



ANDREW TESMACHER

Co-Living for the Changing Family: Thriving through Sharing in Expandable Buildings

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Design

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COLLEGE OF DESIGN



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About SCI

The Sustainable Cities Institute (SCI) is an applied think tank focusing on sustainability and cities through applied research, teaching, and community partnerships. We work across disciplines that match the complexity of cities to address sustainability challenges, from regional planning to building design and from enhancing engagement of diverse communities to understanding the impacts on municipal budgets from disruptive technologies and many issues in between.

SCI focuses on sustainability-based research and teaching opportunities through two primary efforts:

1. Our Sustainable City Year Program (SCYP), a massively scaled university-community partnership program that matches the resources of the University with one Oregon community each year to help advance that community's sustainability goals; and

2. Our Urbanism Next Center, which focuses on how autonomous vehicles, e-commerce, and the sharing economy will impact the form and function of cities.

In all cases, we share our expertise and experiences with scholars, policymakers, community leaders, and project partners. We further extend our impact via an annual Expert-in-Residence Program, SCI China visiting scholars program, study abroad course on redesigning cities for people on bicycle, and through our co-leadership of the Educational Partnerships for Innovation in Communities Network (EPIC-N), which is transferring SCYP to universities and communities across the globe. Our work connects student passion, faculty experience, and community needs to produce innovative, tangible solutions for the creation of a sustainable society.

About SCYP

The Sustainable City Year Program (SCYP) is a yearlong partnership between SCI and a partner in Oregon, in which students and faculty in courses from across the university collaborate with a public entity on sustainability and livability projects. SCYP faculty and students work in collaboration with staff from the partner agency through a variety of studio projects and service-learning courses to

provide students with real-world projects to investigate. Students bring energy, enthusiasm, and innovative approaches to difficult, persistent problems. SCYP's primary value derives from collaborations that result in on-the-ground impact and expanded conversations for a community ready to transition to a more sustainable and livable future.

About City of Sisters

Located at the foot of the Cascade Mountains in Central Oregon, the city of Sisters offers beautiful natural surroundings, a variety of year-round recreational opportunities, and a vibrant local economy.

The City of Sisters is located near the Three Sisters mountains in Central Oregon.

Source: Visit Central Oregon, n.d. | visitcentraloregon.com/cities/sisters



Sisters was a place where Paiute, Warm Springs, and Wasco peoples stopped during movement across central Oregon. The name of Whychus Creek, a tributary that runs through town and joins the Deschutes River just beyond the city limits, comes from a Sahaptin phrase, “The Place We Cross the Water.” Sisters became a way station and became accessible once roads were constructed through McKenzie Pass and Santiam Pass in the Cascade Mountain Range. In the early twentieth century, Sisters was a center for sheep and cattle ranching and later became a focus for the timber industry, with numerous mills surrounding Sisters and even a mill in town.

The townsite of Sisters was platted in 1901, although the town was not incorporated until 1946. The original townsite for the City was six blocks in size, circumscribed by Adams Street on the north, Larch Street on the east, Cascade Street on the south, and Elm Street on the west, which represents the downtown core of the City of Sisters north of Cascade Avenue today.

With Sisters’ strategic location as the “Gateway to the Cascades,” major industries have included shepherding, cattle ranching, timber production, and provision of goods and services for travelers. Sisters has capitalized on

accommodating visitors, initially serving the transient tradesmen that traveled through central Oregon.

Many people know Sisters for its Western frontier design theme that derives architectural inspiration from the town's beginnings in the 1880s. However, Sisters did not always look this way. When Brooks Resources developed Black Butte Ranch, a resort community eight miles west of Sisters, it envisioned a plan to help the Sisters downtown core reinvent itself. In coordination with the City Council, Brooks Resources offered loans, forgivable after 10 years, to businesses who built with a Western theme. From this idea, the City developed a strong identity that helped

attract people to Sisters as a tourism destination. The economy strengthened, the population returned, and in 1992, the Sisters School District reopened its high school after 25 years of sending students to Redmond High School.

The 2021 population in Sisters totaled 3,475 residents, a result of the population doubling every decade since the 1990s. Sisters continues to serve as a gateway to the central Oregon region while also being known for local attractions including Hoodoo Ski Area and prominent community events such as the Sisters Rodeo, Rhythm and Blues Music Festival, Harvest Faire, the Sisters Outdoor Quilt Show, and the Sisters Folk Festival.

Course Participants

Master of Architecture

Alexandra Gottlin
Andrew Tesmacher
Leah Lockwood

Bachelor of Architecture

Delaney Fettig
Tommy Ehringer
Wolfgang Meckem

Abstract

Project Description

The city of Sisters identified the need for 1,100 housing units to accommodate its 2041 projected population growth and is exploring “efficiency measures” as an alternative to expanding its urban growth boundary. Final year Architecture students studied the situation and considered contemporary approaches to how people are choosing to live as the definition of “family” continues to evolve. As innovative design thinking is needed for new household types, students looked at how homes and communities can adapt to changing household needs. They envisioned inclusive places where people can thrive through mutual support and sharing.

Recommendations

The student design projects show how attractive housing options for the Sisters Elementary School site can be balanced with community amenities and services that attract on-site residents and the public. From the student design explorations, the main takeaways for the development of the site are as follows:

1. Locate community buildings or commercial spaces on the northern edge to promote engagement with downtown Sisters.
2. Reuse the existing school building as a community center with functions such as recreation, childcare and senior services. Its renovation can be phased over time to fit the community’s needs.
3. Build housing on the southeast and southwest areas that are currently empty to show how that middle housing can be attractive and affordable.
4. Keep parking to the site edges and limit on-site vehicular access, with roads and paths designed to for high-quality walking and biking experience.
5. Use earth berms with attractive plantings to reduce highway and roundabout traffic noise.
6. Active recreation can be located in the center of the site, with vegetation, berms, and topography adjustments to provide privacy for adjacent homes.
7. Sisters School District ownership or part-ownership could make district energy initiatives such as ground-source heat pumps and connected photovoltaic panels cost-effective.

More development of these ideas can be found in the conclusion.

Studio Aspirations

How people want to live is changing. New architecture is needed for new types of blended households, non-romantic kinship and the changing needs of an individual over a lifetime.

As LGBTQ+ identities proliferate and the definition of family morphs, housing also needs to change. Soaring rates of income inequality, housing insecurity, urbanization and forced migration demand attention to creating affordable, livable places. Even idyllic Sisters, Oregon struggles to provide housing that its workforce can afford. While architecture cannot solve the societal condition, architectural designers can visualize inclusive places where people can thrive through mutual support and sharing, where spaces can adapt to changing needs.

Underlying this need for new housing options is the challenge of loneliness and social disconnection that started growing in the U.S. in the 1970's, according to Robert Putnam's *Bowling Alone*. In the past, villages, extended families and religious institutions more strongly grounded people by giving them a role in a larger framework, which supported their identity, self-worth and connection to place. While the internet links people into a network, group belonging through social media comes at the cost of losing privacy. Enforced COVID-19 lockdowns increased isolation and caused many to question their daily work life, examine their home environment, and seek more supportive places.

The challenge: This studio asked students to envision co-living that values the common good, by designing an intentional community where people and nature can flourish together. Could the students propose alternatives to the single-family residential subdivisions that can isolate homeowners, exclude low-income workers and reduce natural habitat through sprawling pavement?

Concept

Designers can bring hope to dire circumstances by imagining alternative futures. Students identified society's biggest challenges and created compelling visions that addressed these challenges. This studio was inspired by the Evolo competition that asks designers "to solve economic, social, and cultural problems of the contemporary city including the scarcity of natural resources and infrastructure and the exponential increase of inhabitants, pollution, economic division, and unplanned urban sprawl. The competition is an investigation on the public and private space and the role of the individual and the collective in the creation of a dynamic and adaptive [vertical] community... based on a dynamic equilibrium between man and nature—a new kind of responsive

and adaptive design capable of intelligent growth through the self-regulation of its own systems.”

To develop a strong design concept, students sought to answer, “What makes a great place?”

In answering this question, students researched the context of past utopian manifestos, current alternative communities, and future emerging technologies. They analyzed promising natural and architectural examples to understand the underlying relationships behind resilient, livable communities. They studied how the built form and open space of sharing communities support activities to bring people closer. From this understanding, each student shaped a specific agenda about how environments for working, living, and playing could form a thriving, responsive mega-community. They each selected focus activities or services that could act as a social magnet.

Process

The illustrated projects are the culmination of a year’s effort. In Fall 2022, the class of 16 students took a seminar to study intentional communities and students selected between three Oregon sites: Portland’s high-rise South Waterfront site, a hillside community in Newport’s South Beach or the current Sisters Elementary School site in Sisters, Oregon. While this report focuses on the six students who worked on Sisters, all students benefited from dialogue about and comparisons with the two other locations, which varied greatly in terms of climate and site constraints. In Winter 2023, students developed their preliminary site and building designs with input from local and remote architects, and student peers. In Spring 2023, they were coached by specialists to develop the building’s structural, environmental and enclosure systems to make their buildings stable and energy efficient.

Playful speculation can generate design options. Students gather around Delaney Fettig’s model proposing new housing on the Sisters, Oregon elementary school site for the Sustainable City Year program (left to right): Honour Colby, Alexandra Gottlin, Ethan Frolov, Nancy Cheng and Delaney Fettig.



Site Analysis

Site Quick Information

SISTERS, OREGON



HISTORY

Before being "founded" by settlers, the Sisters are served as a place for Paiute, Warm Springs, and Wasco peoples to stop during movement across the broad Central Oregon landscape. Initially beginning as a travelers outpost called "Camp Pike", Sisters served as a stop for pioneers to rest and resupply. Only with the formation of the "Three Sisters" post office and the development of timber industry was the town officially established. Eventually, by the 1940s, timber industry within Sisters had diminished and the last mill was shut down, resulting in a population decrease until national highways allowed for tourism and visitors to drive through.



DEMOGRAPHICS

3,270 <small>Population</small>	55-64 <small>Largest Age Group</small>	\$60,318 <small>Median Household Income</small>
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Figure SA.1: Downtown Sisters, Oregon. Source: Tommy Ehringer

Sisters, Oregon

- Population: 3,270
- Climate: Warm-Summer Mediterranean Climate
- Nearby Attractions: Three Sisters Wilderness, Deschutes National Forest, Hoodoo Ski Resort, Smith Rock State Park
- Demographics:
 - 93% White, 1% Native American, 1% Asian, 7% Hispanic
 - 32% have children, 48% married couples, 29% individuals
 - 55–64 years old = largest age group
- Median Sold Home Price = \$926.3K
- Median Household Income = \$60,318

Existing Elementary School

- Address: 611 East Cascade Avenue, Sisters, OR 97759
- Location type: Semi-Urban City
- Current use: Sisters Elementary School
- Acreage: 1.934 mi²

Site Description Summary

Sisters is located in central Oregon, and it is a little under three hours by car from Portland. The City of Redmond is approximately 20 miles east of Sisters. The City of Bend is about 22 miles to the southeast, with Bend and Sisters being tourist destination towns.

The site location is in the eastern most part of Sisters, along US Highway 20 to the southwest. The site is about 0.4 miles east of the downtown area (about an eight-minute walk). Creekside Park is

south of the site, about 0.3 miles away and a seven-to-eight-minute walk as well. Creekside Park contains the city's municipal campground. Additionally, there is an established bike route, "Sisters to Smith Rock Scenic Bikeway" that goes by the site. Overall, there are about 290 parking spaces within 0.2 miles of the site, indicating that there is an abundant number of parking for daytime visitors. Further, one can see Mt. Jefferson and the Sisters Mountains from the site location.

Figure SA.2:
Site context and
surrounding location.
Source: Tommy
Ehringer



The site is accessible from all sides (north, south, east, and west), although it is located to the east of downtown. Therefore, the west and south sides of the sites are the busiest locations as that is where the main roads to town are located.

In general, Sisters is rated as a Warm-Summer Mediterranean climate, however it still has varied temperatures throughout the year. In July, the monthly average temperature is 69.8 degree; in December, the monthly temperature average is 29.6 degrees. The month with the highest

precipitation is April, with an average rainfall of 1 inch.

Sisters is at an elevation of 3,182 feet and is surrounded by mountainous areas: Three Sisters Wilderness, Willamette and Deschutes National Forests, Hoodoo Ski Resort, and Smith Rock State Park. It is also situated at the base of the Cascade Mountains. Because of its proximity to the outdoors, Sisters is well known for its fishing, mountain bike and horseback riding trails, whitewater rafting, backpacking, and hiking communities.

CLIMATE

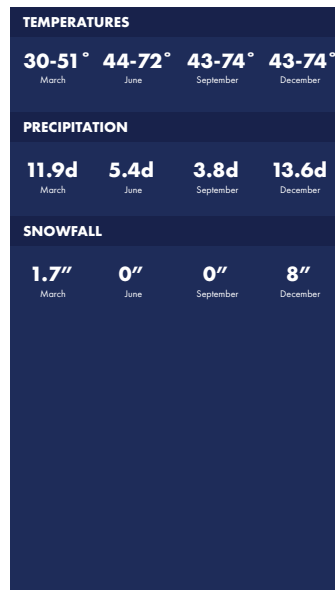


Figure SA.3: The beautiful surrounding area of Sisters, Oregon. Source: Tommy Ehringer

City of Sisters Planning Context

The class built on ideas presented by graduate Community and Regional Planning students within UO's School of Planning, Public Policy and Management, as well as City of Sisters, Sisters School District, and Sisters Parks and Recreation staff, prior to the start of site analysis and design. For this studio, the main takeaways from these meetings were:

1 Highway intersection revision:

A new roundabout is planned for the southwest part of the site. Students considered how this will impact noise, traffic, and parking access along Highway 20.

2 Fire safety: Emergency vehicle access throughout the site. Emergency vehicles must be able to drive within 150 feet of all parts of all buildings.

3 Recreational outdoor areas: Residents are eager for playing fields and space for sports such as soccer and pickleball.

4 Commercial development: The north side of the site has close access to the downtown area, and it is recommended that this should be developed for commercial use.

Figure SA.4: Proposed location of new roundabout on Highway 20



While each student independently developed their own site plan for the proposed site, the above factors greatly influenced the decision making of the schemes. The Student Project Highlights section reveals how students created commercial areas along the northern edge of the property, as well as mitigated the extra noise on the southwest side through

use of berms or foliage. All site plans have emergency vehicular access and outdoor recreational access.

The following diagrams highlight some of the main context that the students responded to, such as noise conditions, walkability, and traffic flow.

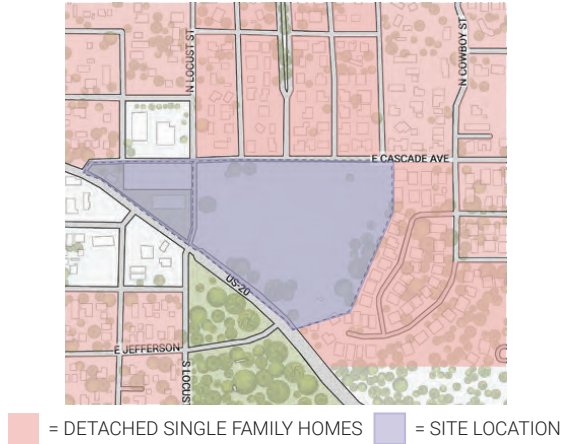


Figure SA.5: Site map highlighting main attractions. Source: Delaney Fettig

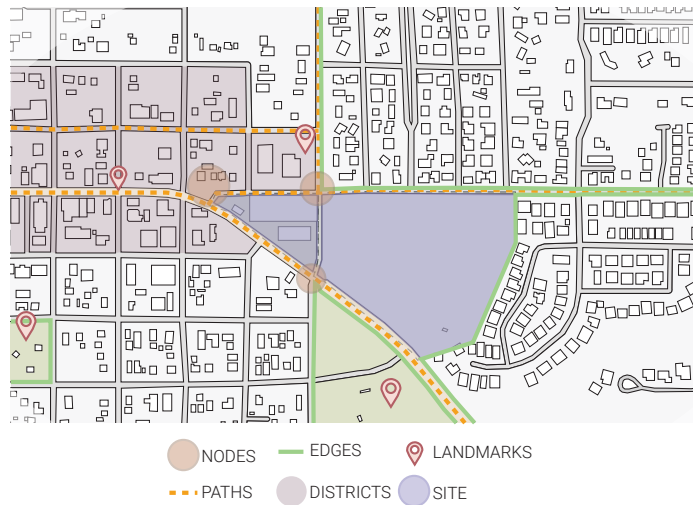
HOUSING TYPOLOGY OF SURROUNDING AREA

Figure SA.6 (pages 15-16): Diagrams highlighting housing typology, nodes/edges and paths, surrounding conditions, and site images of Sisters, Oregon. They show how the site is surrounded by low-density neighborhoods, with a link to downtown in the northwest and a natural park to the south.

Source: Delaney Fettig



LYNCH'S 5 ELEMENTS



FIGUREGROUND DIAGRAMS



Student Project Highlights

Student Project Introduction

The Co-Living studio asked each student to envision inclusive communities where spaces can adapt to changing household needs and the unpredictable consequences of climate change. The class started by approaching the design as a conceptual inquiry, and then developed both a top-down site response and considering a bottom-up modular systems approach to housing.

Students studied approaches for flexible housing and worked with German partners from the RheinMain Hochschule to see how one, two or three households might share the same overall building form. The students learned that consolidating kitchens and baths and centralizing stairs allowed more flexible use of surrounding spaces for living, sleeping, working and playing. They considered volumetric modular construction, but none adapted the approach due to transportation size limits. Instead, some students embraced a modular planning approach that provides room for growth around a core dwelling.

Students worked to provide privacy and identity within the large community. For the shared duplexes, they provided

individual, customizable entrances with private yards and balconies.

Each student adapted their own vision for how the Sisters site can combat social isolation through different co-living schemes, as well as promote community through the phased development of the Sisters Elementary school. Students worked to combine social and ecological strategies with innovative forms. While each student developed co-living housing and shared services, different focus areas were as follows, with their final household unit counts.

Healing and Wellness

- Yoga House by Alexandra Gottlin (44 units)
- Metolius Sanctuary by Andrew Tesmacher (24–36 units)

Recreation/Music

- Sisterville by Leah Lockwood (84 units)

Community Services (daycare, community dining/kitchen, etc.)

- Elementary Arbor by Tommy Ehringer (up to 54 units)
- The Sisters Gateway by Delaney Fettig (90 units)
- Winsome Haven by Wolfgang Meckem (34 units)

Yoga House by Alexandra Gottlin

One of the biggest problems we face today is this idea of “busy-ness” that takes us out of our present selves and causes us to be overly stressed. The purpose of this cohousing community is to live in the present moment, which is achieved by practicing a lifestyle that is conducive to the here and now, instead of always being in the future-stressed state. The design

goals for Yoga House are thus as follows: to create a space of transition from a busy lifestyle to a peaceful mindset, restore human connection to nature, promote sustainable design through the adaptive reuse of the existing school, and to increase community connectedness through co-living units.



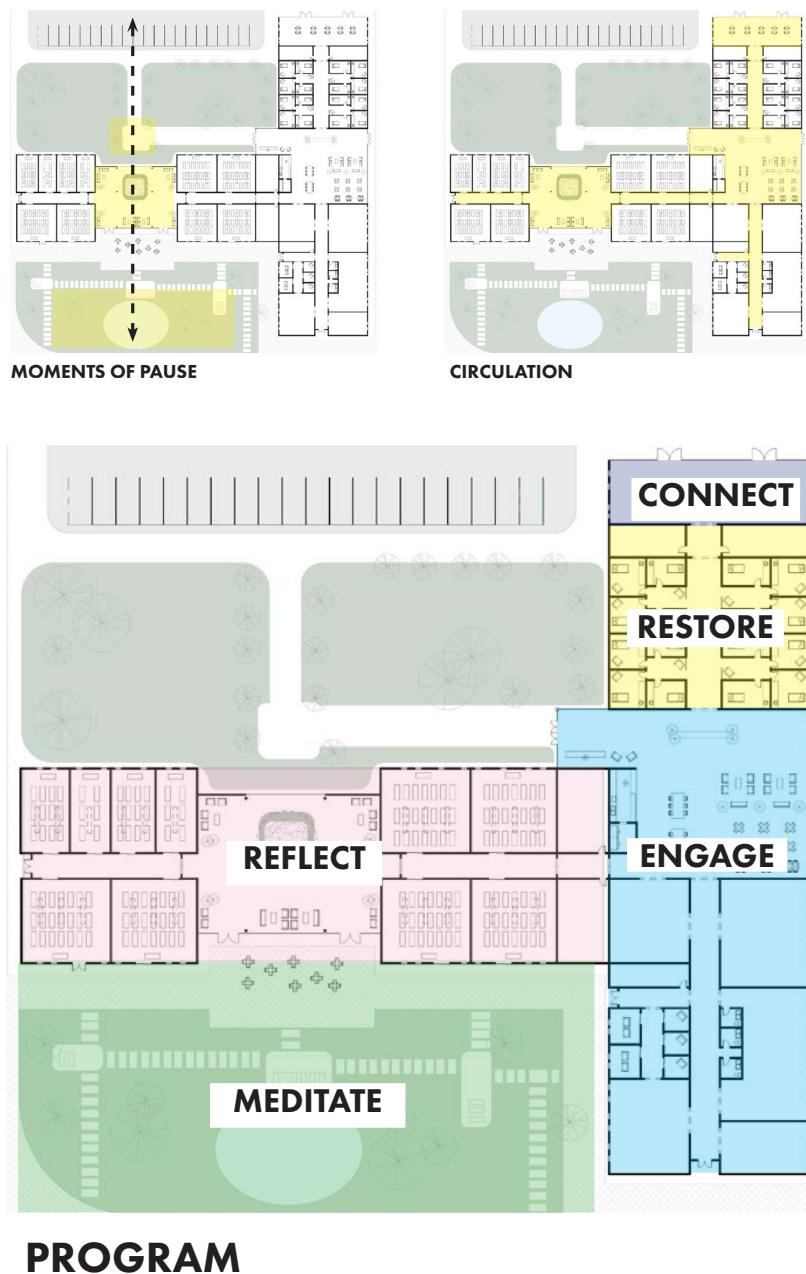
Figure AG.1: Exterior view of the Wellness Center; community members relaxing by the meditation pond

Student Project Highlights

In an effort to promote more sustainable design thinking, this project re-uses the existing building instead of demolishing the site and building new construction. The existing building was transformed into a Health and Wellness Center that focuses on a present lifestyle guided by yoga, daily meditation, outdoor gardens, and community spaces to create space for feelings of harmony and connection.

The Wellness Center was designed to have moments of pause along the entry sequence, transforming one from stressed to peaceful. Further, there are defined areas within the center to reflect, mediate, restore, and foster community engagement.

Figure AG.2 (above):
Diagrams showing
Moments of Pause,
Circulation, and Feeling
by Zone



TRANSITION SEQUENCE: BUSY TO ZEN

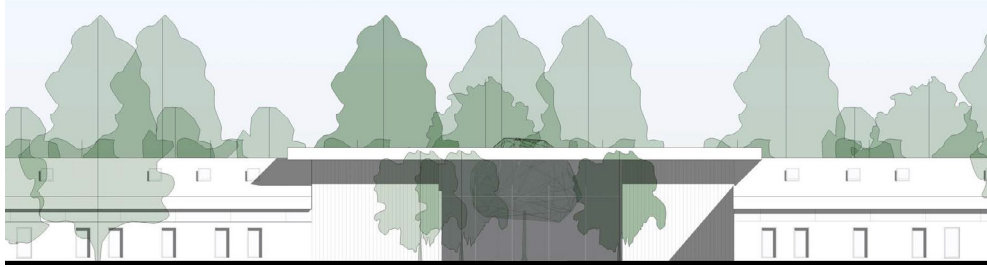


Figure AG.3 (left):
Transition sequence
from busy to zen

1. FRONT WALKWAY / MOMENT OF PAUSE



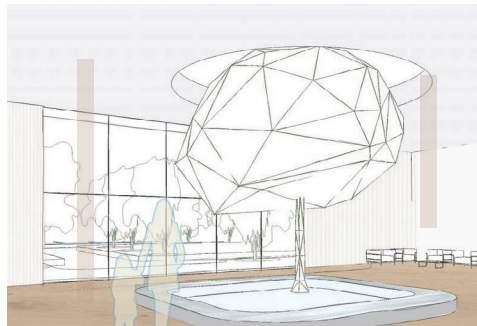
2. FRONT ENTRY / ENGAGE



3. CAFE / ENGAGE



4. YOGA STUDIO / RESTORE



5. MEDITATION ATRIUM / PAUSE

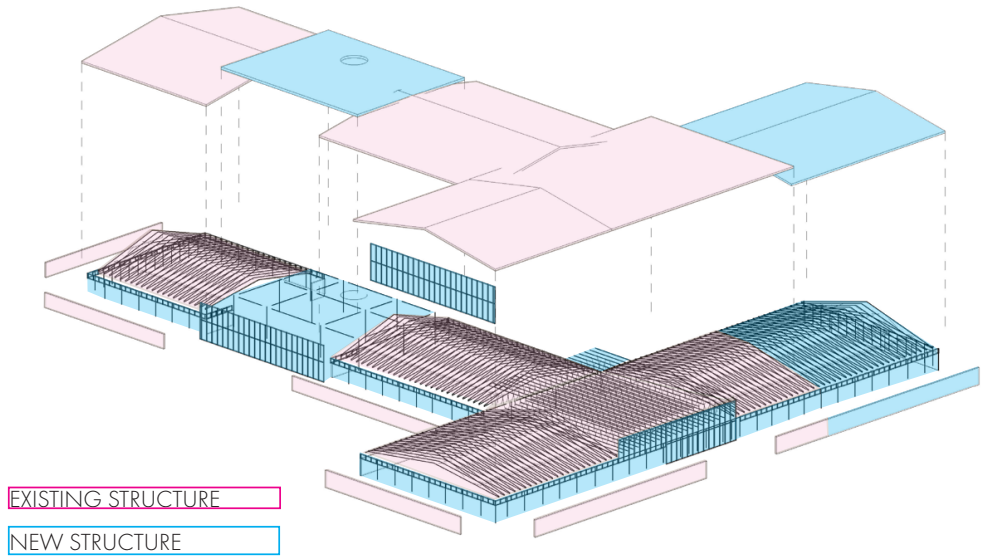
To achieve feelings of enlightenment throughout the building and establish a connection to nature while one is inside the space, clerestories were added

throughout the building. New structural support beams and columns were added to the existing structure to support this concept.

Figure AG.4: Interior view of one of the yoga rooms in the wellness center (left); structural framing overview of the existing vs. new structure of the center (right)



ELEVATED AND ENLIGHTENED FEELING THROUGH USE OF CLERESTORY



STRUCTURE FRAMING OVERVIEW

On a social level, the community will also strive to solve feelings of isolation that are easy to develop in more traditional living environments. Two units are attached by a semi-private, semi-public “flex” space

to be used for yoga, reading, playing or any way the residents sees fit. By using set common cores, each unit can be expanded to account for changing family needs.

MODULAR DESIGN & EASE OF EXPANSION

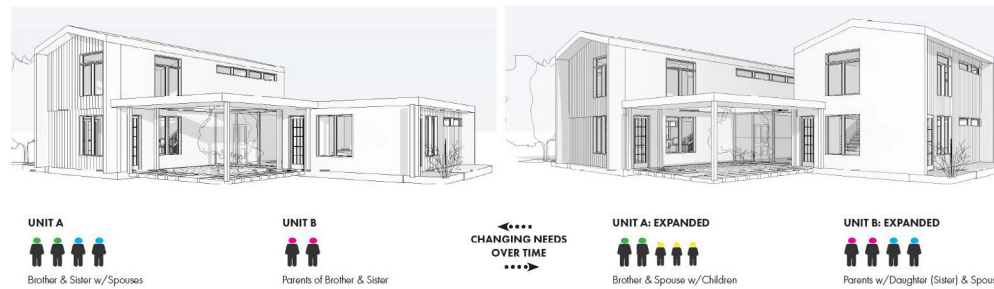


Figure AG.5: Housing spaces can be added to account for changing family needs

PROGRAM BY FEELING

The housing is set up so that there are areas to reflect, engage, connect, restore,

and meditate throughout the different spaces, just like the Community Wellness Center.

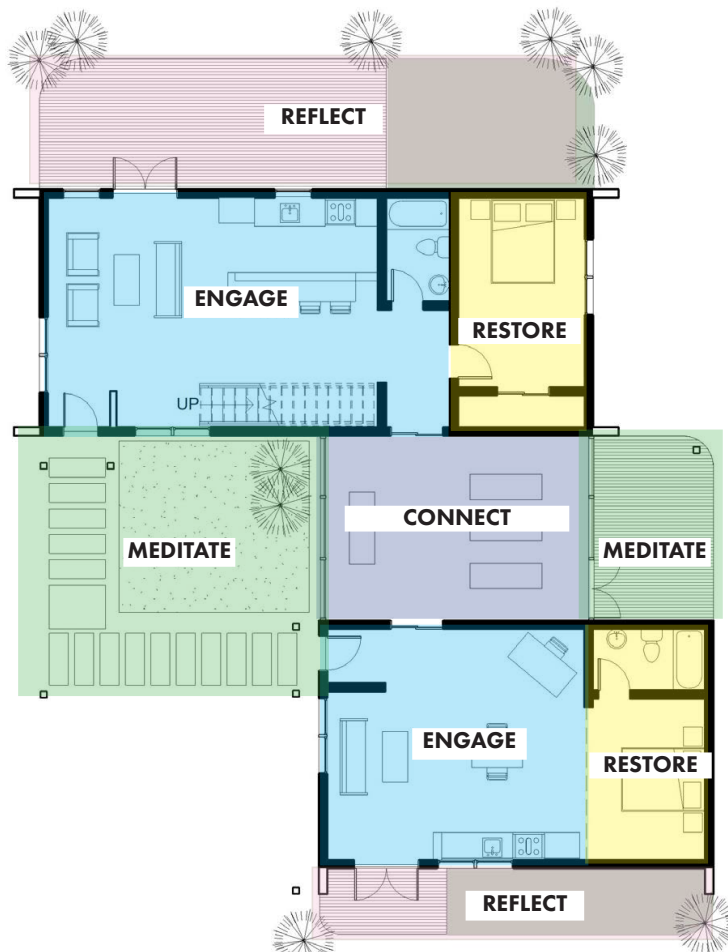


Figure AG.6: Housing program by feeling

COURTYARD LAYOUT AND HABITAT CREATION FOR POLLINATORS

Lastly, to provide transspecies habitats, as well as strength human connection to nature, the housing units are each situated

around courtyards filled with drought-resilient plantings.

Figure AG.7: Courtyard with habitat creation between units



Further information on Yoga House can be found in the Appendix.

Metolius Sanctuary by Andrew Tesmacher

Given the number of homeless and domestic abuse cases, this project explored the potential of design to alleviate suffering. The project explores how to make healing spaces that bring ideas of hope and reintegrate

marginalized individuals into society. Research into Trauma Informed Design led to crafting spaces dedicated to mitigating sensory overload, providing safety and comfort through design, and designing spaces for dignity of the individual.



Figure AT.1: Metolius Sanctuary site overview (above), housing and gardens (below)

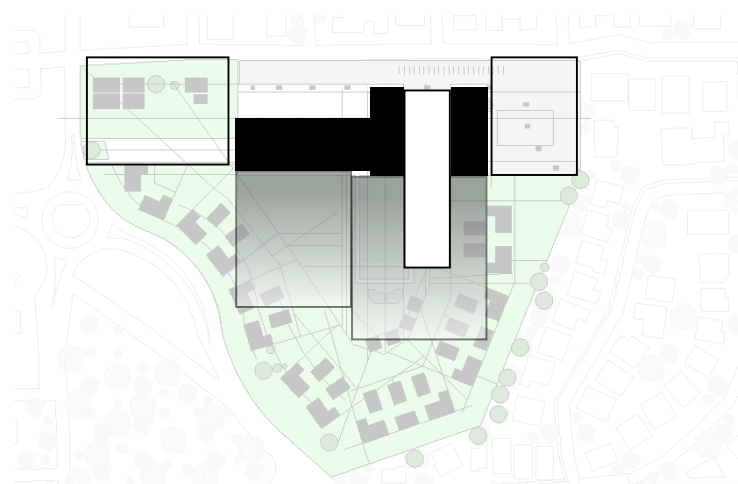


Student Project Highlights

The three ideas most associated with the decisions made in this project are:

- Flexibility: Consider how the users interact with space, and provide a range of agency to individuals.
- Security : Consider perceived security of each zone, and how adjacencies can support it.
- Defensibility: Consider how layers of space, landscaping, and paths create spaces that are defensible; spaces that create layers of protection and options to close off or defend through arrangement (doors, gates, paths, inclines, view corridors)

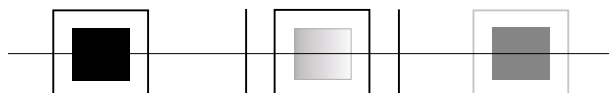
Figure AT.2: Site plan divided up by Social Complex (Joy), Garden (Heal), and Housing (Shelter) to instill sense of flexibility, security, and defensibility



Social Complex(Joy)

Garden (Heal)

Housing (Shelter)



The community center requires consideration of the existing structure. While the existing Sisters Elementary School is structurally sound, it lacks a sense of identity, continuity with the community, and welcoming, comfortable spaces within the building. Further, the existing structure allows for minimal daylight and could be more conducive to social interaction.

To create beautiful spaces that capture as much daylighting as possible while preserving the existing form, this proposal sought to remove certain spaces from the existing structure, only adding where it can bring better conditions to space. In this example, we can raise the central corridor of the structure to create a beautiful center hallway that brings light through the center via white walls and capitalizes on cross and stack ventilation through its arrangement.

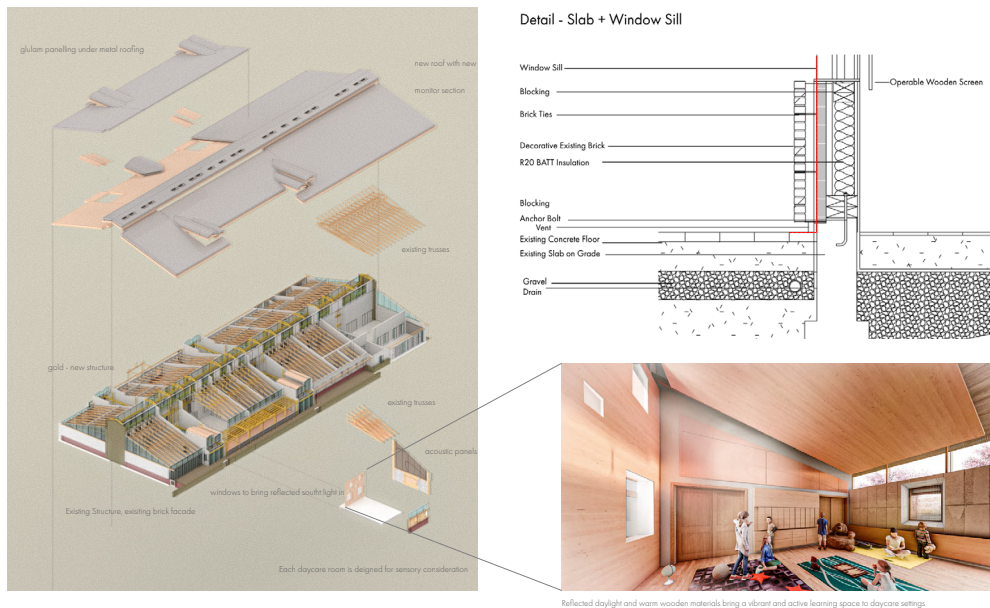


Figure AT.3: Proposed modifications to the existing structure to allow for more daylighting and welcoming, comfortable interior spaces



Figure AT.4: The butterfly pavilion is a metaphor for healing. It can be inhabited privately or opened up for large groups.

Student Project Highlights

As a shared community experience and service, Metolius Sanctuary provides outdoor healing spaces, including the Healing Garden. The most important function of the Healing Garden is its range of use. No healing garden is complete without considering how it heals; this one

does so by providing opportunities to occupants to experience a range of spaces which challenge their comfort levels. As is observable by the separation of spaces in the garden, there can be a multitude of activities going on at once from games of catch to cathartic, isolated experiences.

Figure AT.5: Outdoor space between buildings provides sense of security and healing through beauty



Further information on Metolius Sanctuary can be found in the Appendix.

Presentation video: https://www.dropbox.com/s/dr8r34whsfm3329/586_AndrewTesmacher.mp4?dl=0

Figure AT.6:
Healing garden



Sisterville by Leah Lockwood

Sisters has become well-known as a destination for experiencing live music, with the Sisters Folk Festival being one of the most successful music festivals in the region.

Sisterville is a community that features housing as well as a center for studying, playing, performing, and listening to live music. The project was inspired by the idea of informal music creation, and therefore, the community housing is based on an idea of a circle jam. A circle jam is created by a few musicians, usually

one has to be a reliable rhythm guitarist. The songs have simple chord structures and melodies that people already know or can easily figure out. People can come by with an instrument and a portable chair, sit down and play for a while, and then move on. People can walk by and sit for a while and watch, or not.

Circle jams helped organize the project; a series of circle jam nodes are located throughout the site (areas where people can stop and listen or play for a minute or an hour and then move on).

PART I

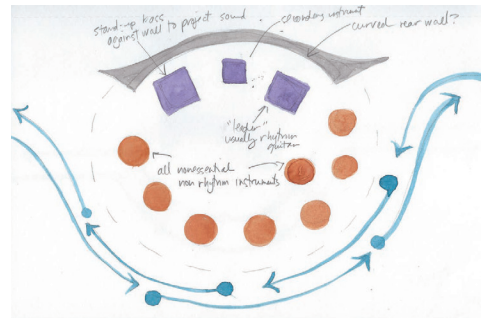


Figure LL.1: The community supports informal gathering around music. Diagram (upper right) shows how circle jam participants can join and leave. Model (bottom) shows Solo cottages, Duo flats and Trio townhomes arranged around a green space for circle jams. Photovoltaic panels for community electricity are shown on parking shelters in the foreground and townhomes.



Student Project Highlights

The idea of community music translates to community housing, which consists of three clusters of small homes in which some spaces are private, such as home interiors, and some spaces are shared, such as gardens. Homes feature covered porches and balconies that mediate between private and public, giving the option of interaction. The community homes favor walking paths over roads. At the center is an outdoor amphitheater

with staggered seating design and elevated viewing platforms. When there isn't a performance happening, and the sun is out, the floor of the amphitheater doubles as a splash pad with water that comes up in fountains and occasionally floods the floor. Parents and grandparents can watch their children run through the water below and have a picnic above, while enjoying the community of Sisters.

Figure LL.2: Site plan showing housing clusters defined by nodes of music

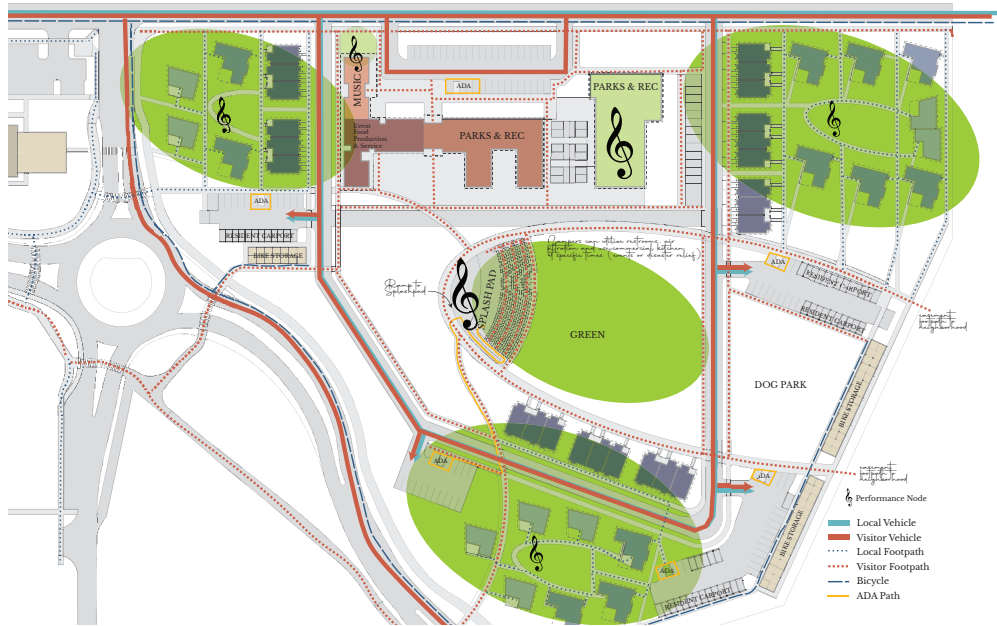
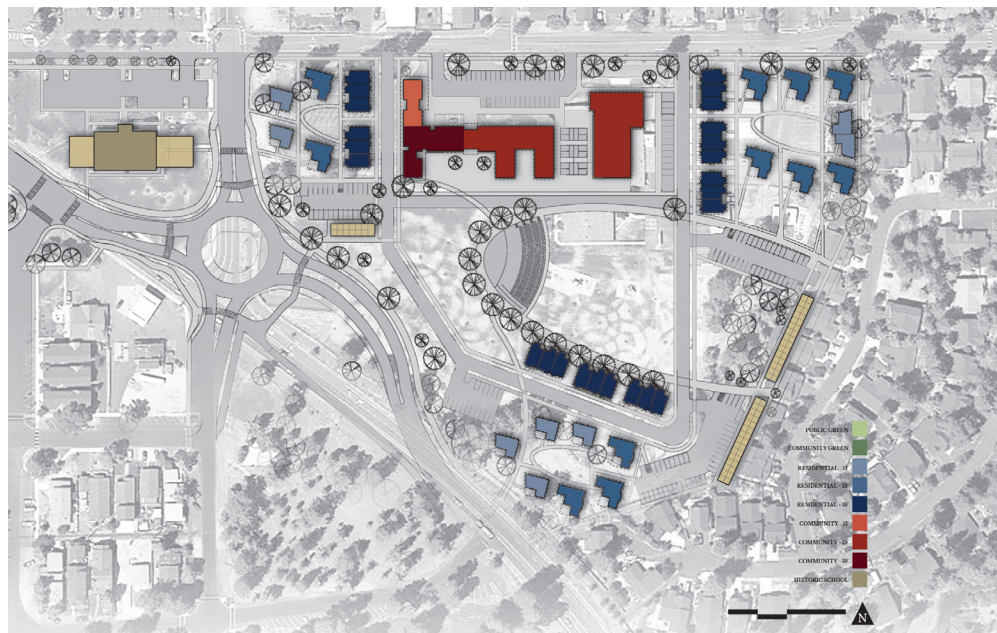


Figure LL.3: Site plan



In Sistersville’s three clusters are a total of 84 units of housing, which could provide homes for 200-300 new residents. Each cluster has three different building types, cottages, flats, and townhomes. Solo cottages are accessible units designed

for older singles and couples who might still be working from home and have guests who visit. Solo cottages have single bedrooms and an extra room that is convertible for overnight guests and/or a separate office.

SOLO COTTAGES

8 UNITS X 1 HOUSEHOLD = 8 TOTAL

- 1-story 912sf cottage for singles and couples
- Accessible unit with 1BR + office + extra room for visiting relatives
- Dog-friendly, covered outdoor rooms, fenced yards, open air dining, fireplace

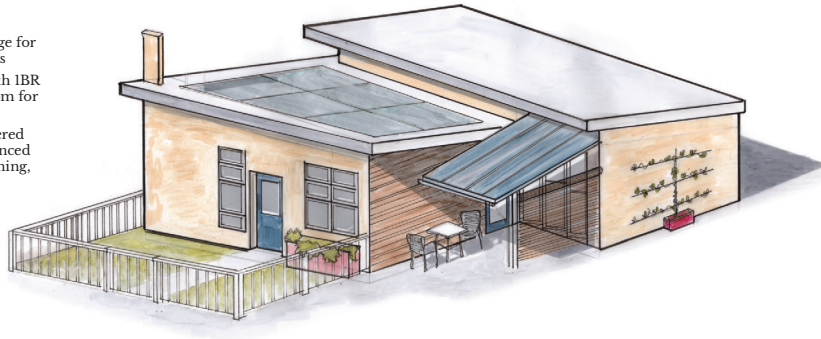


Figure LL4: Solo cottages: elevation, floor plans, and diagrams of “who lives here?”

***SOLO* COTTAGES**

1-story 912sf cottage for singles and couples

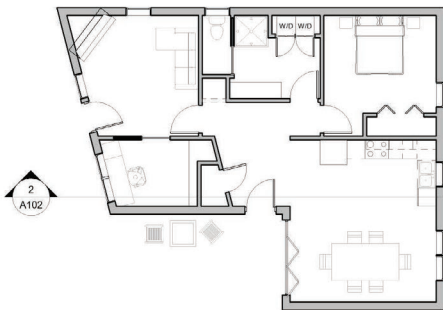
Accessible unit with quiet office + extra room for visiting relatives

Dog-friendly, covered outdoor rooms, fenced yards, open air dining, fireplace

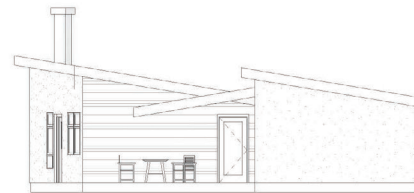


Who lives here?

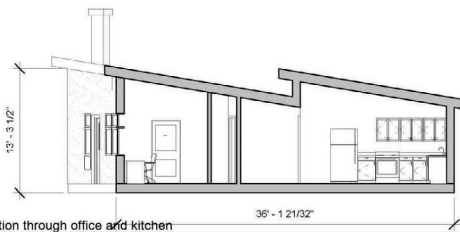
Winnifred, 70.
Winnifred is one of 30% of Americans who live alone. She works part-time in a ceramics shop in Sisters and also works from home as an interior designer. Winnifred skis twice per week. She takes yoga at the community center. She is preparing for hip replacement surgery next year, so the accessible unit is attractive to her. Her daughter Jess and granddaughter Sophie live in Bend. Jess is planning to come stay during the surgery. Sophie comes and stays with her on the weekends and takes steel drum lessons and goes to concerts during the festivals.



1 Solo First Floor
1/8" = 1'-0"



3 South (Main Entry)
1/8" = 1'-0"



2 Section through office and kitchen
1/8" = 1'-0"



4 West (Secondary Entry)
1/8" = 1'-0"

Duo flats are designed for older singles or couples who can live and work downstairs. The upstairs Duo units are entirely separate with separate entrances and outdoor spaces, and can be occupied

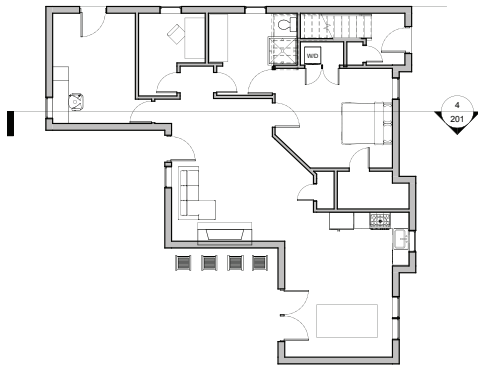
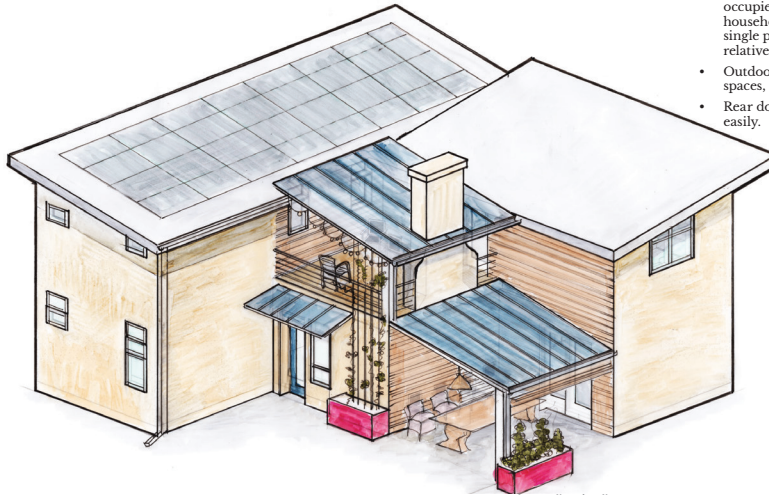
by relatives or caregivers as needed, or rented out as separate units to help finance the lower units. The upstairs units are also suitable for families with children.

DUO FLATS

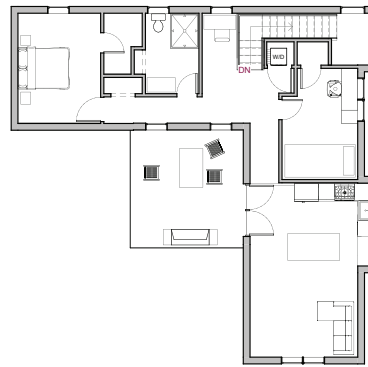
11 UNITS X 2 HOUSEHOLDS = 22 TOTAL

- 2-story flats, occupied by separate (but possibly related) households.
- Lower level 1208sf accessible, 1BR + office + area for visiting relatives
- Upper level 1012sf 2BR occupied by separate household, possible caregiver, single parent with kids, relative
- Outdoor covered semi-private spaces, separate entrances
- Rear door to let pets out easily.

Figure LL.5: Duo flats cottages: elevation, floor plans, and diagrams of “who lives here?”

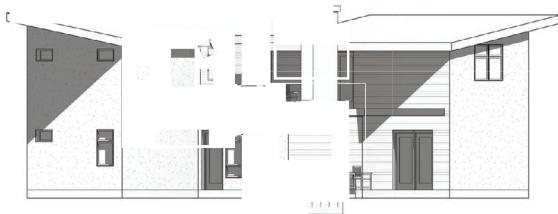


1 Duo First Floor
1/8" = 1'-0"



2 Duo Second Floor
1/8" = 1'-0"

"DUO" FLATS
2-story flats, occupied by separate (but possibly related) households
Lower level 1208sf accessible, + office + area for visiting relatives
Upper level 1012sf occupied by separate household, possible caregiver, single parent with kids, relative
Separate entrances and separate outdoor areas
Outdoor covered semi-private spaces
Rear door to let pets out easily



3 Elevation 2 - a
1/8" = 1'-0"



4 Section 1
1/8" = 1'-0"



Who lives here?
Frank, 62, and Pete, 67
Frank is in construction. Pete is a semi-retired writer.
Frank enjoys cooking, biking and entertaining.
Pete is disabled and needs care 2 hours per day.
Maria, 37, and Clementine, 14, live upstairs.
Clementine takes piano and dance classes.
Maria does part-time caregiving in exchange for rent and teaches violin lessons after school.

Trio townhomes are for families with circumstances in which there may be a dependent adult child (for example a

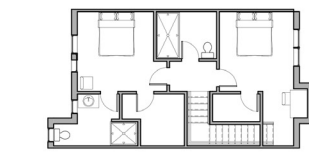
grown person with autism) who needs independent living but in a structured supportive environment.

TRIO TOWNHOMES

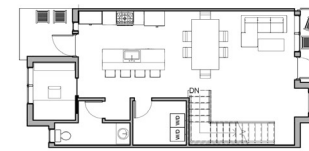
27 UNITS X 2 HOUSEHOLDS = 54 TOTAL



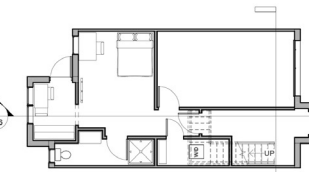
Figure LL.6: Trio Townhomes: elevation, floor plans, and diagrams of “who lives here?”



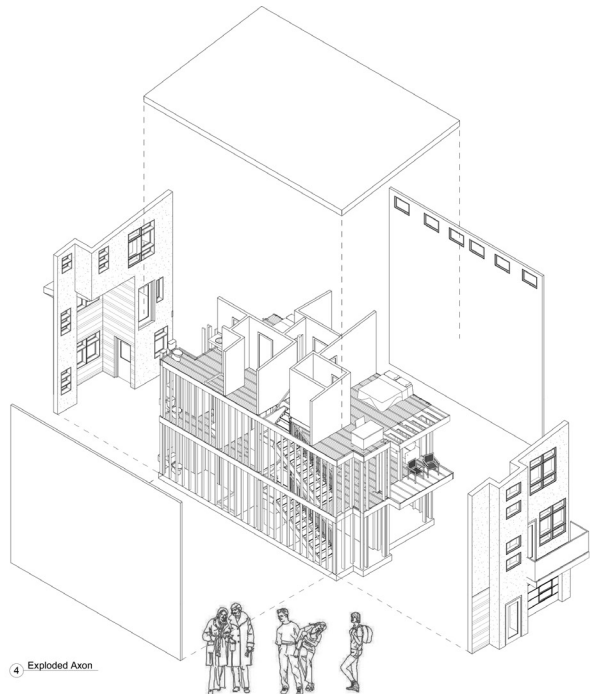
3 Trio Third Floor
1/8" = 1'-0"



2 Trio Second Floor
1/8" = 1'-0"



1 Trio First Floor
1/8" = 1'-0"



Student Project Highlights

This project also features a grouping of community amenities, shared by the residents of the cluster housing and the surrounding townspeople. These amenity spaces include an area for community music classes and performances, a commercial kitchen with pizza oven, areas for food trucks and booths for events, a

parks and recreation facility that features weightlifting and cardio equipment and wellness classrooms, a basketball court that includes indoor pickleball courts and can be used as a performance space, and additional spaces for community classrooms and childcare.

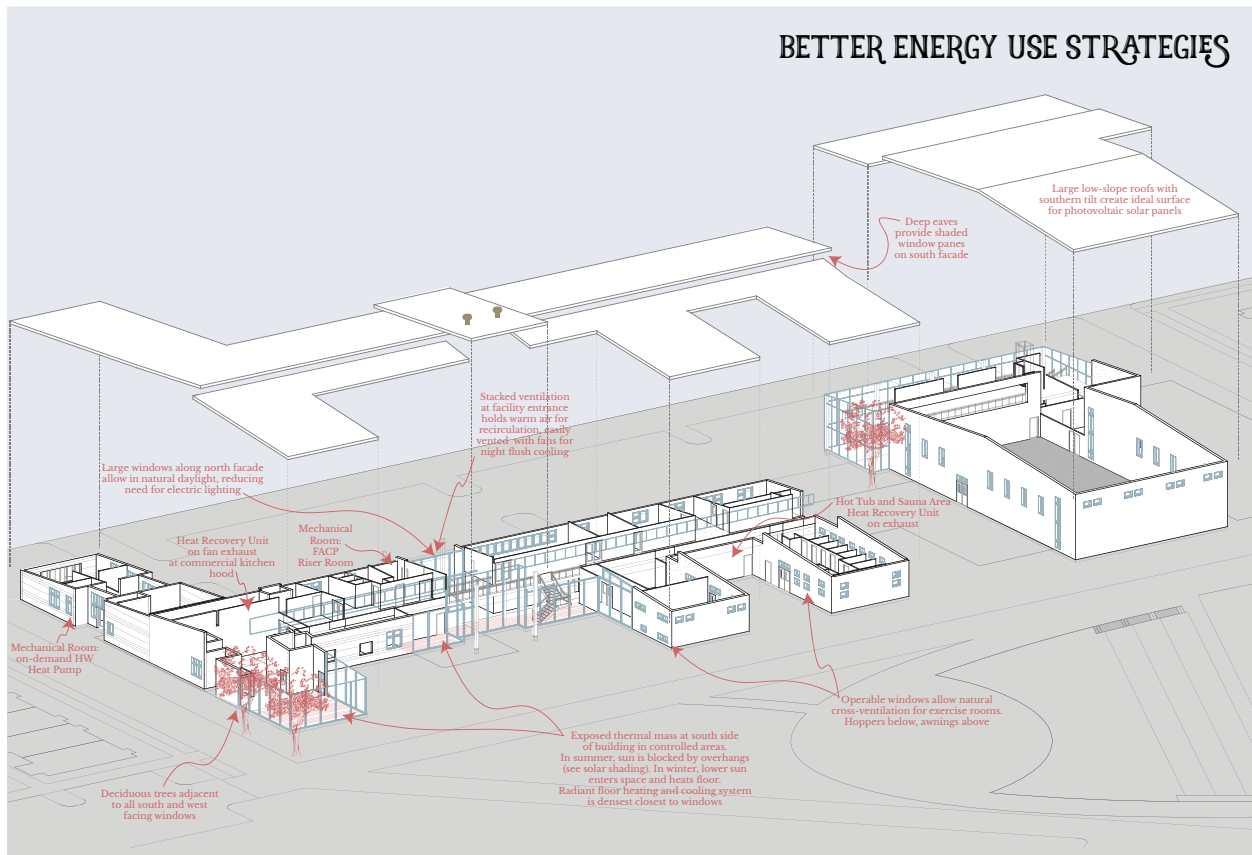


Figure LL.7: Energy strategies for new proposed community center

Further information on Sisterville can be found in the Appendix.

The Sisters Getaway by Delaney Fettig

This proposed project is designed to support multigenerational housing, along with additional commercial development, catering to the growing population of Sisters. Three main issues that drove the programming elements are the limited number of housing typologies and affordability currently available on the market; the lack of community-

based spaces often seen in housing developments; and the rising need for outdoor spaces and pedestrian-friendly spaces. To address these issues, this design provides six kinds of residential duplexes and townhomes with units from a compact 840-square-foot, two-bedroom, one-bath home to a 1,570-square-foot, four-bedroom, 2.5 bath home.



Figure DF.1: Bird’s-eye view of the site, showcasing new community and residential buildings. Outdoor community space (below)



The mixed-use community buildings located throughout the site provide new private and open office spaces, commercial shops, smaller apartment units, a community pool, and daycare,

among other program elements. These amenities make working from home and recreation convenient and enjoyable, supporting the needs of all ages.

Figure DF.2: Site map with key programmatic elements that promote co-living and co-working within the community

SITE MAP
SCALE: 1"= 80'-0"

MAP KEY

- 1. MIXED-USE BUILDING
- 2. COMMUNITY EVENT HALL
- 3. GREENHOUSE + GARDEN
- 4. TOWN HOMES E/F
- 5. COMMUNITY BUILDING
- 6. APARTMENTS
- 7. BASKETBALL COURT
- 8. PICKLE BALL COURTS
- 9. ADULT EXERCISE COURSE
- 10. PLAYGROUND
- 11. DUPLEX HOUSING CLUSTER
- 12. TOWN HOME HOUSING CLUSTER
- 13. BIOSWALES
- 14. EARTH BERM
- 15. COVERED PARKING



The range of unit types welcome a variety of individuals who can select a unit that fits their needs and family size. The variety makes it easier to move to a different unit type within the community if these

needs ultimately change. In addition, the beautiful and inviting outdoor amenities and shared spaces bring a higher quality of life to not only the residents of the development, but to all citizens of Sisters.

DUPLEX HOUSING CLUSTER

SCALE: 1"= 60'-0"

MAP KEY

1. DUPLEX A (10 UNITS)
2. DUPLEX B (14 UNITS)
3. PLAYGROUND
4. FIRE PITS + SEATING
5. LOUNGE + DINING SEATING
6. OUTDOOR KITCHEN

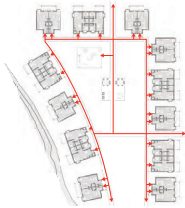
HOUSING INFO: 24 UNITS

- Duplex A (10 units)
- Single-story
- Total Area: 840 sq.ft
- Duplex B (14 units)
- Two-story
- Total Area: 1368 sq.ft.

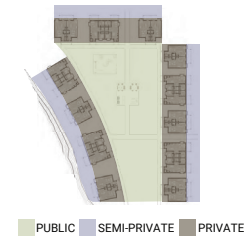


Figure DF.3: Duplex cluster design design illustrating the range of family sizes and needs of those who live there

CIRCULATION DIAGRAM



PRIVACY GRADIENT DIAGRAM



DUPLEX CLUSTER USER GROUPS

AGING-IN-PLACE



ROOMMATES



GROWING FAMILIES



Figure DF.4: Rendering and elevations of the Townhouse A/B housing unit show buildings that could fit into the single-family neighborhood while housing two families. This typology is one of several housing unit options offered in order to increase availability and affordability

Figure DF.5: Shared community spaces include a laundry lounge that overlooks a green courtyard.



In order to support community gatherings, a new community event building is proposed for the site. In order to promote the use of carbon-sequestering Oregon mass timber, the building is constructed using Glulam columns and Laminar Veneer

Lumber (LVL) beams/joists. Consistent daylighting was also a major concern, and the building is oriented with glazing so that it receives constant north light throughout the day, reducing the need for electric lighting.

Figure DF.6: Community Hall Axon

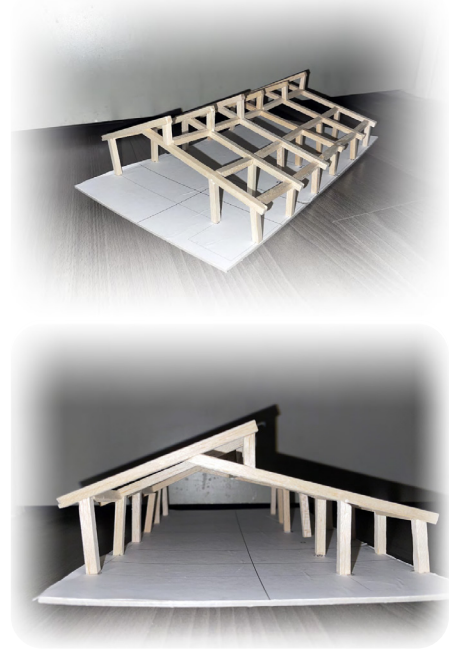
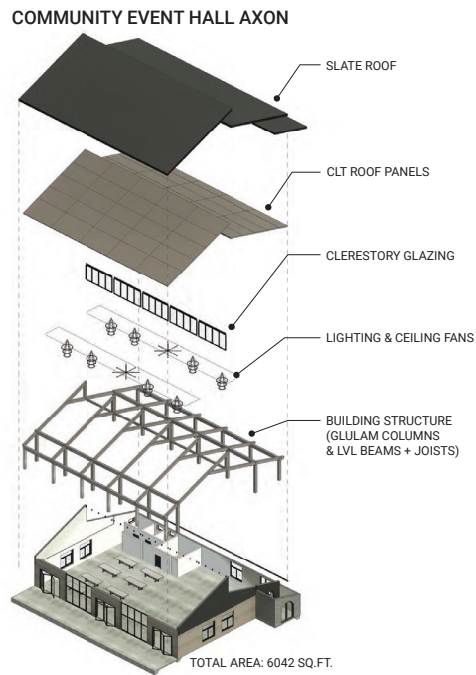




Figure DF.7: The Community Hall's south facing windows provide views of green space and controlled natural illumination. January lighting studies show even reflected morning light (top), direct afternoon sun (middle) and playful evening lighting (bottom)



Further information on The Sisters Gateway can be found in the Appendix.

Elementary Arbor by Tommy Ehringer

The Elementary Arbor proposal for the Sisters Elementary School site focuses on creating spaces that foster community creation and prioritizes pedestrians and foot traffic. The overall site layout preserves existing mature ponderosa pines due to their benefits of carbon sequestration, shading, and privacy

buffers. A park and walk system keeps parking at the perimeter and uses a European style woonerf street. This means cars can still travel through the site, but the paths are intended for pedestrian use and programming as indicated through rougher permeable road paving.



Figure TE.1: Annotated site plan highlighting program and use types

The design for the new community center focuses on creating a central gathering space for the residential community and greater area. The center aims to combat social isolation by providing multiple spaces for people to connect:

game rooms, lounge areas, a community kitchen, and guest suites are all available for use by the community. The form of the center draws inspiration from the local mountains, a homage to the community’s connection to nature.



Figure TE.2: The new Community Center welcomes residents and visitors with activity spaces

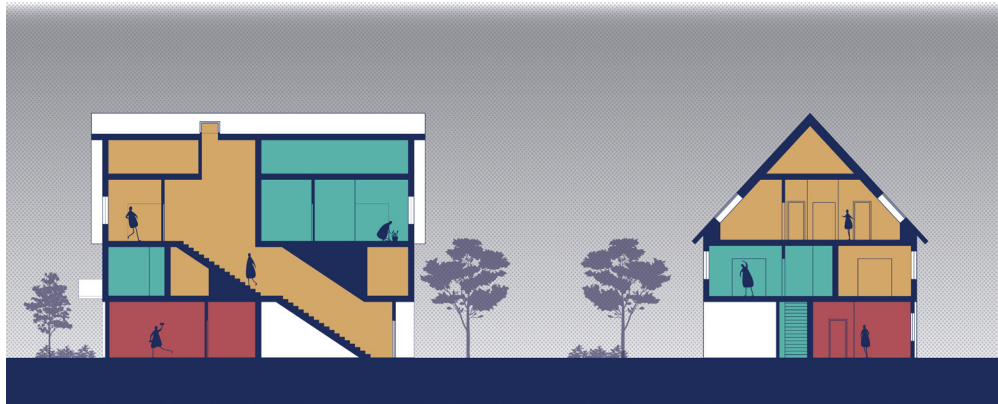
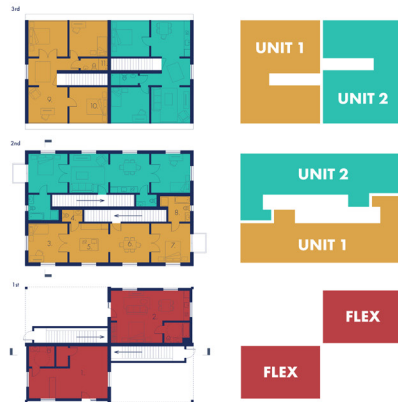


Figure TE.3: Interior rendering of the new community center

To further combat social isolation and changing family needs, the housing duplexes on the site focus on versatility. Each duplex has the potential to be split into six housing spaces. While each stairway provides access to a unit, the units themselves can be divided in half

between the second and third floors. The stairs turn into a circulation space that is shared between two different units. In addition, the first floor provides space that can be used to construct additional studio apartments, or small retail spaces.

Figure TE.4: Flexible duplex units. Floor plans and sections highlight unit versatility and how the interior spaces can accommodate a varying range of family sizes and needs



The development also includes 4-bedroom, 2.5-bath rowhomes, a new housing unit type within the Sisters area introduced to create flexible work/live housing within a compact footprint. The

rowhouses are oriented around a shared courtyard, creating a space for residents to socialize with one another. Varying levels of privacy are achieved through a variety of plantings.



Figure TE.5: Exterior rendering of the community-focused rowhomes



Figure TE.6: The three-story rowhouse has four bedrooms, an office and bonus space that accommodates extended families and working from home

Further information on Elementary Arbor can be found in the Appendix.

Winsome Haven by Wolfgang Meckem

Winsome Haven is a site-sensitive design proposal that focuses on fitting into the rural Sisters context while providing a new “park and walk” neighborhood for the community. This project also proposes a new recreational center on the site that hosts a range of community activities

such as a daycare, workout/exercise area, meditation room, and flexible gathering areas to ensure that the community and the greater population of Sisters were both able to benefit and enjoy the new recreational facilities.

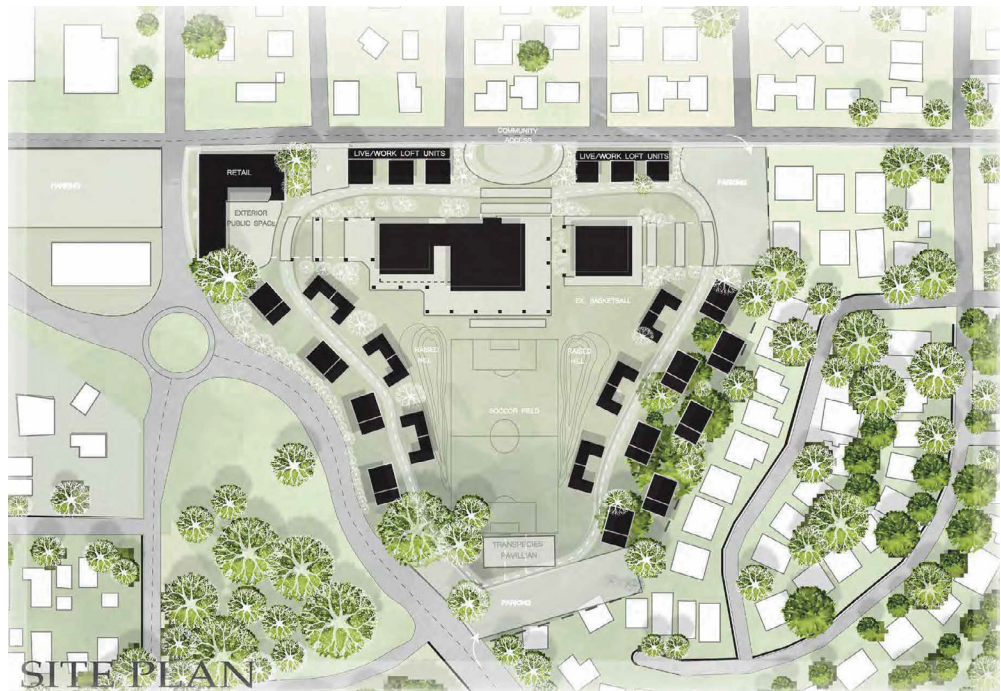
Figure WM.1: View looking north shows pedestrian friendly path through housing in the foreground and community buildings beyond, facing the central soccer field



To support safety from car traffic, parking is located on site edges. The buildings

and earth berms form a strong perimeter around the central soccer field.

Figure WM.2: Winsome Haven site plan



The homes, which would be built first, are designed to fit the Sisters neighborhood with gable roofs and heavy timber aesthetic. Two families fit in each building, so that initially 34 families could be housed. In an effort to provide more affordable housing in the area, the housing units were developed with the idea that

each 1,600-square-foot unit has a rentable “extra” 800-square-foot unit, which can house an independent family member or can be rented out to another person, to help pay for the home and also increase affordability. Units share certain amenity spaces, such as kitchens and exterior gardens to promote community.



Figure WM.3: Walking along the pedestrian pathways of Winsome Haven. View of exterior housing units



Figure WM.4: The clusters have shared lawns and gardens shown in light green and private yards shown in darker green. The square units have a more spacious family unit (left) and a more compact “extra unit” (right). The U-shaped duplexes feature a shared kitchen and private side yards

Further information on Winsome Haven can be found in the Appendix.

Main Takeaways and Conclusion

The projects illustrate how the Sisters Elementary School site could be transformed into attractive green communities.

The projects generally restrict cars to the site perimeter and place low-rise housing south of the existing school, where it can be buffered from Highway 20 noise with earth berms and landscaping. They place community buildings on the site's North edge, where they can act as a gateway marking the transition from residential to civic and commercial activities. Each one proposes how common interests such as music or wellness could draw people together.

A big decision is how much of the site should be allocated to housing vs amenities such as a community center, recreational facilities and other services. Consequently, the projects illustrate how the site can accommodate a large range of density –proposals ranging from 24 to 90 housing units on the site.

The students brought differing ideas about how to phase the site development: some felt that creating a visible change on Cascade Avenue would successfully launch the rest of the site redevelopment. Others wanted to keep the initial construction away from this major street, and wait to develop the northern edge so that unforeseen changes could shape its use, perhaps with the replacement of the existing Elementary School building. The projects show how the existing school building could be repurposed for current community needs or alternatively how it could be replaced with new buildings for the arts, wellness and recreation to better fit the growing city. Graduate students

Andrew Tesmacher and Alexandra Gottlin each proposed how the existing construction could be amended to bring in more natural light and ventilation.

The projects show different ways that smaller, more affordable homes can be paired or clustered to fit into the existing neighborhood, with sizes from 540 to 1550 square feet per unit and densities from 2.9 to 7.6 units per acre. Pairing large and small units, as in Wolfgang Meckem's duplex, can invite mixing of different household types. Alexandra Gottlin's flex space between two homes invites creative negotiation as the small homes incorporate room for growth, a critical aspect of designing for change. By providing six different housing sizes, Delaney Fettig welcomes those from many incomes.

Outdoors, all the proposals show possibilities for shared walks, recreation, picnicking and gardening. These shared spaces support community interaction and natural habitat, and can act as green reserves for future development. Maximizing natural ventilation, daylighting, passive solar and rainwater harvesting could make the site resilient. Centralized management could make district energy resources such as photovoltaic panels and geothermal earth tubes cost-effective.

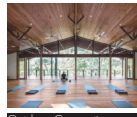
Overall, these designs paint promising possibilities for the Sisters Elementary School site.

Appendix: Individual Student Boards

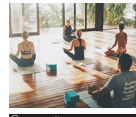
YOGA HOUSE / SISTERS, OREGON

M.A.R.C.H THESIS BY ALEXANDRA GOTTLIN

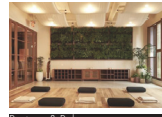
- 1 / Transition from busy life to peaceful mindset
- 2 / Restore human connection to nature
- 3 / Promote sustainable design through adaptive reuse of existing school
- 4 / Increase community connectedness through co-living



Outdoor Connection



Community



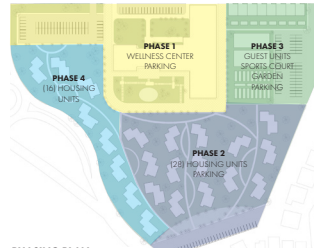
Restore & Relax



SITE CONTEXT



SITE OVERVIEW



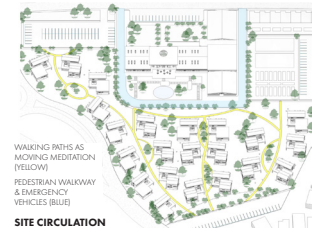
PHASING PLAN



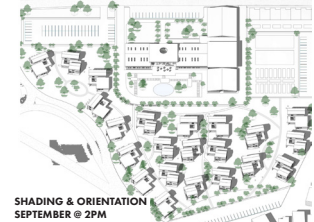
- LEGEND**
- 1 / WELLNESS CENTER
 - 2 / REFLECTION POND
 - 3 / HOUSING
 - 4 / GUEST UNITS
 - 5 / SPORTS COURT
 - 6 / GARDENS
 - 7 / PARKING

DENSITY
44 UNITS
3.5 UNITS PER ACRE

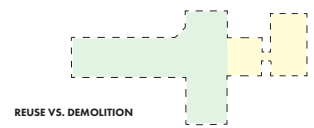
SITE PLAN
1" = 60'-0"



SITE CIRCULATION



SHADING & ORIENTATION
SEPTEMBER @ 2PM



REUSE VS. DEMOLITION

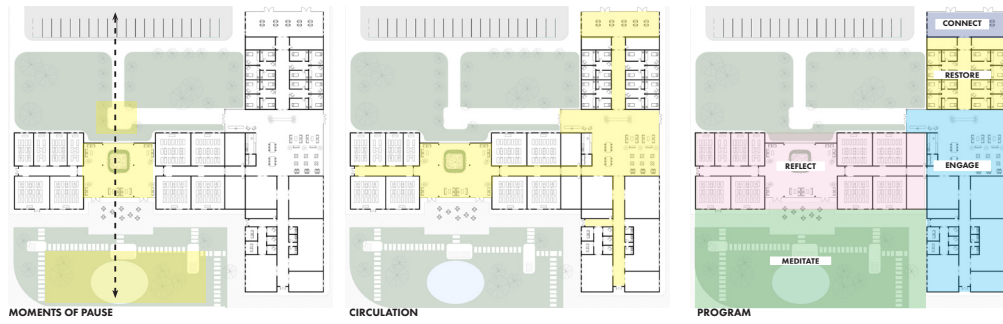


NORTH SITE SECTION / 1" = 16'-0"

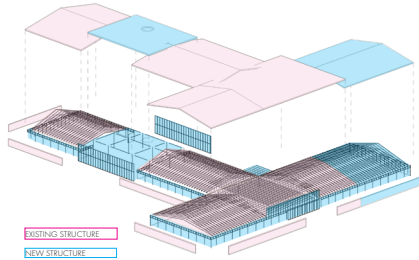


EAST SITE SECTION / 1" = 16'-0"

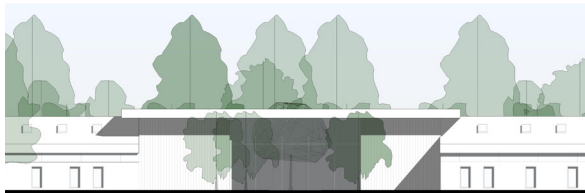
COMMUNITY WELLNESS CENTER



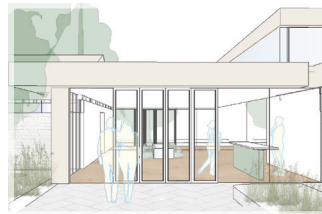
ELEVATED & ENLIGHTENED FEELING THROUGH USE OF CLERESTORY



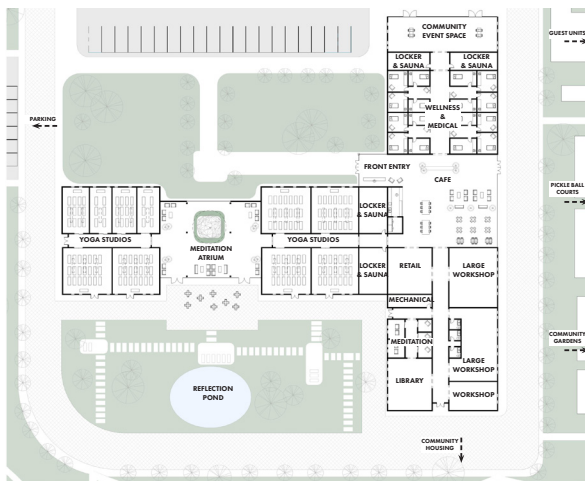
STRUCTURAL FRAMING OVERVIEW



TRANSITION SEQUENCE FROM BUSY TO ZEN: 1. FRONT WALKWAY / MOMENT OF PAUSE / 1"=16'-0"



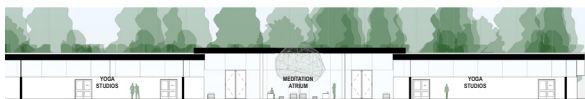
2. FRONT ENTRY / ENGAGE



COMMUNITY CENTER PLAN
1"=30'-0"



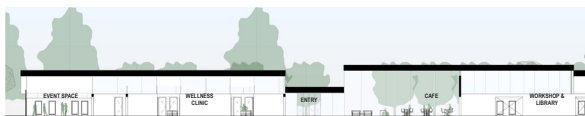
3. CAFE / ENGAGE



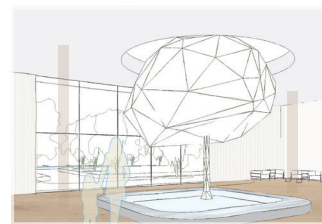
COMMUNITY SECTION A
1"=16'-0"



4. YOGA STUDIO / RESTORE



COMMUNITY SECTION B
1"=16'-0"

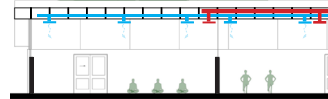


5. MEDITATION ATRIUM / PAUSE

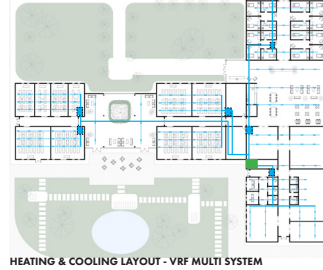
COMMUNITY WELLNESS CENTER - TECHNICAL DETAILS

MECHANICAL DESIGN STRATEGY
 For a large building where heating and cooling needs differ, the split system selected heats and cools as needed in different zones for more efficient use.

DUCTWORK DIAGRAM
 Blue = Heating & Cooling

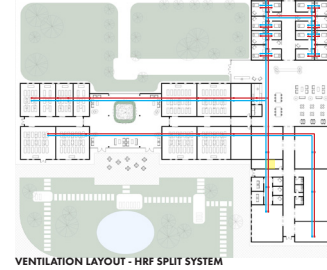


Mitsubishi Multi System "N"
 VRF located outside
 Fan, Filter & Coil inside ceiling

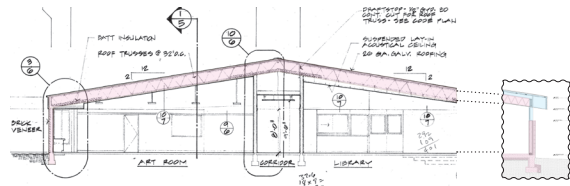


HEATING & COOLING LAYOUT - VRF MULTI SYSTEM

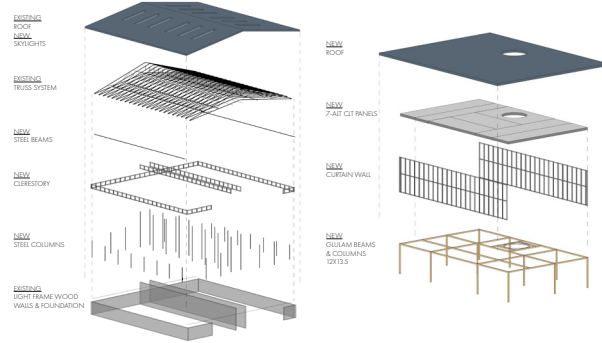
HRF Ventilation System
 Supply = Blue
 Return = Red



VENTILATION LAYOUT - HRF SPLIT SYSTEM

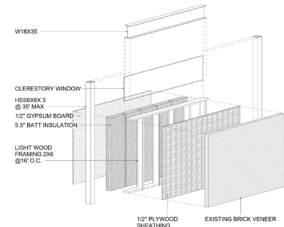


EXISTING VS NEW WALL STRUCTURE 1/8" = 1'-0"

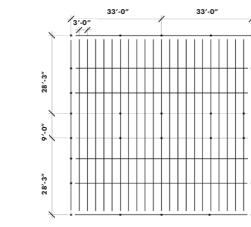


STRUCTURAL FRAMING - YOGA STUDIO

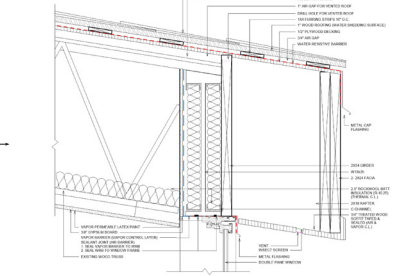
STRUCTURAL FRAMING - MEDITATION ATRIUM



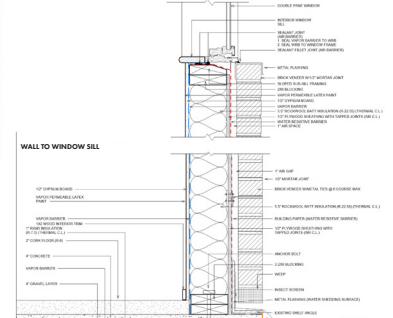
ENCLOSURE & STRUCTURE AXON DIAGRAM



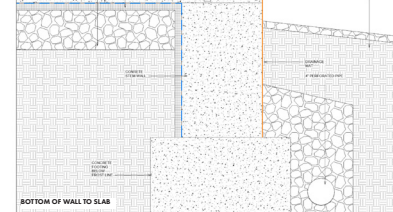
STRUCTURAL FRAMING PLAN - YOGA STUDIO 1/16" = 1'-0"



WINDOW HEAD TO ROOF



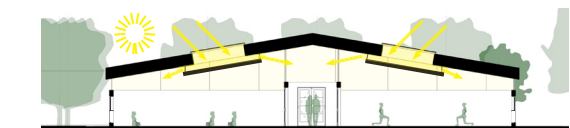
WALL TO WINDOW SILL



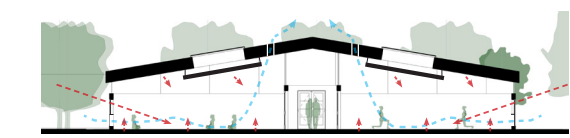
WALL SECTION - CONSTRUCTION DETAILS 2" = 1'-0"

DAYLIGHTING & PASSIVE STRATEGIES

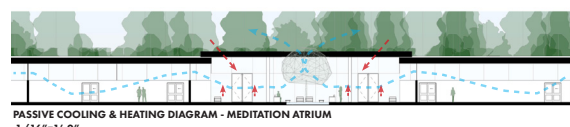
Passive heating & cooling through major building axis by using sliding glass partitions, clerestory, and windows. Trees to the west reduce heat gain during summer months. Use of skylights and diffusers in major spaces to reduce need of electric lighting, and to create a diffused glow in hallways and between rooms.



DAYLIGHTING DIAGRAM 1/8" = 1'-0"



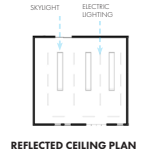
PASSIVE COOLING & HEATING DIAGRAM - YOGA STUDIOS 1/8" = 1'-0"



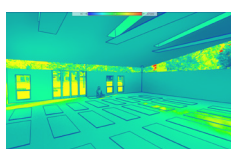
PASSIVE COOLING & HEATING DIAGRAM - MEDITATION ATRIUM 1/16" = 1'-0"



NIGHT RENDERING



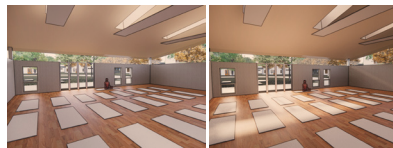
REFLECTED CEILING PLAN 1/16" = 1'-0"



LUX LEVEL - SEPTEMBER 2PM

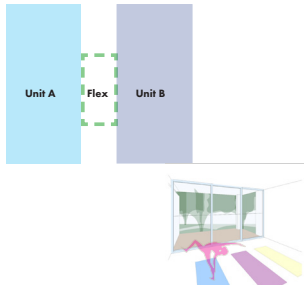


ENERGY USE INTENSITY



SUMMER VS WINTER - 12PM

COMMUNITY CO-LIVING: FLEXIBLE LIVING



FLEXIBLE SHARED CONNECTION SPACE BETWEEN UNITS



SUNNY COURTYARDS AND BREEZY PATHS



PROGRAM BY FEELING



COMMUNITY HOUSING WALKING PATH & COURTYARD



HABITAT CREATION FOR POLLINATORS



UNIT A

 Brother & Sister w/Spouses

UNIT B

 Parents of Brother & Sister

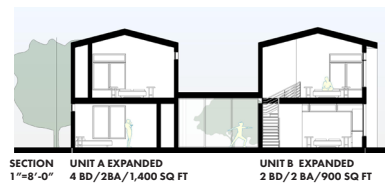
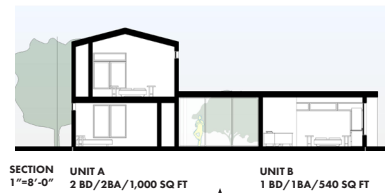
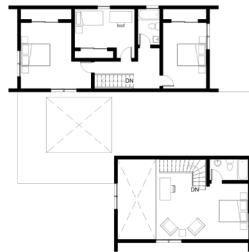
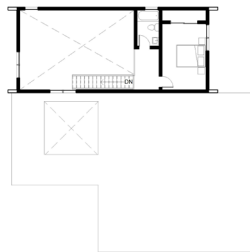
←←←
 CHANGING NEEDS
 OVER TIME
 →→→

UNIT A: EXPANDED

 Brother & Spouse w/Children

UNIT B: EXPANDED

 Parents w/Daughter (Sister) & Spouse



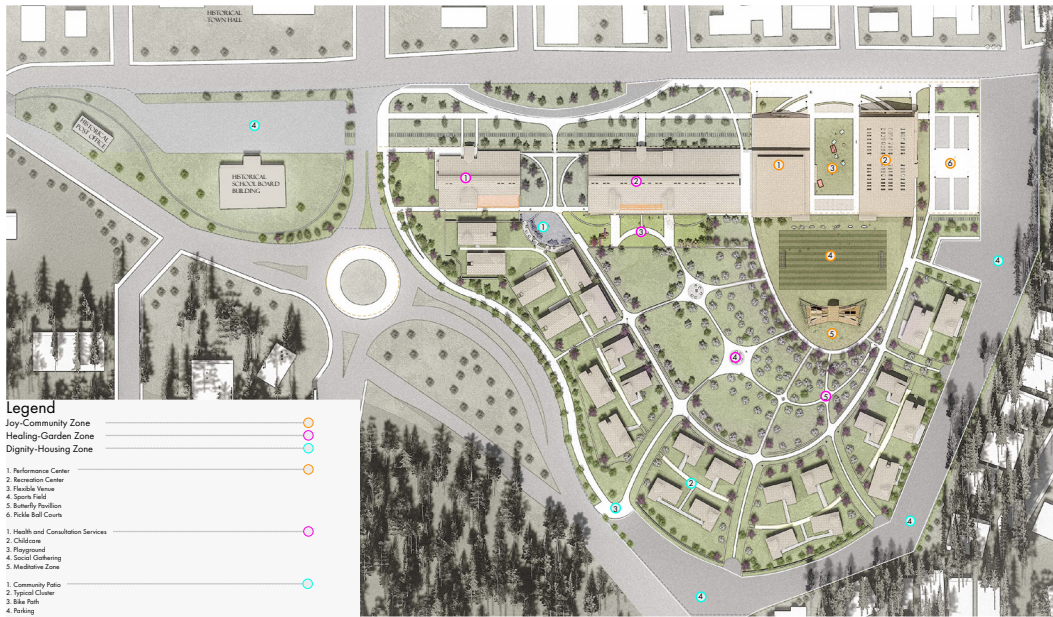
UNIT A & B FIRST & SECOND FLOOR PLANS 1"=10'-0"



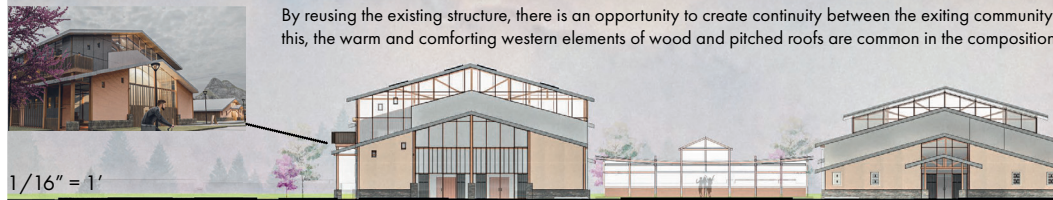
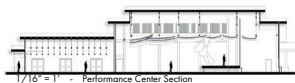
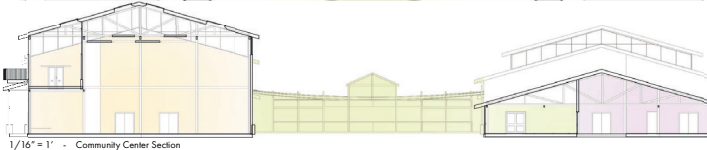
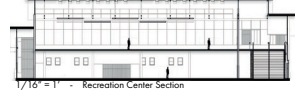
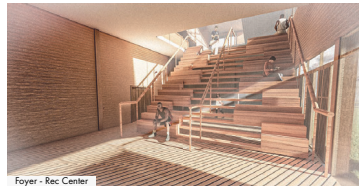
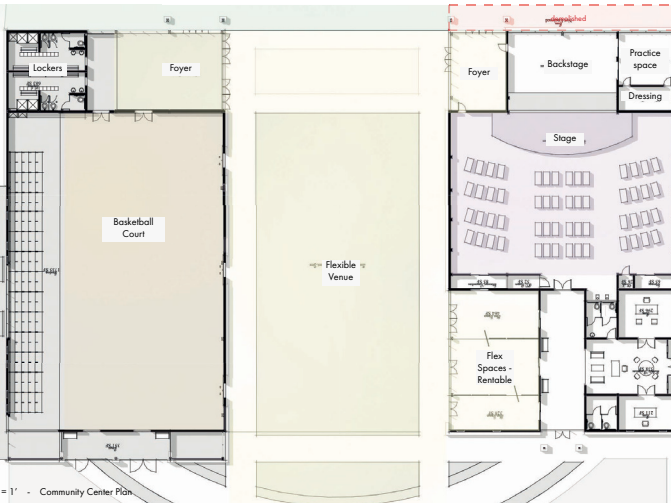
UNIT A & B EXPANDED FIRST & SECOND FLOOR PLANS 1"=10'-0"

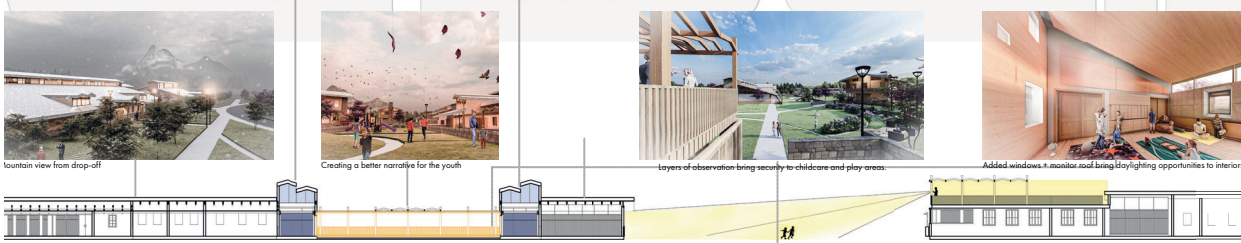
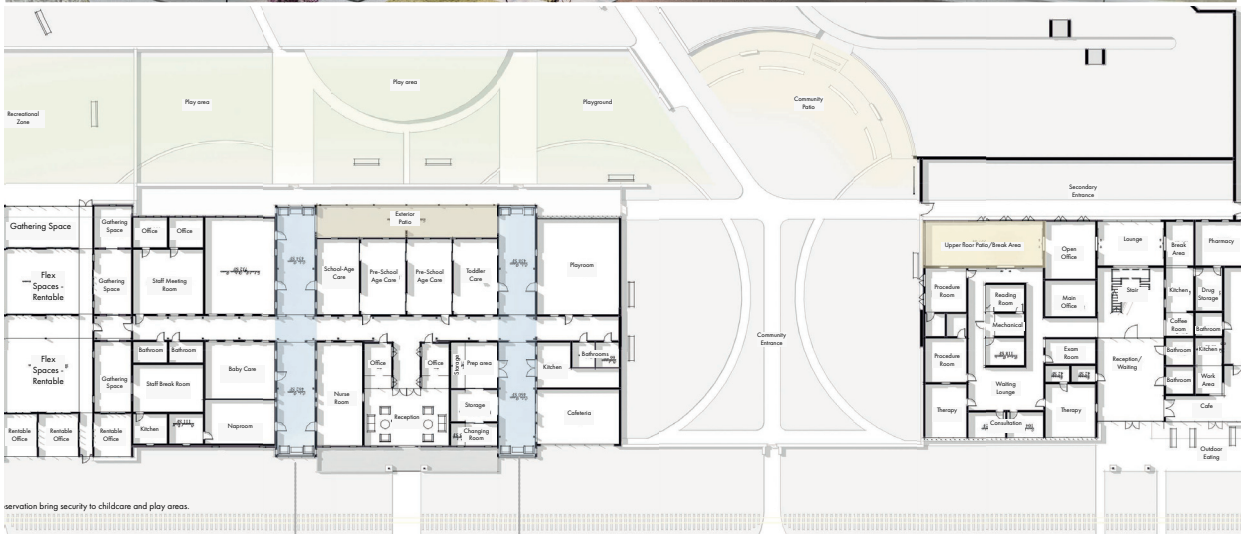
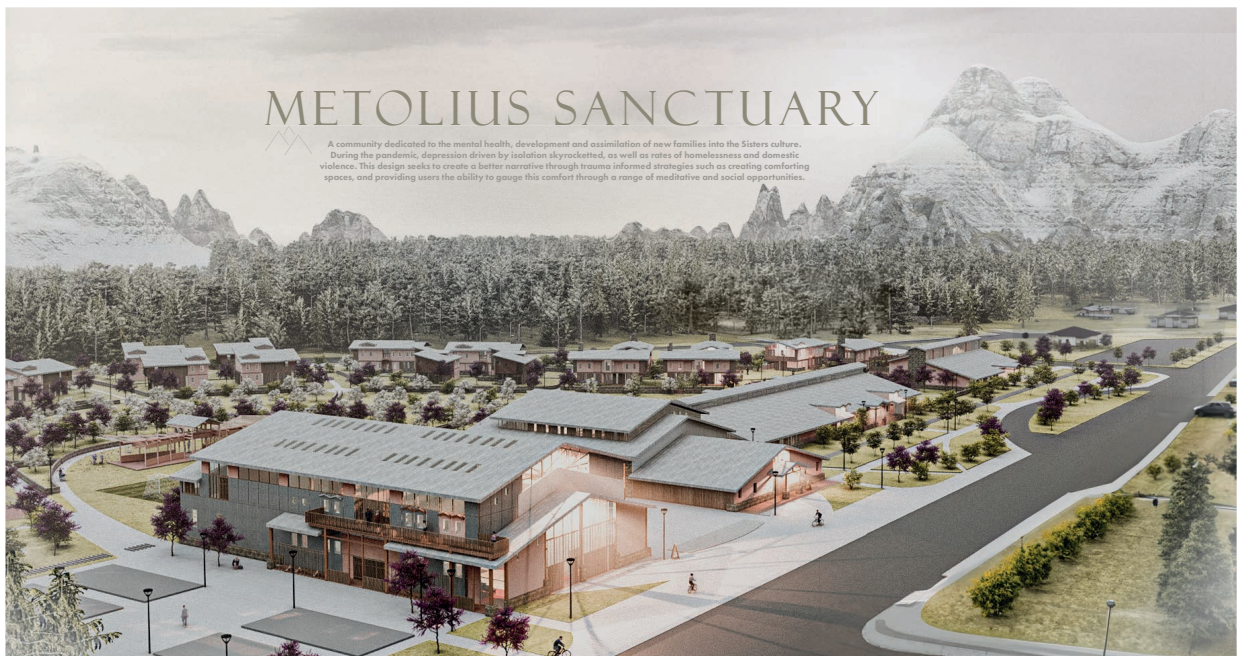


PEDESTRIAN PATH BETWEEN COMMUNITY CENTER AND HOUSING



- Legend**
- Joy-Community Zone
 - Healing-Garden Zone
 - Dignity-Housing Zone
1. Performance Center
 2. Recreation Center
 3. Flexible Venue
 4. Sports Field
 5. Butterfly Pavilion
 6. Pickle Ball Courts
1. Health and Consultation Services
 2. Children
 3. Playground
 4. Social Gathering
 5. Meditative Zone
1. Community Patio
 2. Typical Center
 3. Bike Path
 4. Parking





residents. To Celebrate
the main entries.

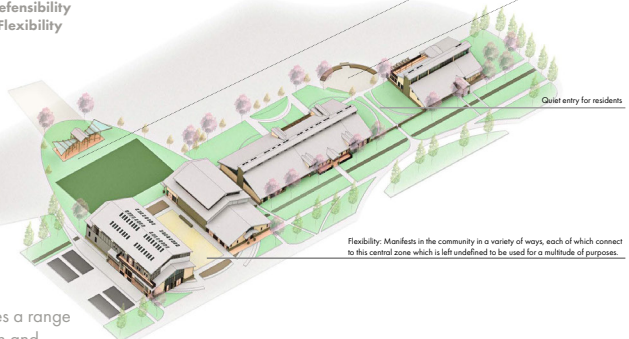
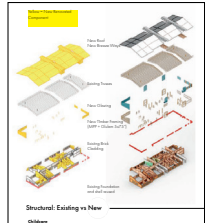
Appendix: Final Posters—Metolius Sanctuary by Andrew Tesmacher



These spaces exhibit security through their arrangement, providing layers of barriers between the inner and outer community. Defensibility manifests as each zone claims dominion over itself through framed paths and entries, heightened terraced landscaping, and view corridors to observe and protect other more exposed spaces. Flexibility is achieved through the connection between spaces, allowing users to measure their position in space via their own comfort through a gradient of meditative spaces, to more social spaces within the healing garden, culminating at the butterfly pavilion which allows an optional connection to the recreation zone.

The main goal is to design for **Dignity**. To nurture more positive generational narratives for the changing family, this proposal prioritizes dignity in each space through 3 methods:

- Security
- Defensibility
- Flexibility



Flexibility: Manifests in the community in a variety of ways, each of which connect to this central zone which is left undefined to be used for a multitude of purposes.

The Community zone provides a range of opportunities for recreation and social engagement.

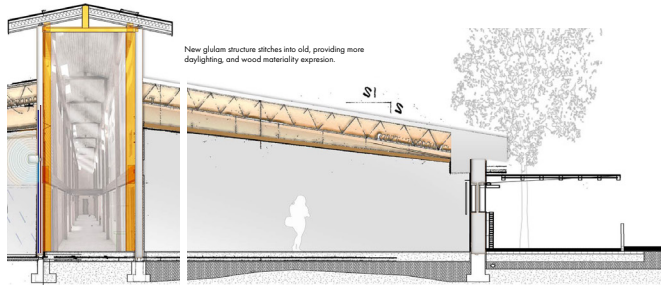
Each component of the community center uses existing structure of the old elementary school on the site. Through adaptive reuse, new communal functions are served while maintaining familiarity among locals.



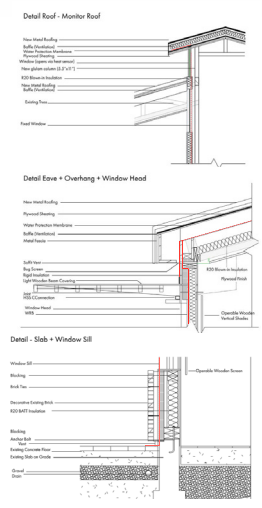
Cross + Stack Ventilation brings fresh air throughout circulation spaces. Ground-based heating and cooling system brings refrigerant through base embedded in walls, allowing for consistent year round comfort naturally, and the ability to simplify interiors to reduce sensory overload, as well as costs.



Trusses raised, red section raised via new glulam structure.



New glulam structure stitches into old, providing more daylighting, and wood materiality expression.





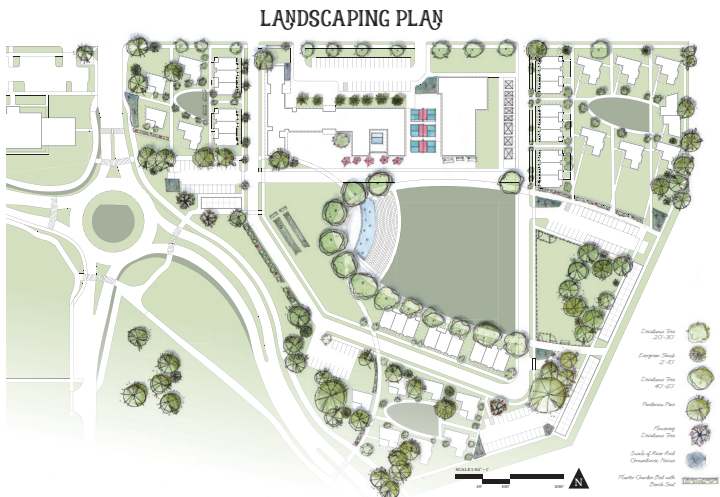
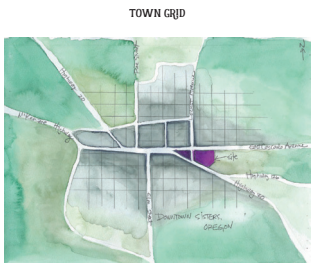
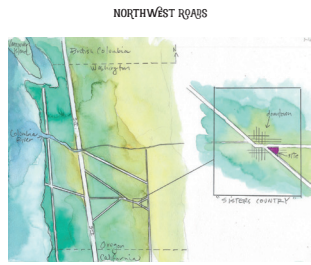
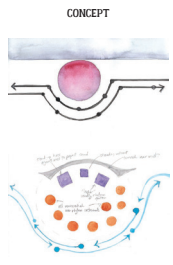
LEAH LOCKWOOD
UNIVERSITY OF OREGON - COMMUNITY DESIGN TERMINAL STUDIO
DISTRICT: NANCY CHAMBERS SPRING 2012

SITE LOCATOR PLAN AND SITE BOUNDARY PLAN
SISTERS ELEMENTARY SCHOOL PROPERTY

PROPOSED PHASING AND LAND DIVISION PLAN

PROPOSED PHASING PLAN
84 UNITS • 12.6 ACRE SITE • GROSS BLDG COVERAGE: 16%

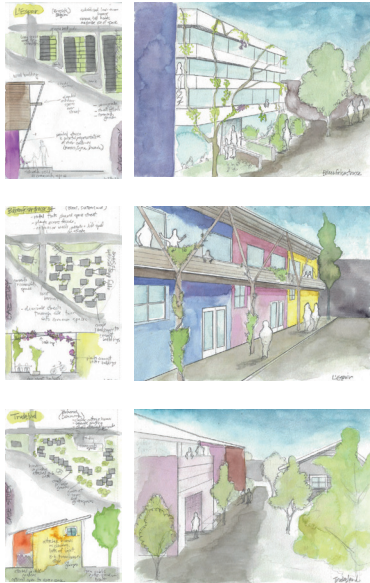
PHASE	DESCRIPTION	UNITS	ACRES	COVERAGE
PHASE 1: Develop PARCEL A	Build Housing Northwest Cluster	6 bldgs, 12-18 units	1.2	10%
PHASE 1A: Renovate Historic School	Full Renovation for Adaptive Learning Park & Multi-Cluster Daycare: Pre-K	1.2	1.2	10%
PHASE 2: Road & PARCEL B	Build Road, Infrastructure, Adaptive Learning Park & Multi-Cluster Daycare: 10 bldgs, 22-30 units	22-30	2.2	18%
PHASE 3: Develop PARCEL C	Demolish Elementary School, Build Community Spaces	10 bldgs, 22-32 units	2.2	18%
PHASE 4: Develop PARCEL D	Build Housing Northwest Cluster	10 bldgs, 22-32 units	2.2	18%



NORTHWEST HOUSING CLUSTER

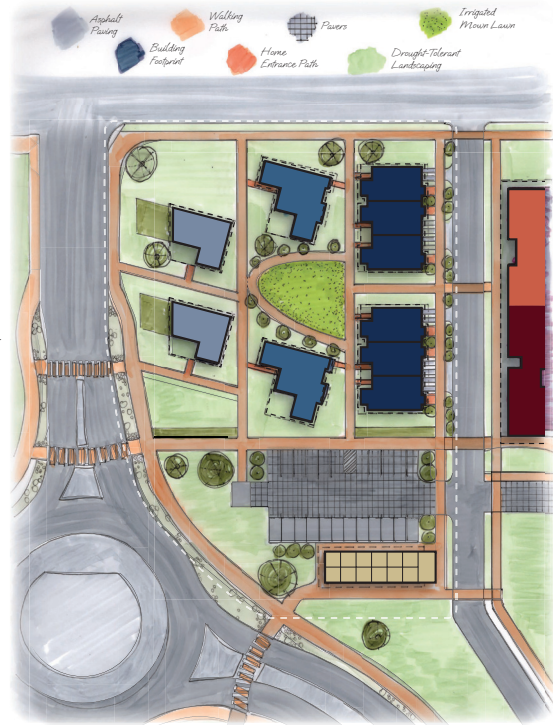
6 UNITS • 18 HOMES

CASE STUDIES



ELEMENTS OF A GOOD CLUSTER:

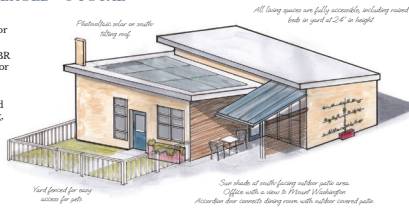
- SIZE IS EVERYTHING**
A handful of buildings for a couple dozen households
- ENOUGH SPACE IN BETWEEN**
15-25' ideal space between structures
- GREENSPACE IN THE CENTER**
All can view the central green from a key living space
- PRETTY ENTRANCES**
Places to sit and visit nearby
- UNIQUE STREET ADDRESSES**
(No unit numbers)
- INVISIBLE STORAGE**
Usable storage spaces for bikes and strollers
- FIREPLACES**
Something to look at and warm your toes
- VERSATILE HARDSCAPE**
Planters can create sitting spaces
- INTERESTING LIGHTING**
Vary outdoor light fixtures between units
- HIERARCHY OF PATHS**
Change width & surface pattern
- DON'T CUT THROUGH THE MIDDLE**
Central green gathering space is accessed from sides
- LARGE NEUTRALS, SMALL ACCENTS**
Cladding in natural, neutral materials, jewel-tone accents
- VIEWS OF NATURE**
Cultivated greenspace, views of wilderness
- GRADIENTS OF PRIVACY**
Opaque borders on private spaces, transparent on public
- PORCHES AND BALCONIES**
Invite conversations
- COVERED OUTDOOR AREAS**
Areas to cook and gather
- ARBORS AND TRELLISES**
Grow something to link separate spaces and divide connected spaces



SOLO COTTAGES

8 UNITS X 1 HOUSEHOLD = 8 TOTAL

- 1-story 912sf cottage for singles and couples
- Accessible unit with 1BR + office + extra room for visiting relatives
- Dog-friendly, covered outdoor rooms, fenced yards, open air dining, fireplace



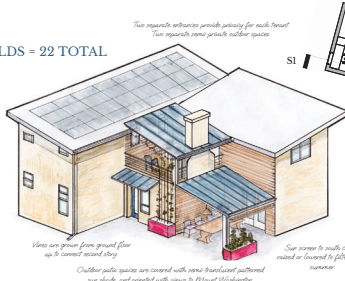
SECTION 1



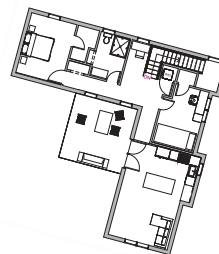
DUO FLATS

11 UNITS X 2 HOUSEHOLDS = 22 TOTAL

- 2-story flats, occupied by separate (but possibly related) households
- Lower level 1208sf accessible, 1BR + office + area for visiting relatives
- Upper level 1012sf 2BR occupied by separate household, possible caregiver, single parent with kids, relative
- Outdoor covered semi-private spaces, separate entrances
- Rear door to let pets out easily.



1ST FLOOR



2ND FLOOR



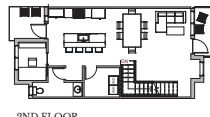
SECTION 1



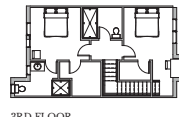
TRIO TOWNHOMES

27 UNITS X 2 HOUSEHOLDS = 54 TOTAL

- 3-story town homes occupied by 2 separate (but possibly related) households
- Downstairs: 395sf Studio
- Upstairs Unit: 1465sf 2BR, 2.5BA + 2 offices
- Separate entrances & outdoor & areas
- Covered, semi-private, outdoor spaces
- Controlled acoustics & organization on lower level unit



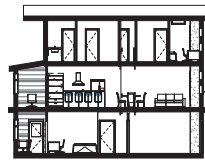
2ND FLOOR



3RD FLOOR



SECTION 1



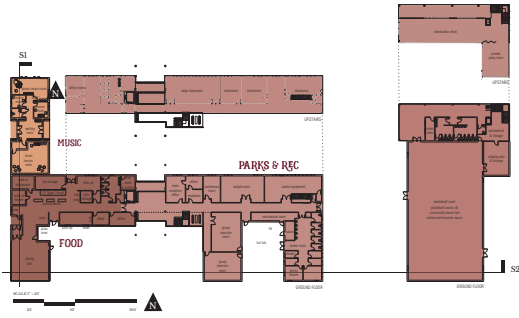
SECTION 2



WHO LIVES HERE?
Bob, 35, and Judy, 37 and Joe, 39 live on the 2nd & 3rd Floor. Judy works remotely from home. Bob works in Rowd and at the airport. Joe is in grad school and works from an independent lab. They have a large dog and a cat. They have a large dog and a cat. They have a large dog and a cat. They have a large dog and a cat.

COMMUNITY SPACE PROGRAM

MUSIC, FOOD AND PARKS & REC

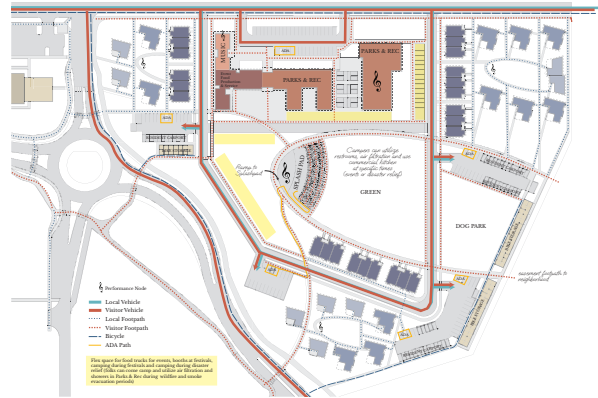


S1 SECTION PERSPECTIVE, VIEW FROM WEST

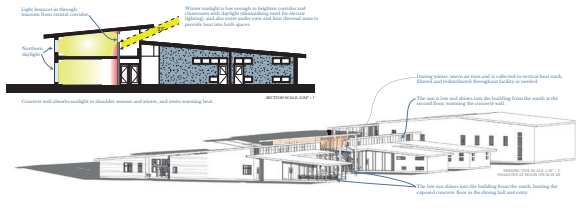


S2 SECTION PERSPECTIVE, VIEW FROM SOUTH

SITE CIRCULATION & CLIMATE RESILIENCE



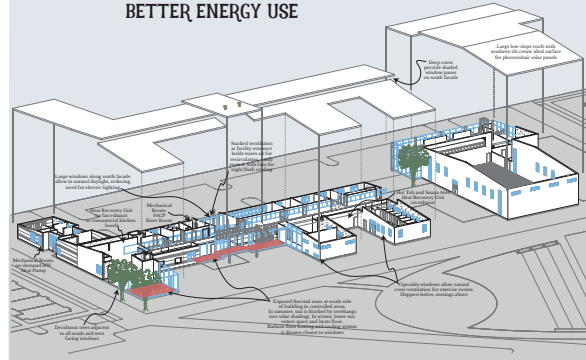
DAYLIGHT & SHADOW IN WINTER



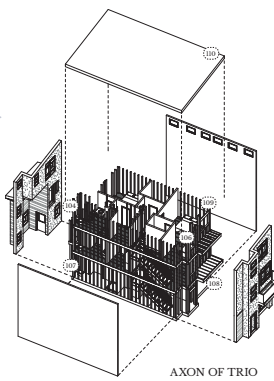
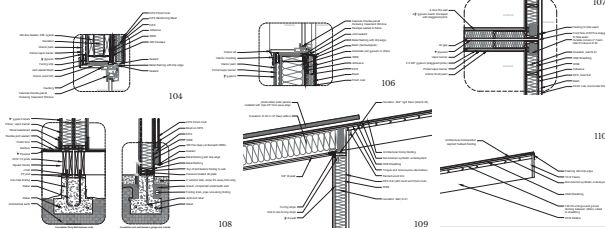
DAYLIGHT & SHADOW IN SUMMER



BETTER ENERGY USE



CONSTRUCTION DETAILS



SISTERS GATEWAY

CO-LIVING & COMMUNITY DEVELOPMENT

PROJECT DESCRIPTION
 The Sisters Gateway is a housing and community development that aims at tackling the housing crisis facing the city of Sisters, Oregon. As well as it addresses a new take on co-living and shared spaces to create stronger community relationships and also respond to the climate crisis through sustainable design methods and material choices. My project focuses on creating a variety of different housing units to cater to a broad range of different user-groups such as aging in-place, multigenerational housing, and families. In addition, creating beautiful and inviting outdoor amenities and shared spaces to bring not only the residents of the development, but the citizens of Sisters, a higher quality of life.

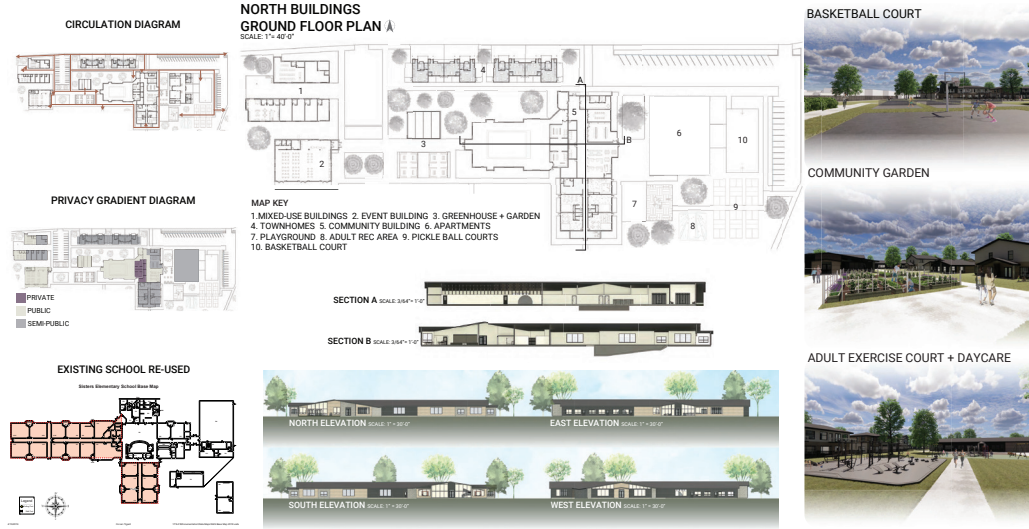
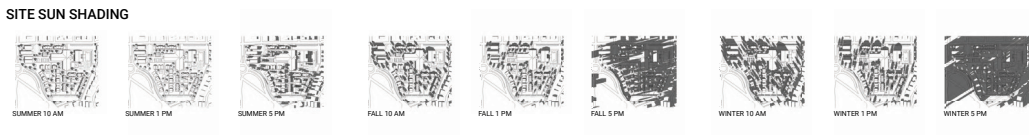
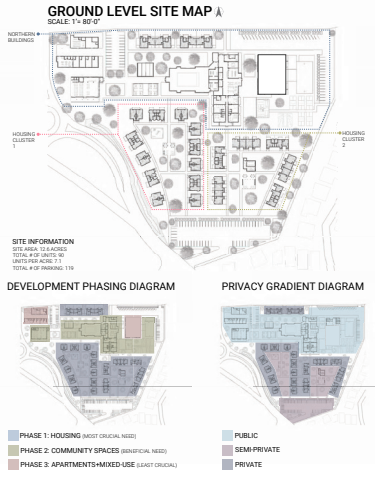
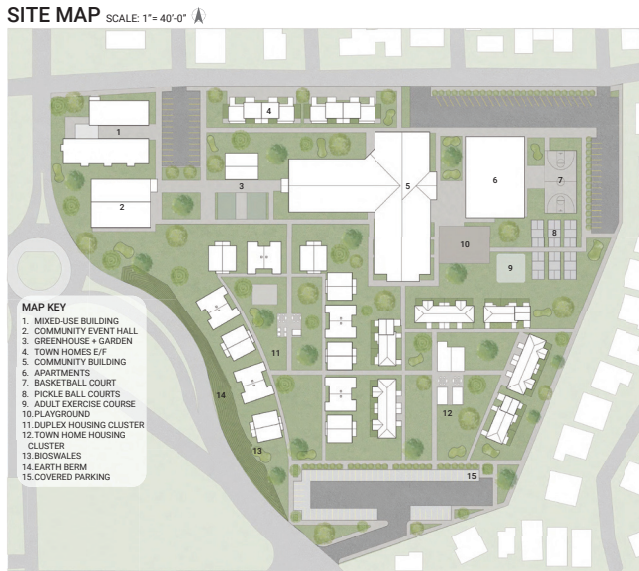
DESIGN STRATEGIES

INCLUSIVE DESIGN

COMMUNITY GATHERING

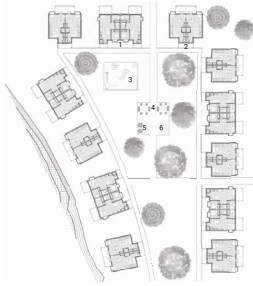
SUSTAINABILITY

UNIVERSITY OF OREGON | COLLEGE OF DESIGN | ARCH 486 SPRING 2023 PROFESSOR NANCY CHENG | DELANEY FETTIG



DUPLEX HOUSING CLUSTER
SCALE: 1"=30'-0"

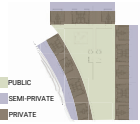
- MAP KEY
1. DUPLEX A (10 UNITS)
2. DUPLEX B (14 UNITS)
3. PLAYGROUND
4. FIRE PITS + SEATING
5. LOUNGE + DINING SEATING
6. OUTDOOR KITCHEN



CIRCULATION DIAGRAM



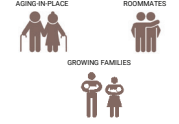
PRIVACY GRADIENT DIAGRAM



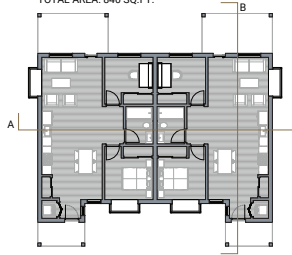
EARTH BERM DIAGRAM



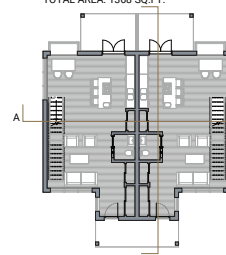
DUPLEX CLUSTER USER GROUPS



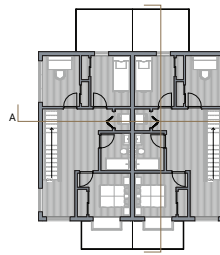
DUPLEX A FLOOR PLAN
SCALE: 3/16"=1'-0"
TOTAL AREA: 840 SQ.FT.



DUPLEX B GROUND FLOOR PLAN
SCALE: 3/16"=1'-0"
TOTAL AREA: 1368 SQ.FT.



DUPLEX B SECOND FLOOR PLAN
SCALE: 3/16"=1'-0"



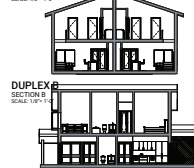
DUPLEX A SECTION A
SCALE: 1/8"=1'-0"



DUPLEX A SECTION B
SCALE: 1/8"=1'-0"



DUPLEX B SECTION A
SCALE: 1/8"=1'-0"

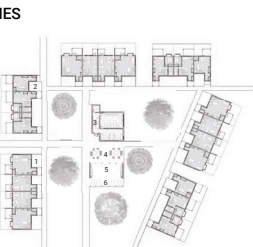


DUPLEX B SECTION B
SCALE: 1/8"=1'-0"



TOWN HOMES HOUSING CLUSTER
SCALE: 1"=30'-0"

- MAP KEY
1. TOWNHOMES A/B (12 UNITS)
2. TOWNHOMES C/D (9 UNITS)
3. COMMUNITY LAUNDRY FACILITY
4. FIRE PITS
5. LARGE OUTDOOR KITCHEN
6. DINING SEATING



CIRCULATION DIAGRAM



PRIVACY GRADIENT DIAGRAM



COMMUNITY LAUNDRY LOUNGE



TOWN HOMES USER GROUPS

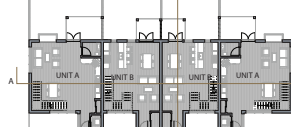


TOWNHOUSE 1

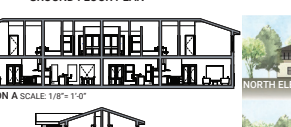
SCALE: 1/8"=1'-0"
TOTAL AREA: 1380 SQ.FT.
UNIT A: 1380 SQ.FT.
UNIT B: 1050 SQ.FT.



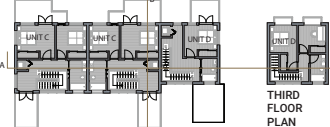
SECOND FLOOR PLAN



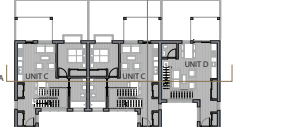
GROUND FLOOR PLAN



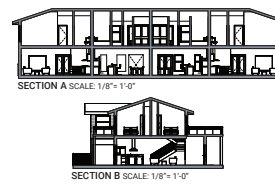
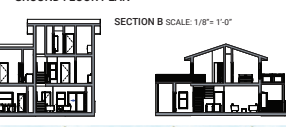
TOWNHOUSE 2 SCALE: 1/8"=1'-0" TOTAL AREA: UNIT C: 1275 SQ.FT. UNIT D: 1330 SQ.FT.



SECOND FLOOR PLAN



GROUND FLOOR PLAN



Appendix: Final Posters—The Sisters Getaway by Delaney Fettig

NORTH TOWNHOUSE CLUSTER SCALE: 1" = 20'-0"

TOWNHOUSE CLUSTER USER GROUP
MULTIGENERATIONAL

FAMILIES ROOMMATES

NORTH FRONT RENDER

BACK YARD RENDER

SECOND FLOOR PLAN SCALE: 1/8" = 1'-0"

THIRD FLOOR PLAN SCALE: 1/8" = 1'-0"

GROUND FLOOR PLAN SCALE: 1/8" = 1'-0"
TOTAL AREA: 1297.5 SQ.FT.
UNIT E: 1548 SQ.FT.

SECTION A SCALE: 1/8" = 1'-0"

SECTION B SCALE: 1/8" = 1'-0"

NORTH ELEVATION SCALE: 1/16" = 1'-0"



EAST & WEST ELEVATIONS SCALE: 1/16" = 1'-0"



SOUTH ELEVATION SCALE: 1/16" = 1'-0"



COMMUNITY EVENT HALL PLAN SCALE: 1/8" = 1'-0"

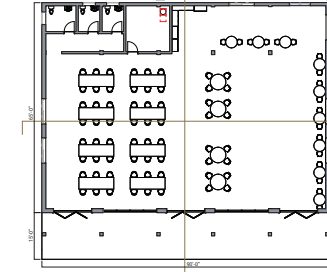


DIAGRAM LEGEND



DESIGN NOTES

1. ALL ROOF PANELS TO BE 1/2" THICK POLYCARBONATE PANELS WITH 1/4" ALUMINUM FRAMING.

2. ALL ROOF PANELS TO BE 1/2" THICK POLYCARBONATE PANELS WITH 1/4" ALUMINUM FRAMING.

3. ALL ROOF PANELS TO BE 1/2" THICK POLYCARBONATE PANELS WITH 1/4" ALUMINUM FRAMING.

4. ALL ROOF PANELS TO BE 1/2" THICK POLYCARBONATE PANELS WITH 1/4" ALUMINUM FRAMING.

5. ALL ROOF PANELS TO BE 1/2" THICK POLYCARBONATE PANELS WITH 1/4" ALUMINUM FRAMING.

SECTION A

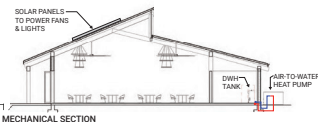


SECTION B

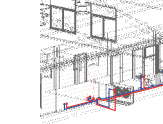


EVENT BUILDING CONSTRUCTION

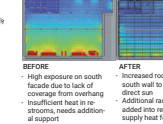
COMMUNITY EVENT HALL MECHANICAL PLAN SCALE: 1/16" = 1'-0"



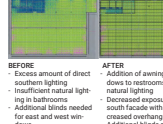
MECHANICAL AXON



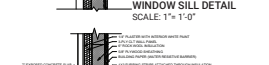
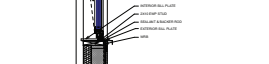
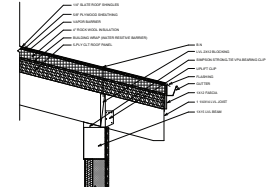
POINT-IN-TIME ILLUMINANCE: BEFORE & AFTER



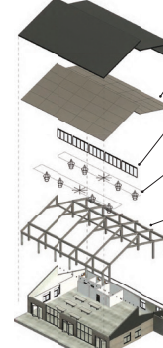
DAYLIGHTING AVAILABILITY



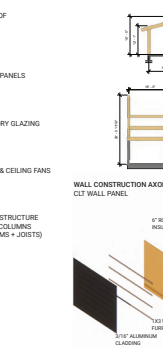
WALL TO ROOF DETAIL SCALE: 1" = 1'-0"



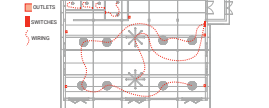
COMMUNITY EVENT HALL AXON SCALE: 1" = 20'-0"

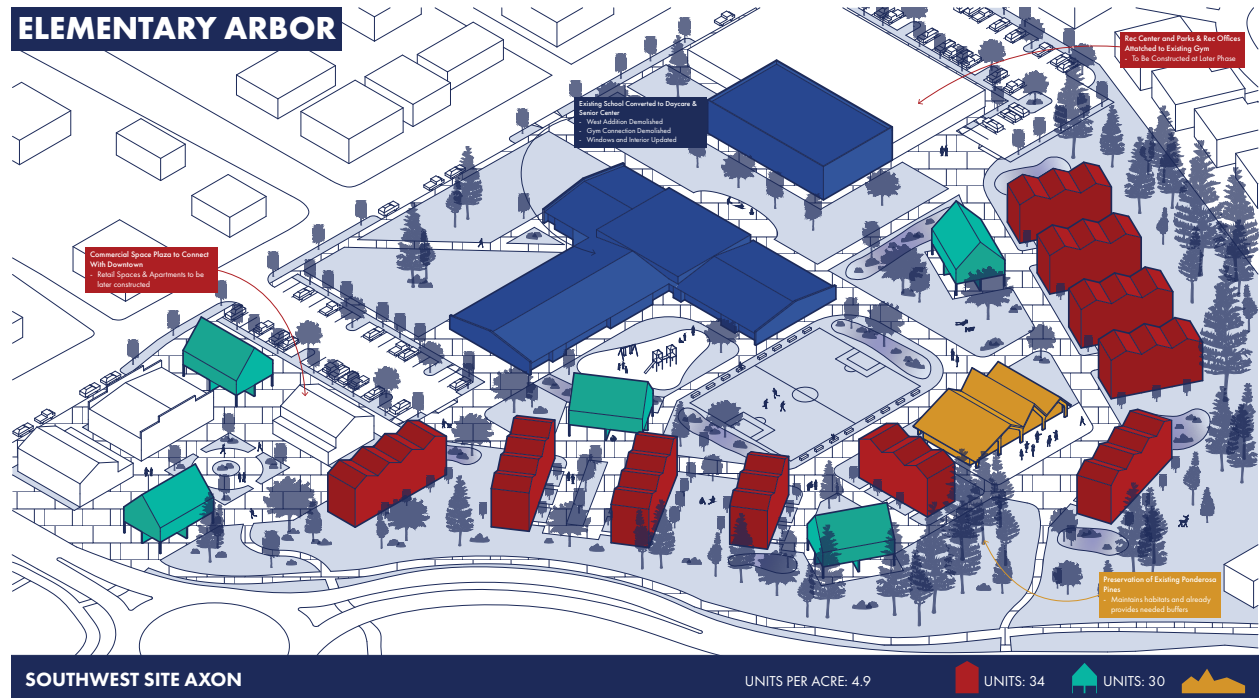


WALL CONSTRUCTION AXON



REFLECTED CEILING PLAN SCALE: 1/8" = 1'-0"





DESIGN PERSPECTIVE

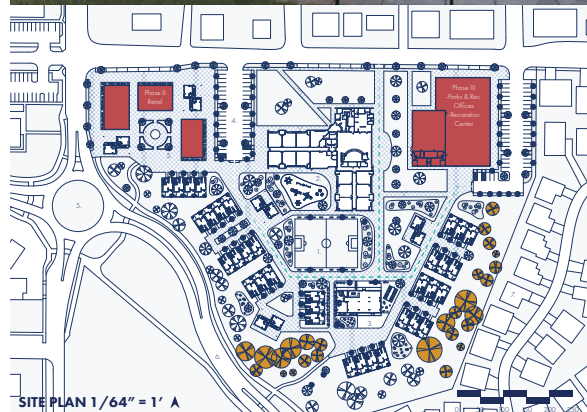
Standard suburban developments provide little space for people to interact, and instead support isolation and individualism. Front yards, fences, and streets divide space and often create unusable or uncomfortable spaces, possibly exacerbating feelings of isolation. By borrowing elements of European planning, this project aims to create spaces that incentivize people to leave their homes and attempts to create a friendlier built environment.



- Prioritization of **people over cars** through a woonerf, allowing for streets to become usable spaces
- **Densification of housing** provides more housing to more people, increasing the likelihood of relationships to develop
- **Public spaces and mixed use zoning** generates spaces for people to go without a car, and creates neutral spaces for people to interact

SITE DESIGN STRATEGIES

- LEGEND:**
1. U10 Soccer Field
 2. Playground
 3. Community Plaza
 4. Resident Parking
 5. Roundabout
 6. Highway OR-126
 7. SFD Neighborhood



ROWHOUSE

1800 sqft.



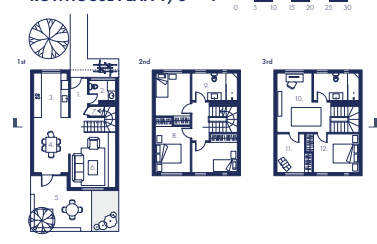

DESIGN GOALS:

- Provide a new housing type within the Sisters area
- Create efficient housing within a compact footprint
- Flexible allocation of space to accommodate varying family types

LEGEND:

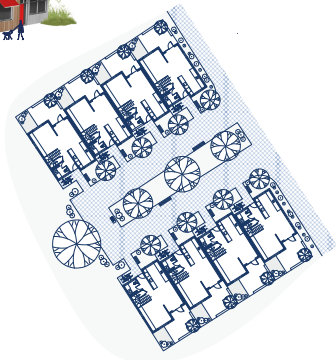
1. Entryway	10. Flex Space
2. Laundry Room	11. Storage
3. Kitchen	12. Bedroom
4. Dining	
5. Patio	
6. Living Room	
7. Mechanical Room	
8. Bedroom	
9. Bathroom	

ROWHOUSE PLAN 1/8" = 1'

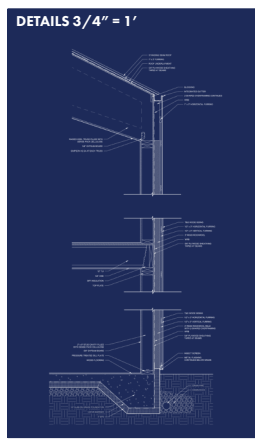
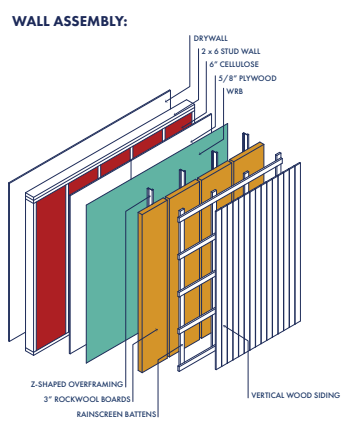



The rowhouses derive inspiration from the fabric form of 1920s Western architecture used throughout Sisters. Through a modern interpretation, the rowhouses feature colorful awn shades to help individualize units from each other.

CLUSTER PLAN 1/16" = 1' A



- Rowhouses are oriented around a shared courtyard off shooting the woonerf
- This can provide a space for residents to socialize within allowing for neighbors to become familiar with each other
- Benches and public grill encourage occupation of space
- Varying levels of privacy can be achieved on back patios through vegetation and plantings





MULTI-GENERATIONAL





- Possibility to accommodate large families with possibility of 4 total bedrooms
- Bathrooms on each floor to alleviate privacy and crowding issues
- Possibility a cost effective solution for large families considering household size and total square footage



ROOMMATE CO-HOUSING





- General lack of hierarchy between bedrooms keeps space division fair between roommates
- Extra bedrooms can be used as additional space to accommodate needs
- Rent/Ownership can be split based off of spaces used, while sharing general living spaces



SINGLE FAMILY





- Rowhouse can still function as a standard single family home
- Extra bedrooms and garage offer for possibility of household growth, while providing additional spaces for varied uses



ROWHOUSE SECTION 1/16" = 1'




COMMUNITY CENTER 1/16" = 1'



DUPLEX 1/16" = 1'

DUPLEX

4756 sqft.



DESIGN GOALS:

- Provide housing units for smaller household sizes
- Versatility by being able to separate units into smaller ones
- Flexible ground level spaces for housing or retail

LEGEND:

1. Retail Space	10. Bedroom
2. Studio Apartment	11. Bathroom
3. Extra Room	
4. Restroom	
5. Kitchen	
6. Dining Area	
7. Bedroom	
8. Bathroom	
9. Flex Room (w/ Kitchen Hookups)	

COMMUNITY CENTER

4400 sqft.



DESIGN GOALS:



- Create a visually unique form drawing inspiration from local mountain ranges
- Design a gathering space for the residential community and greater area
- Provide programming to help combat social isolation

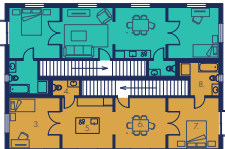

LEGEND:


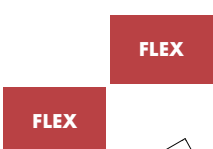
1. Entryway	10. Guest Room
2. Seating Area	11. Patio
3. Game Table	12. Community Garden
4. Bulletin Board	
5. Dining Area	
6. Community Kitchen	
7. Mechanical Room	
8. Restroom	
9. Laundry Room	


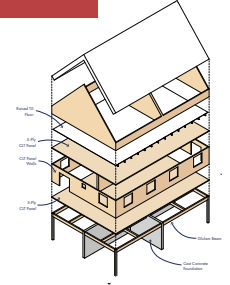
DUPLEX PLAN 1/8" = 1'

0 5 10 15 20 25 30

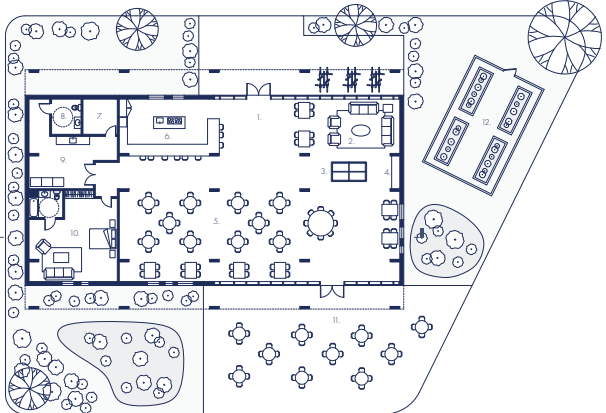







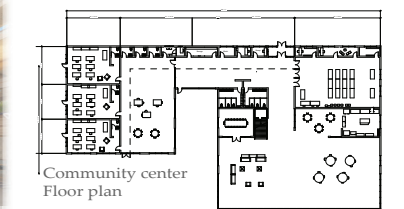
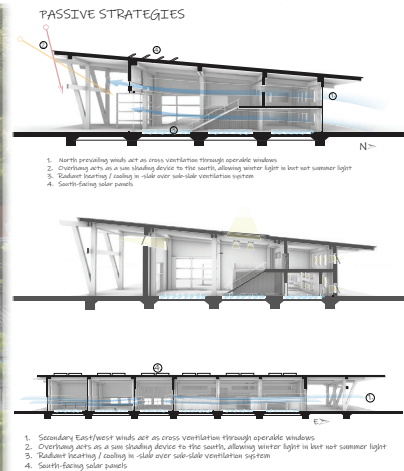



COMMUNITY CENTER 1/8" = 1' A

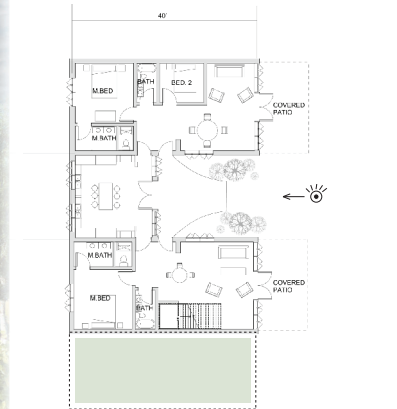
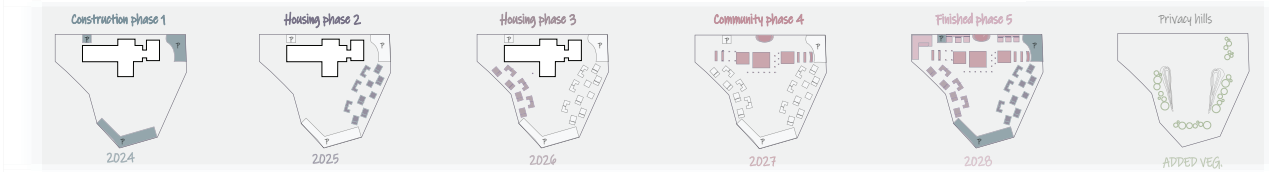
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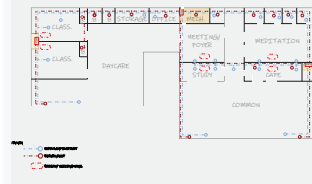


Appendix: Final Posters—Winsome Haven by Wolfgang Meckem

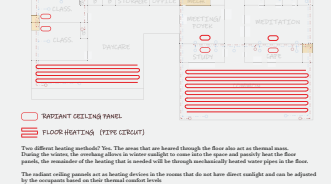




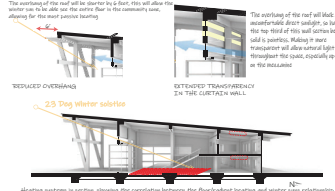
Mechanical systems diagram



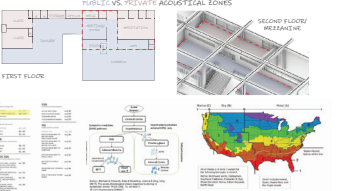
Mechanical heating systems diagram



Changes to sectional design due to ECS



ACOUSTICS



TRANSPECIES DESIGN

