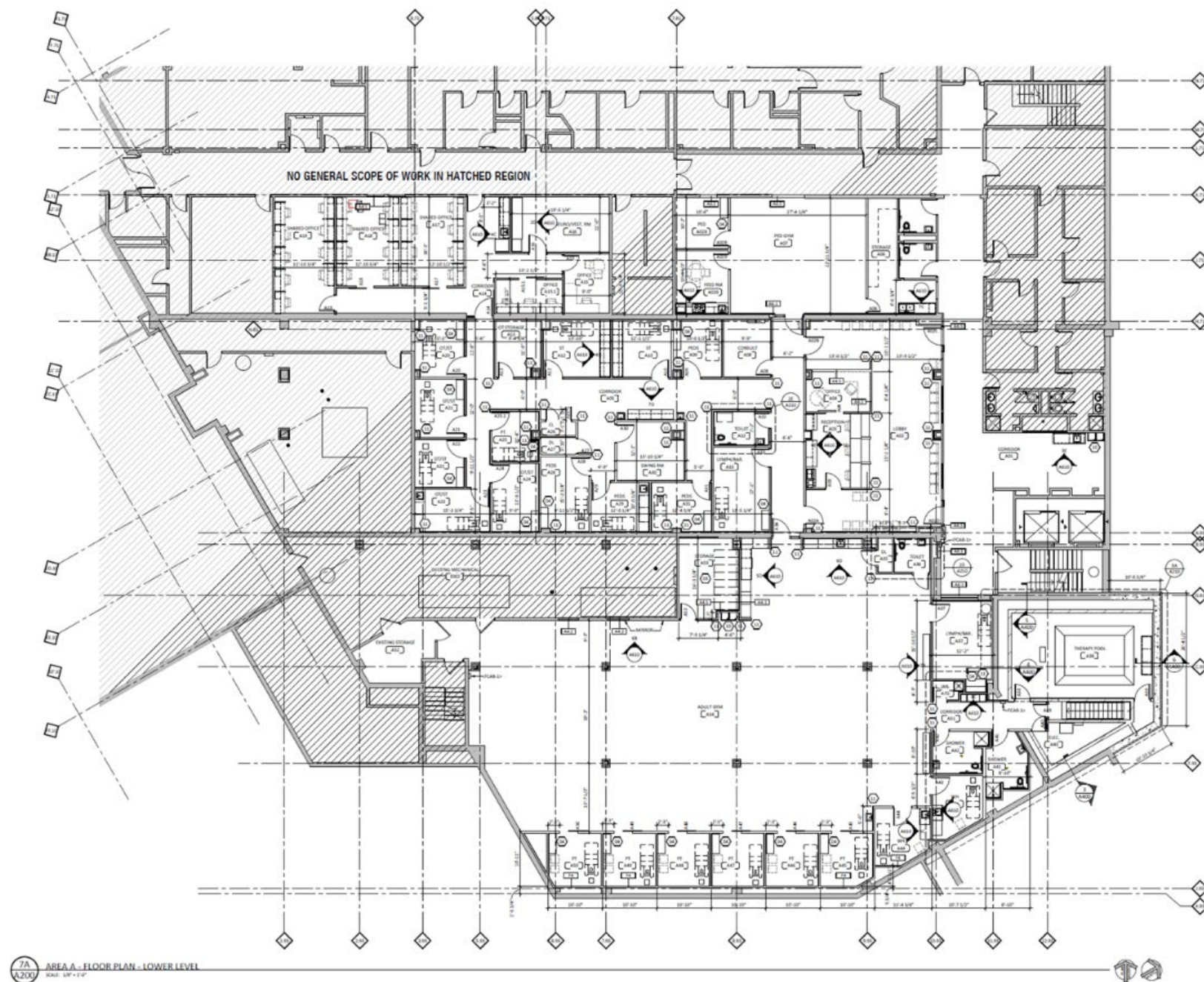


Existing Conditions

Building Analysis

The building structure being used for this project is the **Alomere Health complex** in Alexandria, Minnesota. This hospital originally opened in 1899 becoming Alexandria, Minnesota's first hospital. The MBS Therapy will be on the main level of the 100,000 square foot addition that was completed in 2010. The exterior of the building is made of concrete, brick, metal, and glass. The materials and colors chosen for the exterior mimic the Midwest landscapes, connecting the building to the community. The main entrance has a large, cantilevered overhang to protect users from the elements. The entrance is east facing, away from Highway 29, a main road running through Alexandria. There is a helipad located on the northeast portion of the site. This allows for quick access to health resources, especially for surrounding towns.





Existing Conditions

Interior Analysis

The interior of Alomere Health has been remodeled over the last couple of years. MBS Therapy will be located on the lower level in newly remodeled wing that was completed in 2010. The lower level is about 30,000 square feet with 8-foot-high ceilings. There is an exception to the ceiling height in the gymnasiums, and therapy pool room, which have 10-foot-high ceilings. The walls are finished with gypsum, and there are corner guards throughout the space. There is also a heavy use of acoustical ceiling tiles throughout. The existing space includes a neutral palette with many wood accents. This neutral palette includes materials with tan, white, and grey tones.



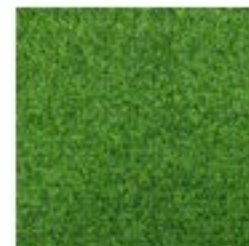
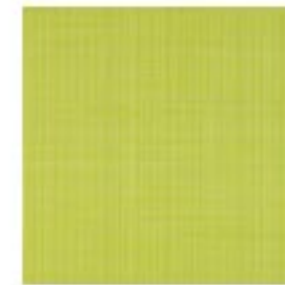
Design Concept Statement

The **MBS Therapy Refresh** area is focused on recovery and comfort. The high stresses that come with a physical injury will be counteracted by the neutral tones and encouraging graphics. The touch of Scandinavian design will create a sense of home for the users of the space due to the Midwest Scandinavian culture. The use of colors and textures will create defined separation between different types of spaces. This will allow users the comfort of knowing where they are in the space and where they need to go.

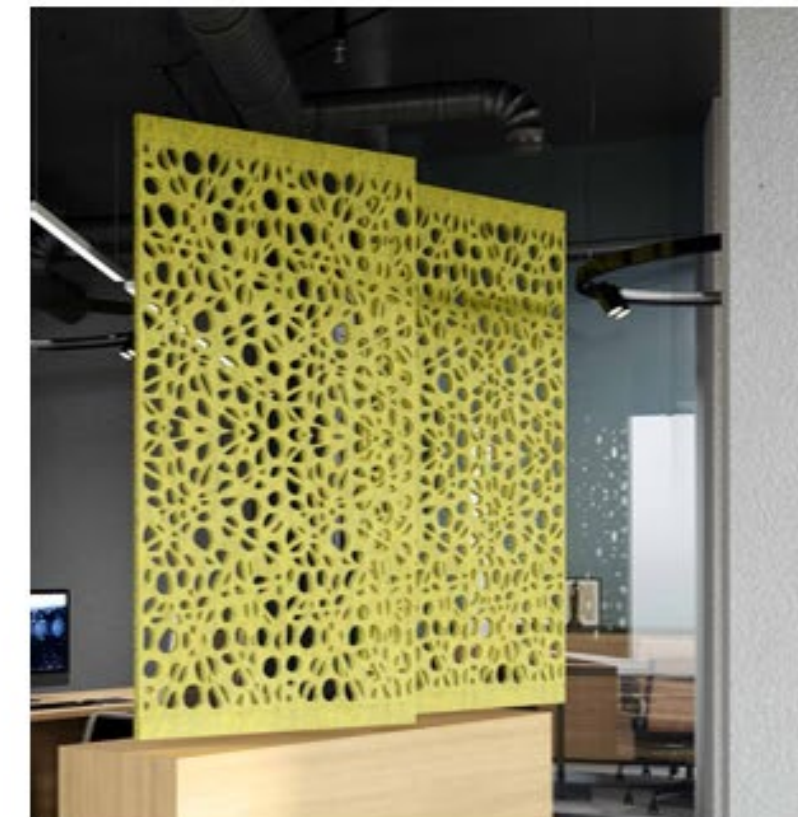
The **MBS Therapy Focus** area have an emphasis on staff and their well-being. The combination of bright tones to inspire and dark tones to create a balance. These spaces will promote focus and comfort. With a modern focused Scandinavian design style, soft textures and woods will create an environment that is light and airy. These natural tones, found across the natural landscapes of the Midwest, will support this design, and encourage calmness.

The **MBS Therapy Energy** area is the recovery stage where movement, motivation, and activity are present. These areas encompass the main focus of physical therapy. Our focus in the energy spaces is to make these areas bright, energetic, and motivating to limit discomfort while working through physical limitations that can be stressful. Sharp geometry paired with a vibrant color gives off energy and focus. Using natural materials and biophilic design characteristics, like utilizing natural sunlight, will create a balance for the users and help them stay focused on recovery.

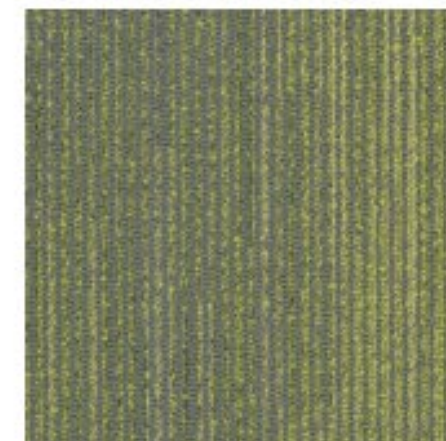




Energy Area - Concept Board



Focus Area - Concept Board



Refresh Area - Concept Board

Overall Floor Plan

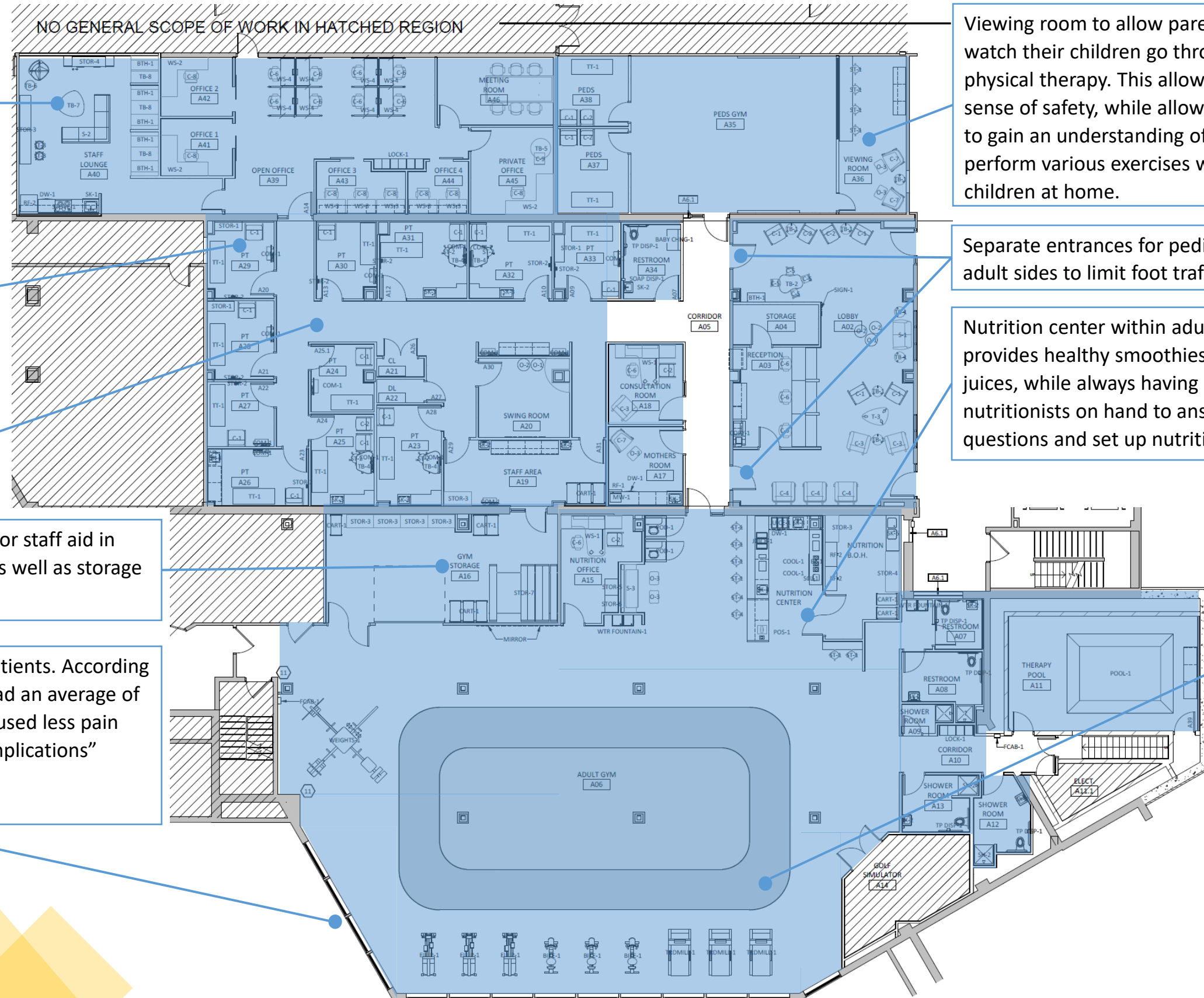
A staff lounge will allow staff time to destress, which leads to a higher quality of care (Al-Bqour, 2021). We are incorporating multiple seating options to provide flexibility for staff comfort. This space also uses biophilic design elements for staff motivation.

Due to the 78% of study participants stating that biophilic design is preferred for a recovery space, PT rooms will have natural colors, textures, and live plants.

Provide spaces that go above ADA standards like extra wide pathways, low counter heights in the lobby, and smooth floor transitions (Yalcin, 2015).

Ample storage with multiple access points for staff aid in security of stored items, like medications, as well as storage of equipment that is not in use.

Adding a view of nature lessens stress of patients. According to Mirzaei, patients with the view of tree had an average of one day shorter recovery period, also they used less pain medications, and had less post-surgical complications" (2017, p. 6).



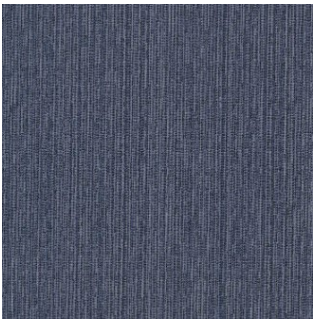
Viewing room to allow parents to watch their children go through their physical therapy. This allows for a sense of safety, while allowing them to gain an understanding of how to perform various exercises with their children at home.

Separate entrances for pediatric and adult sides to limit foot traffic.

Nutrition center within adult gym provides healthy smoothies and juices, while always having nutritionists on hand to answer questions and set up nutrition plans.

Heighten the sensory experience by giving multiple spaces for patients to do their recovery exercises. Moving throughout the building for different types of mobility/movement therapy will make the spaces feel less cramped (Abbas et al. 2021, p. 178).

Reception



Wallcovering



Quartz



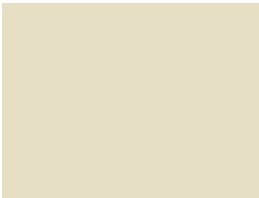
Wheelchair accessible portion of reception for ADA guidelines and inclusive design (J. Arroyo, personal communications).

Clear branding to allow new users to the space comfort of knowing that they are in the correct place.

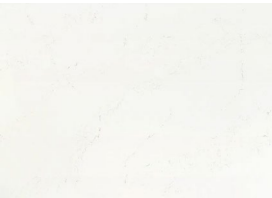
To bring the distance between human and nature closer, we will utilize natural materials that emulate earth and stone (Zhang, 2016).



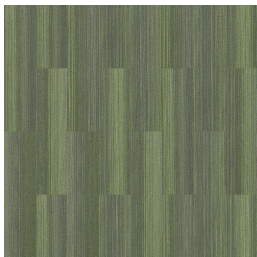
Glass Partition



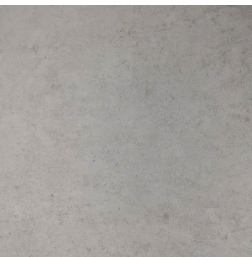
Paint



Paint



Carpet



Concrete



Sofa Upholstery



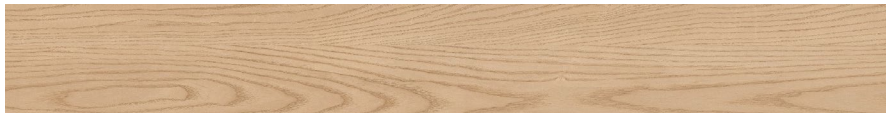
Ottoman Upholstery



Ottoman



Sofa



Laminate



MBS Therapy

Reception



Guest Chair Upholstery Interactive Play

Interactive area for children in lobby allows for them to release energy and give comfort to their experience.



Guest Chair

The combination of bright tones to inspire and dark tones to relax create a balance of spaces that promote focus and comfort. With a modern focused Scandinavian design style, soft textures and woods will create an environment that is light and airy. These natural tones, found across the natural landscapes of the Midwest, will support this design, and encourage calmness.



Pediatrics' Side

Utilize green and local manufacturers, durable and long-lasting materials reduce our carbon footprint as much as possible (Zhang, 2016).



Wallcovering



Adult's Side



Privacy Lounge Chair



Lounge Upholstery

Laminate



Lounge Chair



Occasional Table



MBS Therapy

Mother's Room

To bring the distance between human and nature closer, we will utilize natural materials that emulate earth and stone (Zhang, 2016).



Wallcovering



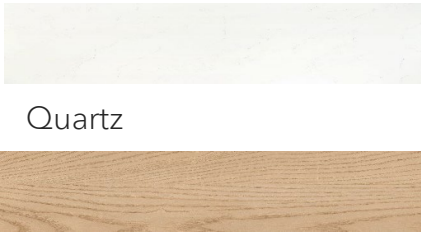
Ottoman

Rocking Chair

Power

Rocking chair for comfort.

ADA accessible sink to ensure easy use of space.



Quartz

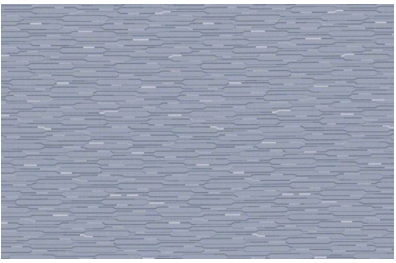
Laminate



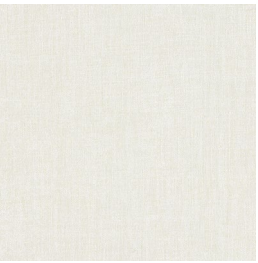
Paint



Carpet



Upholstery



Lamp Shade



MBS Therapy

Restroom

Floor-to-ceiling quartz used on all wet walls to allow for cleanability and protect the drywall. The reflective surface allows light to spread throughout the space.



Quartz



Tile



Small scale floor tiles for slip resistance.

ADA accessible fixtures with ample space in the room that exceeds the 5-foot wheelchair turn-around.



Automatic Faucet



Toilet



Sink

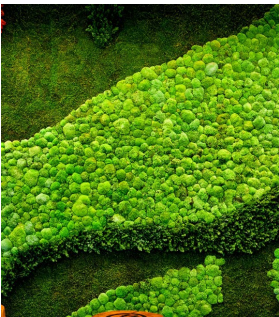


Mirror



Adult PT Room

Simply looking at nature, or materials that look like nature is significantly more affective in promoting restoration from stress...Mimicking nature with the use of color, texture, and organic shapes will help reduce blood pressure and muscle tension (Nyrud & Bringslimark, 2010).



Green Wall



Wallcovering



Quartz

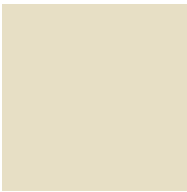


Laminate

ADA accessible sink and storage



In treatment rooms, the staff's work area will be closer to the door than the patient's chair. This provides security relief for the staff in case of emergency (S. Bierscheid, personal communication, 2022).



Paint



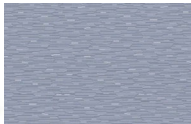
Carpet



Treatment Table



Side Chair



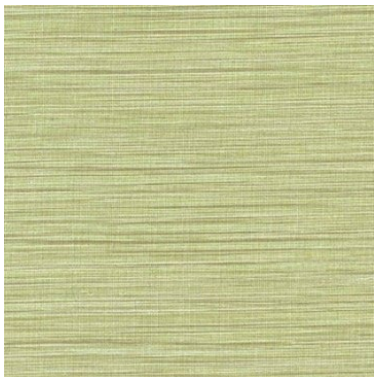
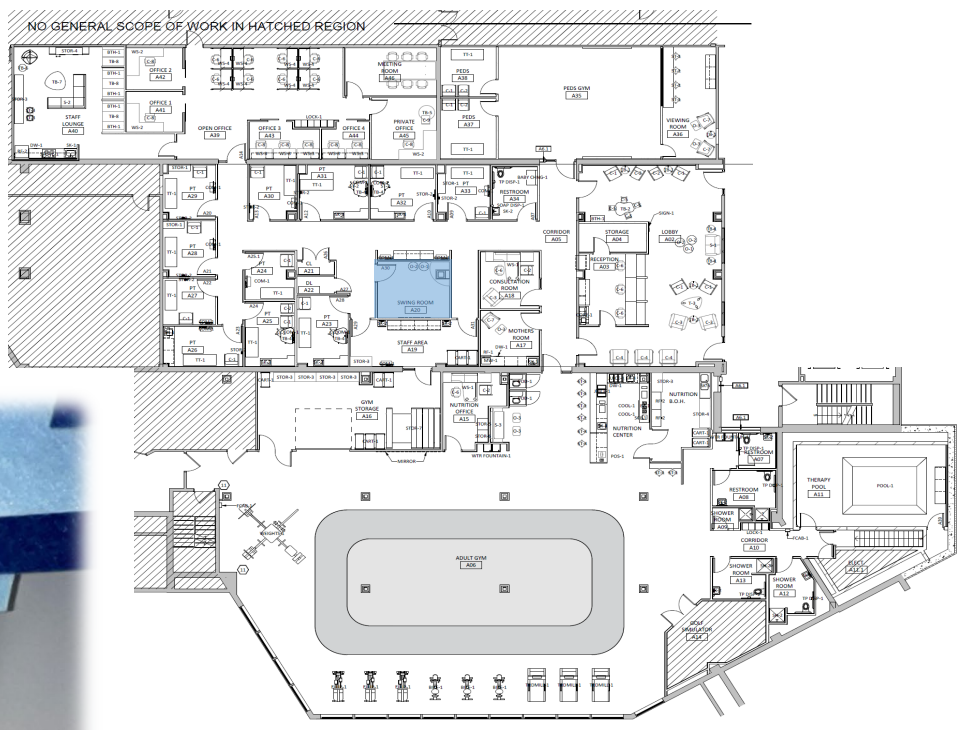
Upholstery



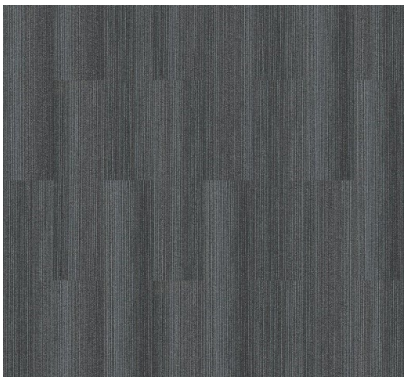
Computer

Swing Room

Simply looking at nature, or materials that look like nature is significantly more affective in promoting restoration from stress...Mimicking nature with the use of color, texture, and organic shapes will help reduce blood pressure and muscle tension (Nyrud & Bringslimark, 2010). Utilizing fake driftwood and nature-inspired acoustical baffles brings the feeling of nature into this space.



Wallcovering



Carpet



Paint



Laminate



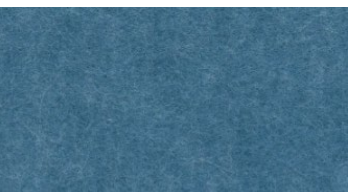
Mirror



Acoustical Baffle



Acoustical Baffle

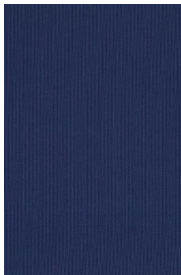


Acoustical Baffle

Therapeutic swing to allow for children/people with diverse abilities freedom of movement. This is a great technique to strengthen one's muscles, while having fun.



Upholstery



Upholstery



Ottoman

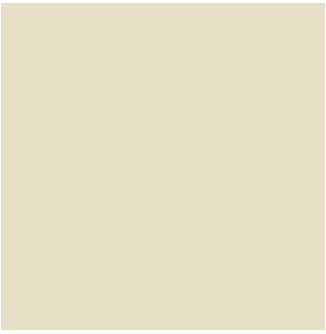


Swing

Staff Lounge



Paint



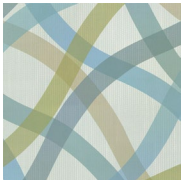
Paint



Wallcovering



Banquettes to provide a variation of seating as well as a 'cubby' to work in.



Upholstery

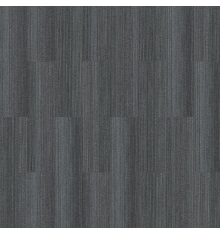


Banquette



Table

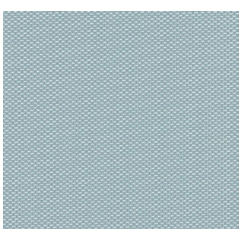
Lockable personal storage allows for safety and security of staff belongings.



Carpet



Stool



Upholstery



Sofa



Occasional Table



Lounge Chair

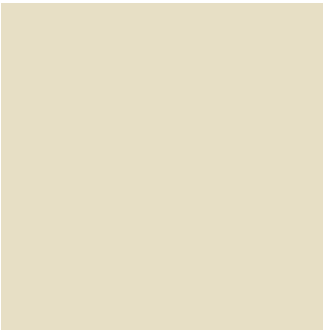


MBS Therapy

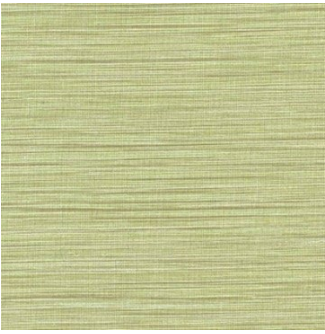
Staff Lounge



Paint



Paint



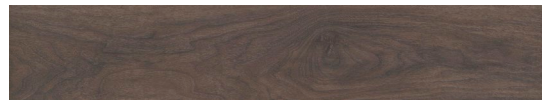
Wallcovering



Modular Cabinet System



Laminate



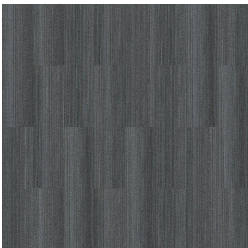
LVT



Tile



Quartz



Carpet



Whiteboard



Storage System



MBS Therapy

Staff Open Office



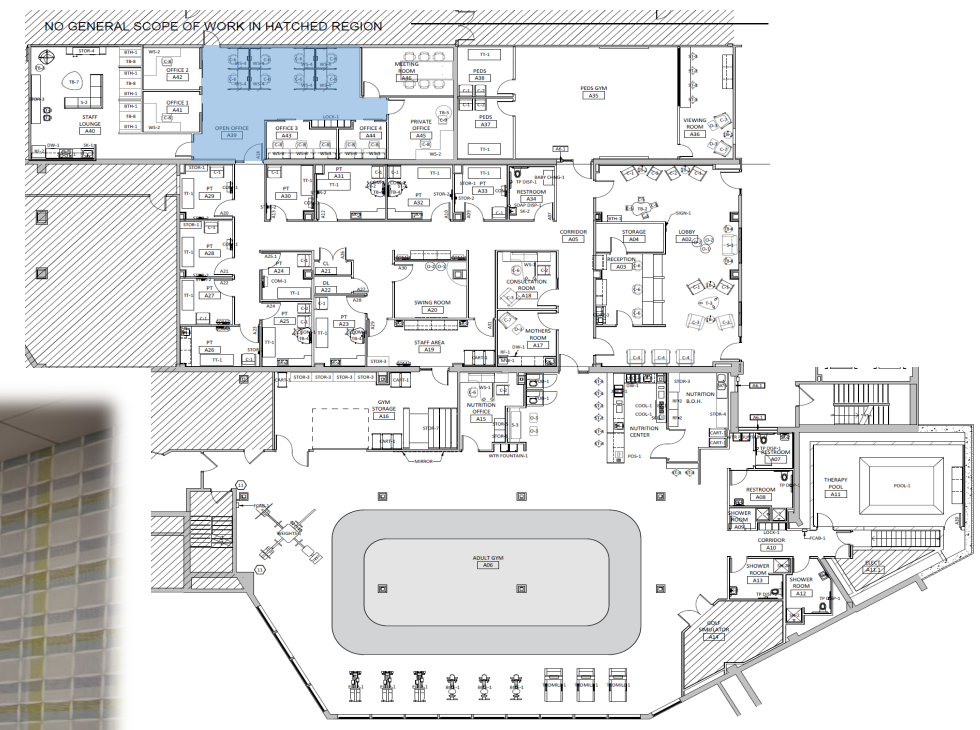
Carpet



Paint



Paint

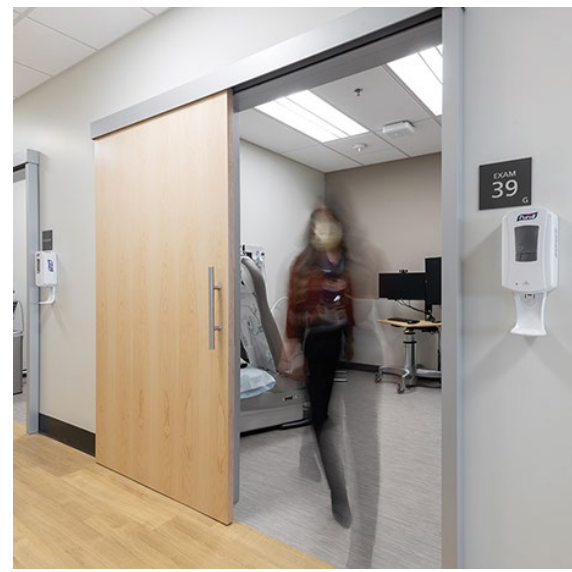


Incorporate AD Systems Examslide barn doors to improve accessibility. These are gasketed for sound control, which also helps limit distraction (J. Arroyo, personal communication, 2022).



Lockable personal storage allows for safety and security of staff belongings.

Use bright and neutral colors to evoke moods of positivity, allowing staff a better work environment.



Door



Wallcovering



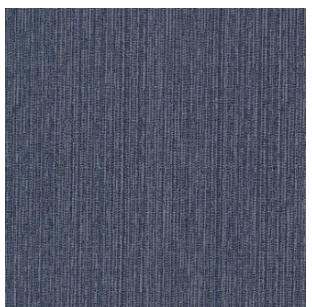
Panel



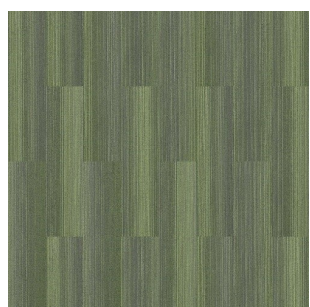
Task Chair

Nutrition Center

Utilize green walls as a low-maintenance option of bringing nature indoors.



Wallcovering



Carpet



To bring the distance between human and nature closer, we will utilize natural materials that emulate earth and stone (Zhang, 2016).



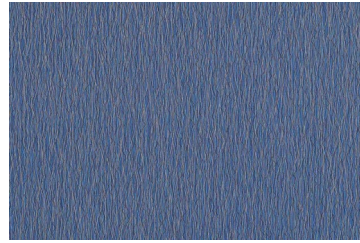
Quartz



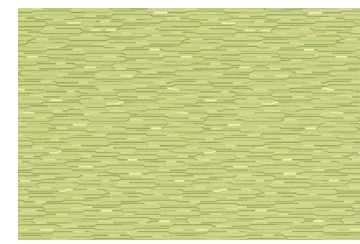
Nutrition Center Seating



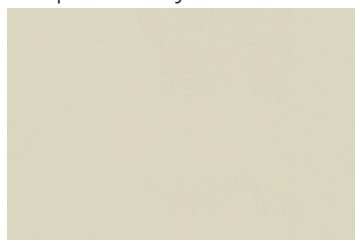
Laminate



Upholstery



Upholstery



Upholstery



Green Wall



Concrete



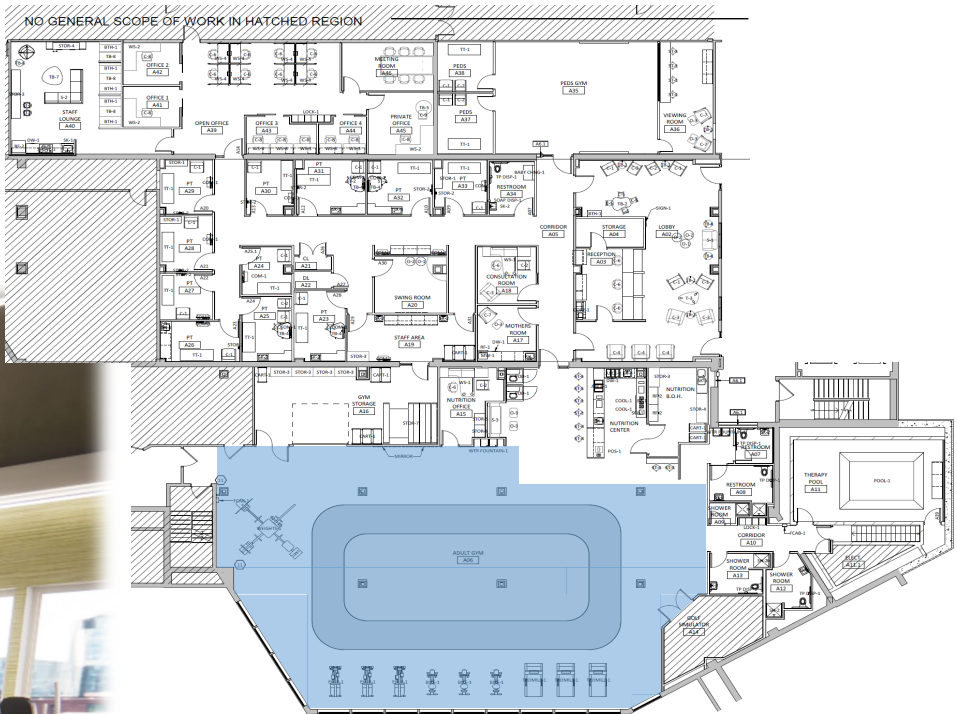
Stool



Laminate

Adult Gym

Use artificial padded turf in the center of the track to allow for a variation of workouts and rehabilitation



The use of wall graphics throughout the space will give the patients a visual to help focus on their recovery & edit away stress (Arroyo M., personal communication, 2022).



Rubber Tile



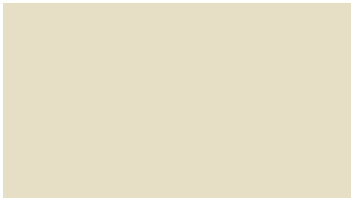
Rubber Tile



Artificial Padded Turf



Motivational Decal

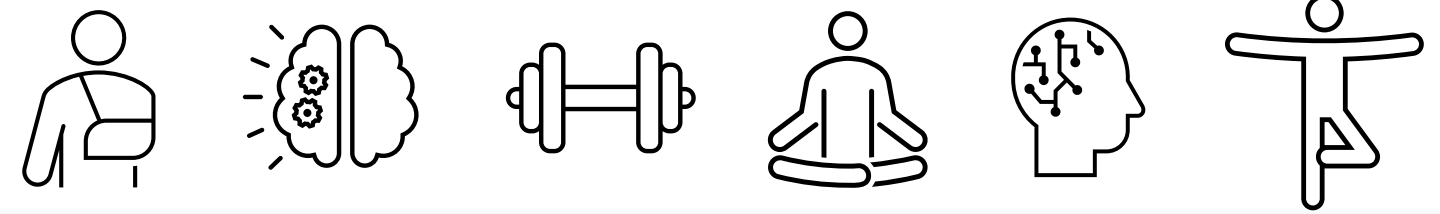


Paint



Motivational Decal





RESEARCH

PLANNING

DESIGN

Thank you!

