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# QUIET OAKS

Sanctuary for Recovery

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# CONTENTS

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## Quiet Oaks

04 | Summary

06 | Site Plan

08 | Early Action

22 | Middle Action

30 | Late Action

34 | Relapse Prevention

## Design Development

36 | Schematic Design Presentation

40 | Code Compliance

42 | Wayfinding

44 | Sustainability

46 | Materials

## Research & Programming

48 | Literature Review

Nature: A Place For Healing

52 | Precedent

Falling Water

56 | Additional Precedent

Ostra Hospital

58 | Primary Case Study

Livengrin Foundation

64 | Secondary Case Study

Stephen Klein Wellness Center

66 | Program

68 | Bubble Diagram

69 | Program-in-Site Diagram

70 | Site

74 | Design Strategy

80 | Statement of Design Intent

82 | Bibliography

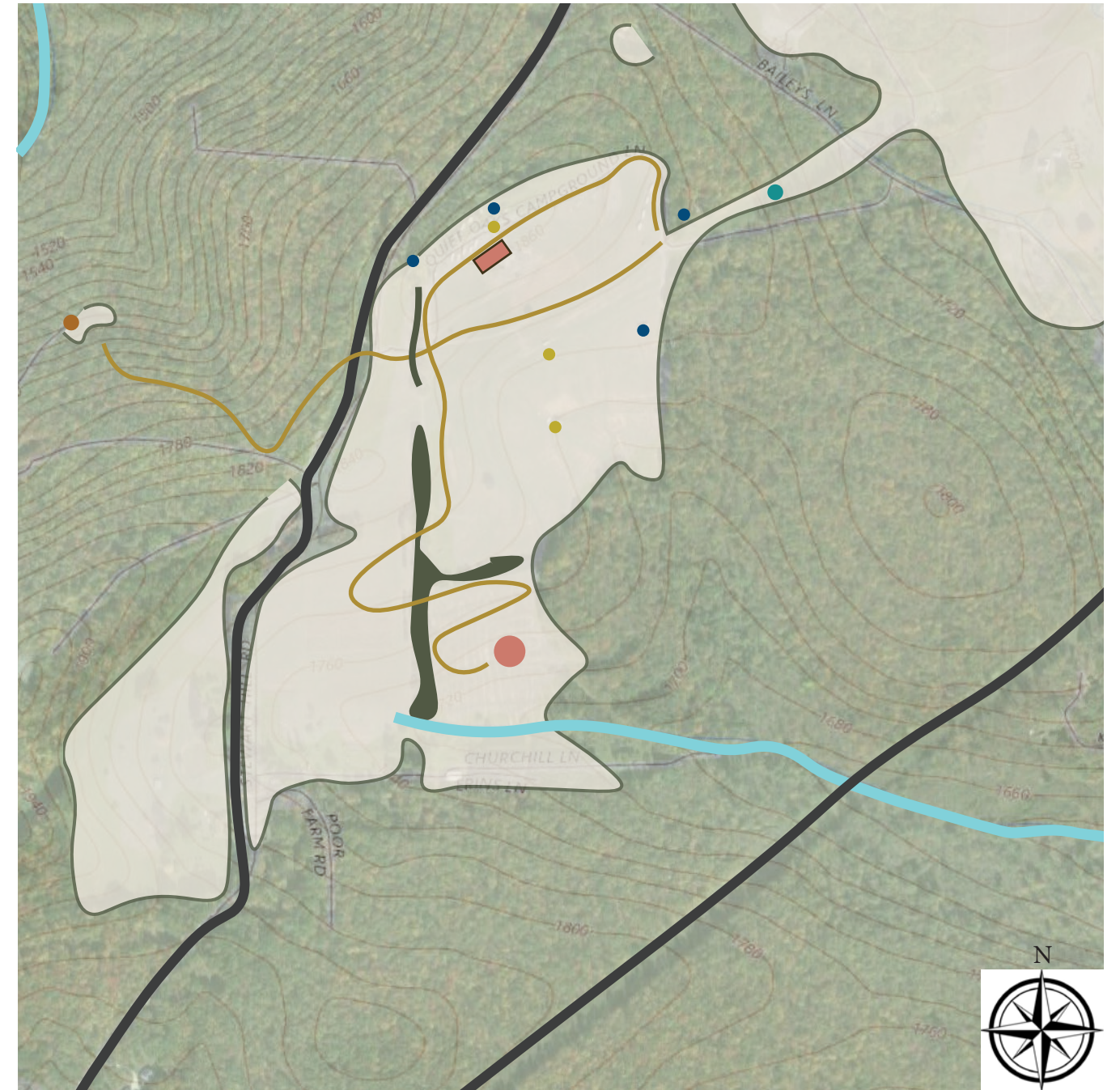
# SUMMARY

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Addiction treatment takes place in three stages, Early Action, Middle Action, and Late Action which melds into Relapse Prevention or Ongoing Maintenance. Quiet Oaks takes advantage of the biophilic properties that work best with the most crucial treatment needs of each stage. Since there are a variety of landscapes and environments at Quiet Oaks, the ultimate goal is to place guests in the most opportune place for their specific healing needs at any given time. At the same time, the inhabitants of this facility leave a positive impact on the land and all the building systems, human systems, and non-human living systems are in harmony.

# SITE PLAN

- Paths
- Public Road
- Creek
- Tree Cover
- Work Area
- Existing Cabin
- Existing Pavillion
- Campsite
- Meditation Path
- Main House



# EARLY ACTION

At this time, there are often still chemicals present in a guest's body, even if they have gone through detox at another facility. Most guests will be scared, and many will be feeling shame, or even anger about being in treatment. This is the stage where guests will need the most coddling and sense of security and they will stay closest to the main house. The major objective at this point is to form close bonds within the group which will establish a strong foundation for the treatment stages to come.



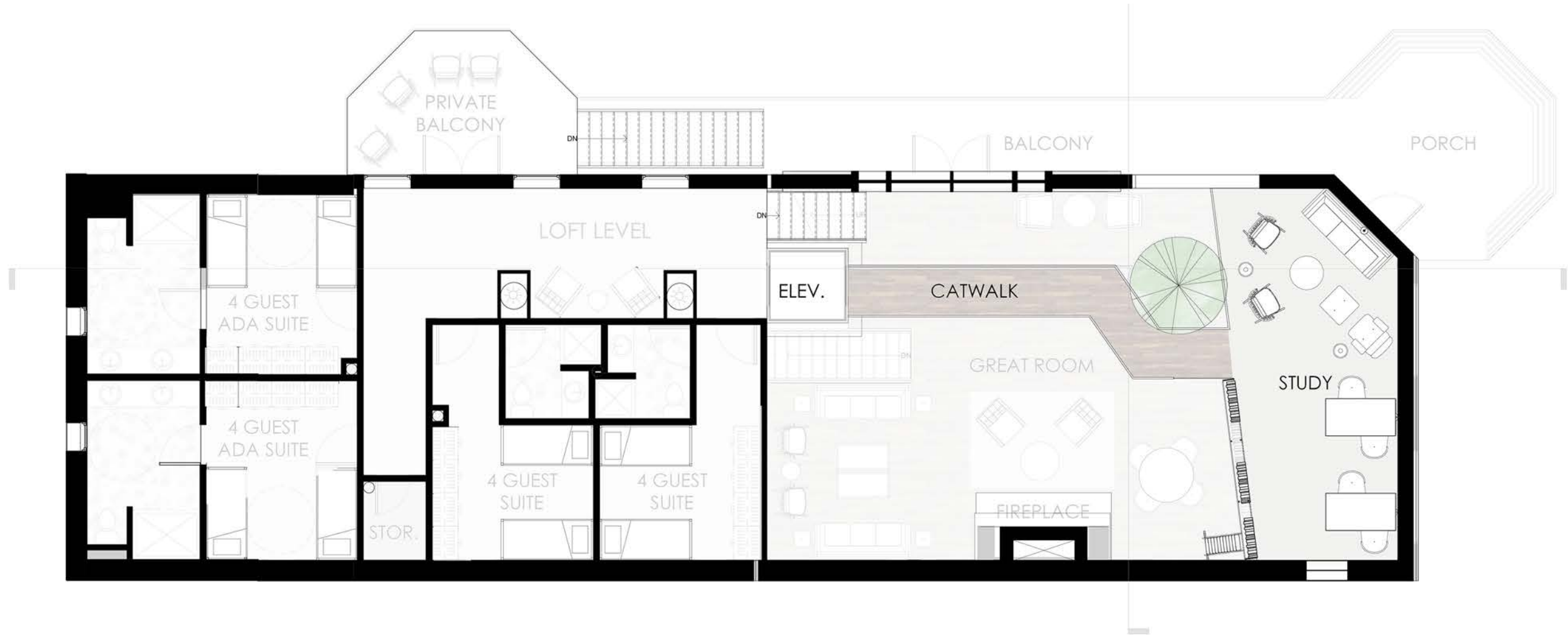


LOWER LEVEL PLAN  
 scale: 1/8" = 1'-0"





GROUND FLOOR & LOFT PLAN  
 scale: 1/8" = 1'-0"



CATWALK PLAN  
 scale: 1/8" = 1'-0"





LONGITUDINAL SECTION

not to scale



LATITUDINAL SECTION  
not to scale



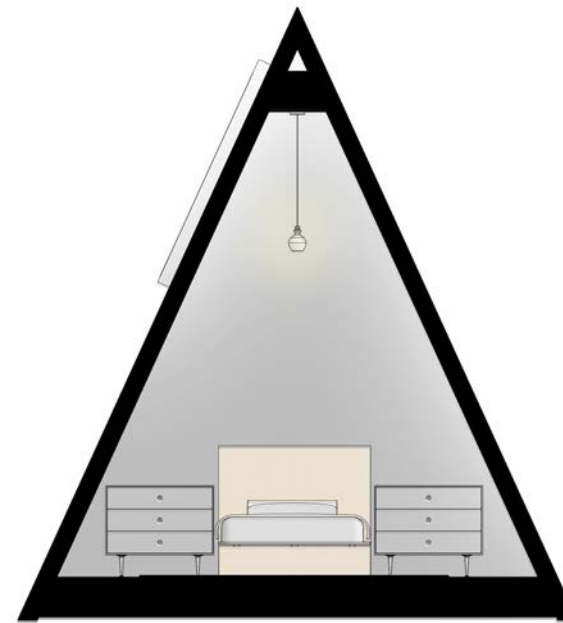
GREAT ROOM VIEW



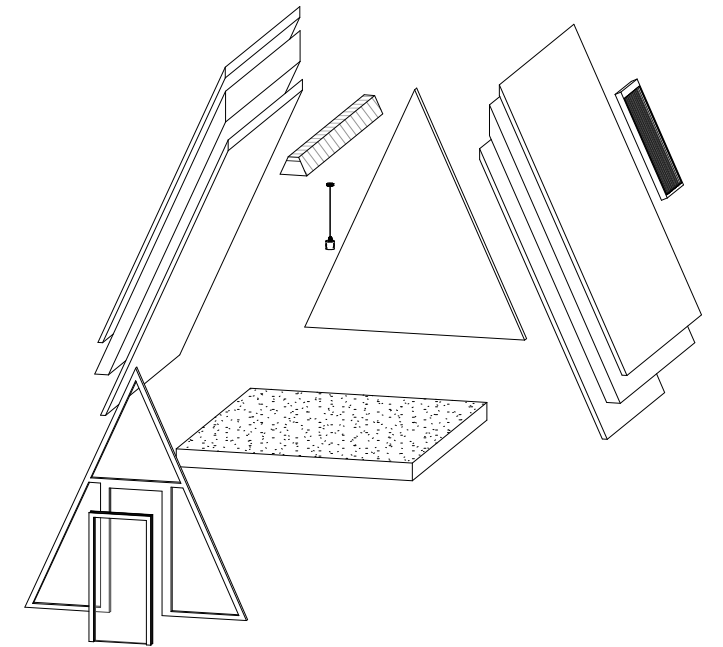
DINING ROOM VIEW

# MIDDLE ACTION

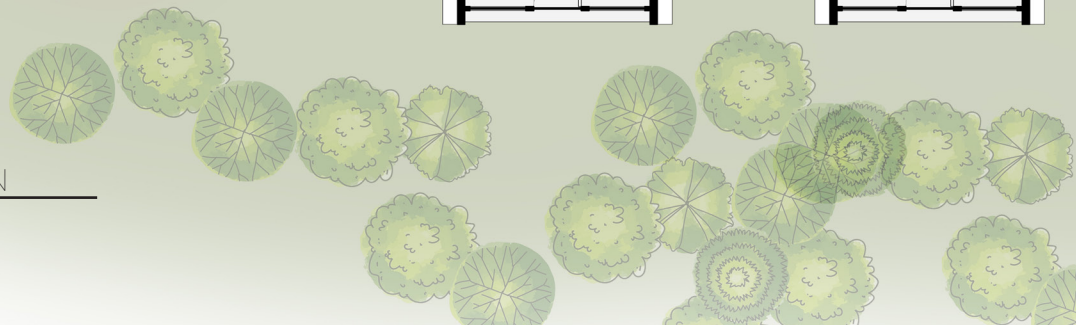
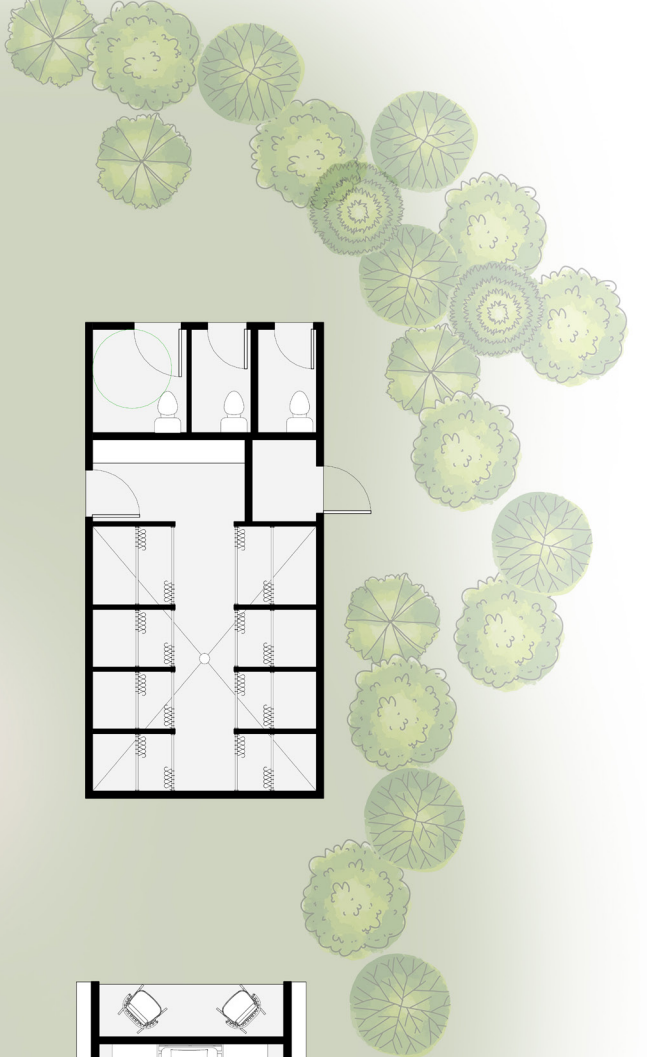
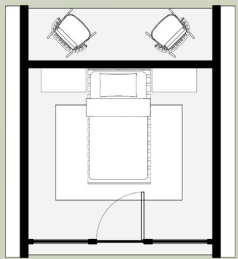
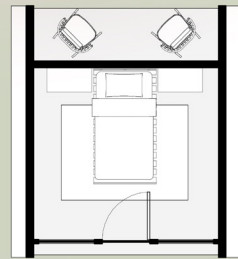
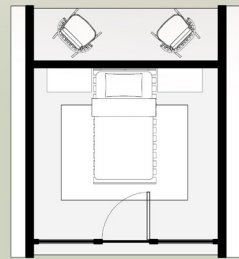
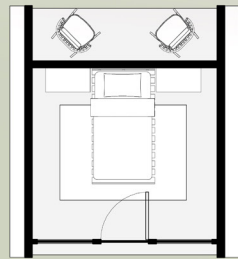
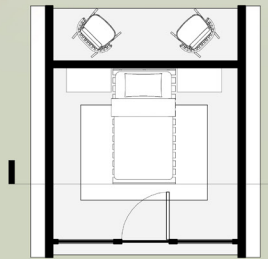
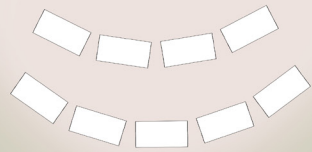
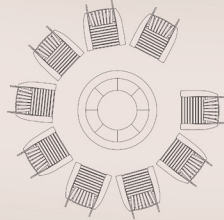
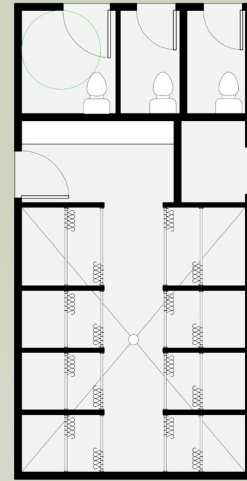
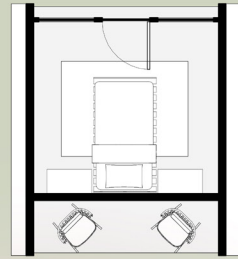
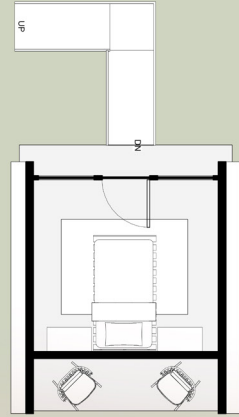
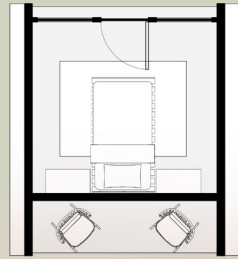
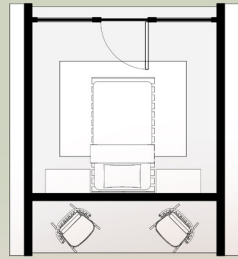
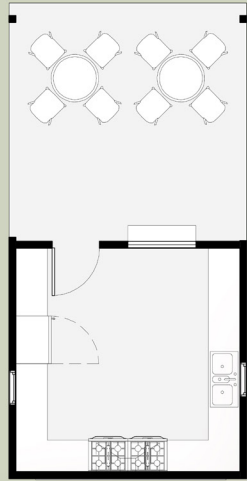
At this point in treatment patients are learning how to feel emotions and conduct life without the aid of chemicals in their bodies. Since depression risk is high, the group that was established in the previous phase starts working together as a support system. Guests will make their own camp on the grounds and live in structures that they construct themselves. This contributes to the sense of responsibility and control over place, as well as teaching carpentry. Instant gratification is important to middle action treatment and creating a product, especially one that provides sustenance, promotes positive reinforcement.



TYPICAL A-FRAME SECTION  
not to scale



A-FRAME DIAGRAM  
not to scale



TYPICAL CAMPSITE PLAN

not to scale



OUTDOOR CLASSROOM VIEW



CAMPSITE VIEW

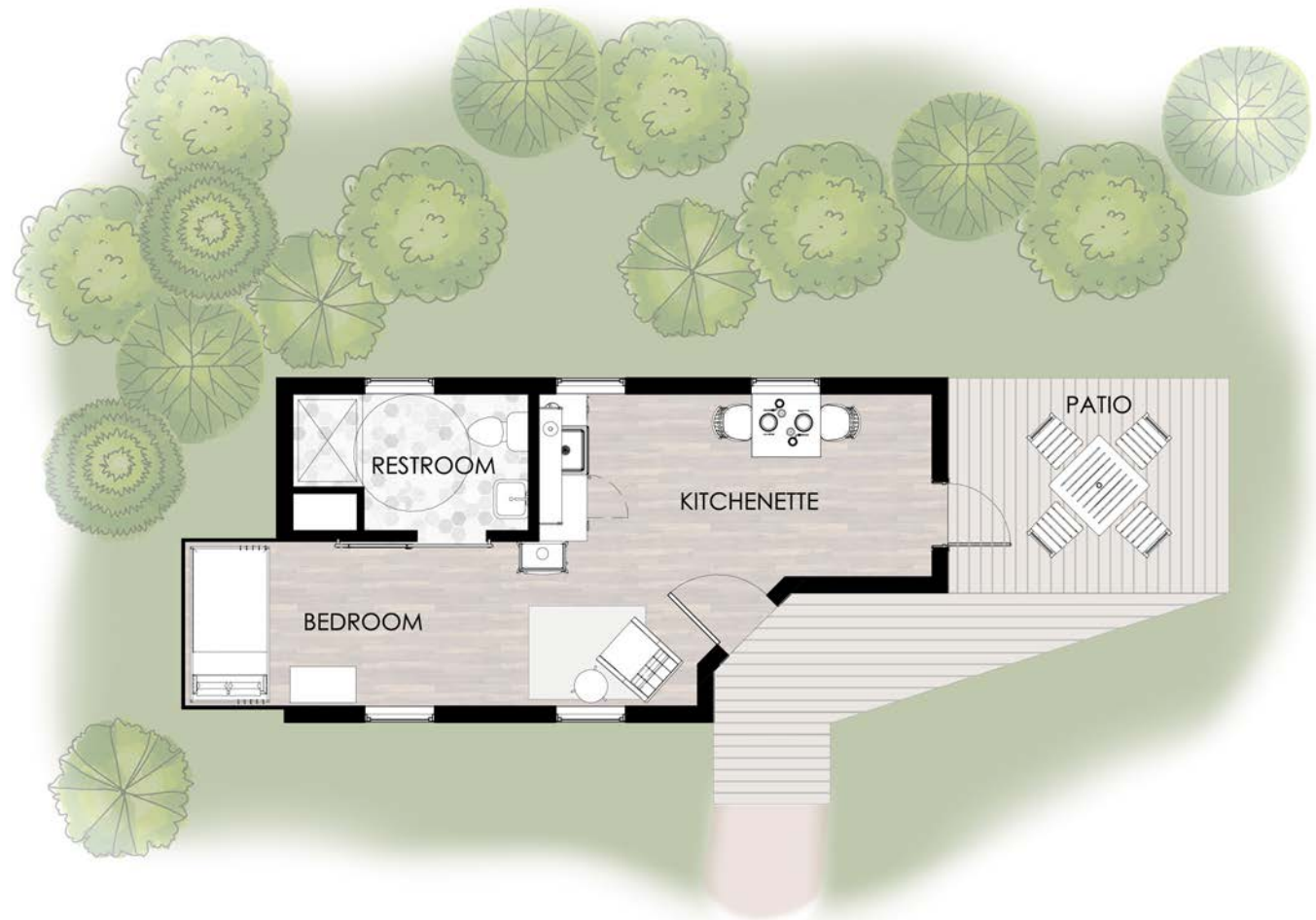
# LATE ACTION

In the late action stage, guests are given as much freedom as possible, and are put back into a more standard form of living, in individual cabins. During the late stage, guests can continue any hobbies they may have picked up in Middle Action, and also may have responsibilities around the house such as maintaining plants or serving and preparing meals.



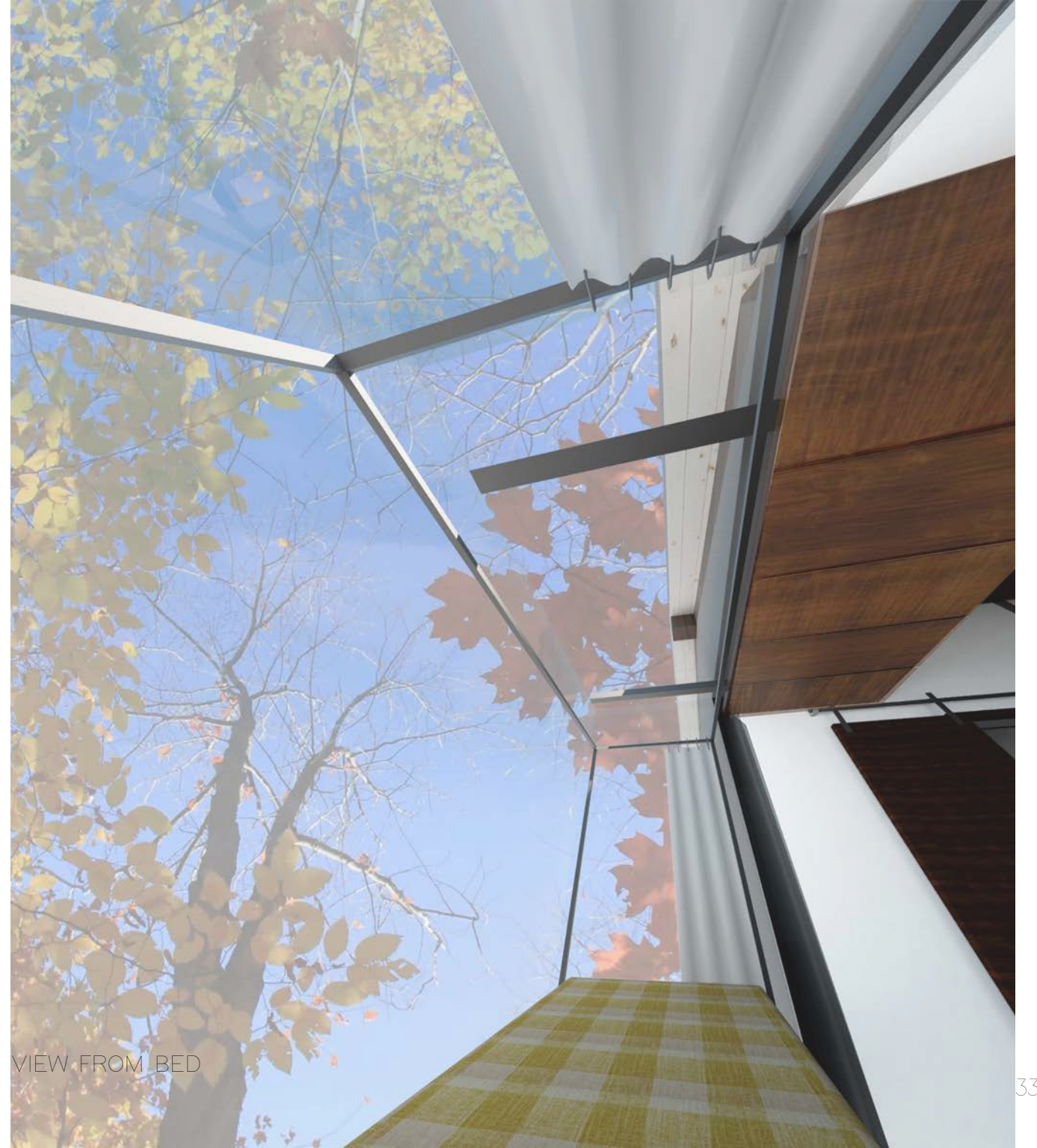
CABIN INTERIOR VIEW





TYPICAL CABIN PLAN

scale: 1/8" = 1'-0"



VIEW FROM BED

# RELAPSE PREVENTION

An important aspect of recovery is relapse prevention. In an attempt to facilitate this, Quiet Oaks considers ways that alumni guests can ground themselves when they are experiencing temptation. We know that the olfactory sense is the most connected to memory, so one strategy is to have aromatic plants throughout the grounds to build an association. Later, guests can use essential oils, perfumes, or even live plants to recreate the scent and help ground them by bringing them back to their treatment. Additionally, alumni programs such as the alumni forest will encourage guests to return to quiet oaks whenever possible as a way of reconnecting with the physical place where they began to heal.

## Alumni Programs

Programs such as the alumni forest and volunteer events motivate guests to return.



## Skills

The skills obtained at Quiet Oaks can be applied to give alumni a sense of purpose.

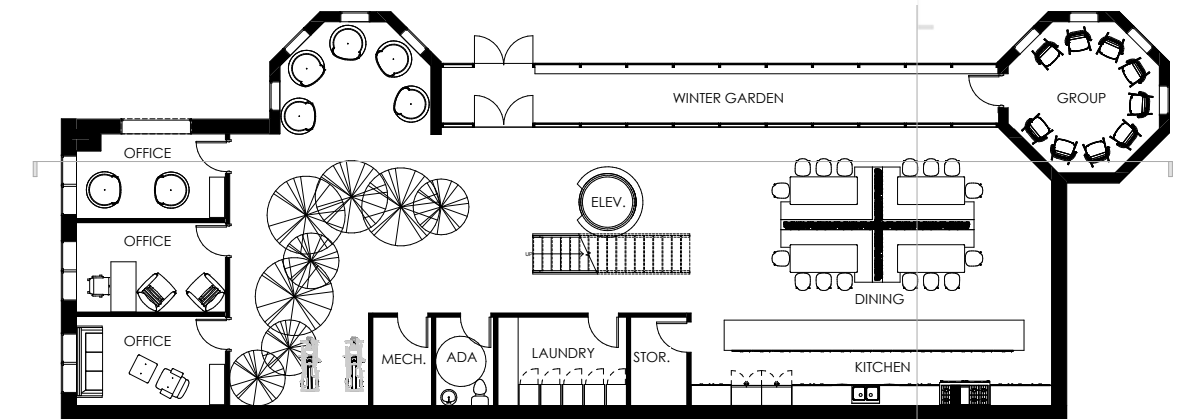
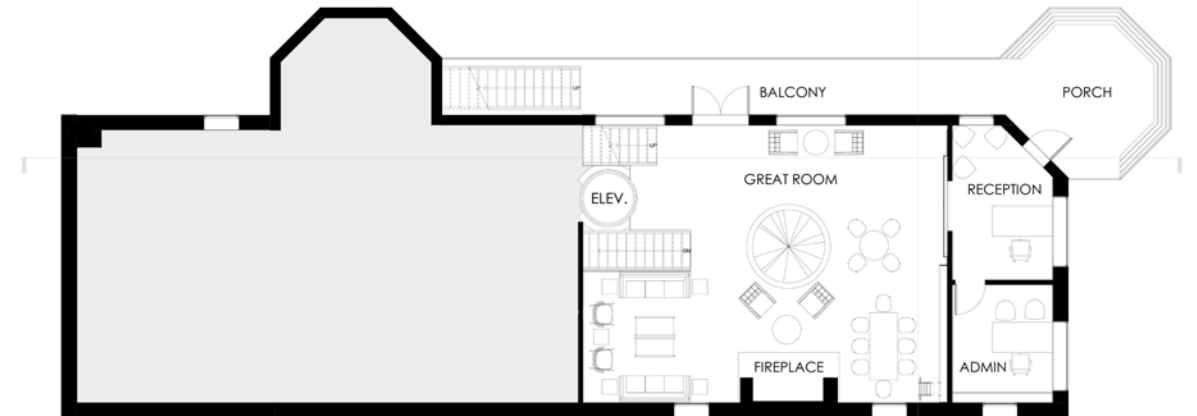
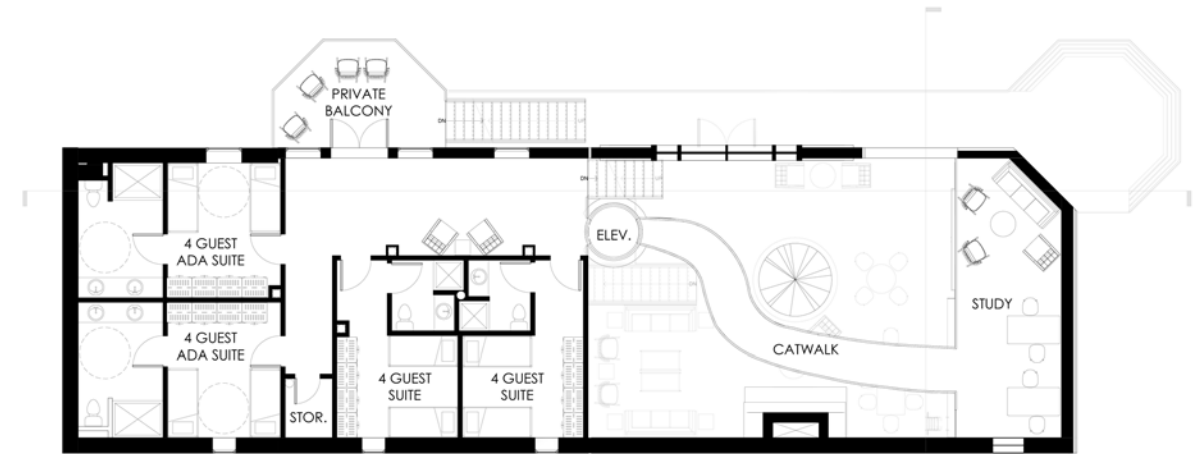


## Therapy

In therapy sessions, guests will learn about using associations as relapse prevention.



# SCHEMATIC DESIGN



PRELIMINARY FLOOR PLANS  
not to scale



PRELIMINARY GREAT ROOM VIEW



PRELIMINARY LATIITUDINAL SECTION  
not to scale



PRELIMINARY DINING ROOM VIEW



PRELIMINARY LONGITUDINAL SECTION  
not to scale

# CODE COMPLIANCE

Occupancy: Group R-4

Occupant Load Factor: 120

Plumbing Fixtures Required: 1 per 10

Provided: 5

Maximum Travel Distance: 75 Feet

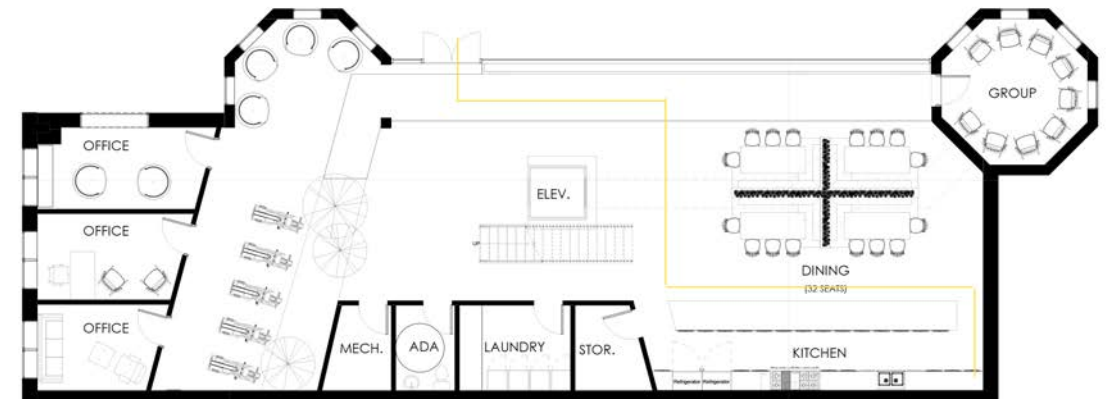
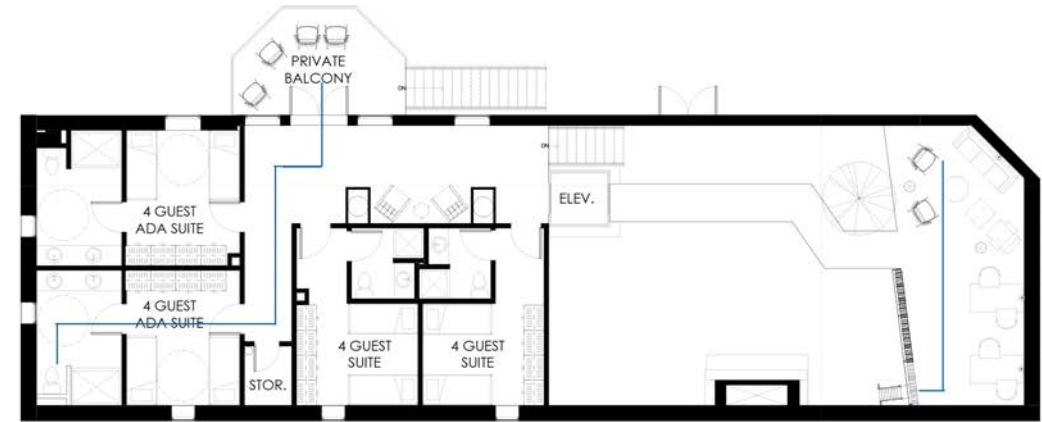
\*Group R-4 occupancies shall be permitted to have one exit or access to a single exit.

Approximate Travel Distances:

57 Feet, 26 Feet

37 Feet, 31 Feet

66 Feet



# WAYFINDING

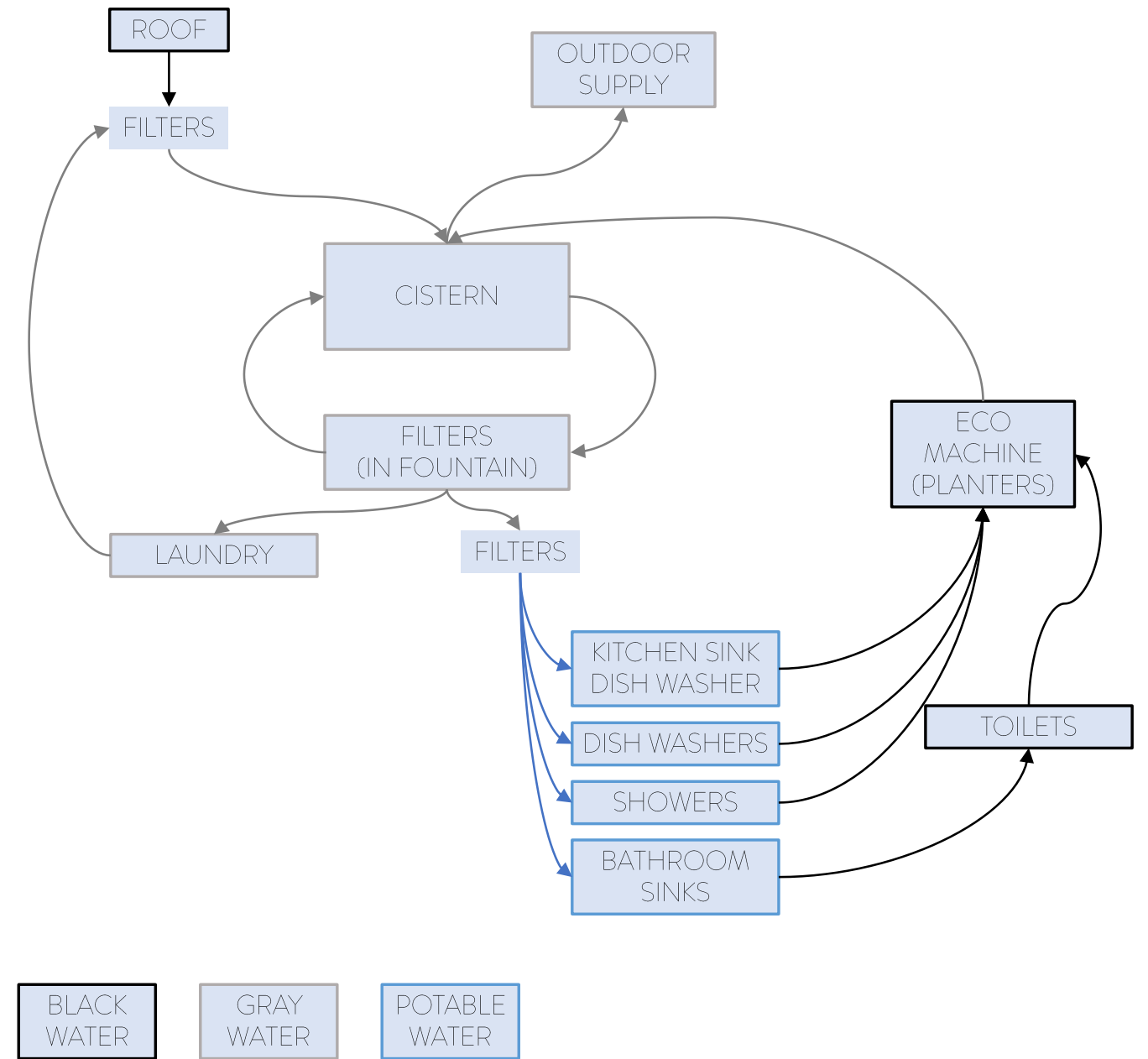
Being in the woods can be confusing for a person who is unfamiliar with the environment. Before the Early Action stage of treatment ends, guests will learn basic navigation skills and will be responsible for having a compass and a map on them at all times. Maps will also be placed throughout the grounds.

Additionally, paths will be well lit at night with solar lamps in order to help a guest who may have wandered off the path to find their way.

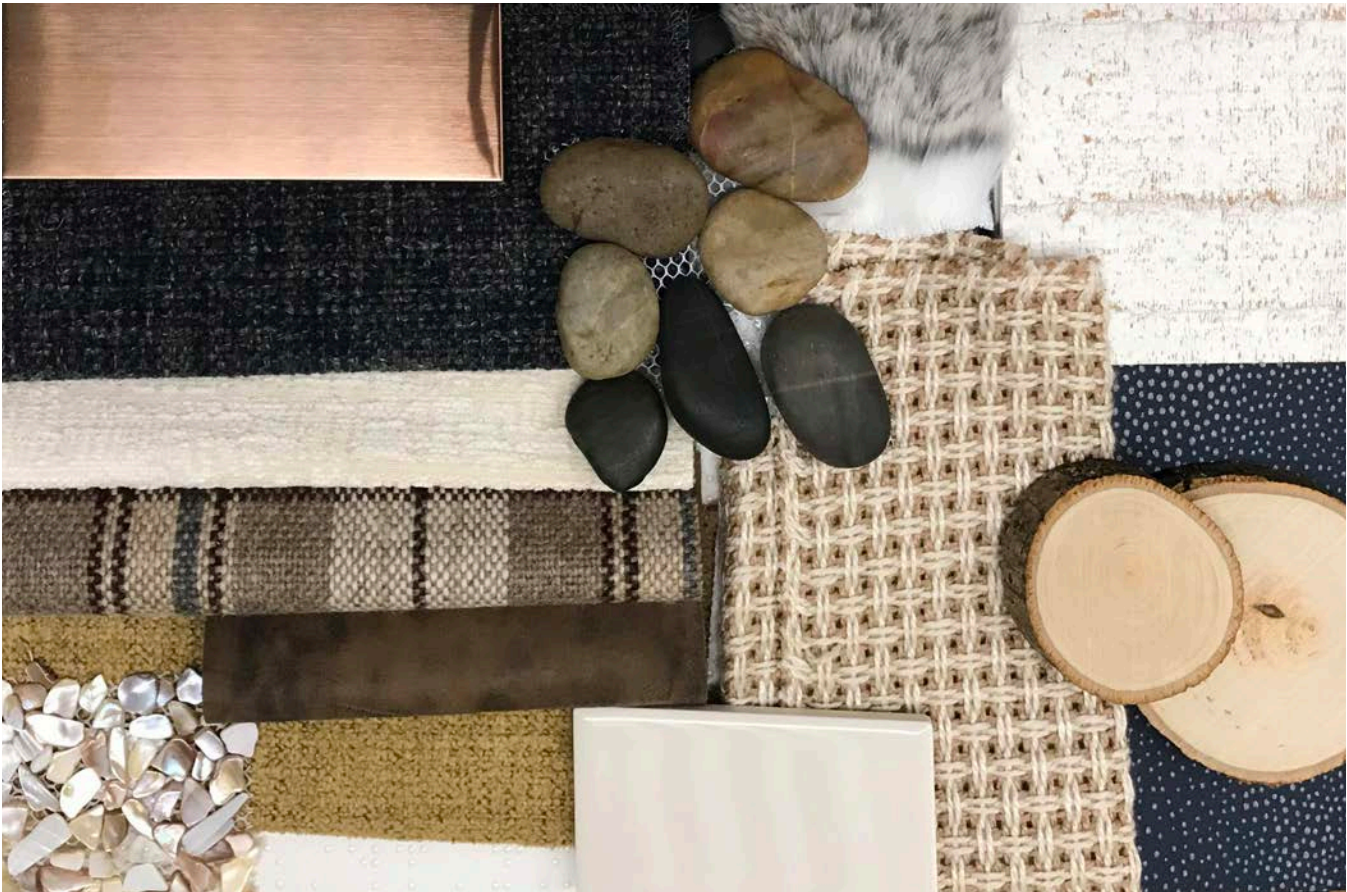


# SUSTAINABILITY

Sustainability is one of the highest priorities at Quiet Oaks. In addition to solar power, responsible material sourcing, and passive thermal design strategies, the main house boasts a fully-integrated rainwater system. The water is pumped through the entire house, making stops at several streams, an eco-machine, and the elevator water feature in order to meet the needs of the house. The streams appear to dry up when water is low, which lets residents know it's time to conserve. Additionally, exercise bikes put energy back into the grid to power the water pump.



# MATERIALS



	LEED Points	3rd PARTY Certified	Fire/Safety Rating	Air Quality/Low VOC	No Adhesives	Natural Content	Reclaimed/Reused
Sherwin Williams Paint	●	●		●			
Tile/Solid Surface							
TileBar Bayou Ceramic Tile		●	●	●			
TileBar Copper Tile		●		●	●		
TileBar South Seas Tile		●		●		●	
Cambria Annicca	●	●	●	●		●	
Maharam Nebulous		●	●				
Textiles							
Maharam Pressed Plaid		●	●	●		●	
P/Kaufmann Check Please		●	●			●	
P/Kaufmann Fox (Faux Fur)			●				
Cortina Leathers Tombstone			●			●	
Flooring							
Stark Epon Carpet		●	●	●	●	●	
Wood Flooring	●			●	●	●	●
Pebbles	●			●	●	●	



# LITERATURE REVIEW

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## Nature: A Place for Healing

In 2016, there were 2,235 opioid-related overdose deaths in Pennsylvania; a rate of 18.5 deaths per 100,000 persons—compared to the national rate of 13.3 deaths per 100,000 persons and these numbers are quickly rising. (National Institute on Drug Abuse, 2018) In the state of Pennsylvania, there are 15 inpatient rehabilitation facilities, none of which offer any form of alternative or nature based healing.

### Addiction

Drug, set, and setting is a framework that describes drug addiction as being a three part issue (Babor et al., 2010). Drug is the substance itself, set refers to the users mindset or their mental health, and setting describes not just the setting that a person actively uses drugs, (Addict Help, 2018) but also their life circumstances. Bruce K. Alexander first experimented with the idea of drug, set, and setting in 1978 in his Rat Park experiment. (Hari, 2016) He put rats in an isolated cage with no way to exercise and forced them to be addicted to opioids by lacing their water supply. Isolation was very stressful to the rats because they usually live in large groups. After they were dependent on the drugs, the rats were then released into a "rat park" equipped with exercise and plenty of other rats. In the park they had a choice of fresh water or the opioid water that they were addicted to. The rats put themselves into withdrawal in order to drink the clean water in their new setting, and not one of them overdosed or compulsively consumed the laced water (Hari, 2016). This experiment was groundbreaking in showing that a person's environment and social interactions have more to do with their patterns of drug use than the drug itself. A major criticism of the Rat Park experiment is that rats are not people. While there are ethical restrictions to performing a rat park experiment on humans, we can

look to the Vietnam War to see a similar phenomenon. During the war, 20% of soldiers overseas became heavily addicted to heroin. After news of this epidemic reached the United States, there was public panic that hundreds of thousands of heroin addicts would be returning to the country after the war. President Nixon called on Jerome Jaffe to study the soldiers and get them into recovery. Part of Jaffe's study required that each soldier pass a drug test in order to return home. If they failed, they would be sent to detox for a week before they could try again. After detox, the soldiers were able to leave the harsh conditions of war and return home to their normal lives and families. Without going through rehab, 95% of the addicted soldiers stopped using drugs completely. (Robins, 1993) Risk environment is another framework that implies that an environment, either physical or social, shapes the harms that come from drug use. It suggests that treatment must be conducted from all aspects of an individual's surroundings, and not just focused solely on the individual (Rhodes, 2009).

### Conventional Recovery

Despite many social stigmas implying that drug and alcohol use is a choice that people make each time they consume a substance, the American Medical Association, as well as most other medical associations classify addiction as a disease. Treatment should be tailored to the individual, just like with any other disease, and usually includes a combination of several treatment types. Behavioral counseling is treatment that focuses on a patient's behavior and mindset with the aim to give them a healthier attitude and the skills to help themselves. This can take place at an outpatient facility that the patient returns to on a set schedule and participates in individual or group counselling.

## Types of Counselling

Cognitive-Behavioral Therapy is a type of talking therapy that focuses on navigating and avoiding situations that would cause the patient to use drugs.

Multi-Dimensional Family Therapy involves a patient, usually an adolescent, as well as their family to investigate the role that the patient's family has on their use patterns, and what their role in the healing process should be.

Motivational Interviewing evokes readiness for change in patients and helps them to be excited about their next steps in treatment.

Motivational Incentives or contingency management encourages abstinence from substances using positive reinforcement.

Severe cases also require inpatient or residential treatment at facilities offering 24 hour care. In addition to behavioral counseling, these facilities often incorporate other types of medical treatment and safe housing such as:

Therapeutic Communities which house patients for 6 months to a year in a community setting. The staff as well as the patients work together as a community to promote positive change.

Shorter-Term Residential Treatment tends to be more focused on detoxification and initial intensive treatment before a patient is sent to another setting.

Recovery Housing is a less-structured form of supervised housing that takes place after other types of treatment and is meant to prepare a patient for re-entry into independent living without substance use.

Medical Treatment is the use of drugs to help a patient transition out of substance abuse. This can range from medication to relieve symptoms of withdrawal, to relapse prevention drugs such as Suboxone which help relieve cravings for a drug. The goal with the latter type of medication is to wean a patient over time. (National Institute on Drug Abuse, n.d.)

## Nature as Alternative Recovery

There are many alternative methods of recovery that are often overlooked such as nature-based methods including Adventure Therapy, Outdoor Therapy, and Wilderness Therapy. Adventure Therapy is a type of healing has been around in some form since the 1960s and involves the patient completing outdoor activities that are physically challenging and often include some risk. Outdoor experiential training is another method of recovery that focuses on healing using structured activities in an outdoor environment. Wilderness therapy generally refers to the experience of the wilderness and encourages the subjects to develop primitive survival skills which strengthens the ability to problem solve and cope with issues. All of these therapies experienced, not learned. (Ewert, McCormick, & Voight, n.d.)

## Biophilia

The concept of using nature as a means of healing and recovery is biophilia. Edward O Wilson was the first person to coin this term to refer to the innate human need to be connected with nature. He describes the sensation as "the urge to affiliate with other forms of life." (Kellert & Wilson, 1995). Rachel and Stephen Kaplan began writing about why nature plays such an important role in human's lives, rather than how it does. They define nature as more than just impressive vistas and national parks, but as all natural settings, and even designed landscapes and plants in a space. They point out that people are obsessed with information in a way that is often unnatural, creating a mental fatigue. When we are in natural environments, our brain is relieved from this fatigue as we tend to take in the greater picture, rather than every small detail. (Kaplan & Kaplan, 1996)

## Healing in Nature

Biophilia is more than just an idea that nature makes us feel good. More and more studies have been done to show the healing effects of nature. It has been shown that hospital patients who have views of nature recover more quickly than those with no views, or views of another building. (Kaplan & Kaplan, 1996) In one study of incarcerated people, it was discovered that inmates who stayed in cells with a view of nature were sick significantly less frequently than those who only had a view of inside the prison. (Kaplan & Kaplan, 1996) Decreased muscle tension, increased immune systems, improved management of pain, and lower blood pressure could all be results of a connection to nature, according to Stephen Kellert. (Kellert, Heerwagen, & Mador, 2011) It has even been found that in addition to physical health benefits, people are able to be more creative after walking in nature. (Atchley, Strayer, & Atchley, 2012)

## Architecture & Design Promoting Healing in Nature

Architects and designers putting the healing potential of natural elements to the test in various projects around the world. One of the most notable examples is the Khoo Teck Puat Hospital (KTPH) by CPG Consultants in Singapore. The site's design revolves around five biophilic principles:

1. Sight - visual access to greenery and water;
2. Smell - selection of scented plants;
3. Sound of falling water;
4. Diversity of plants, birds and butterflies;
5. Community - public space situated within blue-green areas.

The V-shaped building allows light and a breeze to travel into the building, and it surrounds the green court. As the key element of the design, the green

court is a jungle-like plot of land that uses a variety of species that grow up to the building's upper levels, allowing the patients to have access to plant life right outside their window. Since its opening, the building has also acquired an adjacent pond. All of KTPH's outdoor facilities are available to the locals and community engagement and public health education has become a key initiative of the facility. (Kishnani, 2017) According to their annual report for 2016-17, KTPH has topped the charts for patient and employee satisfaction, and sees shorter hospital stays.

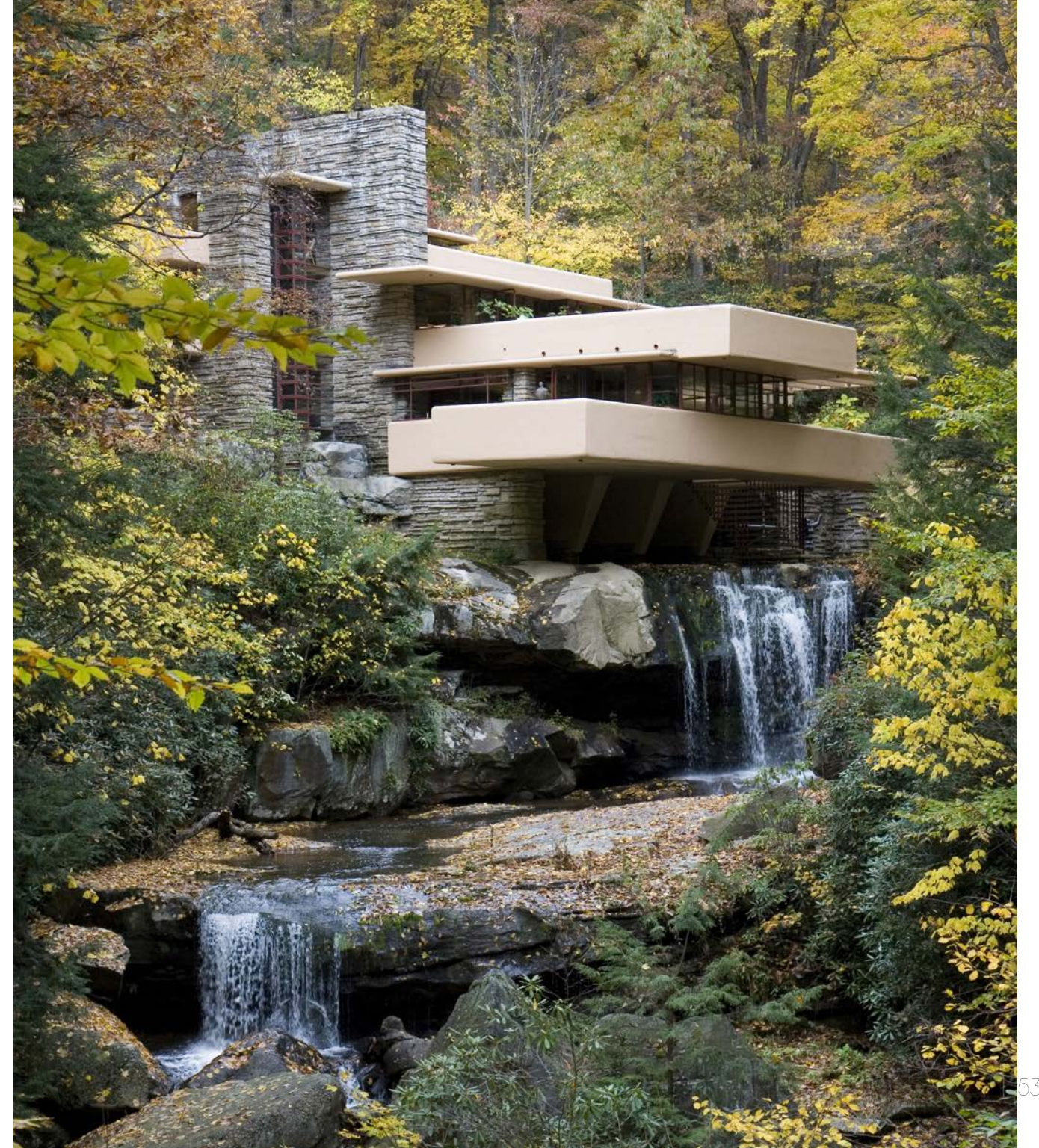
## Conclusion

We know that nature is a sanctuary for emotional and physical healing, which makes it an ideal setting for recovery, and that environment is a crucial factor in healing from addiction. Considering that there are no nature-focused rehab facilities in Pennsylvania, a clear next step is to create an alternative healing facility that uses the natural landscape as a tool to aid in recovery.

# PRECEDENT

Falling Water | Mill Run Pennsylvania

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Designed by Frank Lloyd Wright in 1935, Falling Water is a useful precedent primarily because of the way it works with and incorporates the surrounding nature while its rural Pennsylvania location creates a geographical connection to this thesis as well. In addition to large, continuous windows that provide both sweeping views of nature and abundant access to natural light, the space uses locally sourced, natural materials in their raw or minimally-finished state to create the feeling of a continuation of the exterior. A variety of senses are activated through the warmth of the large central fire place, the sounds of the creek below the house, and the varied textures of the stone and wood.



# ADDITIONAL PRECEDENT

Ostra Hospital | Gothenburg, Sweden

The Ostra Hospital Psychiatric Facility in Sweden uses several biophilic principles to promote superior healing and "has provided scientific evidence suggesting that well designed medical architecture can help reduce aggression and violent situations within psychiatric in-patient care" according to Roger Ulrich, a professor of Architecture who is the most frequently cited researcher internationally in evidence-based healthcare design. Ostra uses concepts such as dynamic and diffuse light, areas of refuge, and access to nature.



# PRIMARY CASE STUDY

Livengrin Foundation | Bensalem, Pennsylvania

Visiting the Livengrin Foundation allowed me to explore the programmatic needs of an inpatient rehabilitation facility. During my tour, I was walked through several buildings on campus in the same order that a patient going through treatment would experience them, starting with detox and working my way through several types of therapy and recreation rooms, as well as sleeping quarters and outpatient classrooms. Livengrin currently can accommodate 38 detox patients and 75 in-patient residents. They provide a variety of therapies and activities, including a special group for first responders, which is their only co-ed program. An ideal stay for a patient is 90 days and the optimal staff to patient ratio is 8:1. The foundation does not take patients under 18 or pregnant women, but they do have patients who are court-ordered to attend. They have partnerships with several nearby hospitals to supplement their modest medical capabilities.



# A TYPICAL TREATMENT DAY

6:30-6:45 AM	Room Inspection
6:45-8:15 AM	Breakfast Shifts
8:15-9:30 AM	Community Meeting
8:30-9:30 AM	Clinical
9:30-10:00 AM	Medications
10:00-11:30 AM	Therapy Sessions (Group)
11:30 AM-12:30 PM	Lunch
12:30-1:30 PM	Clinical Topic Block
1:30-2:00 PM	Medications
2:00-3:00 PM	Clinical Individualized Treatment
3:00-4:20 PM	Personal Time in Houses
4:20-5:30 PM	Dinner
5:30-6:00 PM	Medication
6:00-7:00 PM	Holistic Therapy
7:00-8:00 PM	Personal Time
8:00-9:00 PM	12-Step Meeting
9:00 PM	Return to Houses
9:00-11:00 PM	Personal Time in Houses
11:00 PM	Lights Out

- Group Therapy
- Individual Therapy
- Small Focus Groups on:
  - Grief and Loss, Trauma, Parenting, Relationships, Resume Writing, Vocational Issues, Fun in Recovery, Self-Esteem, Relapse Prevention, Coping Skills, Communication Skills, Addiction and the Brain
- In-House 12-Step Meetings
- Spiritual Services
- Chiropractic Care
- Equine Assisted Learning
- Family Dynamics of Addiction
- Yoga
- Medication Assisted Treatment (MAT)
- Spiritual Counseling
- Art and Music Therapies

## TYPES OF THERAPY





## ACTIVITIES

Crochet and Knitting - Can improve mental health and focus as well as lessen fears and keep patients from ruminating about their illness.

Exercise - The Livengrin gym features a basketball court, volleyball setup, 1/4 mile walking track, horseshoe area, Wii dance electronics, and more.

Patient Store - The on-site store is stocked with basic personal care items, books, sobriety literature and journals, food and snacks.

Hair Salon - Maintaining one's appearance is important to self-image. Using the hair salon regularly is encouraged.

Audio-Video - Karaoke, videos, and motivational topic movies are offered as part of residential life. Entertaining movies are available in campus houses with cable.

Library and Computers - Patients can sign up for supervised computer time or just lounge in our library room when they want some quiet time. Select reading materials are available at certain times.

Resume Writing - Livengrin's professional training department offers a great seminar on resume writing and job search strategies.

MVP Program - This weekly program is designed to encourage peer recognition and motivation.





# SECONDARY CASE STUDY

Stephen Klein Wellness Center | Cecil B. Moore, Philadelphia

The Stephen Klein Wellness Center is run by Project Home and brings healthcare services to an extremely low income neighborhood in Philadelphia. The facility hosts a clinic, a dental office, and a pharmacy and bills on a sliding scale because most of the patients do not have insurance. While this facility does not provide specific addiction treatment, many of the people who use this facility are dealing with addiction in some capacity. The building has achieved LEED Silver and I was able to see how they incorporated sustainable building practices in a healthcare setting while still maintaining patient privacy and sterile conditions where necessary. Some initiatives taken include an indoor bike room, a partial green roof, with solar panels covering the rest.



# PROGRAM

This facility will support addiction healing for people living in rural areas of Central Pennsylvania. The facility will support a variety of activities and therapies with the main focus being to use the natural resources surrounding the site to promote recovery and emotional wellbeing among these individuals.



## Interior Spaces :

Bedrooms (120 SF/Person)

Bathrooms (60 SF/Person)

Phone Rooms (75 SF)

Lg Living/Rec Space (600 SF)

Work Room (175 SF)

Classroom (225 SF)

Dining Room (225SF)

Private Therapy Rooms (600 SF)

Group Therapy Rooms (600 SF)

Lg Kitchen (500 SF)

Gym/Workout Space (250 SF)

Check-In/Reception (150 SF)

Chapel (150 SF)

Laundry Room (100 SF)

Mail (20 SF)

Offices (300 SF)

## Exterior Spaces:

Porches and Balconies (Existing)

Wood Shop (300 SF)

Work Room (300 SF)

Garden & Landscaping

## Off-Site:

Clinic/Detox

## Break Down

Sub-Total: 3,970 + 180/person

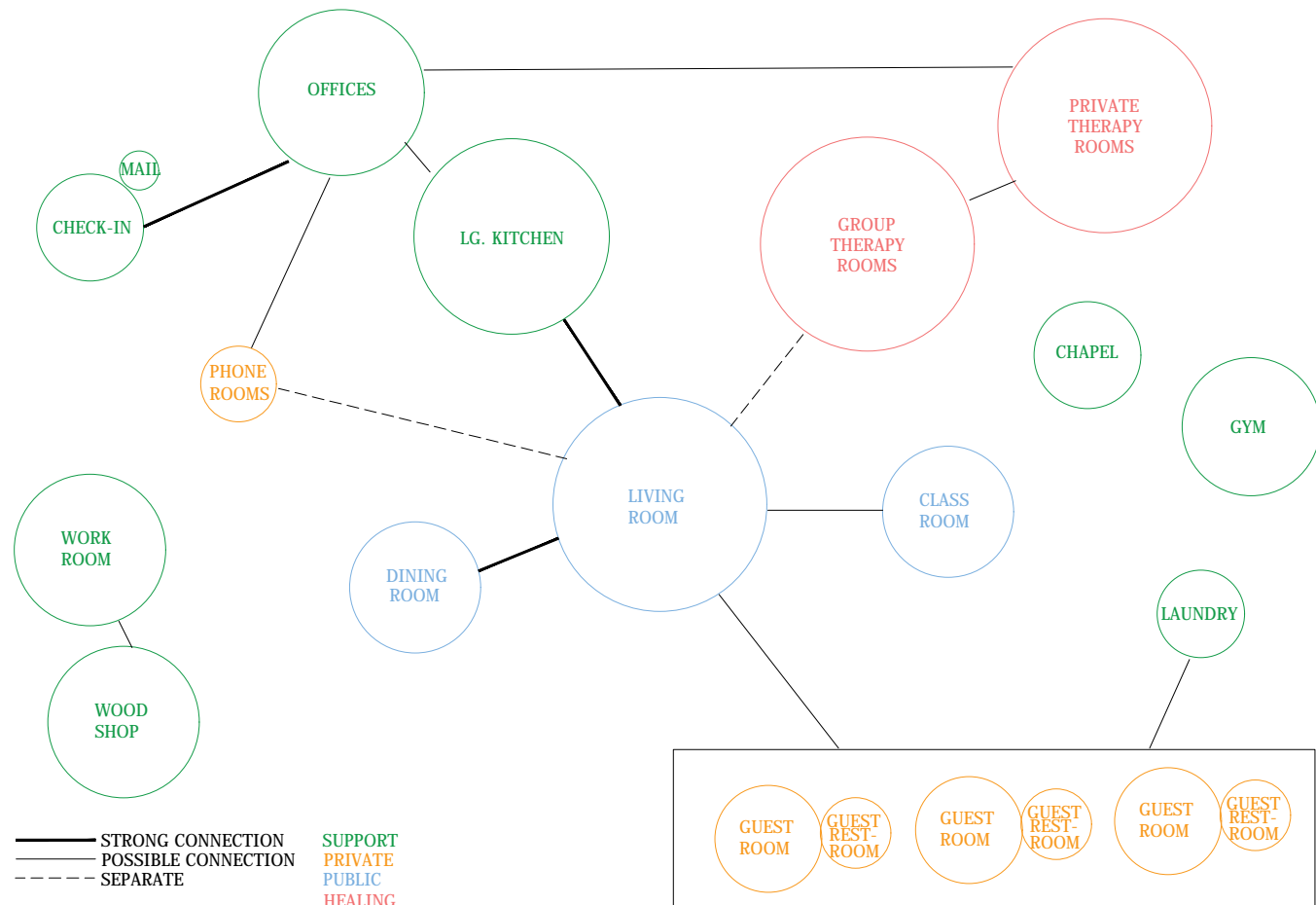
+20% Circulation: 794 + 36/person

+10% Storage: 397

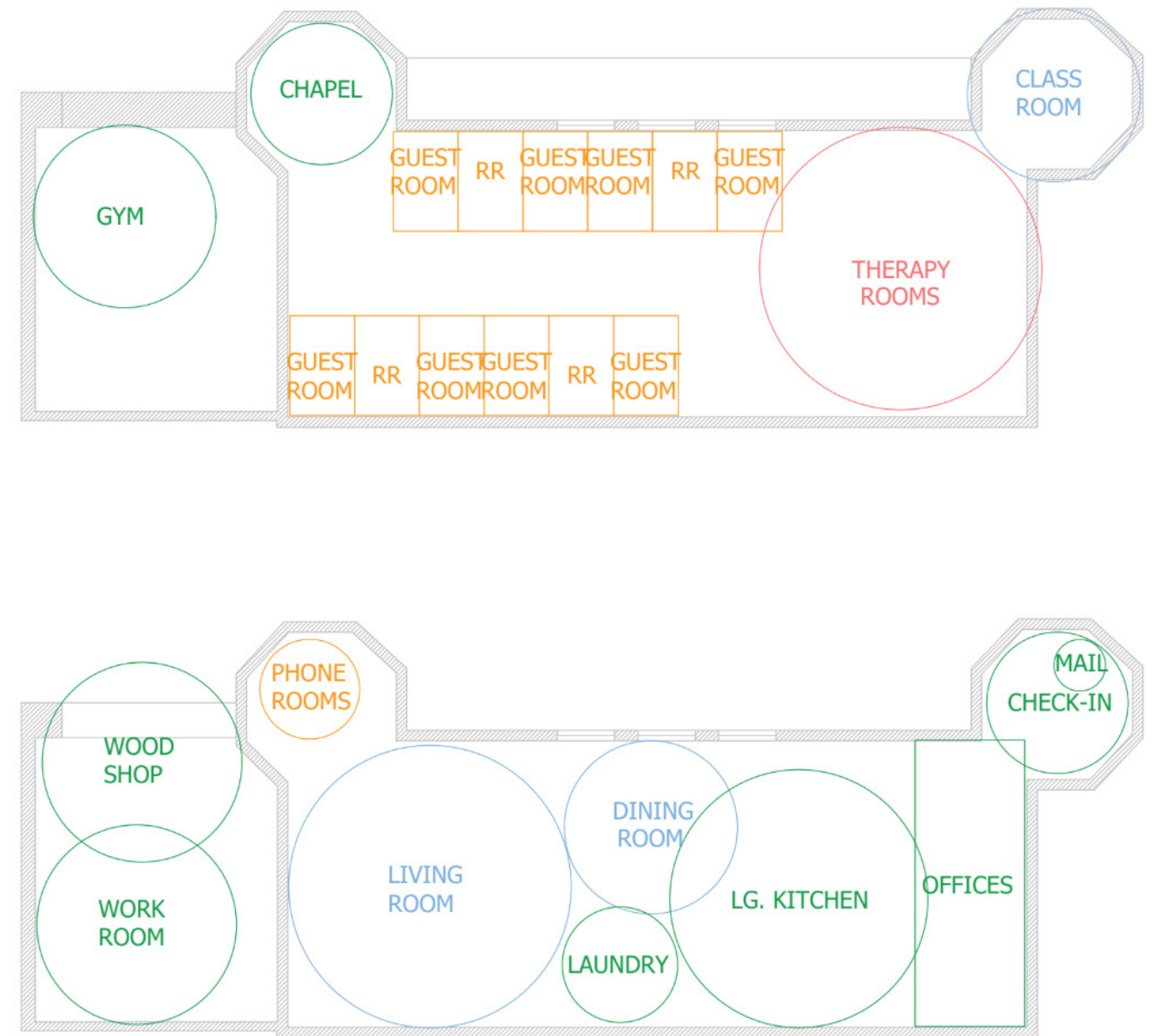
Total: 5,161 + 216/person

For 8 Guests - 6,889 SF

# BUBBLE DIAGRAM



# PROGRAM IN SITE



# SITE RESEARCH

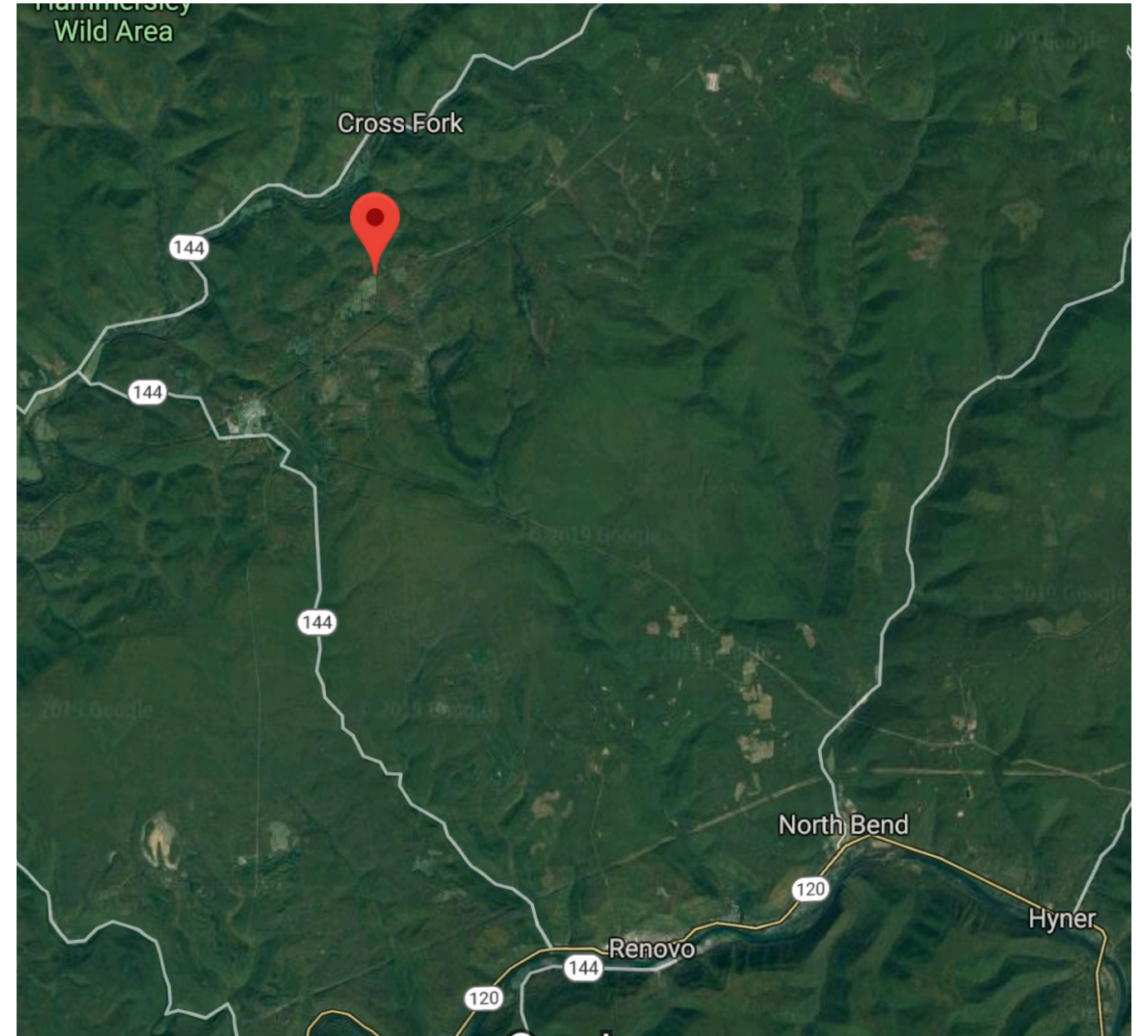
## Quiet Oaks Campground | Kettle Creek, Pennsylvania

Located in Kettle Creek Valley, Quiet Oaks Campground is accessible by a 30 minute drive through the Sproul State Forest. This family owned site includes nearly 100 acres of land consisting of both fields and woodland and is being operated as a campground and venue for events, retreats, and music festivals. The 6,000 square foot main house is accompanied by several stages, cabins, and pavilions that are scattered throughout site. There is nearby access to plenty of outdoor activities including hiking, fishing, hunting, ATV riding, kayaking, and more. In addition to campers, Quiet Oaks hosts a variety of local wildlife such as Pennsylvania Elk, Whitetail Deer, Black Bears, Rattlesnakes, Foxes, and Various Birds.





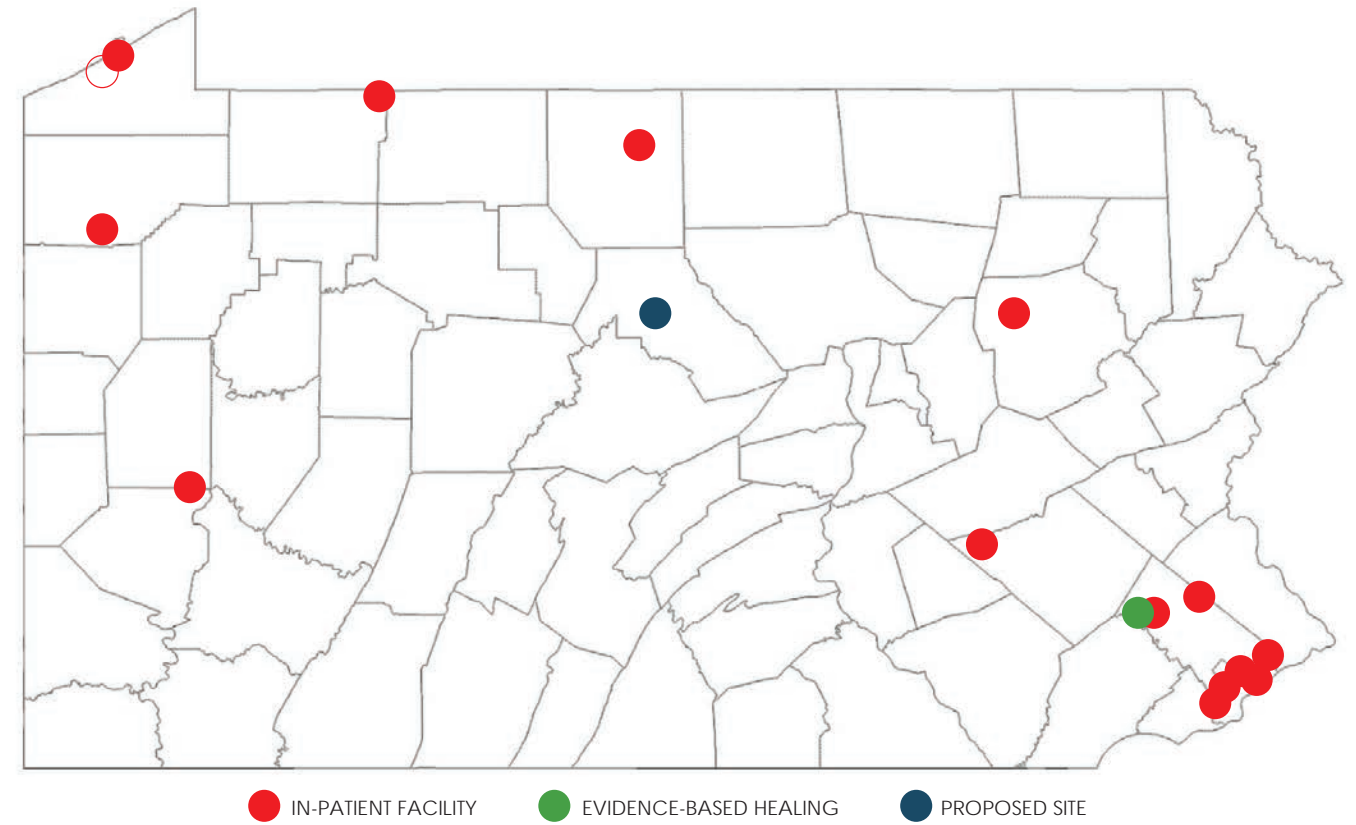
# LOCATION



Approximately 30 minutes to the nearest town, Renovo

# DESIGN STRATEGY

Design Probe 1: Scale



In-Patient Drug Treatment Facilities in Pennsylvania

# DESIGN STRATEGY

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## Design Probe 2: Experience

The following script was presented to my classmates as a guided meditation and was supplemented with the sound of trickling water and diffused tea tree oil. Its intention was to activate all five senses while transporting the subject into the environment of this project.

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Close your eyes if you feel comfortable, otherwise please feel free to quietly listen. Inhale a long breath, and let it out. While you listen remember to breathe steadily.

Imagine yourself sitting on the porch of a cozy log cabin. It's the spring-time, and the temperature is comfortably warm after a long winter. You're in a rocking chair, cuddles with soft blankets.

Take a long inhale, and let it out.

Look off of the porch. Past the wooden railing you see mountains. They are covered in trees and the leaves are just starting to turn green. In the foreground you see a huge field, full of familiar trails. You know that there is a stream nearby.

In your hands is a hot cup of your favorite coffee or tea. Imagine bringing it to your lips. You take a deep inhale and smell the aroma, you exhale and have a taste. It is prepared just the way you like it.

Listen, you can hear the sound of water bubbling in the nearby stream. It is beginning to swell as the spring ground thaws. You can hear birds in the distance and the sound of your own chair rocking on the wooden porch as its rustic boards creak with age. You can smell the freshness of the earth in the spring.

You take a deep breath and let it out.

# DESIGN STRATEGY

## Design Probe 3: Materiality

In traditional healing facilities, you can expect to find lots of vinyl and synthetic materials that are easily bleach cleanable. While these materials are very sanitary, they are also uncomfortable, and often hard. Additionally, most healthcare facilities are all white, with pops of "soothing" green or blue. With the new push for green space in healthcare, it's becoming more popular to use patterns that reference flowers or leaves.

In this healing facility, I intend to activate the tactile senses more by using materials with a variety of textures. Because this facility will not need to be completely sterile, I plan to step away from the vinyl and incorporate as many natural materials as possible. These materials that come straight from nature are inherently biophilic.





## RESEARCH TO DESIGN STATEMENT

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Growing up in very rural Pennsylvania, one thing that was always apparent to me is the way that nature can mend many things. Despite its beauty, there are many issues plaguing the state. On average, more than 6 people die in Pennsylvania every day from drug overdose. That's 1.4% more than the national average, according to the National Institute on Drug Abuse.

In the late 70s, we learned from Bruce K Alexander's Rat Park experiment that what we thought we knew about drug addiction wasn't fully complete and that it involves more than just the drug, but is also dependent on a person's physical environment and their mindset. This is illustrated in the Drug, Set, and Setting Framework which places great importance on a person's environment during recovery.

Research by Stephen Kellert shows that access to nature creates stronger immune systems, reduced blood pressure and muscle tension, and better pain management. Other studies have shown that hiking or walking in forests has great mental health benefits such as increased attention span, clearer thinking, emotional positivity and better ability to reflect on a life problem. Another study by Ruth Atchley even suggests that being in nature can increase creativity.

Since we know that drug dependency is heavily tied to environment, and that nature is an ideal setting for healing I intend to create a recovery facility in the Pennsylvania Wilderness that heavily incorporates nature in its program.

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