

Chronically Sustainable

Creating a Sustainable Community for
the Chronically Ill

Unifying Idea



A SUSTAINABLE COMMUNITY that caters to the SOCIAL, ECONOMIC, and EMOTIONAL NEEDS of the chronically ill in an extreme climate.

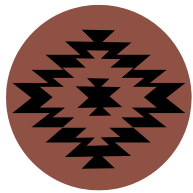
Project Goals



Create a place of connection and community for the chronically ill



Investigate the feasibility of a sustainable community in a naturally unsustainable climate



Create a design that respects the cultures and history within the Sonoran desert



Design respite care that serves the social, emotional, and physical needs of the chronically ill

Sustainability

“The word sustainability goes beyond the reaction it makes to the environment, but it is a concept that has the capacity to endure...Sustainability interacts with ENVIRONMENTAL, ECONOMIC and SOCIAL issues. This concept contributes to different areas which create SOCIAL and ECOLOGICAL CONSEQUENCES in human activity. Sustainability, as mentioned, involves various aspects of human life, which need to be put into practice in the field of architecture because it is what causes us the greatest impact as human beings”

-Jimena Ávalos , Regina Villarreal , Valeria Cárdenas, Ana Cristina García-Luna Romero

Chronic Illness

A condition NOT CURED BY MEDICAL INTERVENTION requiring periodic monitoring and supportive care to reduce the degree of illness, maximize the person's functioning and responsibility for self-care.

-L. Cluff

Ongoing medical condition with spectrum of SOCIAL, ECONOMIC, AND BEHAVIORAL COMPLICATIONS that require meaningful and continuous personal and professional involvement.

-Feldman

Chronic Illnesses

Asthma Diabetes HIV/AIDS Cancer Heart
Disease Parkinson's Disease Migraines ALS
Mental Illness Arthritis COPD Cystic Fibrosis
Epilepsy Osteoporosis Endometriosis IBS
Muscular Dystrophy Lyme Disease Lupus
Chronic Fatigue Scleroderma Stroke Colitis

Project Focus

Master Planning

Respite Care

This Community

Is

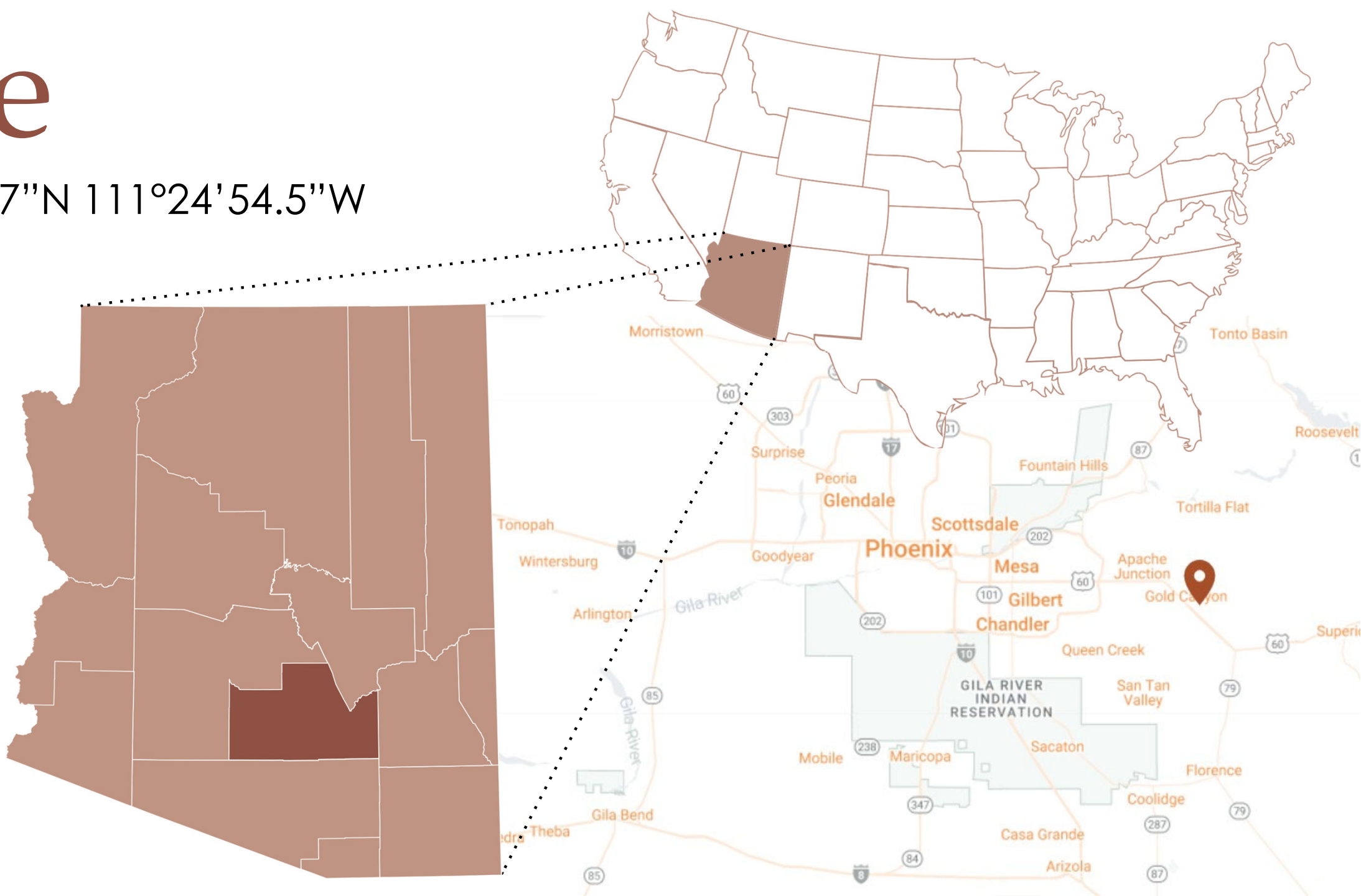
Age Inclusive
Support Network
Community Understanding
Inclusive
Easy Access to Health Care
Mental Health Support

Isn't

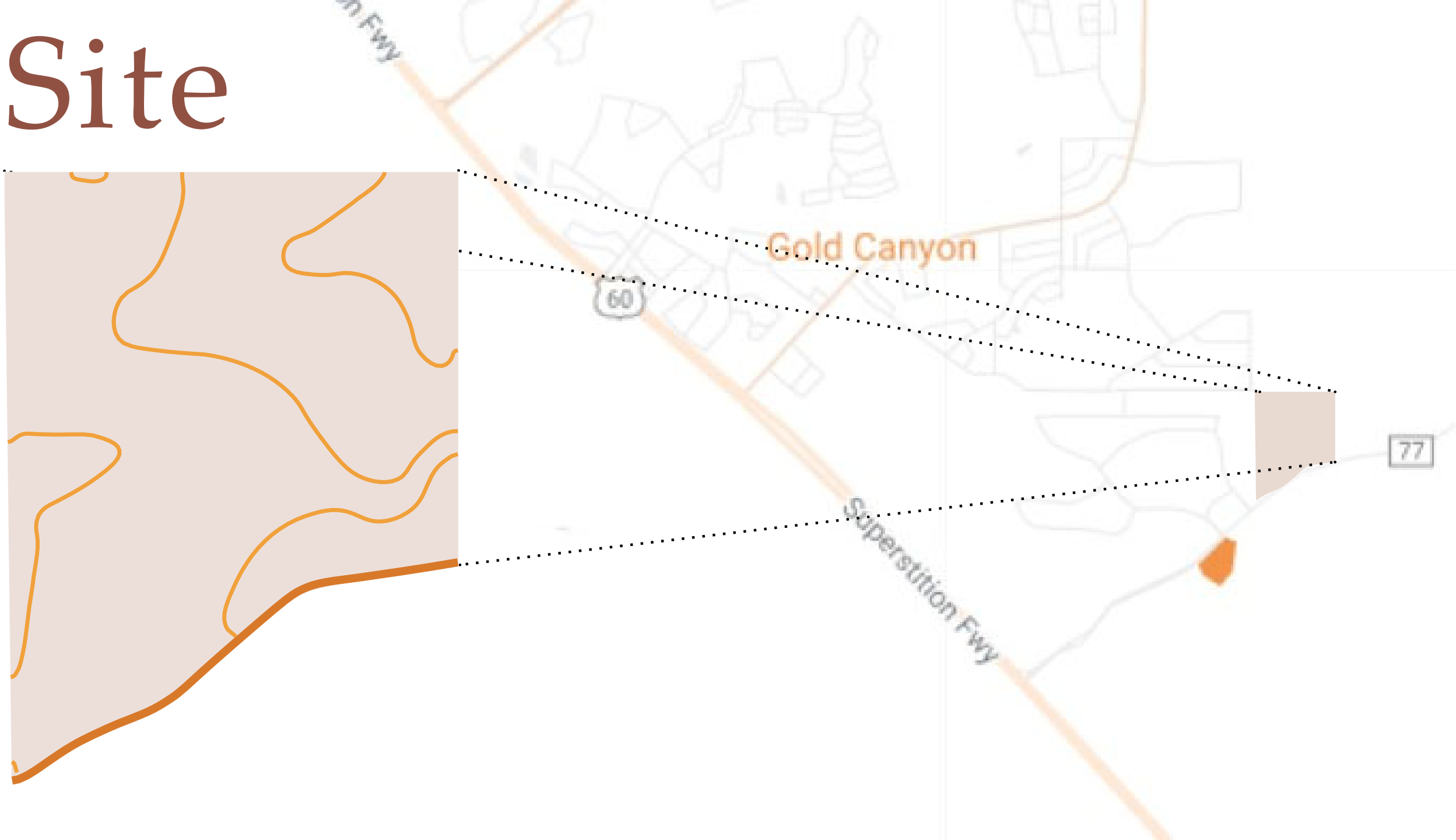
Senior Citizen Community
Nursing Home
Hospice Care
Resort
Temporary Housing

Site

33°21'18.7"N 111°24'54.5"W



Site



Site Character



Phase One

Master Planning

Phase Goals



Preserve 25% of the site as its existing natural desert landscape

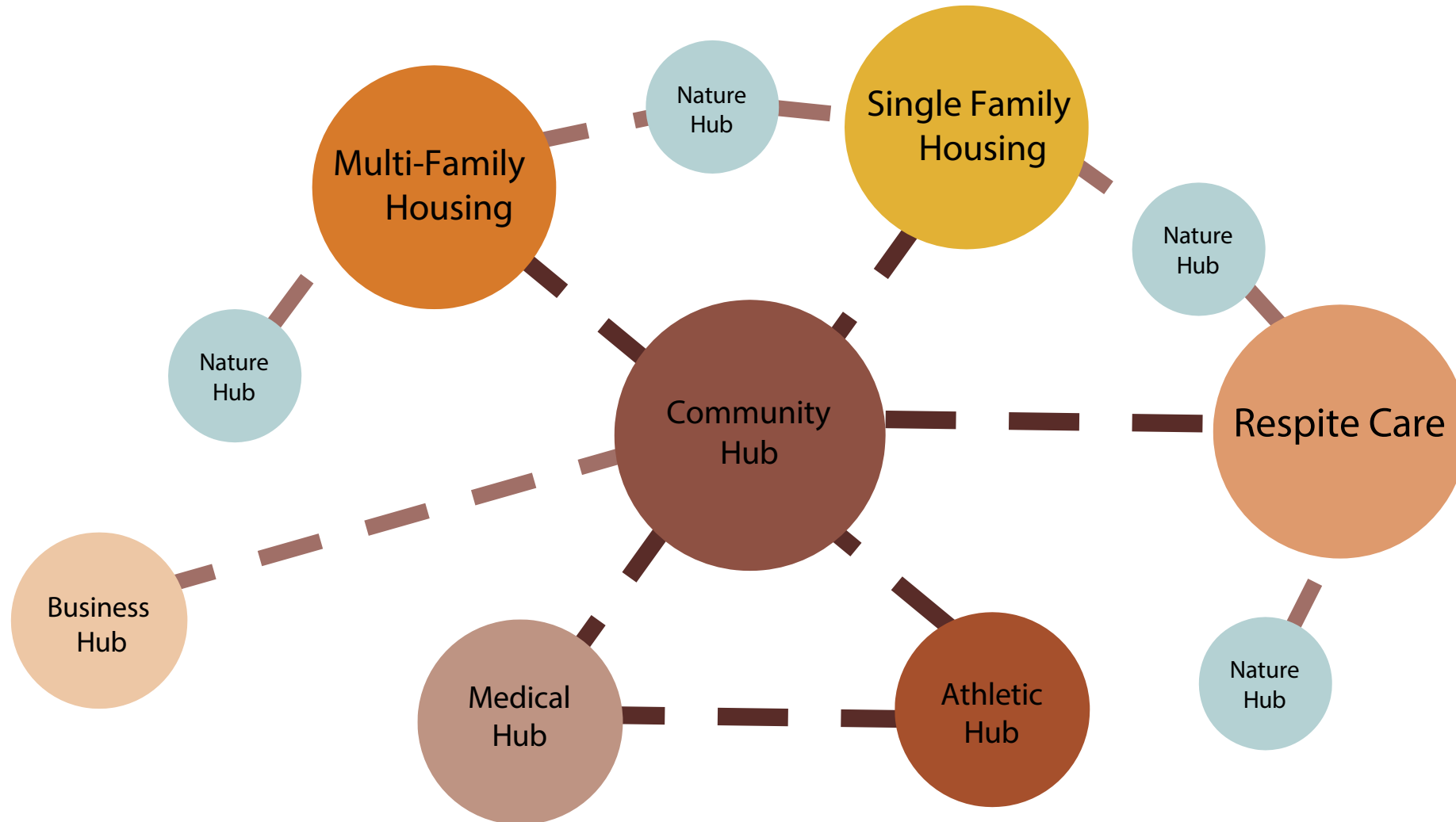


Maximize views to mountains and desert with site organization and building orientation

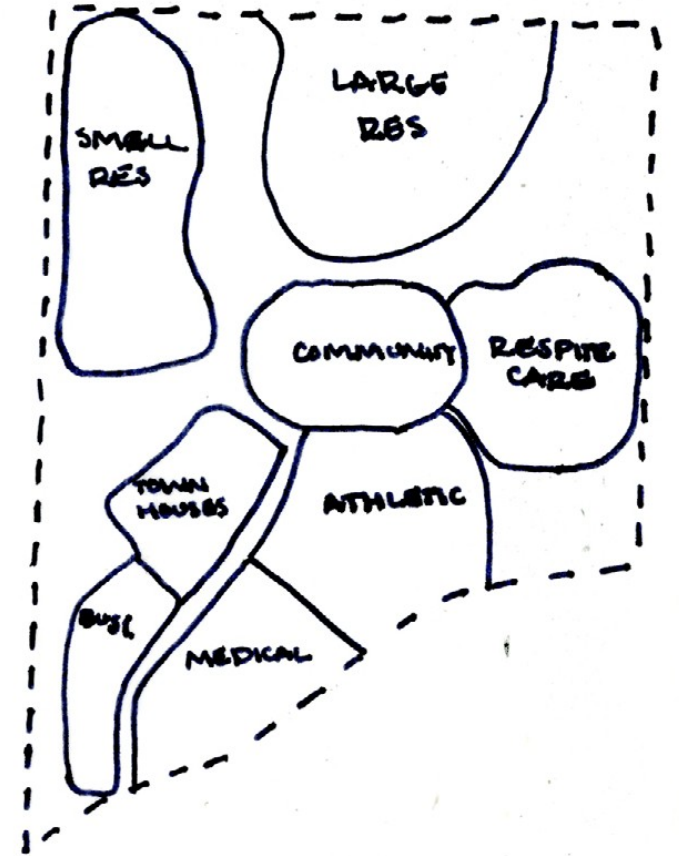
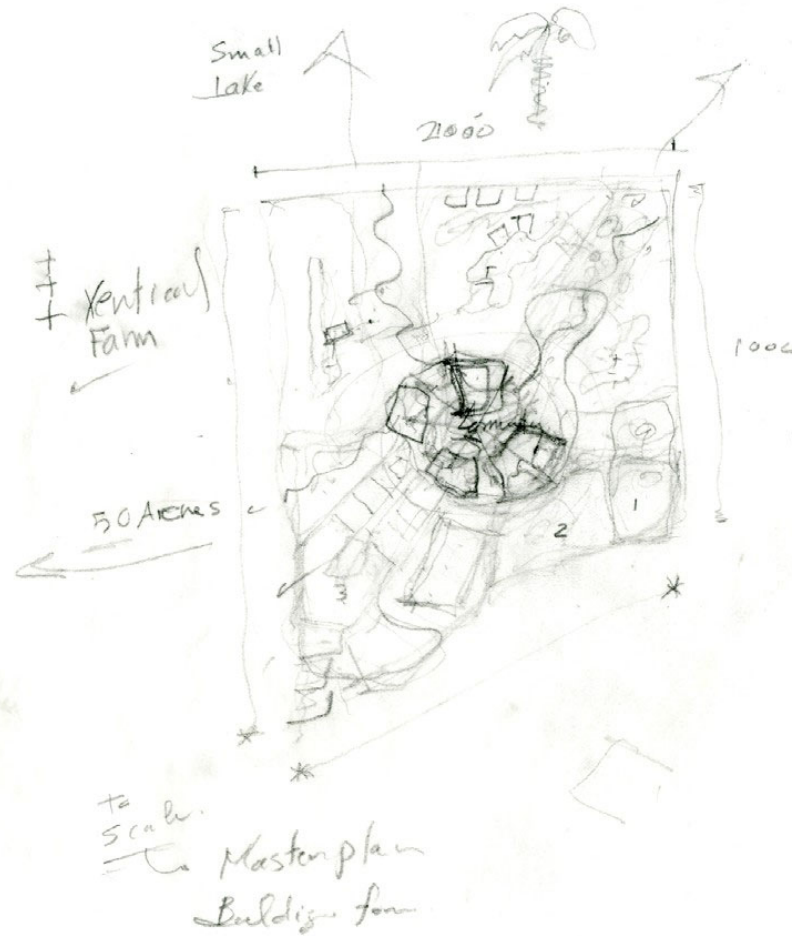
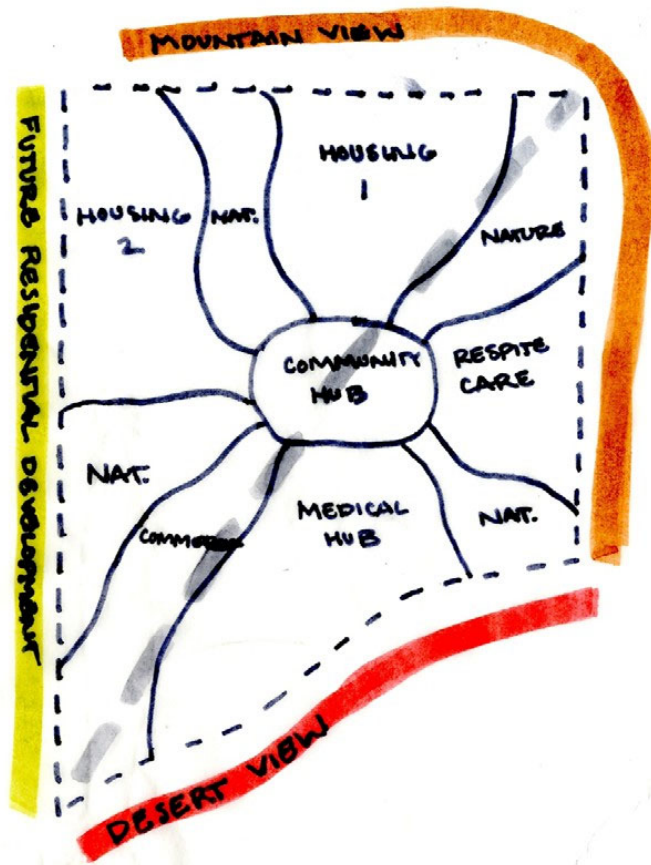


Create districts that are independent but interact to encourage engagement within the community

Site Interaction



Process



Master Plan

FAMILY HOUSES

2-3 BEDROOM HOMES
PLAYGROUND

STARTER HOUSES

1-2 BEDROOM HOMES
NEIGHBORHOOD PARK

MEDICAL CLINIC

DOCTOR OFFICE
COUNSELING CENTER

TOWNHOUSES

1 BEDROOM HOMES
SHARED YARDS

BUSINESS CENTER

LOCAL SHOPS
MARKET

COMMUNITY CENTER

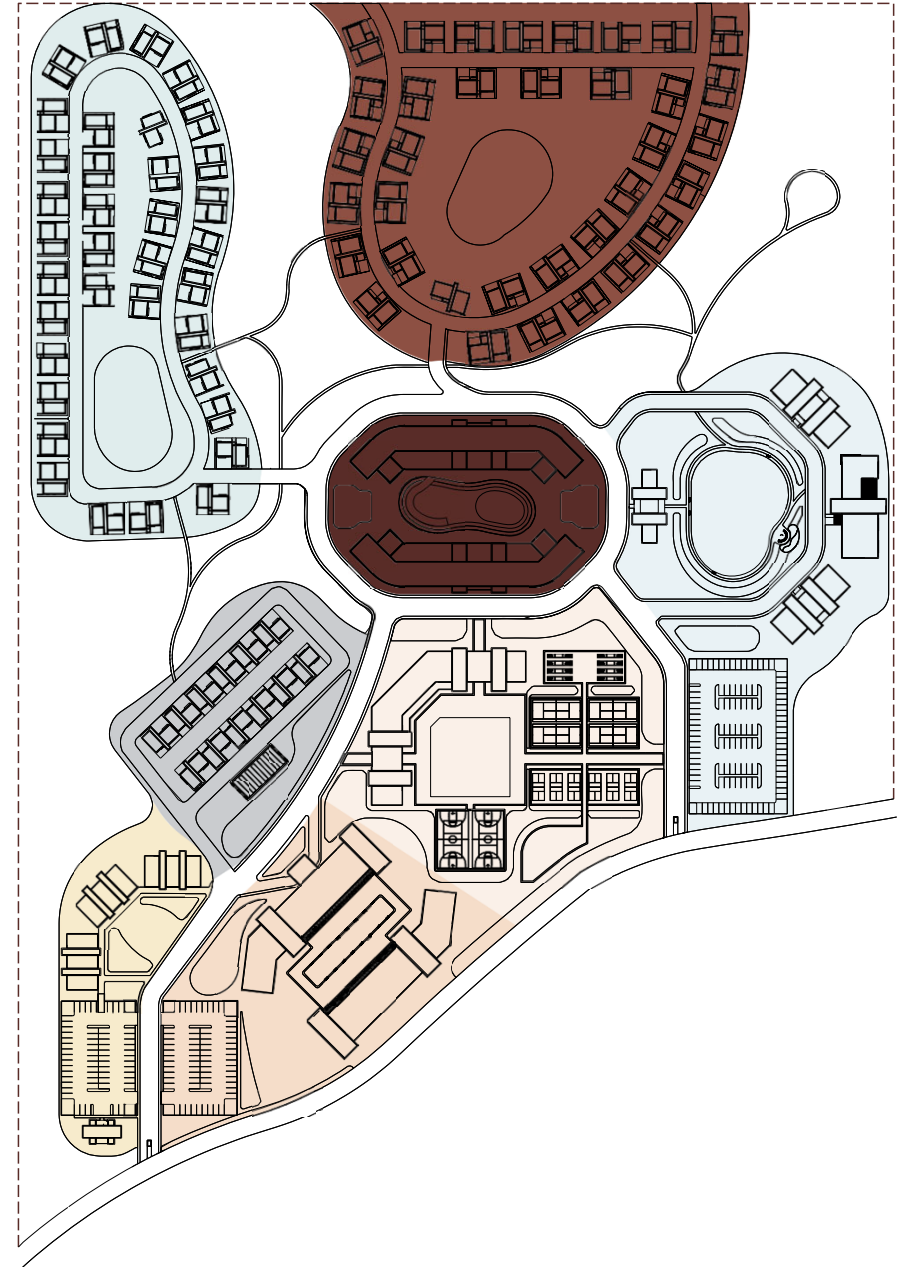
LEISURE POOL
COMMUNITY CLASSES

RESPIRE CARE

SHORT TERM
LONGER TERM

ATHLETIC CENTER

PHYSICAL THERAPY
FITNESS CLASSES



Phase Two

Respite Care

Respite Care



Respite care provides **SHORT-TERM RELIEF** for **PRIMARY CAREGIVERS** and can offer **MORE FREEDOM** to the **CHRONICALLY ILL**. It can be arranged for just an afternoon or for several days or weeks.

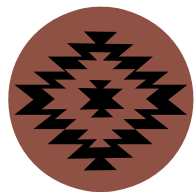
Respite Care



Design community focused care facility that meets social, emotional, and physical needs of the chronically ill



Select materials and wall compositions that maximize energy efficiency and thermal comfort

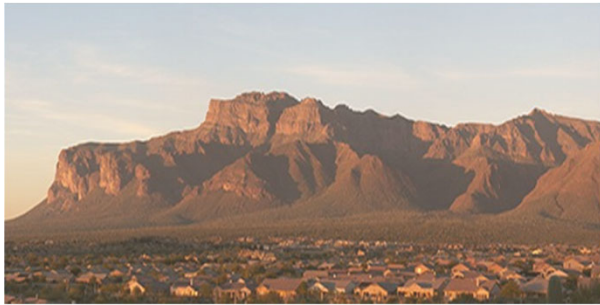


Create a design that reflects the history and culture of the Sonoran desert

Inspiration



Vernacular Architecture



Superstition Mountains



Desert Oasis

Site Design



Site Design

SUSTAINABILITY

① OASIS EFFECT

② GRAY WATER POND

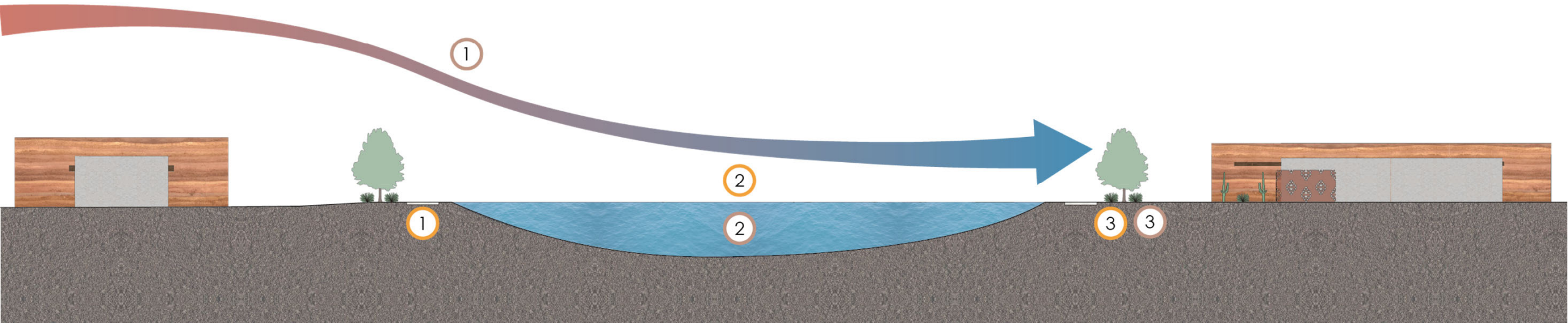
③ NATIVE VEGETATION

CHRONIC ILLNESS

① ACCESSIBLE PATHWAYS

② REFLECTION SPACES

③ LOW ALLERGEN VEGETATION



Site Design



Respite Care



Short Term Respite Care



Short Term Respite Care



Short Term Respite Care



Long Term Respite Care



Long Term Respite Care

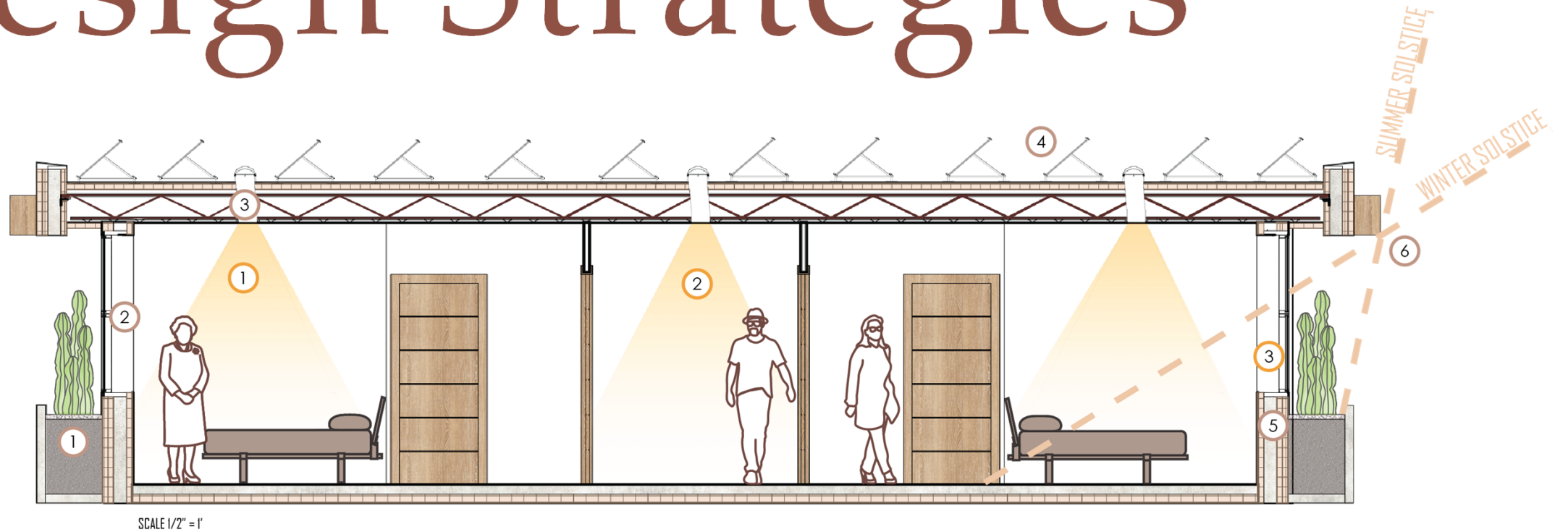


NORTH

Long Term Respite Care



Design Strategies



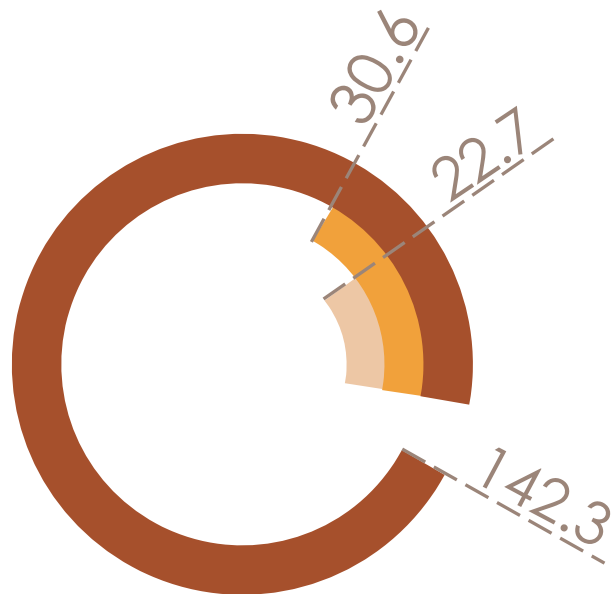
SUSTAINABILITY

- 1 BIOPHILIC DESIGN
- 2 OPERABLE WINDOWS
- 3 TUBULAR DAYLIGHTING
- 4 SOLAR ENERGY
- 5 HIGH THERMAL MASS WALLS
- 6 RECESSED WINDOWS

CHRONIC ILLNESS

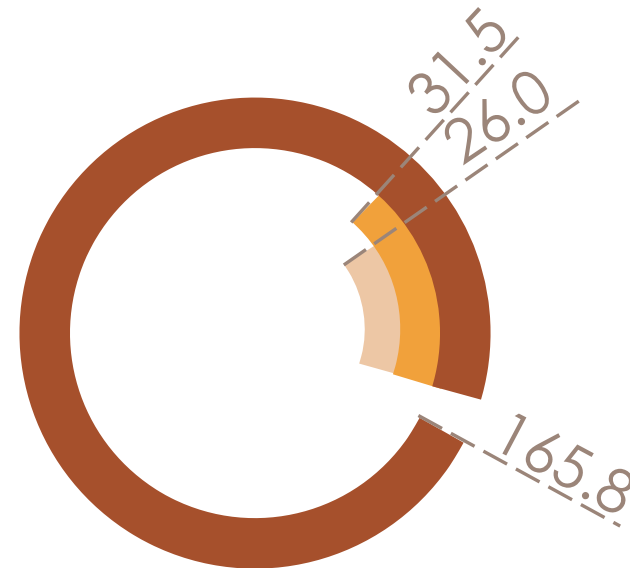
- 1 CONTROLLED NATURAL LIGHT
- 2 COMMUNITY FOCUSED CARE
- 3 ACCESS TO NATURAL VENTILATION

Energy Efficiency



SHORT TERM RESPITE CARE

kBtu/ft²/yr



LONG TERM RESPITE CARE

kBtu/ft²/yr



ASHRAE 90.1



ARCHITECTURE 2030 GOALS



ACTUAL PERFORMANCE



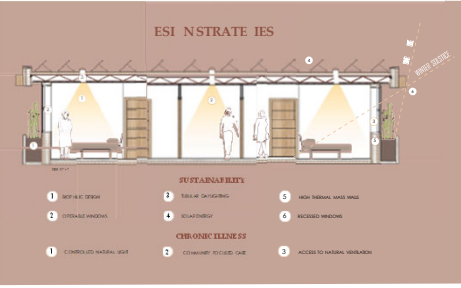
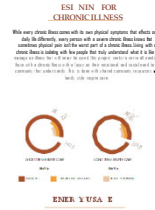
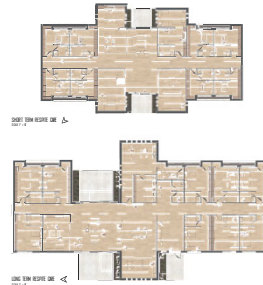
RESPITE CARE

CHRONICALLY SUSTAINABLE

CREATING A SUSTAINABLE COMMUNITY FOR THE CHRONICALLY ILL

Illness and death are often taboo topics that aren't appropriate for everyday conversations, which can make living with a chronic illness extremely alienating and lonely. For the loved ones of those with a chronic illness, life can be isolated due to lack of support from others and lack of community with those that truly understand. Life can be isolating not being able to openly discuss their experiences with others. In recent years, people have begun to find others online that understand their struggles but what if there was a place that one could be surrounded by people that understood? A community that was designed for just the chronically ill and their families.

Located outside of Phoenix, Arizona within the Sonoran Desert, this project focuses on the ability to create a sustainable community that caters to a demographic that has struggled to find the community and support they need. The two-part thesis master plans a community that serves the needs of those with a chronic illness and their families as well as design the respite care that will help them live fuller lives.



Sources

<https://thenounproject.com/>