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Redefining the Rural Experience: A Change for the People of the Appalachian Mountains Magoffin County Crafts, Social, and Health Services Center, Gifford, Kentucky

Independent thesis project submitted to Roger Williams University
School of Architecture, Art, and Historic Preservation

Katelyn Chapin
Class of 2009

In fulfilment of the requirement for the Master of Architecture Dual Degree
December 2009

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Date

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Problem

Physical distance and mountainous terrain separate people who live in the Appalachian Mountains. A lack of road development and infrastructure restricts the possibility for travel, and therefore the interaction these individuals have. In addition, limited education and career opportunities leave individuals and their families in an endless cycle of poverty and poor health. Is it conceivable that architecture can broaden the perspective these residents have for their future and introduce new ways of thinking?



1. flickr.com 2. Personal sketch of the terrain

Introduction/Problem Statement



With low density residential development, minimal interaction between people, and inadequate social resources, individuals in the Appalachian Mountains experience difficulty maintaining a minimum standard of living. Because of isolation, low education levels, and limited career opportunities, some adults choose to avoid the realities of their lives and depend on government assistance, rather than pursuing ways to overcome these large obstacles. As a result, this lifestyle has led to generations of family members living in one home trying to support one another with the insufficient monies and welfare allocated to them. Furthermore, children cannot see, nor are taught, a way out of their housing and living situations because of this generational cycle. In turn, families rely on each other, and depend on their strong connection to the land, making it difficult for individuals to leave or expand beyond their immediate reality.

From an economic and social perspective, such dependence on one another and the land naturally leads to the following question: how could families and the larger community benefit if they lived in closer proximity to each other and shared communal resources?

In pursuit of this issue, exploring the possibilities of how architecture might improve the human condition seemed an appropriate avenue to pursue. If efforts are made to develop the built form, individuals may feel greater control over their circumstances and their ability to minimize the problem of cyclical poverty. And, as a result, the greater community may start to reflect the change that would already be beginning in part through the individual. For that reason, my desire to use design to support change was born.

Involving analysis of the Magoffin County site, environment, climate, context, and culture, as well as the needs of the people, and the social relationships that exist between them, acute design and programmatic developments could be the catalyst for change. By increasing the availability of services that individuals need in order to overcome hardships, people in the area would not have to travel as far to obtain certain amenities. Residents will have the opportunity to focus on their careers and well-being once they acknowledge, and begin to take advantage of, the goods that their environment provides. As a result, people will no longer have such lengthy commutes, and instead, will be able to benefit from those services available locally in greater quantity. Furthermore, after realizing what is prevalent in their terrain, residents will be able to perpetuate themselves by building with local materials, harvesting natural resources, and incorporating sustainable construction techniques into their work. And all of this will begin by engaging the residents of Magoffin County in an environment that fosters learning, creating, and exploration.

Introduction: photography

“Freddie’s Fishing Boat with Children,” 2000



In the following images, a sense of solitude is evident in the environment and the individuals that are captured. Families are seen as a unit, but one that is isolated, and at best, interdependent. It would seem though, that with the right conditions and proper stimulation, a change could result. Is this possible?

Introduction: photography

"Sherman's Porch," 2001



Adams, Shelby Lee. *Appalachian lives*. Jackson: University Press of Mississippi, 2003: p2.

Introduction: photography

“William and Patty with Family,” 1999



Introduction: photography

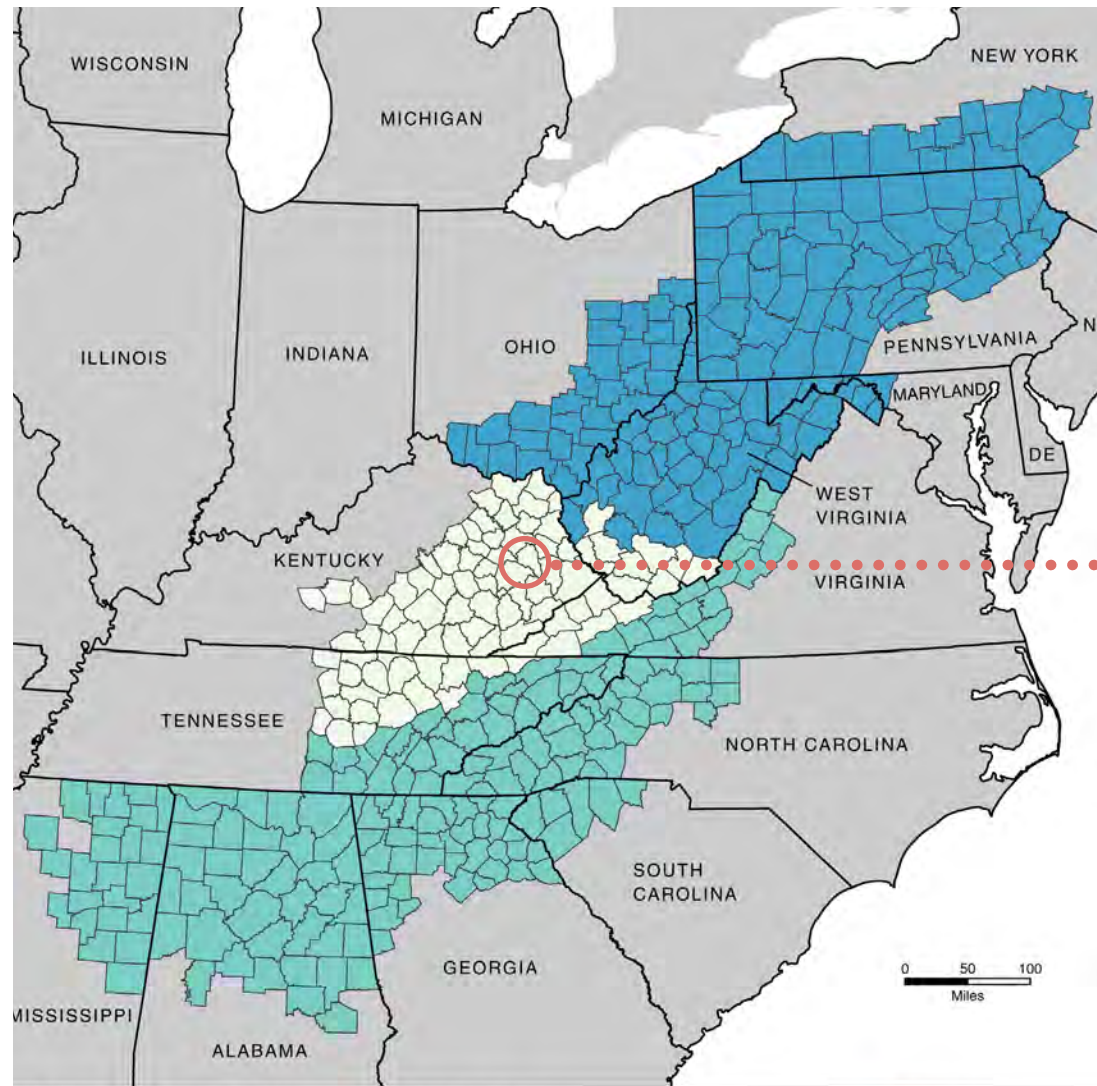
"Clothesline," 1997



Adams, Shelby Lee. Appalachian lives. Jackson: University Press of Mississippi, 2003: p16.

Introduction: site selection in the Appalachian Mountains

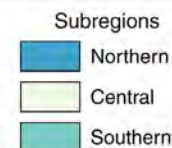
Subregions in Appalachia



Located in Eastern Kentucky, Magoffin County is a prime site [based on the following statistics] to introduce resources for both the economy and the families to further develop.

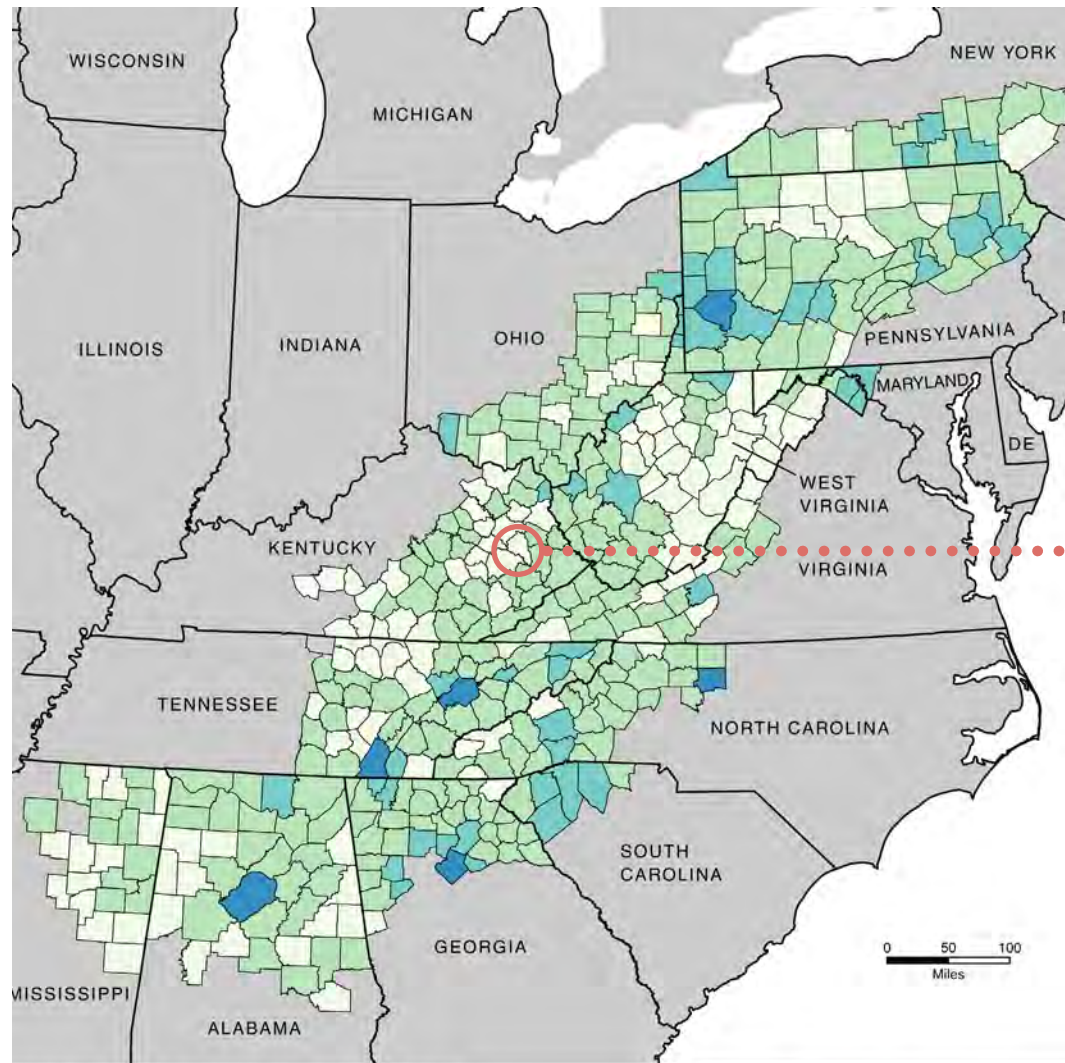
Magoffin County, Kentucky is located in Central Appalachia.

The Appalachian subregions are contiguous regions of relatively homogeneous characteristics (topography, demographics, and economics) within Appalachia. This classification was developed in the early history of the Appalachian Regional Commission and provides a basis for subregional analysis.



Introduction: site selection in the Appalachian Mountains

Population Density in Appalachia, 2000



Magoffin County, Kentucky has a density range of 6-49 people per square mile.

[According to the U.S. Census Bureau report, no interim U.S. Census data is available for Magoffin County.]

Population density is a measure of the dispersion of people, which is calculated by dividing the 2000 census population by the 2000 land area in square miles.

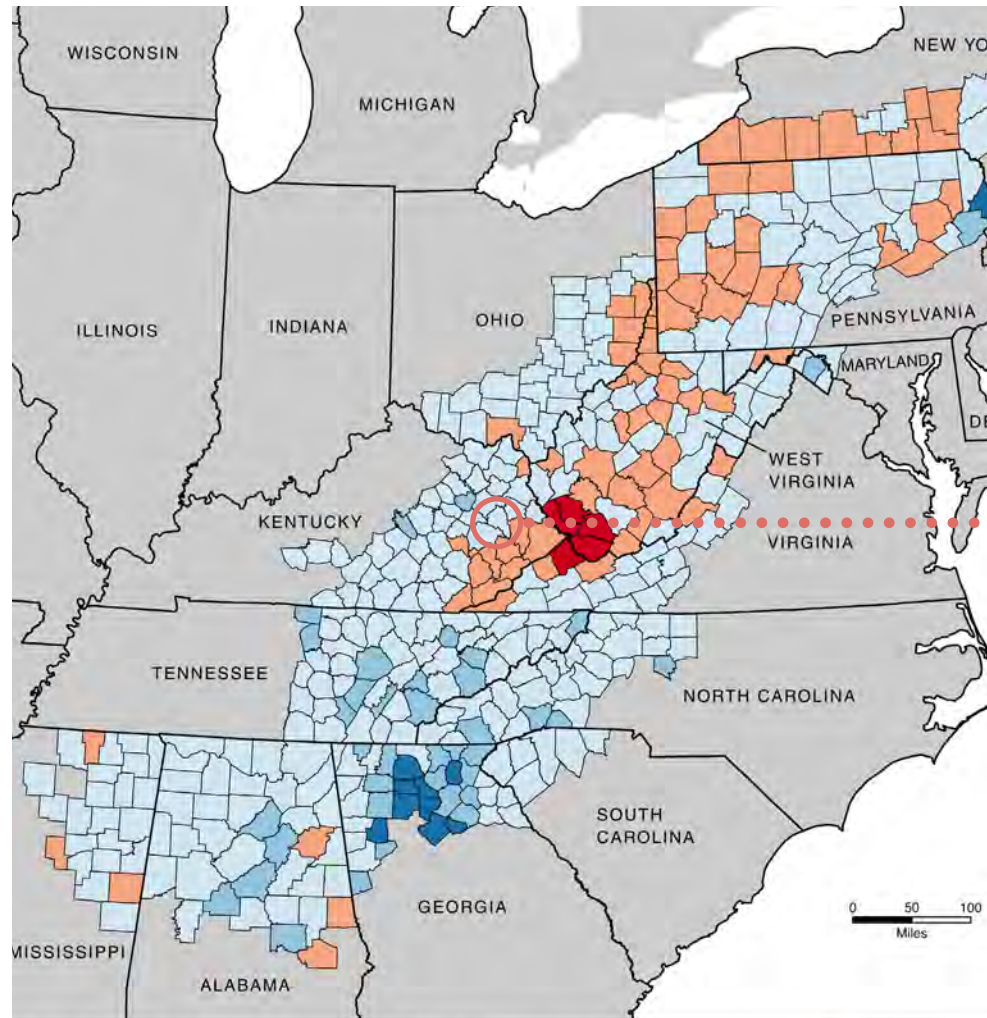
U.S. average = 79.6
Appalachian average = 114.1

People Per Square Mile



Introduction: site selection in the Appalachian Mountains

Population Change in Appalachia, 1990-2000



Magoffin County, Kentucky had a population change between 0% and 24.9% during the years of 1990 and 2000.

[According to the U.S. Census Bureau report, no interim U.S. Census data is available for Magoffin County.]

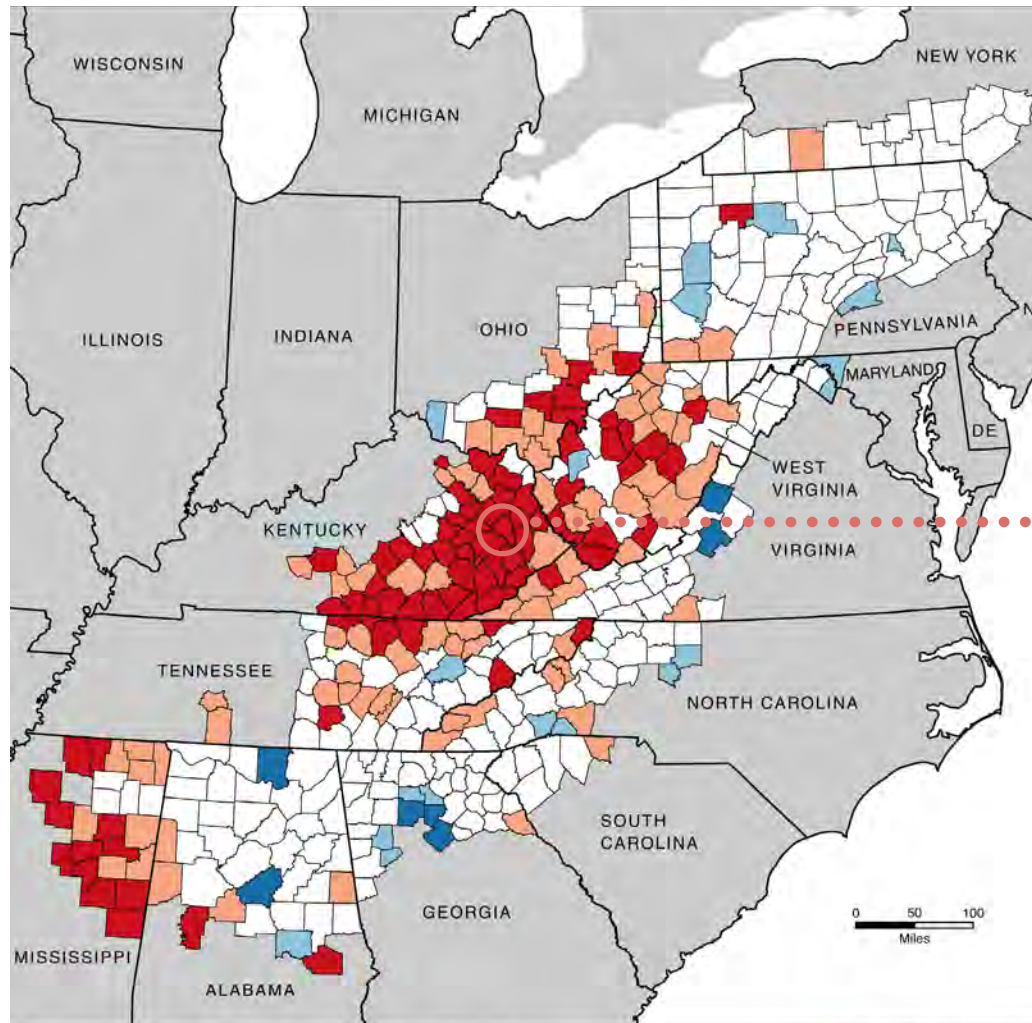
Population change is the difference between the 1990 population and the 2000 population expressed as a percentage of the 1990 population.

U.S. average = 13.2%
Appalachian average = 9.1%



Introduction: site selection in the Appalachian Mountains

County Economic Status in Appalachia, Fiscal Year 2009



Magoffin County, Kentucky was declared an economically distressed county in fiscal year 2009.

For the current fiscal year 2010, the county remains an economically distressed county.

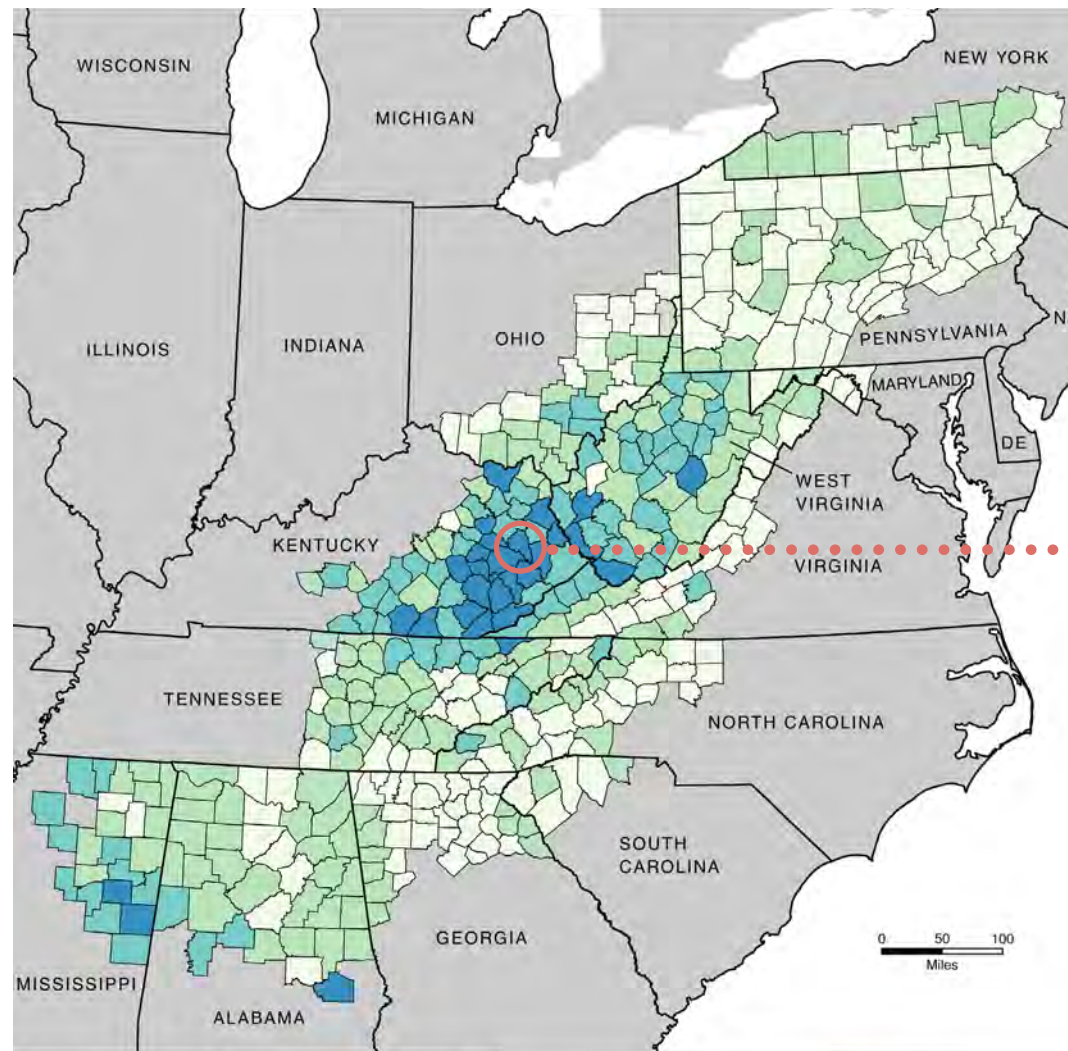
The Appalachian Regional Commission uses an index-based county economic classification system to identify and monitor the economic status of Appalachian counties. See the reverse side for a description of each economic level.

County Economic Levels

- Distressed (81)
- At-Risk (81)
- Transitional (232)
- Competitive (19)
- Attainment (7)

Introduction: site selection in the Appalachian Mountains

Poverty Rates in Appalachia, 2000



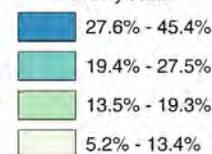
Magoffin County, Kentucky had a 27.6% to 45.4% rate of poverty in 2000.

[According to the U.S. Census Bureau report, no interim U.S Census data is available for Magoffin County.]

A poverty rate is the ratio of the persons below the poverty level to the total number of persons for whom poverty status has been determined. The map uses natural breaks in the distribution to organize the data into groups of common values.

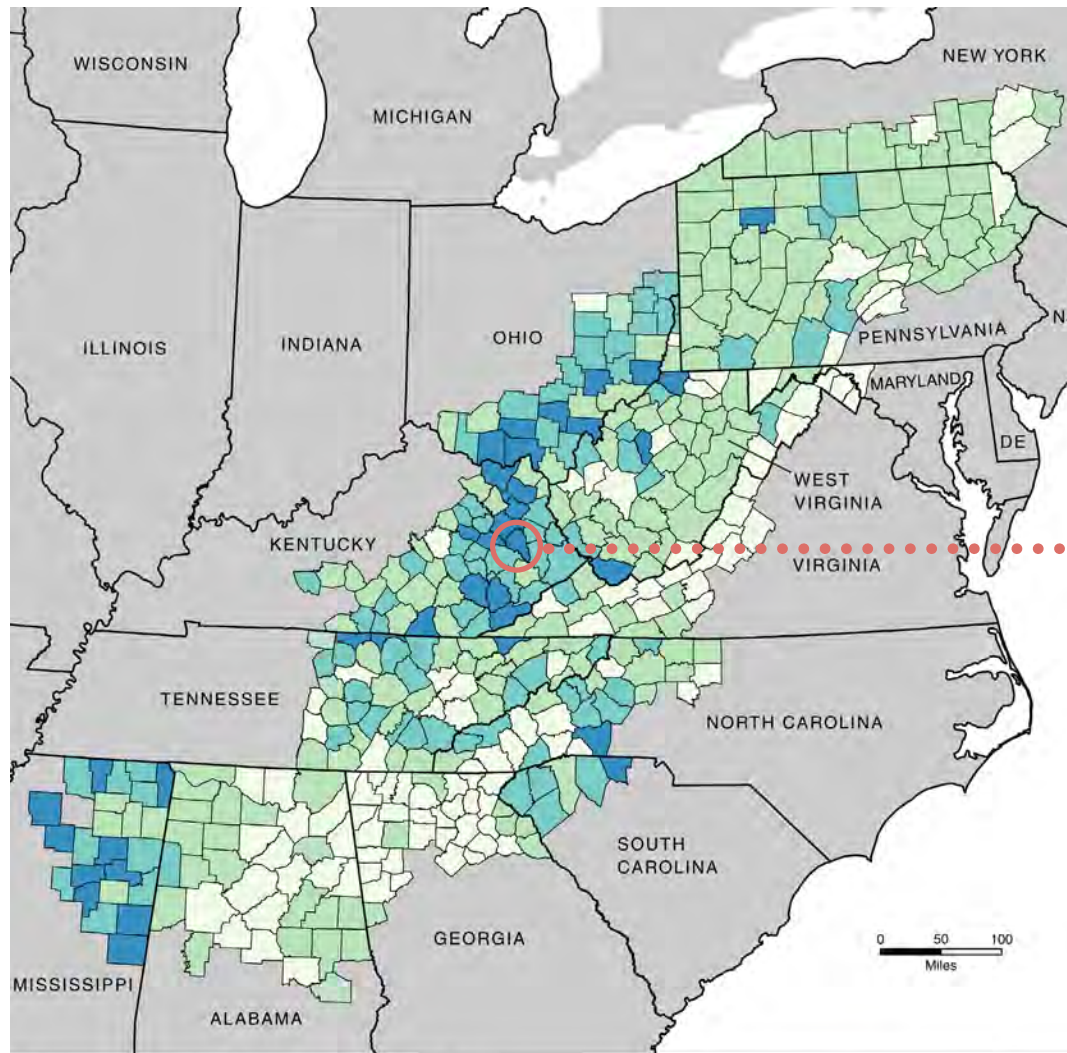
U.S. average = 12.4%
Appalachian average = 13.6%

Poverty Rate



Introduction: site selection in the Appalachian Mountains

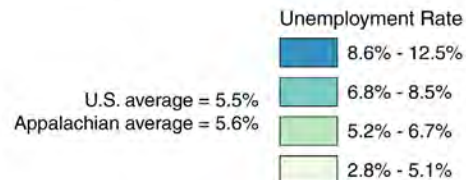
Three-Year Average Unemployment Rates in Appalachia, 2003-2005



Magoffin County, Kentucky's range of unemployment between 2003 and 2005 was 8.6% to 12.5%.

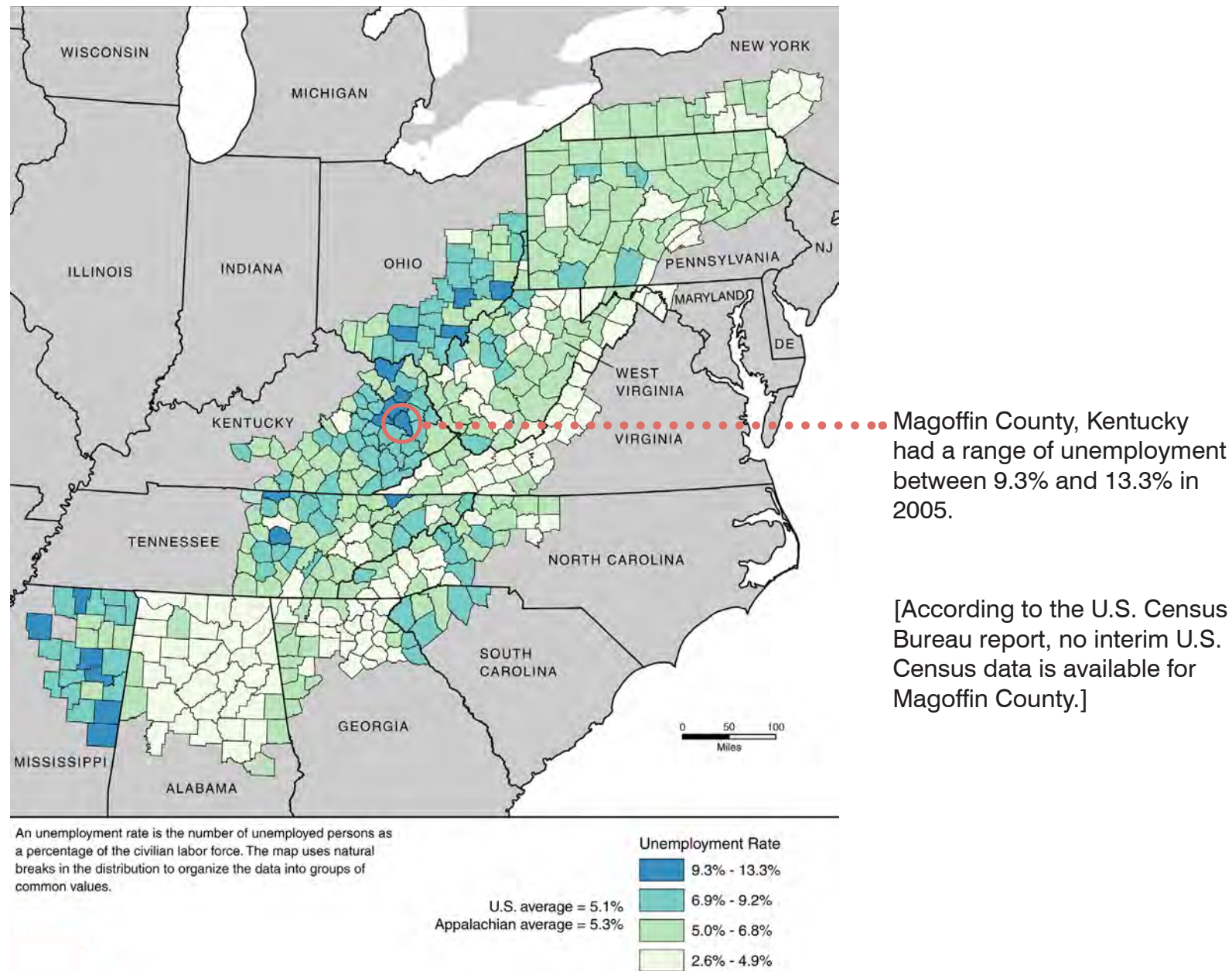
[According to the U.S. Census Bureau report, no interim U.S. Census data is available for Magoffin County.]

A three-year average unemployment rate is a measure of long-term structural unemployment. It is calculated by dividing the three-year sum of persons unemployed by the three-year sum of the civilian labor force. The map uses natural breaks in the distribution to organize the data into groups of common values.



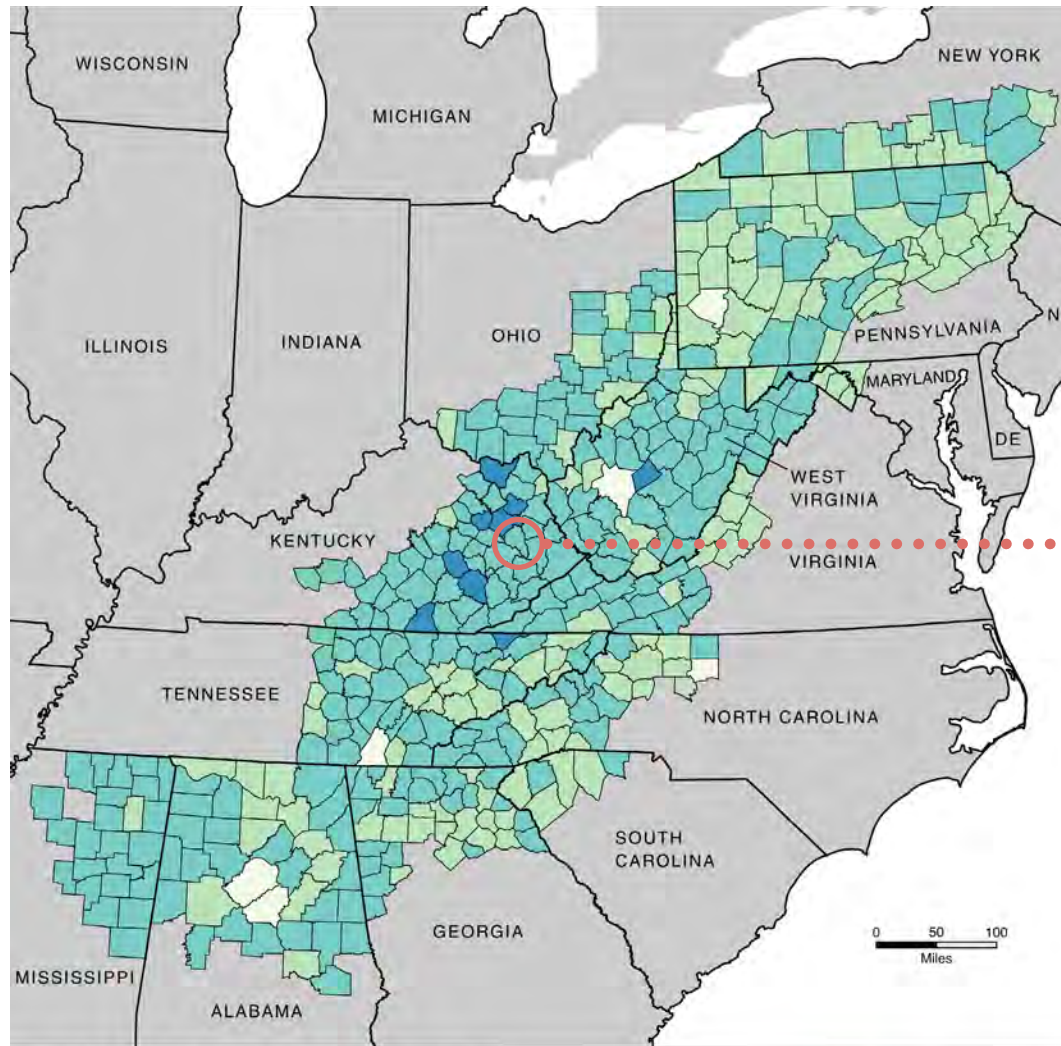
Introduction: site selection in the Appalachian Mountains

Unemployment Rates in Appalachia, 2005



Introduction: site selection in the Appalachian Mountains

Relative Per Capita Income Rates in Appalachia, 2004
(County Rates as a Percentage of the U.S. Average)



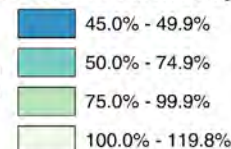
Magoffin County, Kentucky had a relative per capita income range of 75%-99.9% of the U.S. average in 2004.

[According to the U.S. Census Bureau report, no interim U.S. Census data is available for Magoffin County.]

Per capita income is a measure of the total personal income of an area divided by the resident population of the area. The percent of the U.S. average is computed by dividing the county per capita income by the national average and multiplying by 100. The map uses critical breaks such as the national average to organize the data into groups of common values.

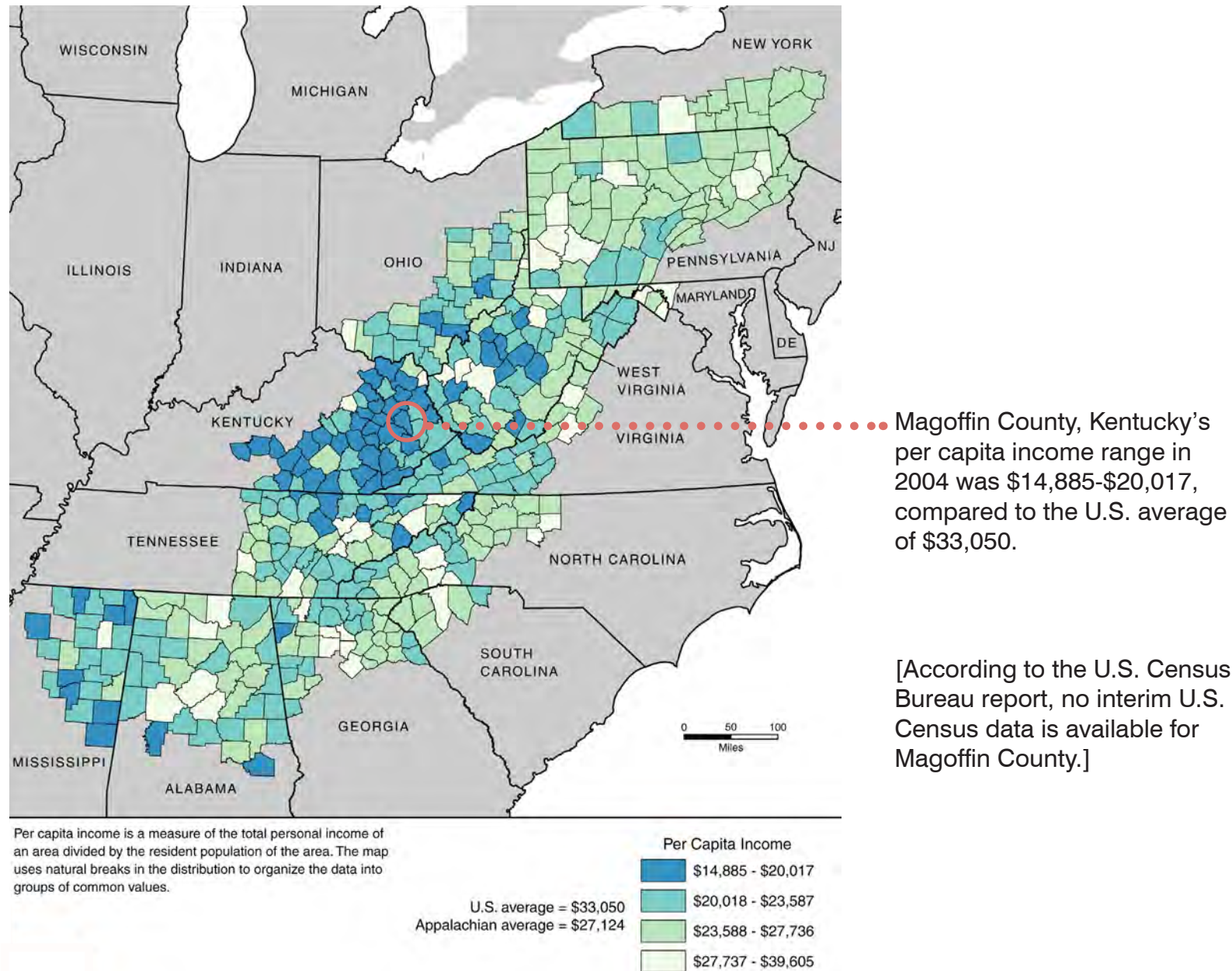
U.S. average = \$33,050
Appalachian average = \$27,124

Percent of the U.S. Average



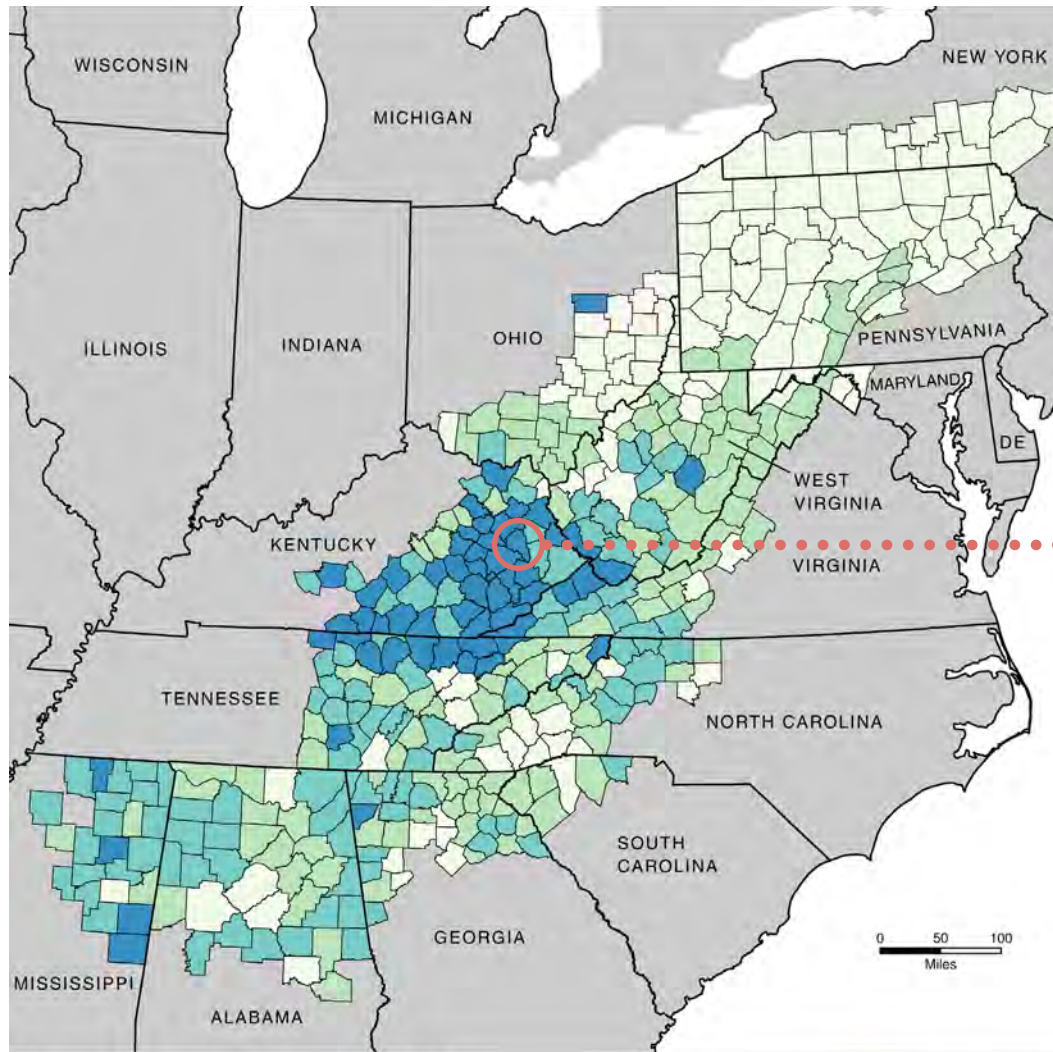
Introduction: site selection in the Appalachian Mountains

Per Capita Income Rates in Appalachia, 2004
(County Rates)



Introduction: site selection in the Appalachian Mountains

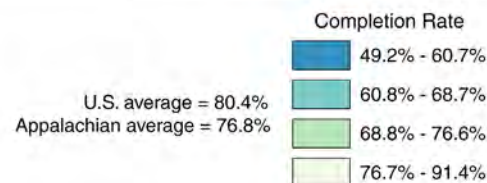
High School Completion Rates in Appalachia, 2000



••••• Magoffin County, Kentucky had a 49.2%-60.7% high school graduation rate in 2000 as compared to the U.S. average of 80.4%.

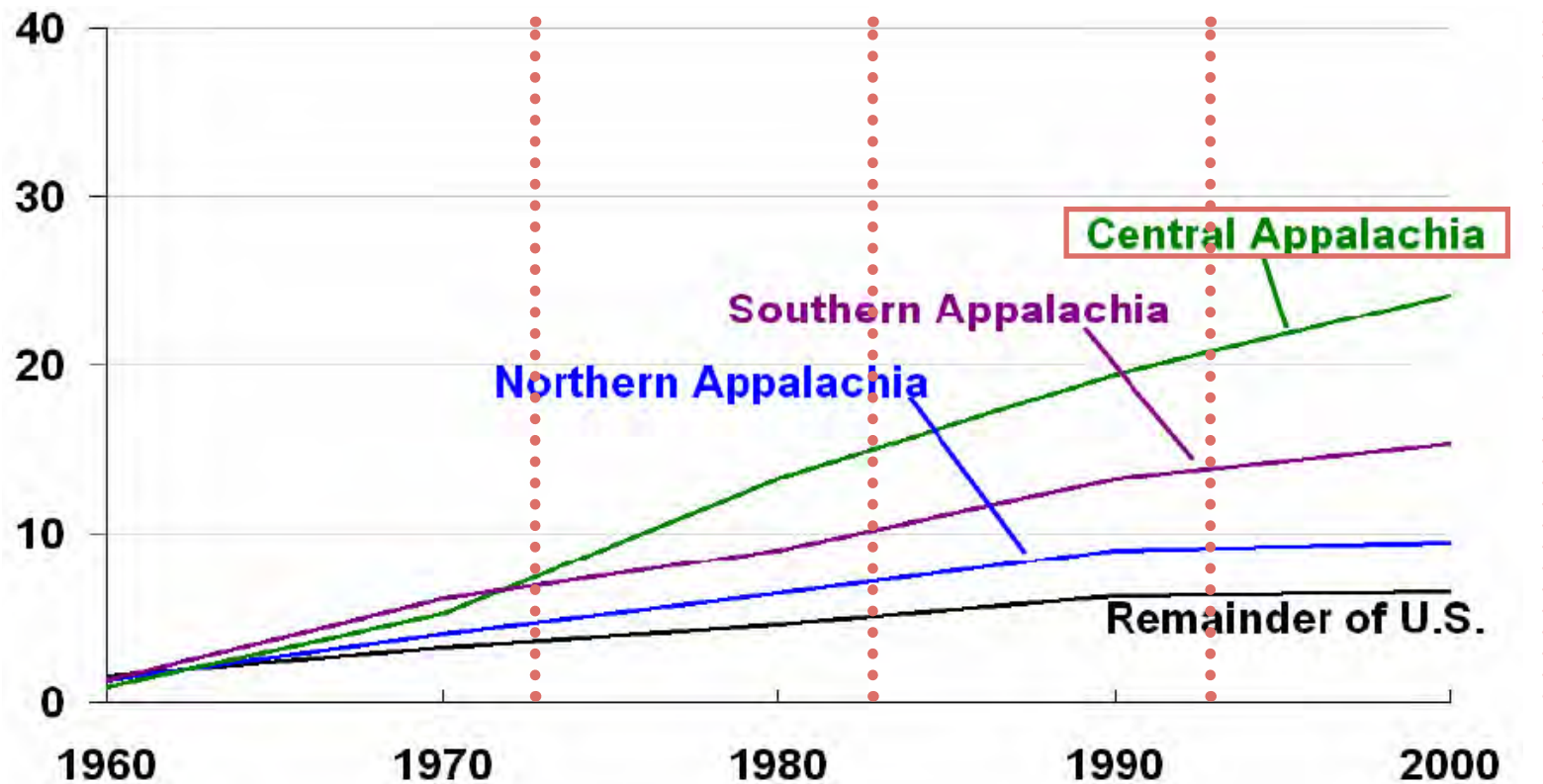
[According to the U.S. Census Bureau report, no interim U.S. Census data is available for Magoffin County.]

A high school completion rate is the percentage of adults, 25 years and over, completing 12 years or more of school. The map uses natural breaks in the distribution to organize the data into groups of common values.



Introduction: Appalachian data

Percentage of Homes That Are Mobile Homes, 1960 to 2000



“Fifty years ago, mobile homes housed mostly low-income families living in ‘trailer’ parks. Today, they are the fastest growing type of housing in the United States, accounting for one-quarter of new homes. In 2000, mobile homes accounted for about 6 percent of all housing units nationwide, but more than twice that share—14 percent—were located in Appalachia.”

Introduction: Appalachian data

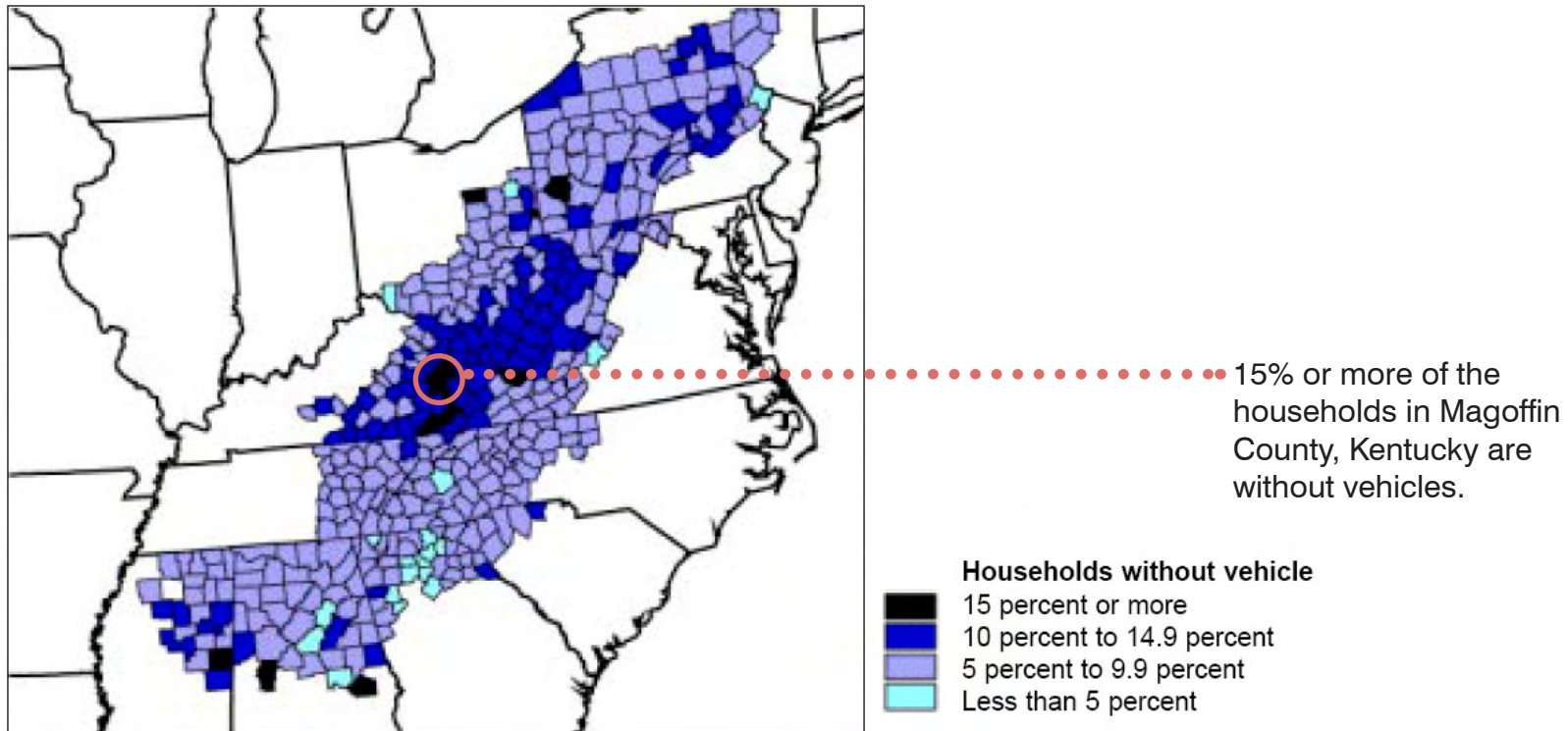
Trends in Mobile Homes in the United States and Appalachia, 1990 to 2000

	1990		2000		Percent change in number of mobile homes
	Mobile homes (thousands)	Percent	Mobile homes (thousands)	Percent	
U.S.	7,324	7.2	8,779	7.6	19.9
Non-Appalachian U.S.	6,233	6.7	7,361	7.0	18.1
Metropolitan areas	3,637	4.8	4,159	4.9	14.3
Nonmetropolitan areas	2,596	14.2	3,203	15.5	23.4
Appalachia	1,091	12.3	1,418	14.0	30.0
Metropolitan areas	448	8.9	560	9.8	24.9
Nonmetropolitan areas	642	16.8	858	19.5	33.6
Distressed	223	20.0	310	24.7	39.0
Attainment	47	4.0	59	4.4	25.4
Competitive	97	12.8	115	12.5	18.8
Transitional	725	12.4	935	14.2	29.0
North	409	9.6	455	10.0	11.3
South	515	13.6	724	15.7	40.7
Central	167	19.9	239	24.7	42.6

“In 2000, there were 1.4 million mobile homes in Appalachia, accounting for about 14 percent of Appalachia’s housing units. This is twice the share of mobile homes outside the Appalachian region (7 percent). In non-metro counties in Appalachia, about one in five units were mobile homes (19 percent), compared with 16 percent in non-metro areas outside of Appalachia.”

Introduction: Appalachian data

Percent of Households Without a Vehicle in Appalachia, 2000



“Given the high costs of car ownership and maintenance, there are many families in Appalachia that do not own or have access to private vehicles. In the absence of public transportation, these families may be completely cut off from employment opportunities outside their local areas.”

Introduction: Appalachian data

Counties with the Highest Proportion of People Traveling 90 Minutes or More to Work, 2000

Rank	County	Percent 90 Minutes or More
1	Pike County, Pennsylvania	18.7
2	Elliott County, Kentucky	16.9
3	Mathews County, Virginia	15.8
4	Magoffin County, Kentucky	14.4
5	Richmond County, New York	13.8
6	Westmoreland County, Virginia	13.1
7	Monroe County, Pennsylvania	13.0
8	San Jacinto County, Texas	12.2
9	Rains County, Texas	12.0
9	Greene County, Mississippi	12.0
11	Calhoun County, Illinois	11.9
11	Vinton County, Ohio	11.9
13	Adams County, Ohio	11.8
14	Lee County, Kentucky	11.4
15	Clay County, West Virginia	11.1
15	Culpeper County, Virginia	11.1
15	La Salle County, Texas	11.1
18	Page County, Virginia	10.9
19	Elk County, Kansas	10.8
19	Perquimans County, North Carolina	10.8
21	Washington County, Missouri	10.6
22	Kitsap County, Washington	10.5
23	Catahoula Parish, Louisiana	10.4
23	Robertson County, Kentucky	10.4
25	Breathitt County, Kentucky	10.3
25	Henderson County, Texas	10.3
27	La Salle Parish, Louisiana	10.2
28	Newton County, Texas	10.1
28	Matanuska-Susitna Borough, Alaska	10.1
30	Morgan County, Kentucky	10.0

“In Appalachia, the limited employment opportunities in rural communities present a major obstacle for poor families. Families are further limited by low levels of human capital-especially low levels of education and lack of job skills-that restrict the types of jobs that are available to them. In this context, many families in Appalachia adapted to the loss of public assistance income in the 1990s by seeking employment outside local labor markets, resulting in longer commutes.”

Introduction: Appalachian data

Counties with Long Travel Times to Work and High Poverty Rates, 2000

Rank	County	Average Travel Time to Work	Poverty Rate
1	Elliott County, Kentucky	48.7	20.6
2	Clay County, West Virginia	45.0	21.6
3	Kings County, New York	43.2	20.0
4	Bronx County, New York	43.0	23.5
5	Lincoln County, West Virginia	39.2	21.8
6	Magoffin County, Kentucky	38.5	26.8
7	Catahoula Parish, Louisiana	38.3	22.0
8	Calhoun County, West Virginia	38.0	20.0
9	Jefferson Davis County, Mississippi	37.2	22.0
10	Lowndes County, Alabama	36.3	23.9
11	Hancock County, Georgia	36.2	22.7
12	Menifee County, Kentucky	36.1	22.8
13	Lawrence County, Kentucky	36.0	23.5
14	St. Helena Parish, Louisiana	35.7	21.2
15	Lewis County, Kentucky	35.7	22.2
16	Lee County, Kentucky	35.4	23.3
17	Wyoming County, West Virginia	35.3	20.1
18	Mora County, New Mexico	35.1	20.2
19	Jackson County, Kentucky	35.0	23.2
20	Estill County, Kentucky	34.9	20.9
21	Wilkinson County, Mississippi	34.1	27.4
22	Wolfe County, Kentucky	33.8	26.4
23	Perry County, Alabama	33.7	26.1
24	Breathitt County, Kentucky	33.6	24.9
25	Leslie County, Kentucky	33.5	24.6
26	Kemper County, Mississippi	33.5	20.6
27	Morgan County, Kentucky	33.2	21.4
28	Jefferson County, Mississippi	33.0	26.5
29	Bienville Parish, Louisiana	32.9	20.7
30	Evangeline Parish, Louisiana	32.7	24.4
31	Hancock County, Tennessee	32.7	22.7
32	Walthall County, Mississippi	32.6	21.7
33	McDowell County, West Virginia	32.6	27.4
34	Franklin Parish, Louisiana	32.5	22.1
35	Grundy County, Tennessee	32.2	20.5
36	Avoyelles Parish, Louisiana	31.8	20.6
37	Williamsburg County, South Carolina	31.5	21.8
38	Webster County, West Virginia	31.5	24.1
39	Wilcox County, Alabama	31.3	28.5
40	Clay County, Kentucky	31.2	28.4
41	Red River Parish, Louisiana	31.0	23.0
42	Wayne County, Mississippi	30.8	20.2
43	Claiborne County, Mississippi	30.7	24.5
44	Tallahatchie County, Mississippi	30.5	24.4
45	Gilmer County, West Virginia	30.2	20.6
46	De Soto Parish, Louisiana	30.1	20.0

As depicted in this chart, there is a connection between the average travel time to work and the poverty rate of the county. Magoffin County ranks number six in the United States with an average travel time of 38.5 minutes and a poverty level of 26.8%.

As indicated on the previous page, 14.4% of the working population travel over 90 minutes to get to their place of employment.

Introduction: Appalachian data

Household and Family Structure in the United States and Appalachia, 2000

	United States		Appalachia	
	Number (thousands)	Percent	Number (thousands)	Percent
Total households	105,480	100	8,995	100
Married couples	54,493	52	4,903	55
With children	24,836	24	2,046	23
Without children	29,658	28	2,857	32
Female householders	12,900	12	999	11
With children	7,562	7	555	6
Without children	5,338	5	444	5
Male householders	4,394	4	342	4
With children	2,191	2	171	2
Without children	2,203	2	170	2
Nonfamily households	33,693	32	2,752	31
People living alone	27,230	26	2,345	26

“Lastly, poverty in the United States is often associated with single-parent families living in urban areas. But in Appalachia, the majority of families living in poverty are headed by married couples. Poverty rates in Appalachia’s rural counties far exceed the poverty rates in metro areas. In part, these patterns reflect the lower levels of racial and ethnic diversity in the region, but they also reflect the low wages and lack of jobs in remote, rural areas.”

Introduction: Appalachian data

Grandparents Living with Grandchildren and Providing Care in Appalachia, 2000

	Total grandparents living with grandchildren (thousands)	With caregiving responsibility (thousands)	Percent
U.S.	5,772	2,427	42
Non-Appalachian U.S.	5,370	2,227	41
Metropolitan areas	4,541	1,791	39
Nonmetropolitan areas	829	436	53
Appalachia	402	199	50
Metropolitan Appalachia	227	108	48
Nonmetropolitan Appalachia	175	91	52
Distressed	57	32	56
Attainment	52	23	44
Competitive	40	18	46
Transitional	253	126	50
North	145	65	45
South	217	112	52
Central	40	22	55

Source: Population Reference Bureau, analysis of data from the 1990 and 2000 Censuses.

“Extended families have long played an important role in providing child care in place of parents who are not available or able to provide for their children’s basic needs. High poverty and unemployment rates in Appalachia probably contribute to the higher proportion of grandparents providing care in the region. Grandparents can also provide care in place of parents who are absent because of substance abuse, child abuse, neglect, divorce, and AIDS.”

Introduction: Appalachian data


“The growth in the older population has contributed to the increase in single-person households in Appalachia and has extended the length of family relationships, leading to more multi-generation households and more grandparents caring for grandchildren.”

Mather, Mark. “Housing and Families in Appalachia.” May 2004, p2.

“Many families lack the transportation, child care, and other supports needed to make the transition from welfare to work. These problems are most acute for families living in Appalachia’s Central region.”

Mather, Mark. “Housing and Families in Appalachia.” May 2004, p2.

Project Statement



As an introductory attempt to develop improvements within Magoffin County and explore the relationship of program to an individual's life, craft, social, and health initiatives would be introduced to the residents. A community would evolve where locals could receive education, have access to daycare, purchase food at discount prices, engage in indigenous craft making, and visit professional doctors in the health clinic and urgent care center. Done in order to facilitate individual advancement and community growth, this design will support social integration by allowing people to share the resources needed within Magoffin County. Furthermore, those families living within the area, and in counties beyond, would have the opportunity to gain new skills and participate in the programs available on site.

The social resource center would provide a range of adult education classes that would be needed in order to expand someone's current knowledge base and computer skills. These classes would be aimed at adults wanting to complete their GED, or those wanting to take the classes necessary for a career change. Specific courses would focus on technology, education, and crafts.

To encourage parents to attend these workshops, a day care center will be provided on site. In addition, a food distribution program, SHARE, will enable the qualified families to purchase food at an affordable price. Together, this would create a wholly integrated and supportive environment for personal growth.

Upon engagement of these opportunities, a second, more comprehensive, level of support would be available. Specifically, once individuals display an understanding of specific crafts, they would have the chance to explore their artistry by renting studio space in the areas of woodworking, weaving, or pottery. Artists that live within the terrain would also have space to display their work, and have the benefit of sharing the cost of expensive equipment. Furthermore, their expertise could be used to demonstrate and lead others into specific craft disciplines.

Of all these artists, a select few will live above the woodworking space. Their role will be to serve as mentors, and interact with other locals renting studio space. In addition, these artists will share the responsibility of operating the art gallery and the retail space adjacent to the studios with other locals that have prior business experience.

Project Statement

This interconnection will carry through to the retail spaces. Products created in the woodworking, weaving, and pottery studios will be sold at the retail store. However, with the gallery and retail store being next to each other, visitors from other locations on site and in the community could not only purchase goods, but also explore the art creation process in the studios as well.

A health clinic and urgent care center would complete this living community. Both would share spaces, but each would function in different manners. The clinic will offer routine check-ups and visits by specialty doctors for individuals with unique needs, whereas the urgent care center will provide immediate care, and possible extended stay for emergency situations. And, as individuals slowly improve their health conditions and lives, they will then be able to focus on gaining the skills needed to explore their interests and talents, and facilitate their career opportunities.

To further strengthen the idea of community, the site would incorporate multiple transitional exterior spaces. A public green would hold larger community events, such as food markets, craft fairs, or celebrations. The existing horse track would operate on the weekends during the warmer months and run concurrently with events taking place on the public green.

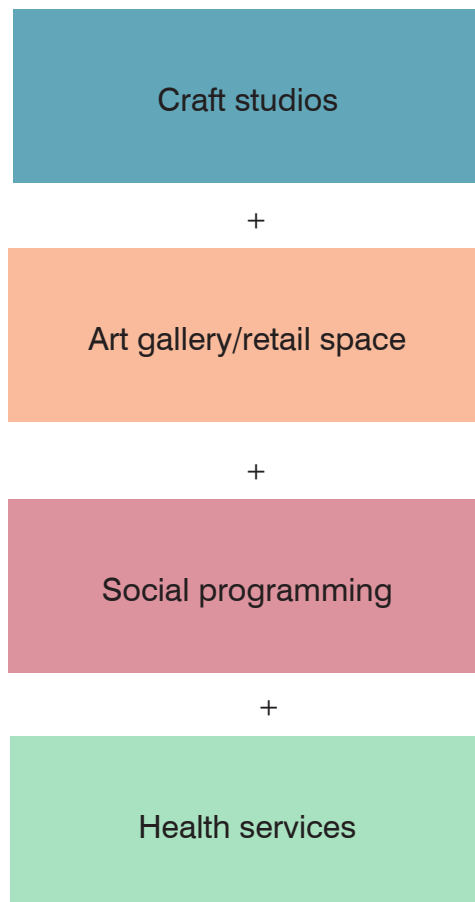
Together these programmatic components- the exterior patio, continuous porch, various public greens, and horse track- will all be visually or physically interconnected. This would support an overall sense of unity that would serve to intentionally draw people into the experience. The seamless link that would exist between the site development and the formal program is further intended to transition individuals across the various opportunities offered on site. Ultimately, with both adults and children visiting, the younger generations would be introduced to new ways of life and the perpetuation of a poverty culture would hopefully diminish.

Program Outline and Areas

The program includes 4 main components:

- Craft studios
- Art gallery/retail space
- Social programming
- Health services

Program Concepts:



The idea behind this program is to create a link between the people that are masters, and those that are apprentices. Individuals can be introduced to the idea of learning/working in their community by acquiring the foundational skills needed to succeed. By offering a variety of classes, personal growth is encouraged and cross disciplinary opportunities are created.

In order to facilitate the successful implementation of the program, though, it is necessary to provide the basic health care and educational amenities needed to integrate people of different interests to the site. By providing these resources, whether academically, physically, or socially, the specific targeted groups of individuals can share what they have learned, and when appropriate, test their skills in the craft studios, retail spaces, or other off-site environments. As a result, the classes and resources available on the site would not only provide the needed technical instruction and direction towards a healthier lifestyle, but they also would bolster the confidence individuals need to utilize their acquired skills and knowledge. And from that, people would become prepared for what they might face in the outside world.

The opportunities for self improvement are therefore abundant throughout the offered programs. However, it is probable that individuals will only visit the site initially for a specific need or resource. Nonetheless, the intention is to get individuals that may be visiting for medical purposes, or other ailments, to be introduced to the craft and social programs. Similarly, those attending educational classes and renting space in the craft studio will hopefully become aware of the health clinic and urgent care center, and simultaneously access those resources. Accordingly, interdependence reigns as the concept tying all these programs together.

Program Outline and Areas

Program Allocations

Program	Units	SF	Total SF
---------	-------	----	----------

Craft studios

Woodworking

Loading area	1	650 sf	650 sf
Admin. office	2	300 sf	600 sf
Rest room	2		
men	1	125 sf	125 sf
women	1	125 sf	125 sf
Machine room:			
wood prep	1	500 sf	500 sf
pre-assembly	1	500 sf	500 sf
assembly	1	500 sf	500 sf
finishing	1	500 sf	500 sf
spray	1	320 sf	320 sf
supply	1	300 sf	300 sf
Work benches	1	1,150 sf	1,150 sf
Mechanical	1	200 sf	200 sf
		Net Total	5,470 sf
		Gross total (*x 1.4 sf)	7,658 sf



Ceramics

Admin. office	1	100 sf	100 sf
Rest room	2		
men	1	125 sf	125 sf
women	1	125 sf	125 sf
Supply storage	1	200 sf	200 sf
Assembly room			
throwing	1	440 sf	440 sf
potter wheel	6	350 sf	350 sf
glazing area	1	260 sf	260 sf
finished product	1	275 sf	275 sf
Kiln room/mechanical	1	200 sf	200 sf
		Net Total	2,075 sf
		Gross total (*x 1.3 sf)	2,698 sf



Program Outline and Areas

Program Allocations

Program	Units	Square footage	Total square footage
---------	-------	----------------	----------------------

Craft studios

Weaving

Admin. office	1	215 sf	215 sf
Rest room	2		
men	1	125 sf	125 sf
women	1	125 sf	125 sf
Open area			
fly-looms	1	1,100 sf	1,100 sf
sewing	1	225 sf	225 sf
finished product	1	325 sf	325 sf
Laundry room	1	300 sf	300 sf
Storage	1	250 sf	250 sf
Material storage	2	50 sf	100 sf
Loading	1	300 sf	300 sf
Mechanical	1	200 sf	200 sf
		Net Total	3,265 sf
		Gross total (*x 1.3 sf)	4,245 sf



Apartment

Entry	1	275 sf	275 sf
Lounge	1	375 sf	375 sf
Units	3		
kitchen	3	150 sf	450 sf
dining/living	3	150 sf	450 sf
bedroom	3	110 sf	330 sf
bath/storage	3	120 sf	360 sf
		Net Total	2,240 sf
		Gross total (*x 1.3 sf)	2,912 sf



Woodworking	1	7,658 sf	7,658 sf
Ceramics	1	2,698 sf	2,698 sf
Weaving	1	4,245 sf	4,245 sf
Apartment	1	2,912 sf	2,912 sf
		Total	13,084 sf

Program Outline and Areas

Program Allocations

Program	Units	Square footage	Total square footage
---------	-------	----------------	----------------------

Art gallery/retail space

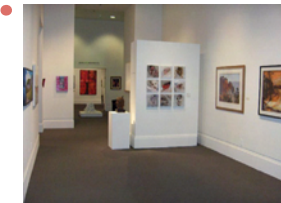
Communal Space

Lobby	1	775 sf	775 sf
Rest room	2		
men	2	125 sf	250 sf
women	2	125 sf	250 sf
Office	2	150 sf	300 sf
Admin	1	470 sf	470 sf
Mechanical	1	200 sf	200 sf



Art gallery

Loading/deliveries	1	300 sf	300 sf
Exhibit space	1	4,150 sf	4,150 sf
Storage	1	210 sf	210 sf
Water tower storage	1	300 sf	300 sf
Exterior exhibit	1	1,050 sf	1,050 sf



Retail space

Loading/deliveries	1	300 sf	300 sf
Retail floor/cashier	1	1,800 sf	1,800 sf
Storage	2	75 sf	150 sf
		Net Total	10,505 sf
		Gross total (*x 1.3 sf)	13,657 sf



Art Gallery/ Retail Space	1	13,657 sf	13,657 sf
		Total	13,657 sf

Program Outline and Areas

Program Allocations

Program	Units	Square footage	Total square footage
---------	-------	----------------	----------------------

Social programming

Continuing Education

Admin. Offices	1	240 sf	240 sf
Lounge	1	230 sf	230 sf
Storage	2	40 sf	80 sf
Exterior patio	1	675 sf	675 sf
Computer Labs	2	315 sf	630 sf
Classroom type 1	2	500 sf	1,000 sf
Classroom type 2	1	315 sf	315 sf
Classroom type 3	2	400 sf	800 sf
Mechanical	1	100 sf	100 sf

Net Total 4,070 sf

Gross total (*x 1.3 sf) 5,291 sf



Daycare Center

Play area	1	425 sf	425 sf
Restroom	2	45 sf	90 sf
Office	1	115 sf	115 sf
Storage	1	1150sf	115 sf
Kitchen	1	240 sf	240 sf
Storage(toy)	1	40 sf	40 sf
Mechanical	1	100 sf	100 sf

Net Total 1,125 sf

Gross total (*x 1.3 sf) 1,463 sf



Program Outline and Areas

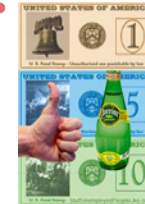
Program Allocations

Program	Units	Square footage	Total square footage
---------	-------	----------------	----------------------

Social programming

Food Buying Program: SHARE

Distribution center	1	500 sf	500 sf
Storage	1	160 sf	160 sf
Office	1	215 sf	215 sf
		Net Total	875 sf
		Gross total (*x 1.3 sf)	1,138 sf



Shared Program

Restrooms	2		
men	2	180 sf	360 sf
women	2	230 sf	460 sf
Lobby	1	950 sf	950 sf
Community room	1	600 sf	600 sf
Café	1	675 sf	675 sf
Kitchen	1	200 sf	200 sf
		Net Total	3,245 sf
		Gross total (*x 1.3 sf)	4,219 sf



Continuing Education	1	5,291 sf	5,291 sf
Daycare Center	1	1,463 sf	1,463 sf
Food Buying Program	1	1,138 sf	1,138 sf
Shared Program	1	4,219 sf	4,219 sf
		Total	12,111 sf

Program Outline and Areas

Program Allocations

Program	Units	Square footage	Total square footage
---------	-------	----------------	----------------------

Health Clinic/Urgent Care

Health Clinic

Exam rooms	4	225 sf	900 sf
Satellite exam room*	1	200 sf	200 sf
Lab	1	290 sf	290 sf
Restrooms	2		
men	2	225 sf	550 sf
women	2	225 sf	550 sf
Meeting room	1	285 sf	285 sf
Staff room	1	215 sf	215 sf
Mechanical	2	150 sf	300 sf
		Net Total	3,290 sf

Gross total (*x 1.3 sf)	4,277 sf
-------------------------	----------

*Provide capabilities of satellite interaction



Urgent Care

Exam rooms	6	170 sf	1,020 sf
Exam bathroom	6	60 sf	360 sf
Medicine storage	1	125 sf	125 sf
Medical distribution	1	135 sf	135 sf
Admininstration	1	185 sf	185 sf
Observation area	1	550 sf	550 sf
Staff restrooms	2	80 sf	160sf
Entry	1	150 sf	150 sf
Mechanical/storage	1	250 sf	250 sf
		Net Total	2,935 sf

Gross total (*x 1.3 sf)	3,816 sf
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Program Outline and Areas

Program Allocations

Program	Units	Square footage	Total square footage
---------	-------	----------------	----------------------

Communal Program

Entry	1	90 sf	90 sf
Waiting area	1	650 sf	650 sf
Restrooms	2	80 sf	160 sf
Check-in	1	315 sf	315 sf
File storage	1	215 sf	215 sf
Offices	7	250 sf	1,750 sf

Net Total 3,180 sf

Gross total (*x 1.3 sf) 4,134 sf

Health Clinic	1	4,277 sf	4,277 sf
Urgent Care	1	3,816 sf	3,816 sf
Communal Program	1	4,134 sf	4,134 sf
Total			12,227 sf



Program Outline and Areas

Program Allocations

Program	Units	Square footage	Total square footage
---------	-------	----------------	----------------------

Exterior Program

Communal green	1	28,000 sf	28,000 sf
Horse track	1	25,000 sf	25,000 sf
		Net Total	1,940 sf
		Gross total (*x 1.3 sf	2,522 sf


Exterior program	1	6,090 sf	6,090 sf
		Total	13,084 sf

Woodworking	8	7,658 sf	7,658 sf
Ceramics	1	2,698 sf	2,698 sf
Weaving	1	4,245 sf	4,245 sf
Apartment	1	2,912 sf	2,912 sf
Art Gallery/Retail Space	1	13,657 sf	13,657 sf
Continuing Education	1	5,291 sf	5,291 sf
Daycare Center	1	1,463 sf	1,463 sf
Food Buying Program	1	1,138 sf	1,138 sf
Shared Program	1	4,219 sf	4,219 sf
Health Clinic	1	2,522 sf	2,522 sf
Urgent Care	1	4,277 sf	4,277 sf
Communal Program	1	3,816 sf	3,816 sf
Exterior Program	1	6,090 sf	6,090 sf
		Total*	59,986 sf

*excluding exterior program



Problem Themes/Architectural Intentions



With unique needs and resources available in every geographic location, architects always have the task of designing to reflect a building's users and their needs. However, in attempting to blend this charge with typical design requirements, one must always ask how architecture can convey a sense of "identity" that will draw people to it because of what it stands for, in addition to how it functions. Such a balancing of interests is acutely seen with the Magoffin County project. Here, the projects' social implications unfold through the efforts to express these user needs.

In a society, such as that which currently exists in Appalachia, people are in need of resources to improve the quality and duration of life, and inspiration to drive them toward that goal. Attempting to do that is a design that incorporates expressiveness to represent the culture, and materials to represent the local environment. However, what remains uncertain is how individuals will respond to this design. Thus, intentional choices need to be made for purposes of inspiring learning and supporting growth.

For this project, in order to distinguish between that form which relates to the vernacular and main program, and that form which is cross cultural and transitional, I have chosen to differentiate between these designs through intentions and incidents. Where two intention forms would meet, I introduce an incident to separate them. For purposes of defining these structures, local materials will be used in different manners.

Specifically, intention areas are represented with white oak wood panels, 16" inches in width. These panels reference the tobacco barns prevalent in rural areas. However, incident areas are represented with dense red oak wood screens, suspended over a glazing system. Furthermore, intention forms have alternating 16" wide operable windows, whereas the incident forms have a curtain wall with intermittent operable windows. A further distinction relates to the movement from specific materials into the glazing systems. Visually the transition between the two distinguishes the incidents and intentions from both external and internal point of views.

While these two approaches to distinguish the form occur throughout the program, a continuous exterior porch creates a more obvious link between the various functions. The porch provides shading for individuals walking across the site, but also veils the communal green space used for

Problem Themes/Architectural Intentions

large events and gatherings. Likewise, the paths in the green space, intended for use by vendors, relate to the openings and circulation points within the structure and are defined with different pervious materials. The interior green then becomes the central node as the program wraps around the communal space. In totality, the distinguished forms, throughout the project, help create an identity within this community while simultaneously providing what the people of the Appalachian Mountains need: an opportunity for change through craft, education, social, and health programs.

Site Identification/Rationale

After analysis of the statistics and information regarding the demographics of the area, Magoffin County was chosen as a site location because of:

- A high high school drop-out rate
- A high unemployment rate
- A high poverty level
- A low income level
- A high percentage of residents living in mobile homes

Because of the mountainous terrain, the valleys are prone to flooding. Therefore, it was necessary to locate the site outside of the edge of the 100 year flood zone. Based on that, five possible locations were analyzed during a site visit in order to determine which would be most beneficial to the project. With each site offering a different amount of space and conditions, other traditional factors such as pre-existing buildings had to be taken into account, as well as the ability of the space to connect the program to existing community and residential areas.

After visiting each site, the determined final location decision was based on the sites topology, accessibility, views, proximity to residential areas and schools, and relative size of the land with regards to the possibility for future expansion. As seen in the next several pages, this site described is labeled as site option two.

Site two



Site Identification/Rationale: Gifford, Kentucky

Location of Site: U.S.A.



Site Identification/Rationale: Gifford, Kentucky

Location of Site: Magoffin County



Gifford, Kentucky

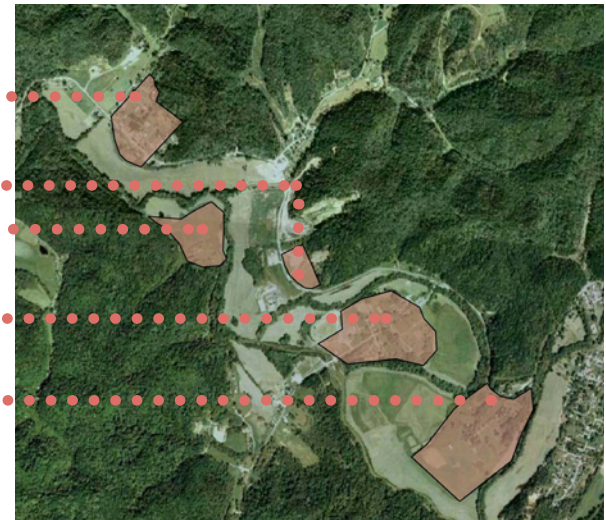
Site option 1

Site option 2

Site option 3

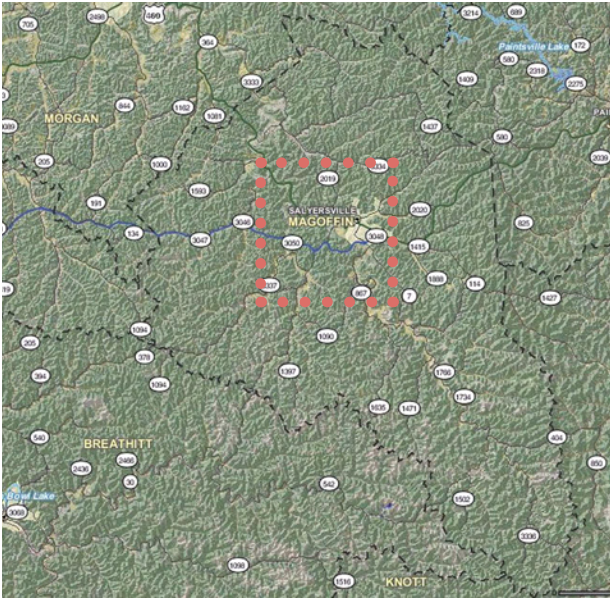
Site option 4

Site option 5



Site Identification/Rationale: Gifford, Kentucky

Location of Site: Gifford, KY

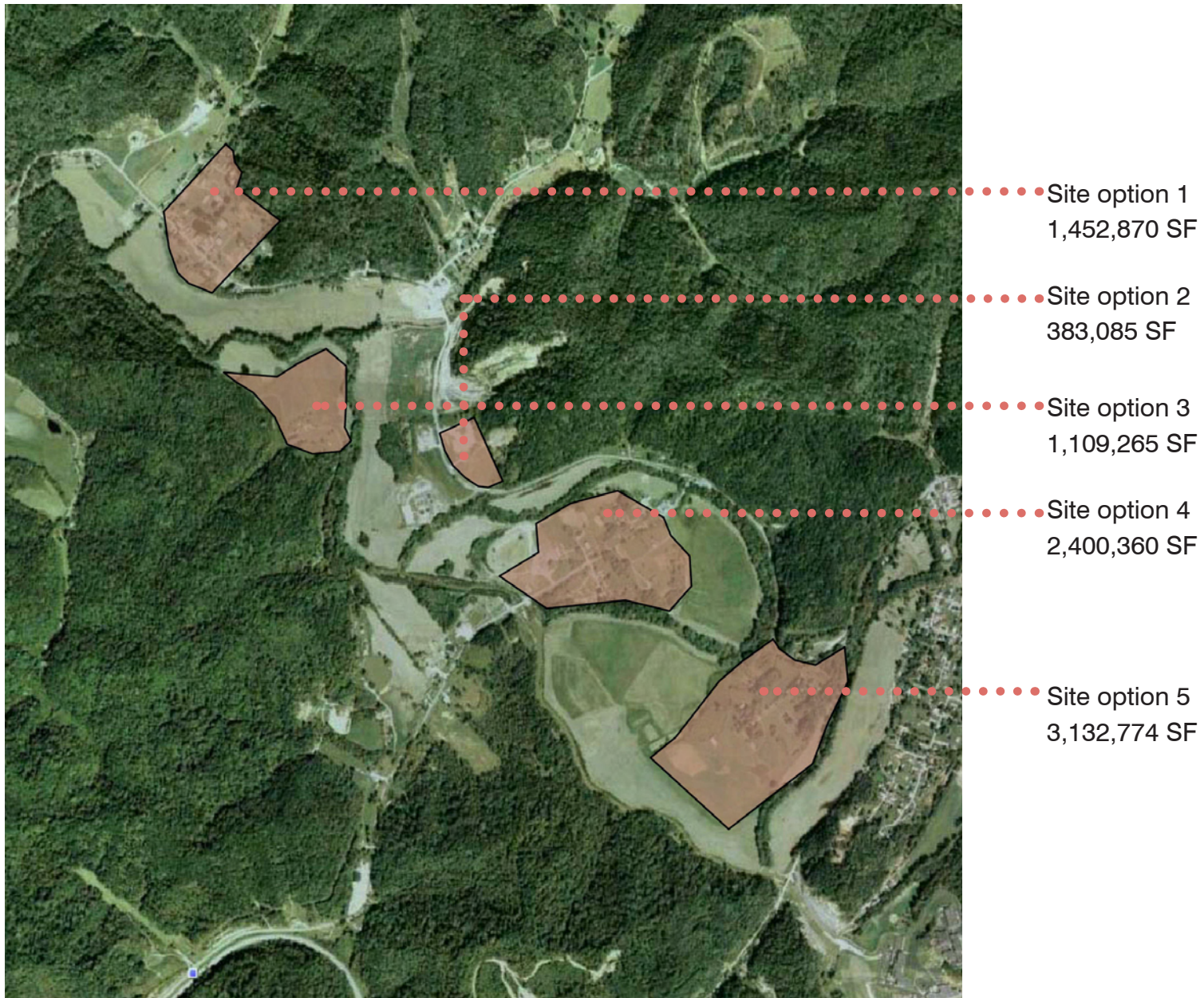


Gifford, Kentucky is located in Magoffin County.



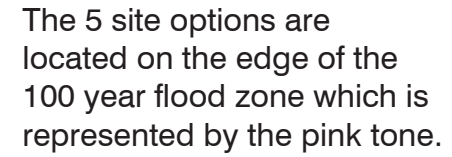
Site Identification/Rationale: Gifford, Kentucky

Location of Site: Gifford, KY



Google Earth

Topography



- Site option 1

- Site option 2

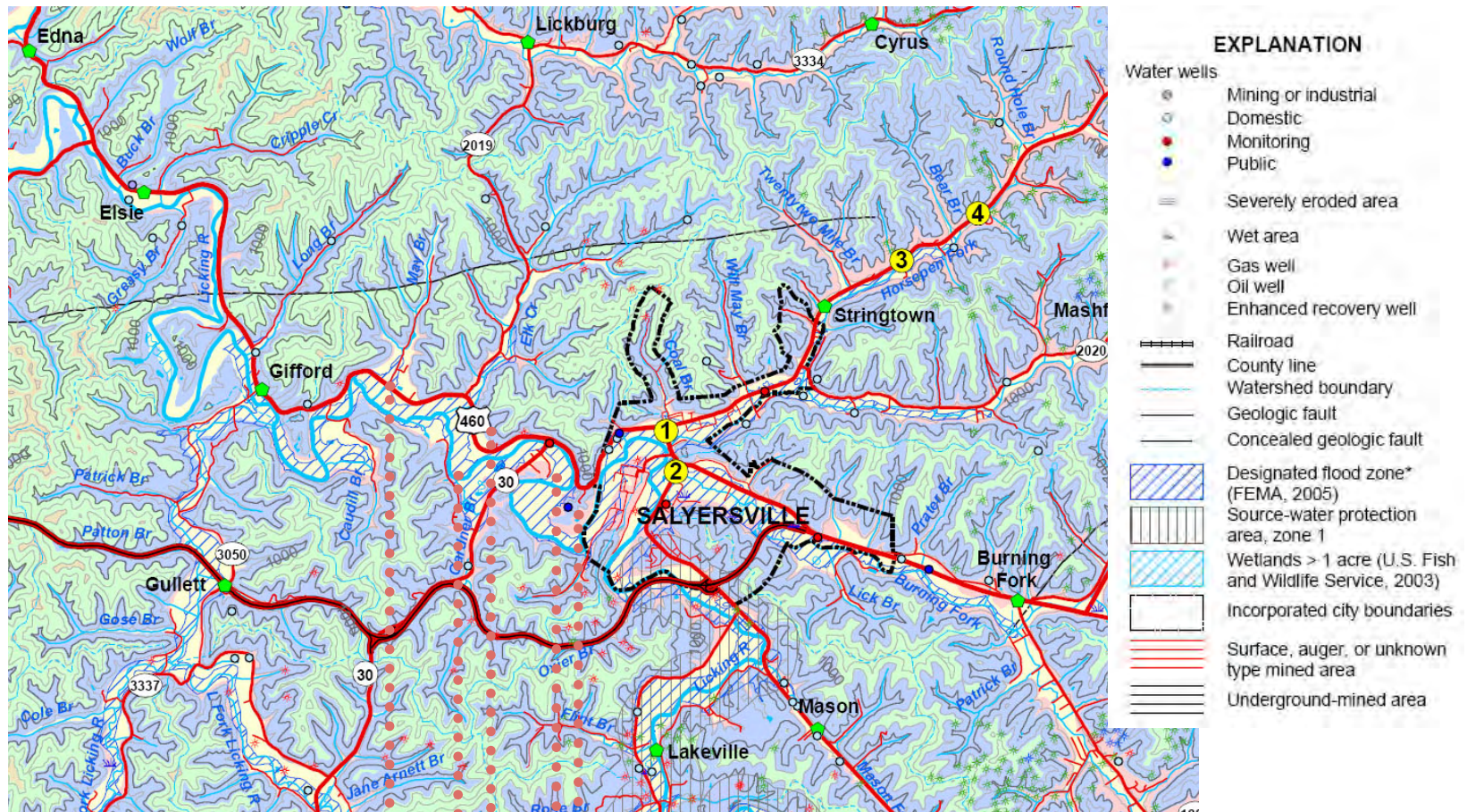
- Site option 3

- Site option 4

- Site option 5

Site Identification/Rationale: Gifford, Kentucky

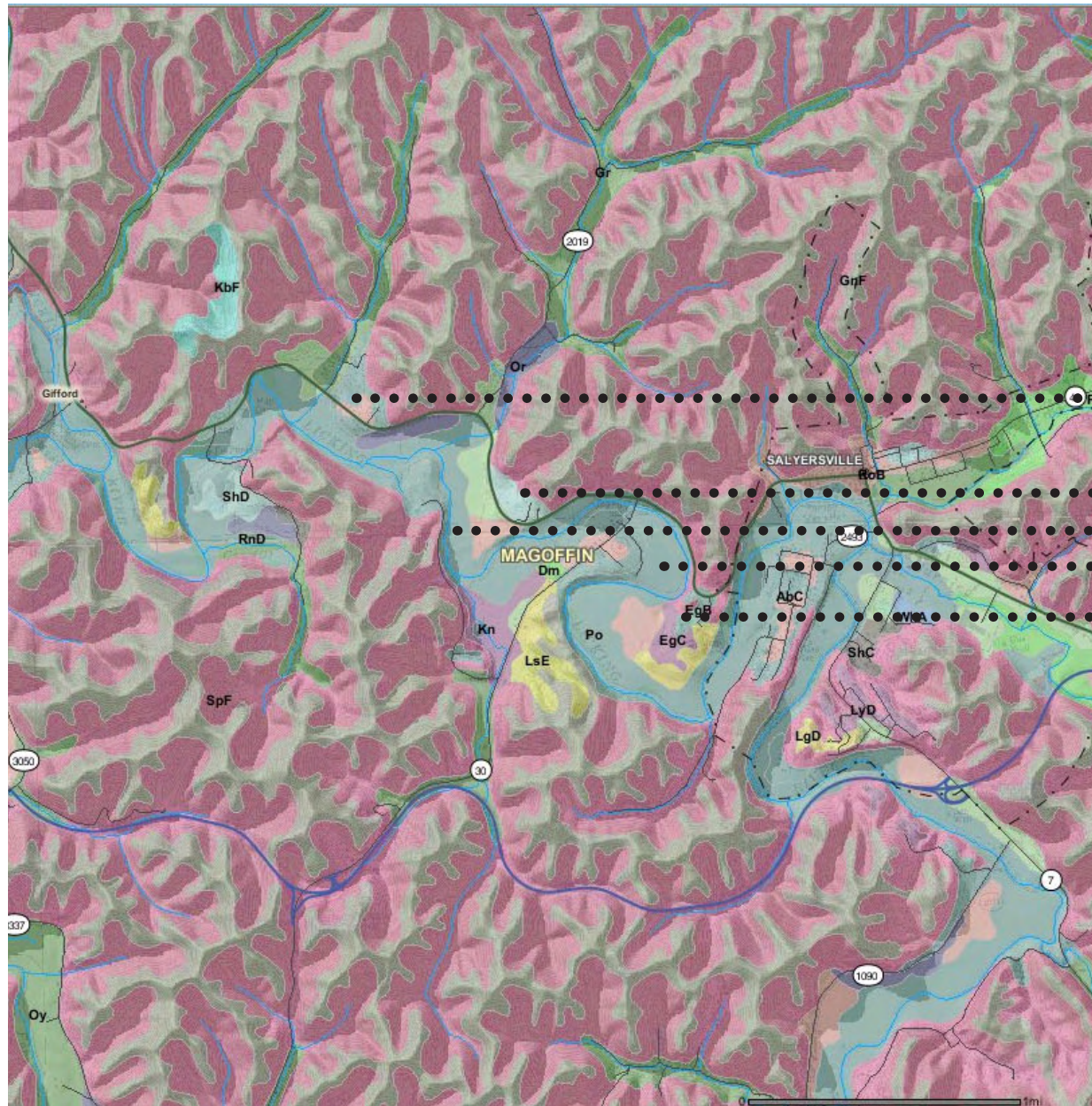
Geology



- Site option 1
- Site option 2
- Site option 3
- Site option 4
- Site option 5

Site Identification/Rationale: Gifford, Kentucky

Land Use Map



Pink represents sinkholes, blue represents wetlands, and yellow represents sinkhole drainage areas. The site options are located on the limits of wetland territories.

Site Identification/Rationale: Gifford, Kentucky

Environmental Data

Lexington Information

Latitude: +37.98861 (37°59'18.996"N)
Longitude: -84.47778 (84°28'40.008"W)
Time zone: UTC-5 hours
Local time: 22:38:56
Country: [Kentucky](#), [United States](#)
Continent: [Americas](#)
Sub-region: [Northern America](#)
Distance: ~1200 km (from your IP)
Altitude: ~310 m
[Change preferences.](#)

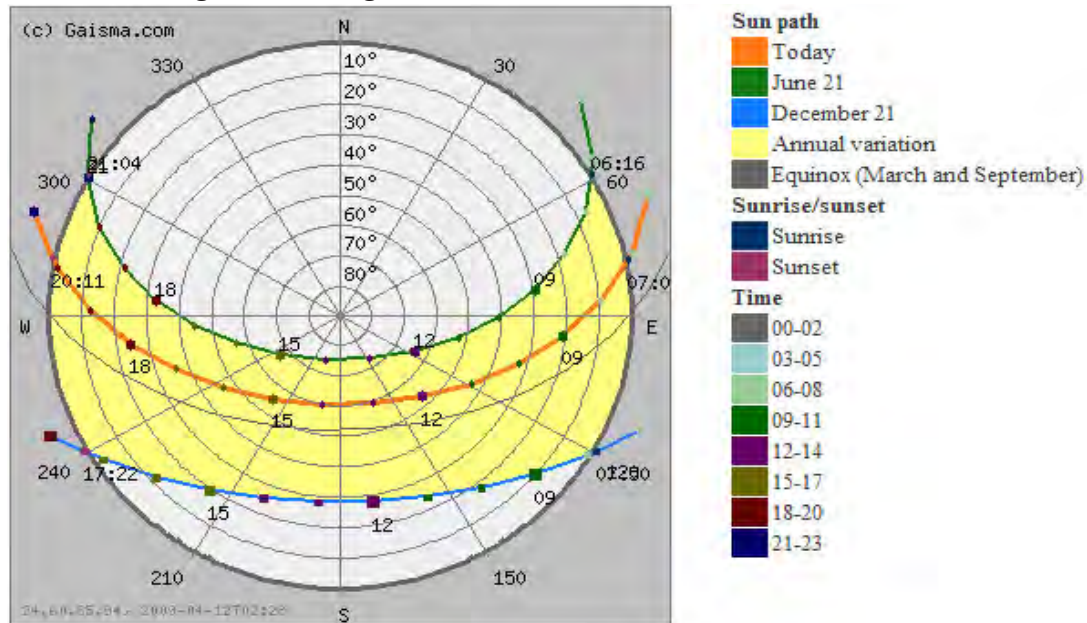


This chart describes the environmental characteristics of Lexington, Kentucky. Lexington is a similar latitude to Gifford, Kentucky and is situated at a latitude of -37.98861 N and a longitude of -84.47778 W.

Site Identification/Rationale: Gifford, Kentucky

Environmental Data: Sun

Sun Path Diagram: Lexington



The sun path diagram for Lexington, KY describes the following:

At the summer solstice on June 21st, the sun is at an altitude of 85 degrees.

At the winter solstice, the sun is at an altitude of 28 degrees.

Site Identification/Rationale: Gifford, Kentucky

Environmental Data: Sun

Solar Energy Surface Meteorology: Lexington

Variable	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Insolation, kWh/m ² /day	1.76	2.43	3.48	4.64	5.18	5.80	5.73	5.20	4.41	3.23	2.04	1.56
Clearness, 0 - 1	0.39	0.41	0.44	0.48	0.47	0.50	0.51	0.51	0.52	0.49	0.42	0.38
Temperature, °F	31.80	35.42	43.03	53.67	63.77	71.94	75.22	73.65	67.08	56.79	45.84	35.13
Wind speed, mph	12.46	12.28	12.48	11.79	9.95	9.17	8.30	8.12	8.93	9.95	11.68	12.15
Precipitation, in	3.48	3.35	4.40	3.87	4.38	4.09	4.85	3.87	3.30	2.48	3.54	3.86
Wet days, d	11.4	11.3	12.6	11.9	12.0	10.2	11.2	9.2	8.6	8.4	10.7	11.8

This chart displays the meteorology of Lexington, Kentucky.

The lowest temperatures are in January when the average is 31.8 degrees Fahrenheit and the warmest temperatures are in July, with an average temperature of 75.22 degrees Fahrenheit.

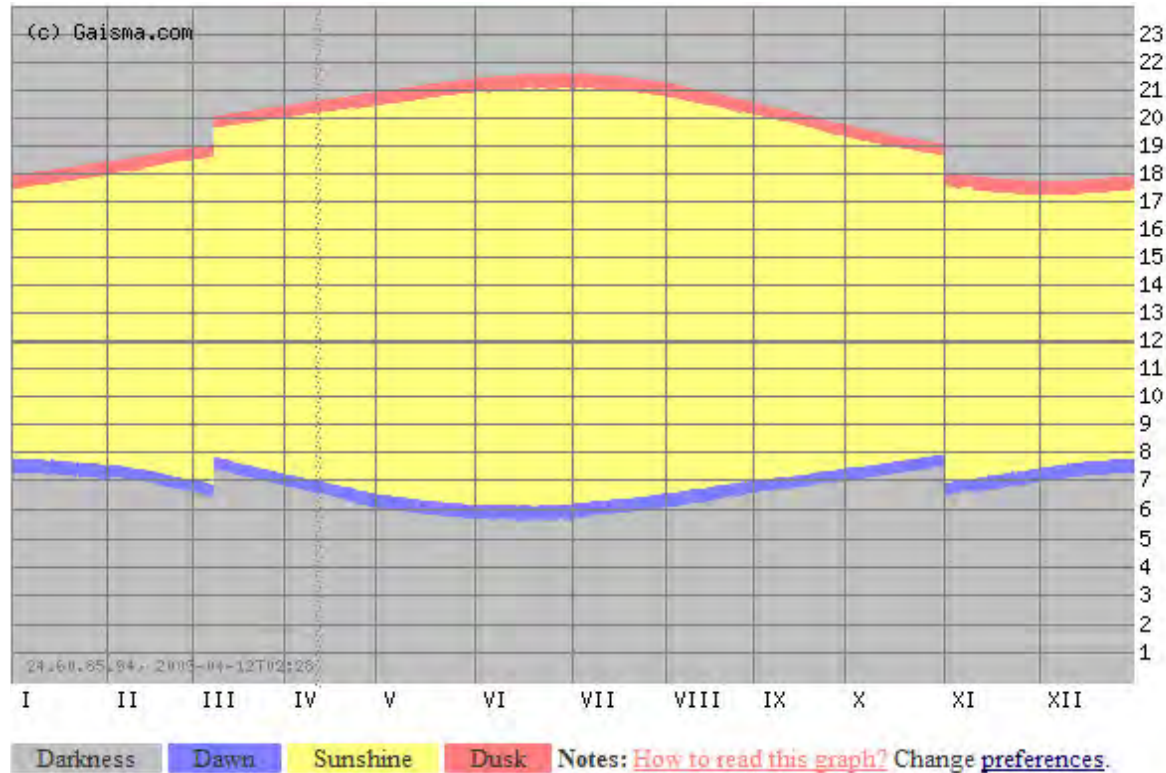
The wind is strongest in the winter months, with March having the highest average wind speeds of 12.48 mph.

Each month has a similar amount of rain, with July receiving the most at an average of 4.85 inches. The month with the most wet days is March.

Site Identification/Rationale: Gifford, Kentucky

Environmental Data: Sun

Sun Graph: Lexington

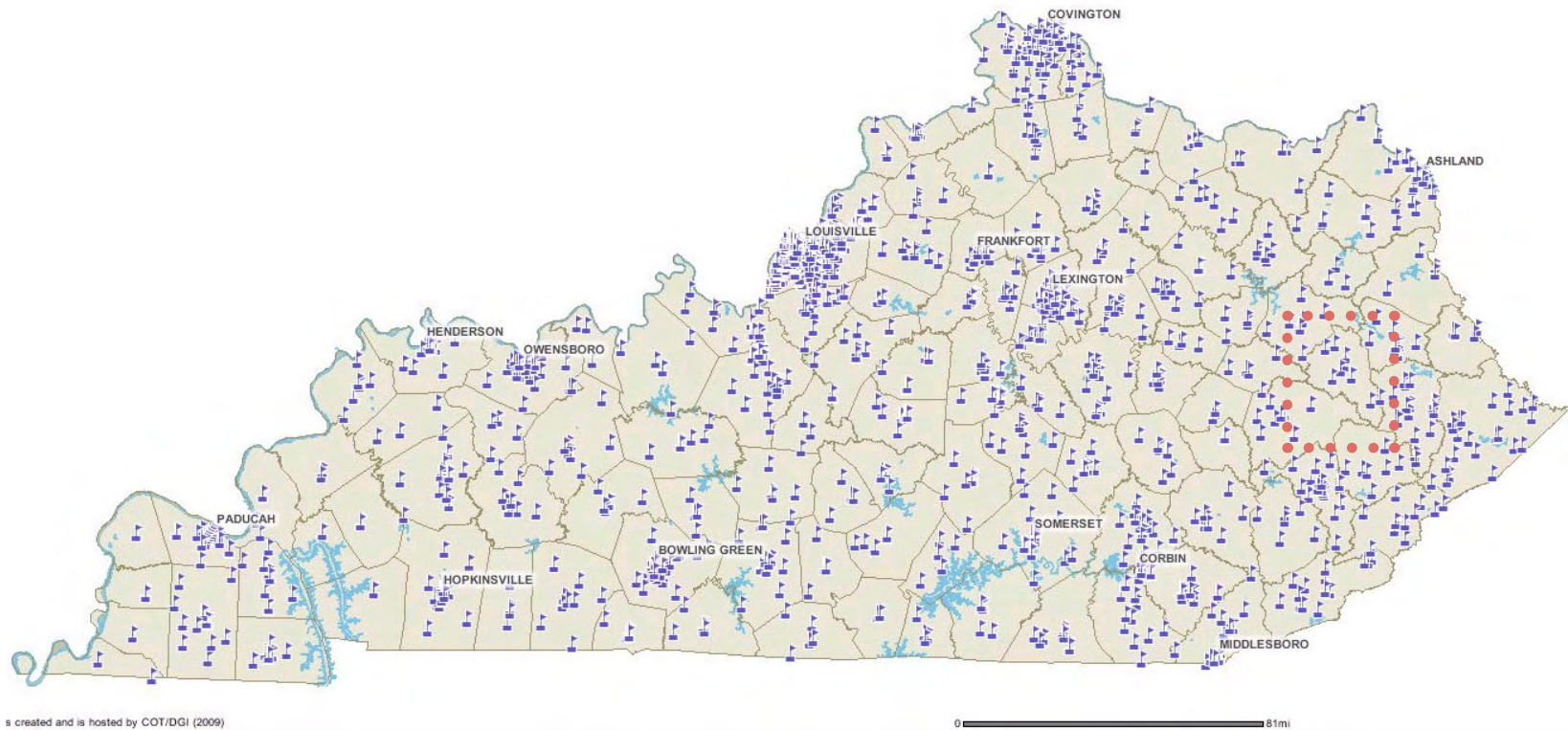


This sun graph depicts the hours of sunrise and sunset during an average year in Lexington, Kentucky.

As seen, the most daylight occurs during the summer months: May, June, and July.

Site Identification/Rationale: Gifford, Kentucky

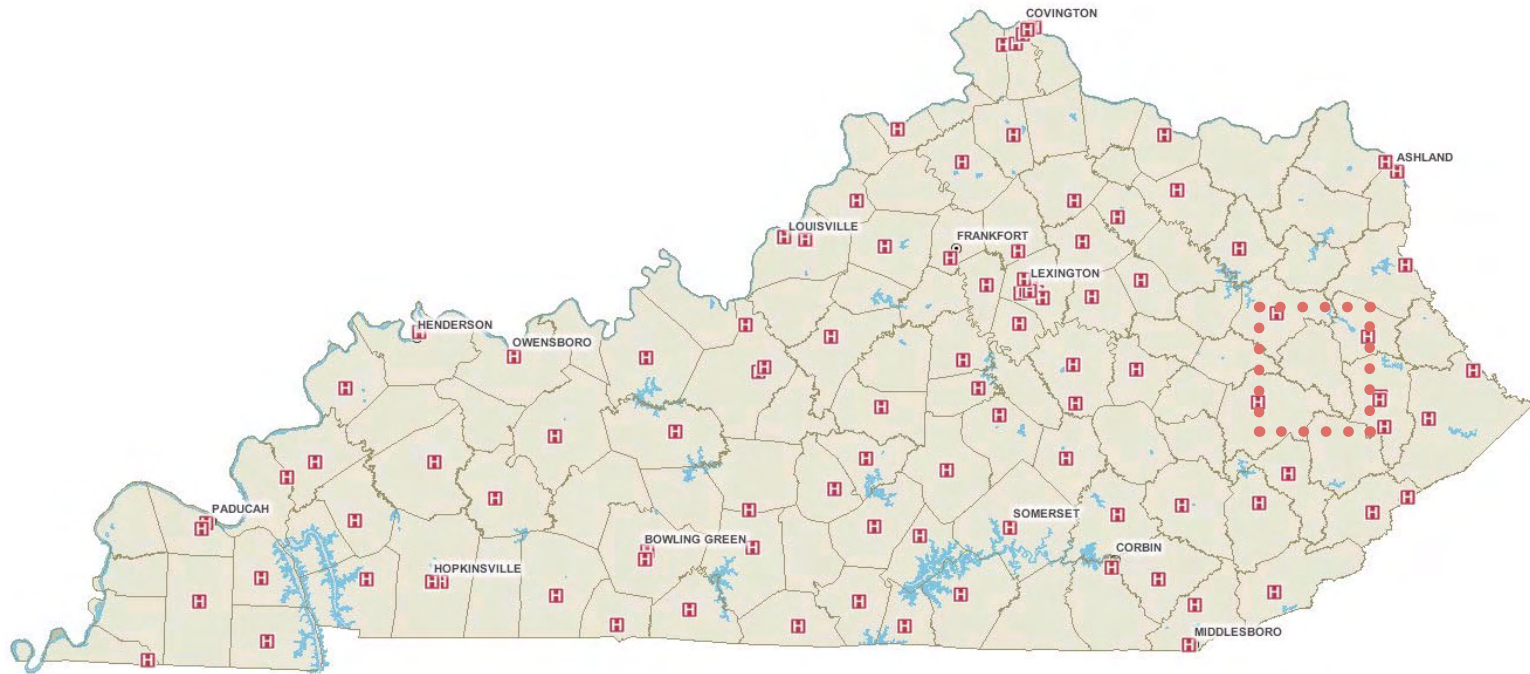
Site Conditions: School Locations



There are schools in Magoffin County, with the newest addition of an elementary school directly across from the site option 2. Also within the town, is a high school, a middle school, and two other elementary schools.

Site Identification/Rationale: Gifford, Kentucky

Site Conditions: Hospital Locations

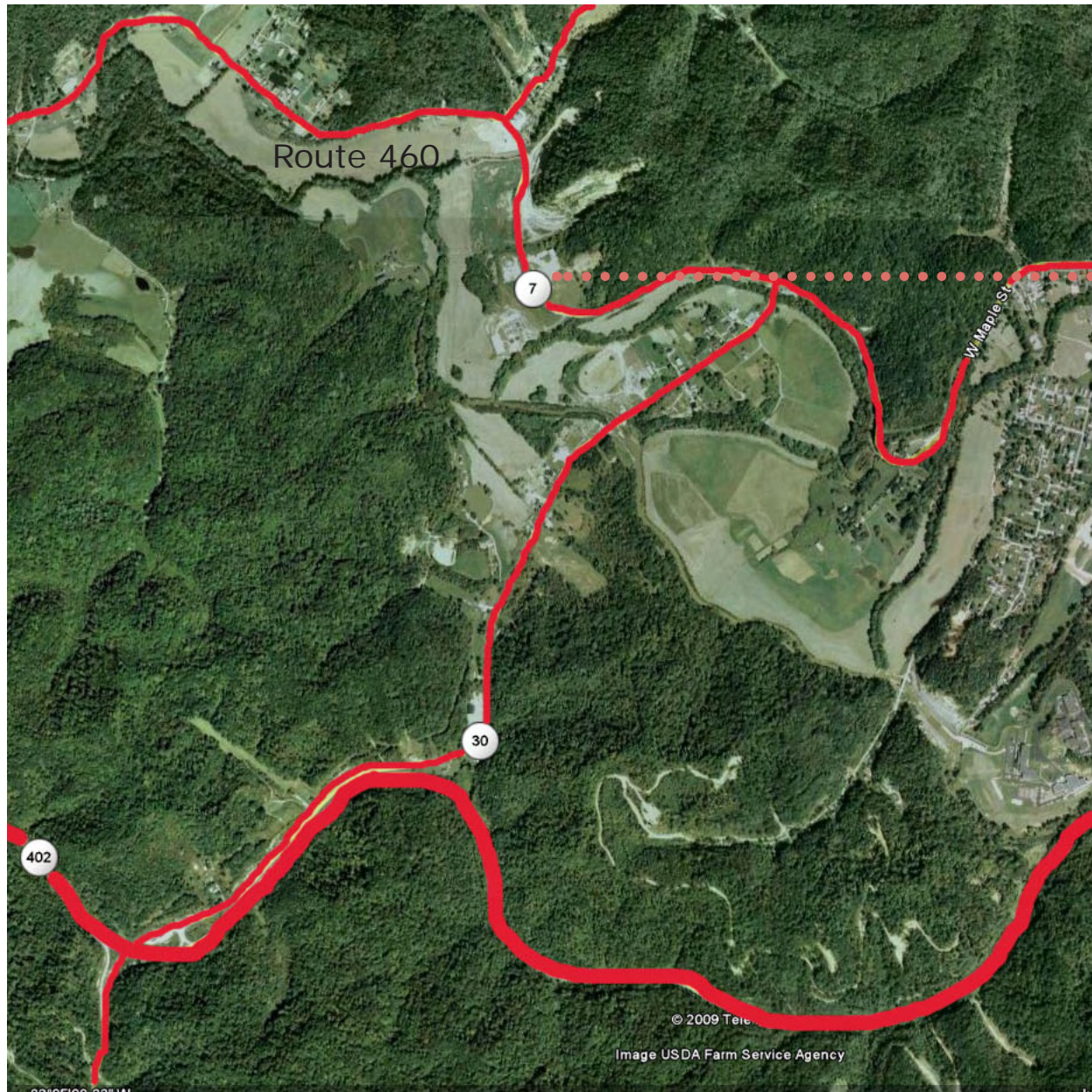


a created and is hosted by COT/DGI (2009)

*There are no hospitals in Magoffin County

Site Identification/Rationale: Gifford, Kentucky

Site Conditions: Vehicular Circulation

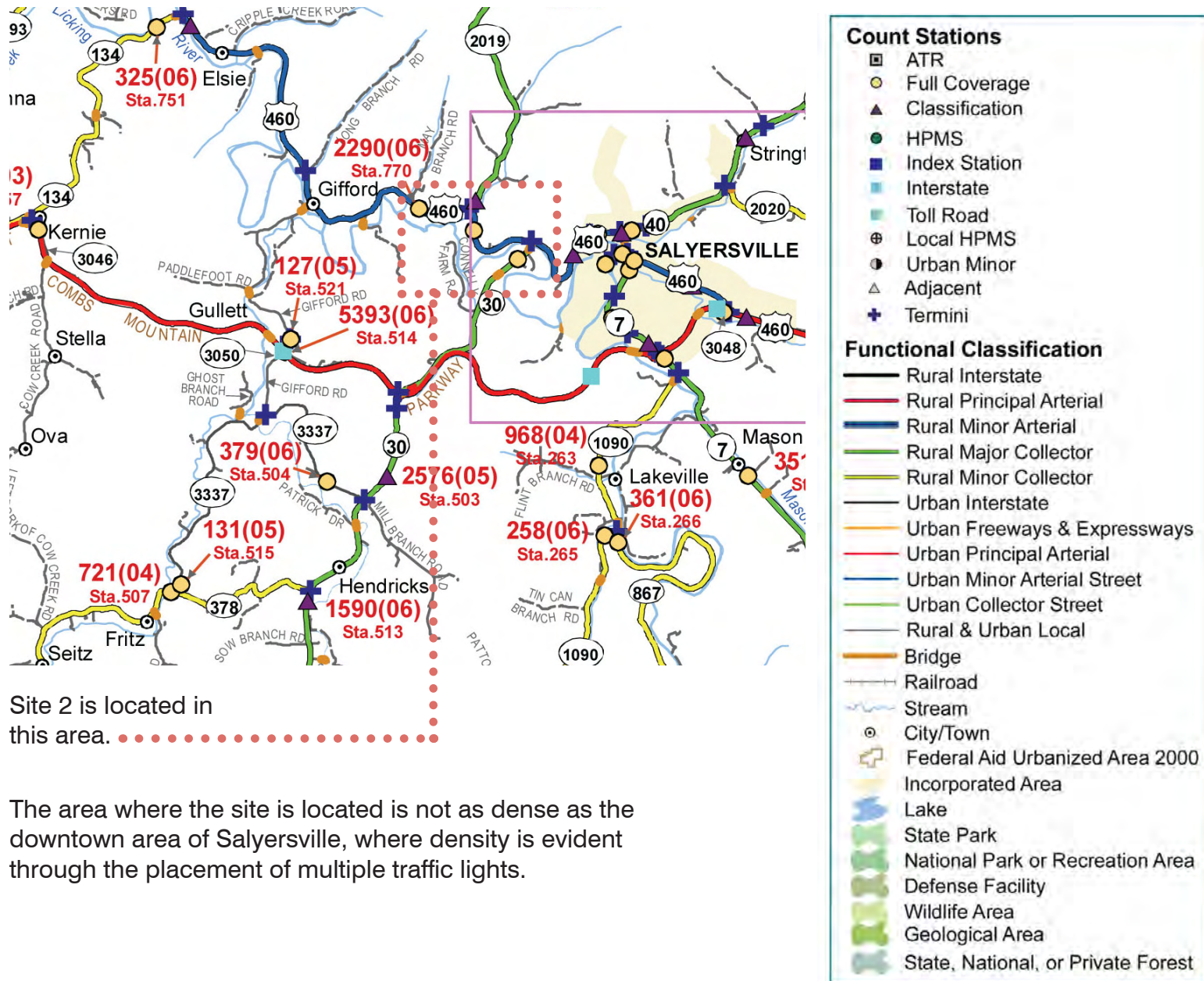


• Site option 2

Site 2 is located off Route 460 (the upper red line). The Mountain Parkway is the main road that runs in close proximity to the site (the thick red line).

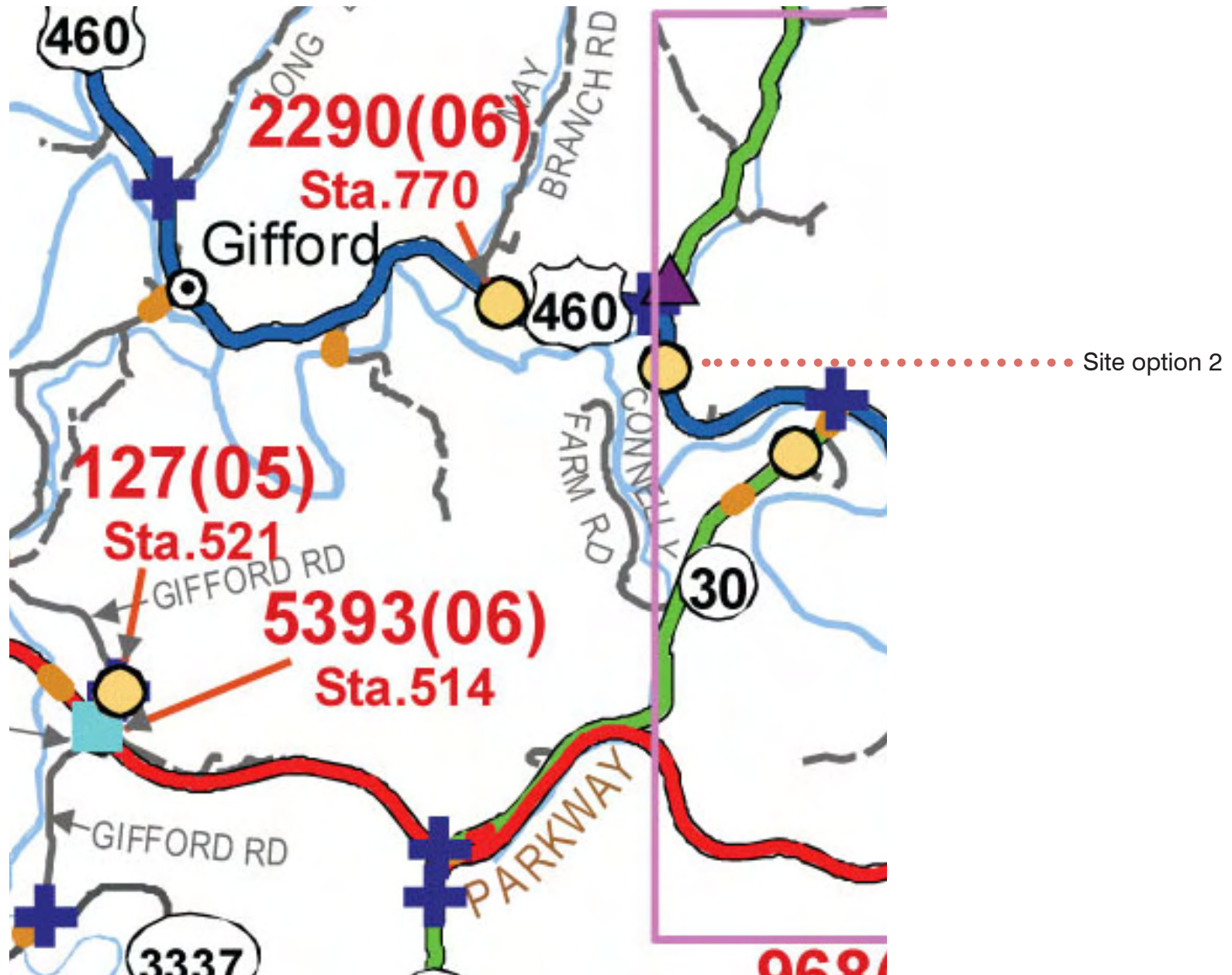
Site Identification/Rationale: Gifford, Kentucky

Site Conditions: Traffic Station Counts



Site Identification/Rationale: Gifford, Kentucky

Site Conditions: Traffic Station Counts



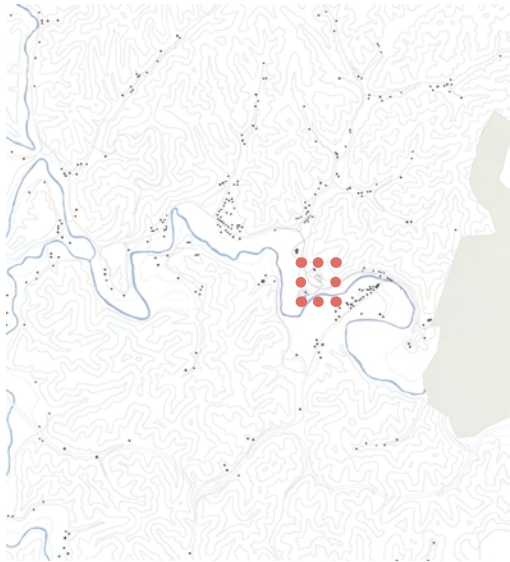
Site Identification/Rationale: Gifford, Kentucky

Site Selection: Figure ground diagrams

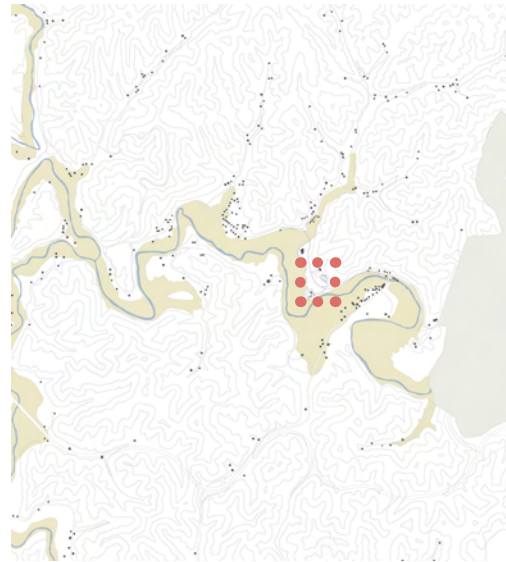


Site Identification/Rationale: Gifford, Kentucky

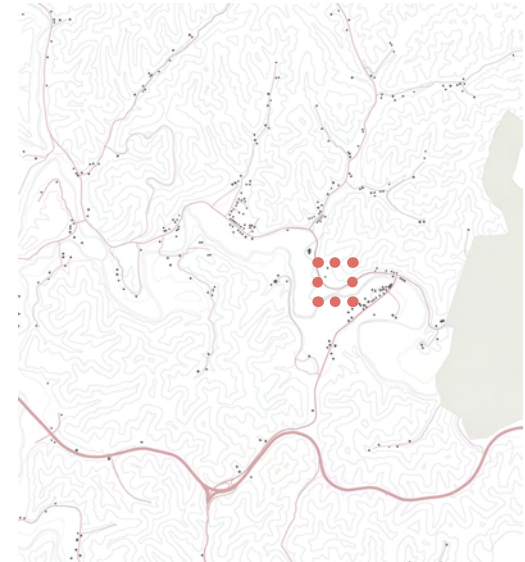
Site Selection: Figure ground diagrams



Licking River

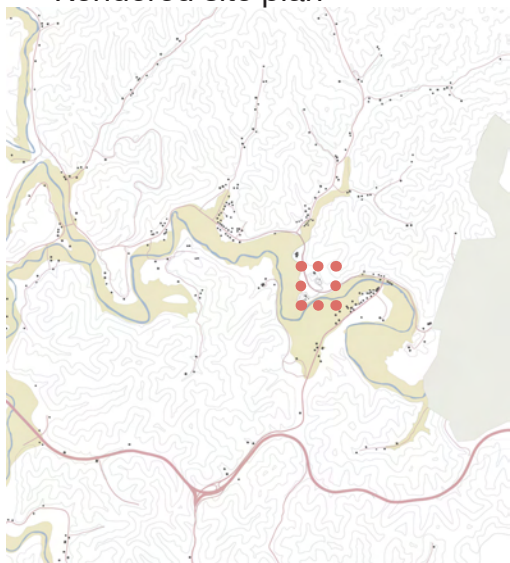


River and 100 year flood zone

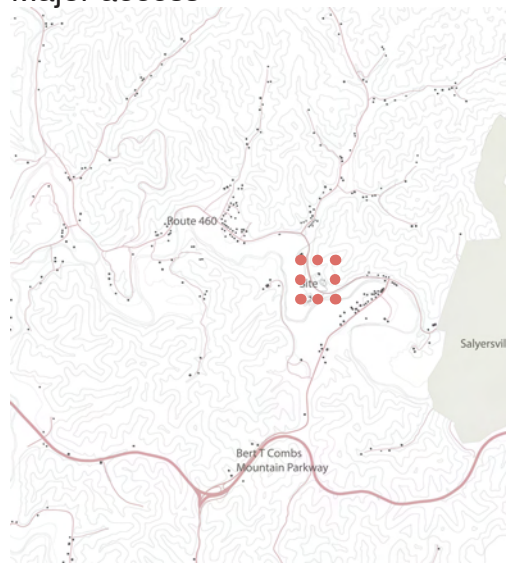


Road circulation

Rendered site plan



Major access



The site is selected based on its proximity to the river and accessibility to the center of Magoffin County, Salyersville.

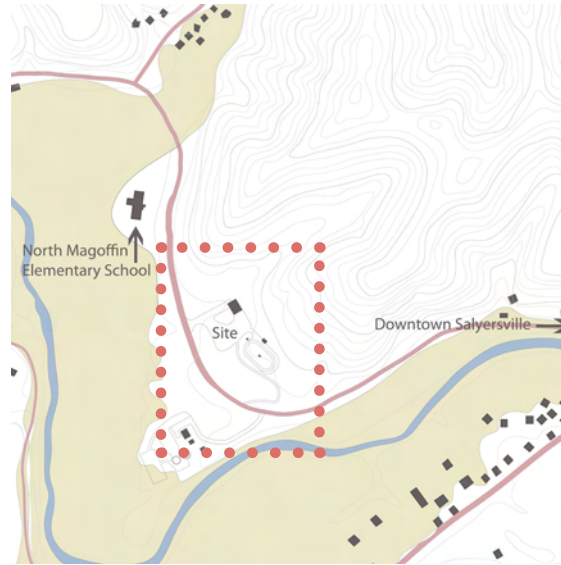
With a strong presence along route 460 (running directly in front of the site), the project will become the link between the downtown and outer more remote limits of the county.

Site Identification/Rationale: Gifford, Kentucky

Site Selection: Figure ground diagrams and images



Figure ground



Proximity to elementary school

North Magoffin Elementary School



Context

Site Identification/Rationale: Gifford, Kentucky

Site Selection: Figure ground diagrams

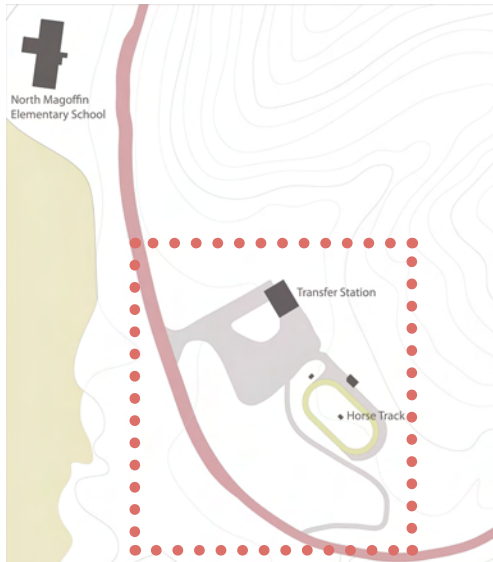
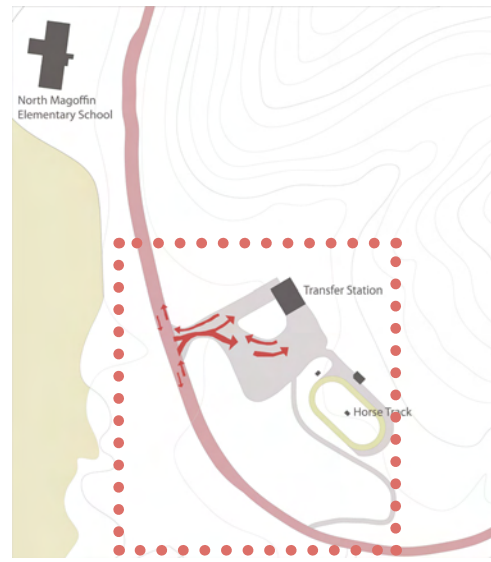
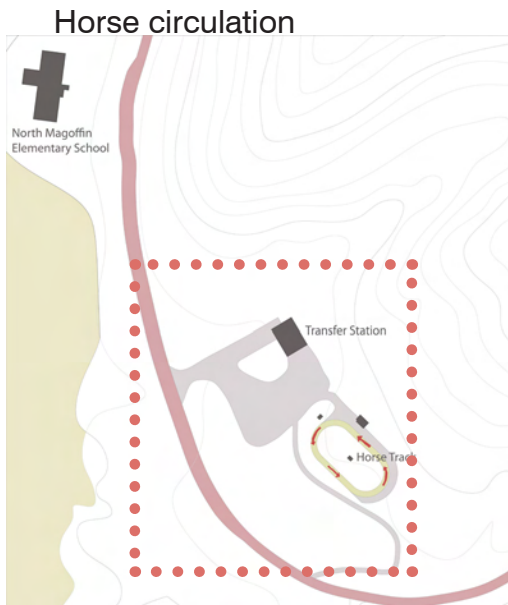


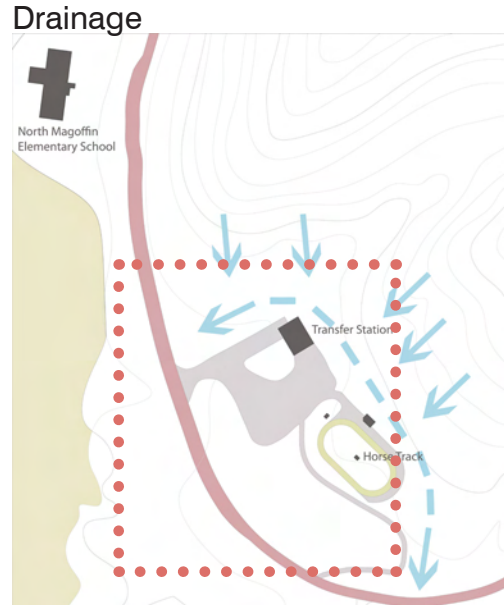
Figure ground



Vehicular circulation



Horse circulation



Drainage

The site currently operates as a transfer station for the county as well as a location for horse racing. While the transfer station is used on a daily basis, the practice track is used a few weekends a month.

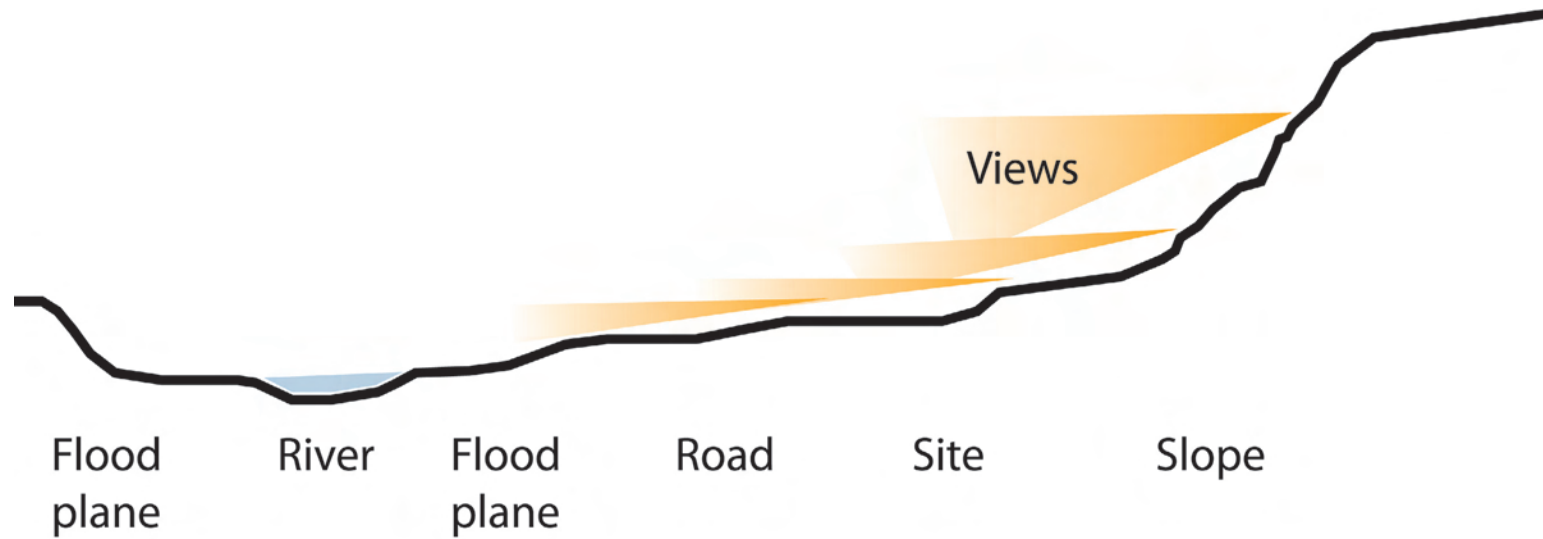
The transfer station has been on the current site since 2005. Previously it was located across the street, which is now the current location for the sewage plant.

While the main component of the site is characterized by a slow slope towards the western direction, the land mass that the site flows into becomes very mountainous. A land form to the north of the site resembles shale, or like rock, abundant in the area.

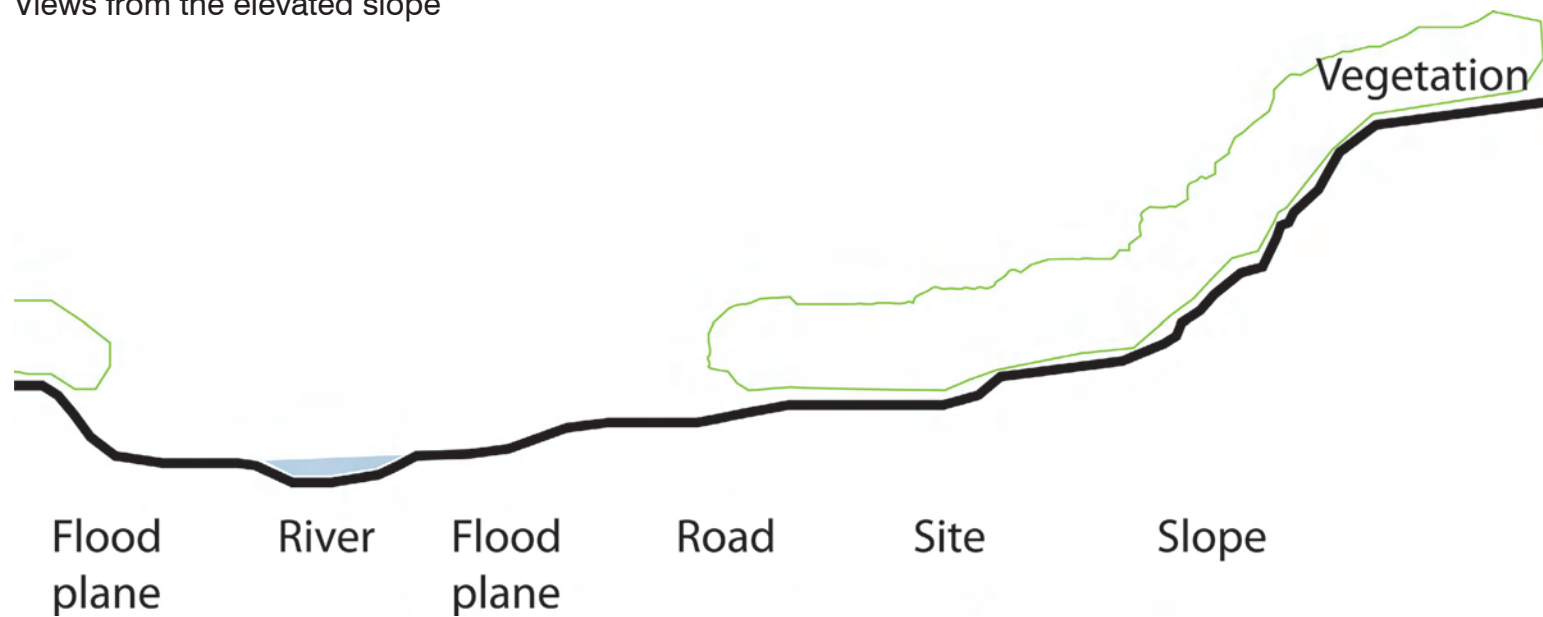
Across the site is the location of the Licking river, as well as the 100 year flood zone. The North Magoffin Elementary School is in close proximity to the site.

Site Identification/Rationale: Gifford, Kentucky

Site Selection: Analysis



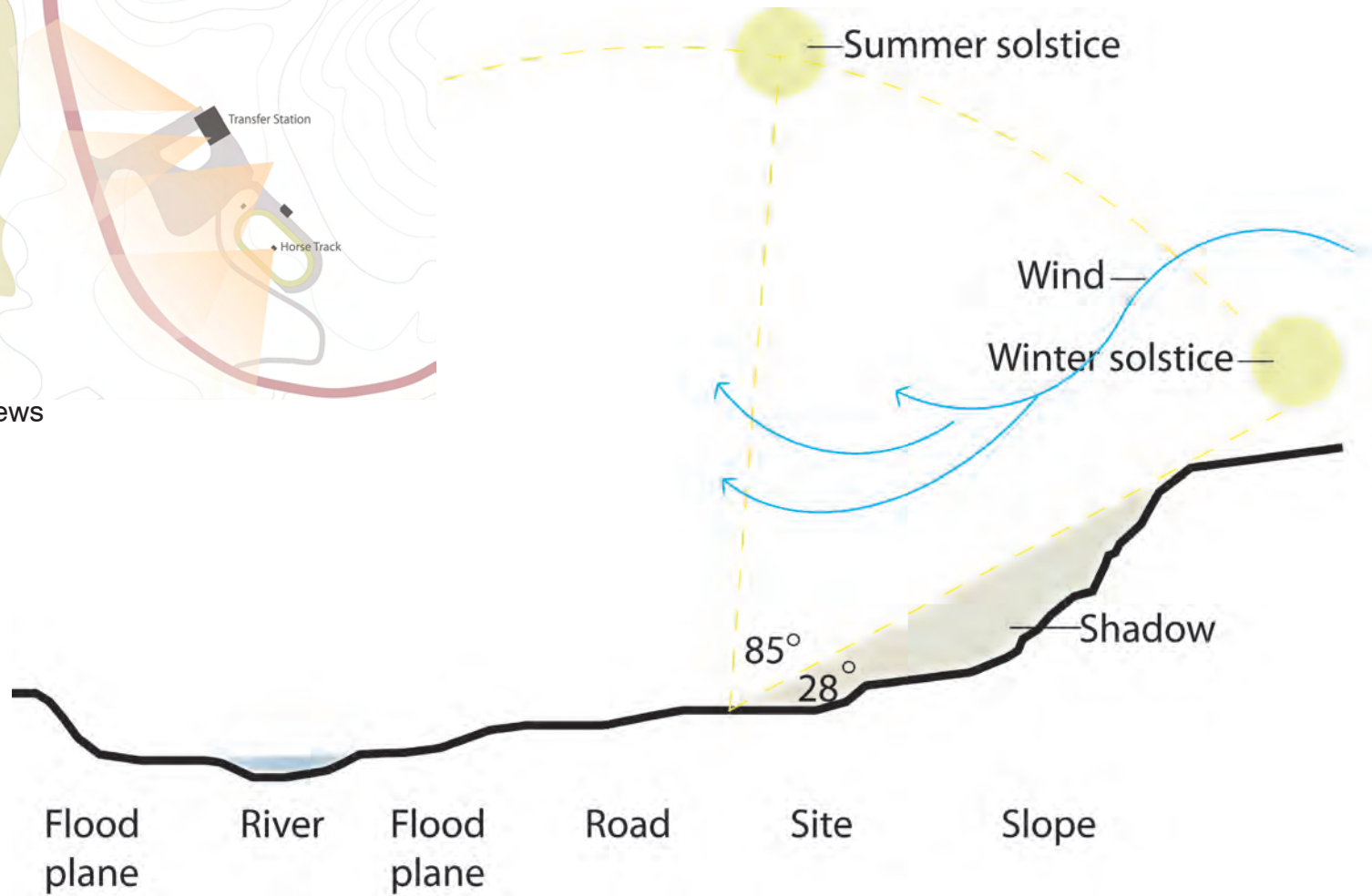
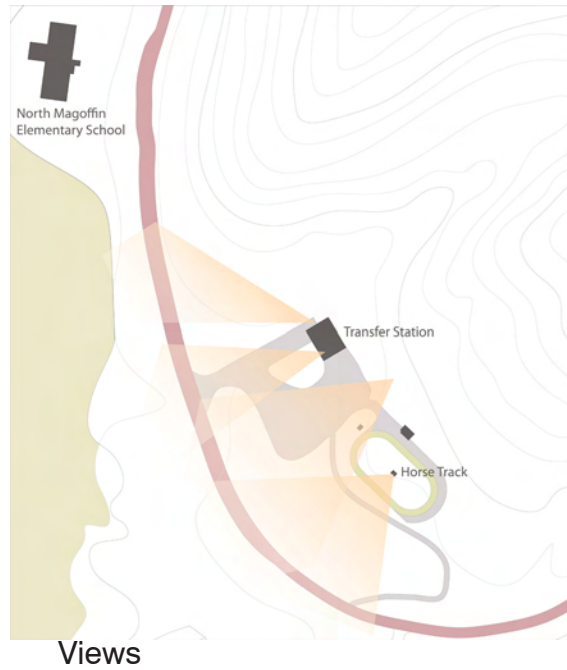
Views from the elevated slope



Vegetation

Site Identification/Rationale: Gifford, Kentucky

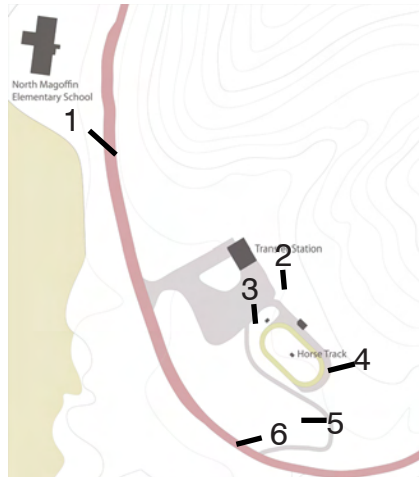
Site Selection: Analysis



Wind and Sun

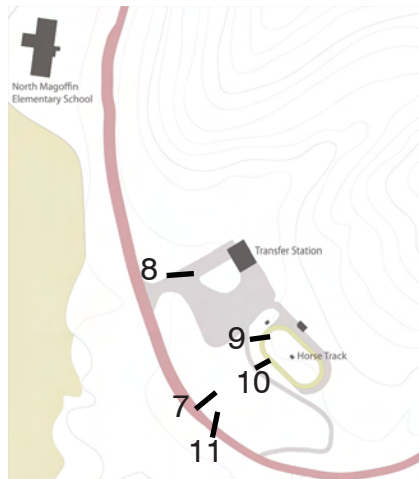
Site Identification/Rationale: Gifford, Kentucky

Site Selection: Photo montages



Site Identification/Rationale: Gifford, Kentucky

Site Selection: Photo montages



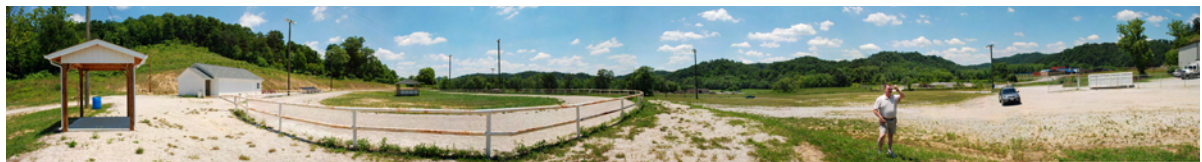
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Regulatory Environment Summary Report



Zoning Analysis:

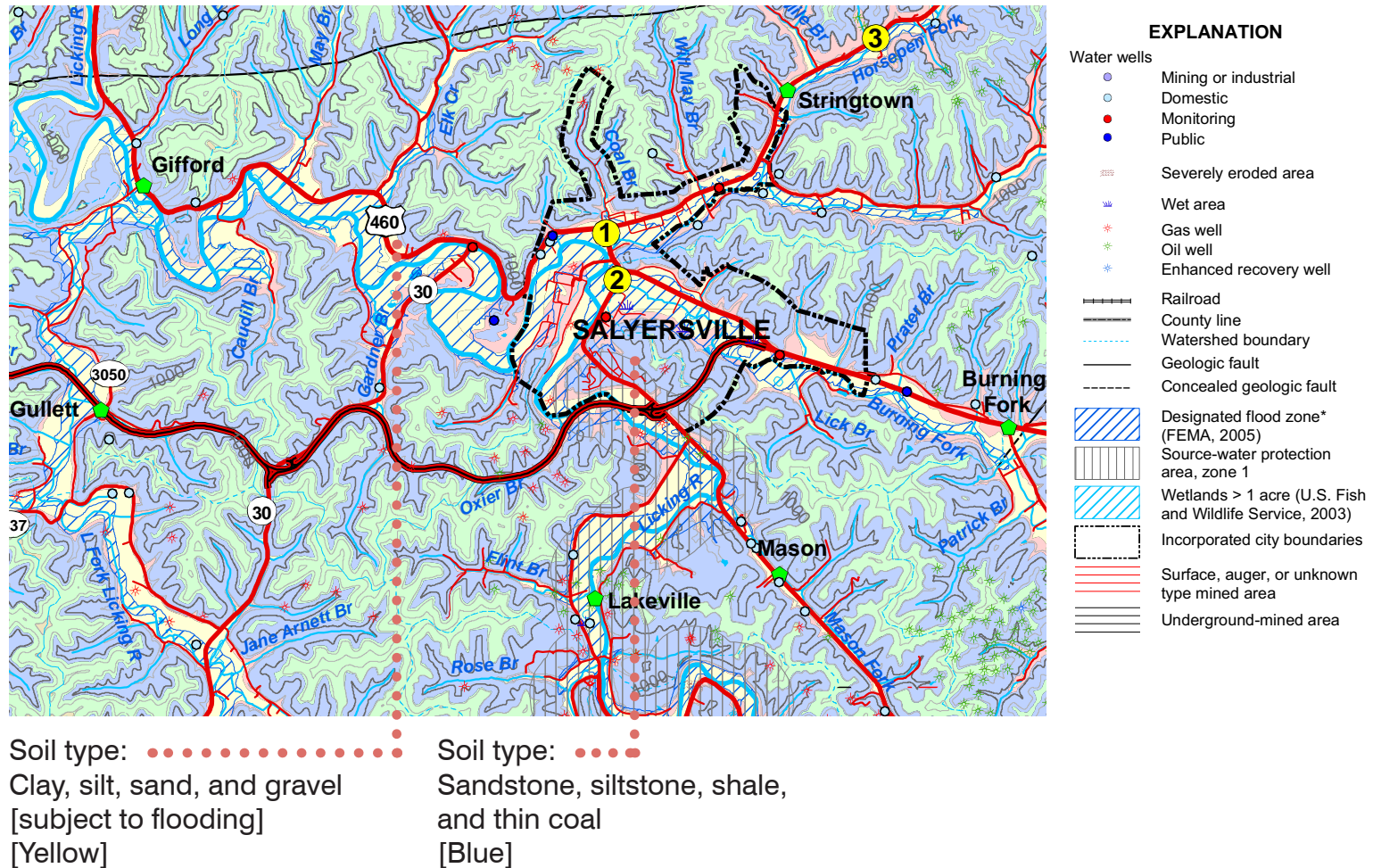
There are no zoning restrictions found in Gifford, KY located in Magoffin County.

Historic District Codes or Requirements:

There are no historic district codes in Gifford, KY.

Regulatory Environment Summary Report

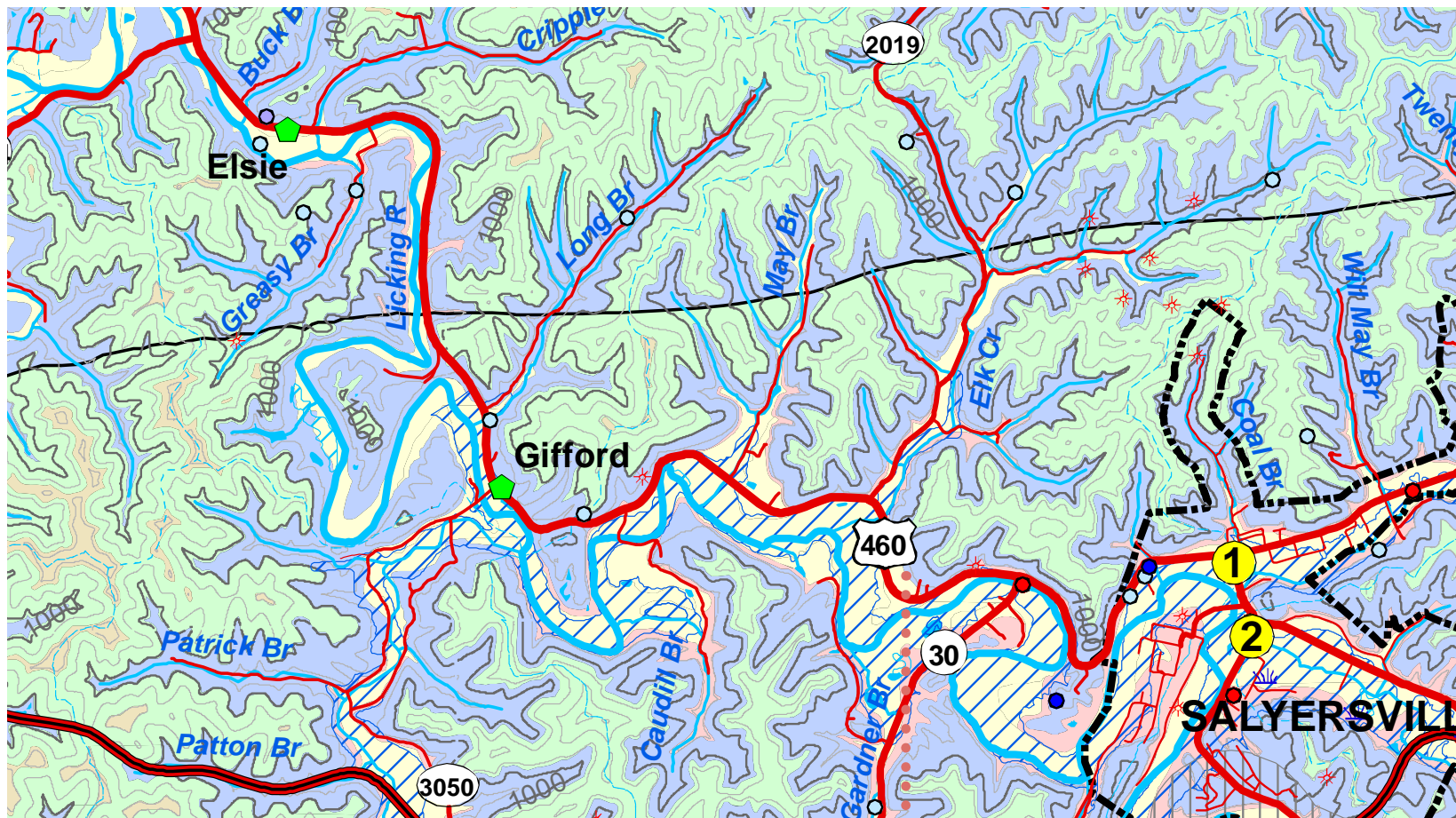
Environmental, Wetlands, or Coastal Zone Limitations



The selected site is adjacent to the flood zones. This will require a design response that recognizes this limitation.

Regulatory Environment Summary Report

Environmental, Wetlands, or Coastal Zone Limitations



Site selection

Regulatory Environment Summary Report

Building Code Analysis:

101.4.1 Electrical.

In every instance in which the ICC Electrical Code is listed, it shall be replaced with NFPA 70, National Electrical Code. The provisions of NFPA 70 shall apply to the installation of electrical systems, including alterations, repairs, replacement, equipment, appliances, fixtures, fittings and appurtenances thereto. The inspection of electrical installations shall be performed by a Certified Electrical Inspector pursuant to 815 KAR 35:015.

101.4.2 Gas.

The provisions of NFPA 54, National Fuel Gas Code, shall apply to the installation of gas piping from the point of delivery, gas appliances and related accessories as covered in this code. These requirements apply to gas piping systems extending from the point of delivery to the inlet connections of appliances and the installation and operation of residential and commercial gas appliances and related accessories.

101.4.3 Mechanical.

The provisions of the International Mechanical Code shall apply to the installation, alterations, repairs, and replacement of mechanical systems, including equipment, appliances, fixtures, fittings and/or appurtenances, including ventilating, heating, cooling, air conditioning and refrigeration systems, incinerators, and other energy-related systems.

101.4.4 Plumbing.

The provisions of the Kentucky State Plumbing Code shall apply to the installation, alteration, repair and replacement of plumbing systems, including equipment, appliances, fixtures, fittings and appurtenances, and where connected to a water or sewage system and all aspects of a medical gas system. All plumbing installations shall be installed under the supervision of a Kentucky Licensed Master Plumber, and inspected and approved by the state plumbing inspector prior to usage.

Regulatory Environment Summary Report

Building Code Analysis:

101.4.5 Fire protection.

The provisions of the International Fire Code shall apply to matters affecting or relating to new construction in buildings where specifically referenced in this code, only.

101.4.6 Energy.

The provisions of the International Energy Conservation Code as referenced in Chapter 13 of this code shall apply to all matters governing the design and construction of buildings for energy efficiency.

101.4.7 One- and two-family dwellings.

Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories high with separate means of egress and their accessory structures shall comply with the Kentucky Residential Code.

Regulatory Environment Summary Report

Building Code Analysis:

Table 1004.1.1: **Maximum Floor Area Allowances Per Occupant.**

OCCUPANCY	FLOOR AREA IN SQ. FT. PER OCCUPANT
Agricultural building	300 gross
Assembly without fixed seats	
Concentrated (chairs only ---- not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Business areas	100 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net
Exercise rooms	50 gross
H-5 Fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Library	
Reading rooms	50 net
Stack area	100 gross
Mercantile	
Areas on other floors	60 gross
Basements and grade floor areas	30 gross
Storage, stock and shipping areas	300 gross

Regulatory Environment Summary Report

Building Code Analysis:

Table 1004.1.1: **Maximum Floor Area Allowances Per Occupant Continued.**

OCCUPANCY	FLOOR AREA IN SQ. FT. PER OCCUPANT
Parking garages	200 gross
Residential	200 gross
Accessory storage areas, mechanical equipment room	300 gross
Warehouses	500 gross

For SI: 1 square foot = 0.0929 m².

a. Use a value of 200 gross for purposes of determining jurisdiction under Section 104.1 and 104.2 and design professional seal requirements in Section 122.1.

GENERAL DESIGN REQUIREMENTS

1604.3 Serviceability.

Structural systems and members thereof shall be designed to have adequate stiffness to limit deflections and lateral drift. See section 12.12.1 of ASCE 7 for drift limits applicable to earthquake loading. The maximum story drift for wind loading shall be 0.005 times the story height, unless structural and architectural elements have been designed to account for larger displacements.

1608.2 Ground snow loads.

The ground snow loads to be used in determining the design snow loads for roofs shall be determined in accordance with Table 1608.2. Site-specific case studies shall be made in areas designated "CS" in Figure 1608.2. Ground snow loads for sites at elevations above the limits indicated in Table 1608.2 notes shall be approved. Ground snow load determination for such sites shall be based on an extreme value statistical analysis of data available in the vicinity of the site using a value with a 2-percent annual probability of being exceeded (50-year mean recurrence interval).

Regulatory Environment Summary Report

Building Code Analysis:

Design Environmental Loads for Kentucky Counties

COUNTY	GROUND SNOW LOAD, p_g (psf) ^a	ICE LOADS		SPECTRAL RESPONSE ACCELERATION COEFFICIENTS (percent) ⁱ			
		NOMINAL ICE THICKNESS, t (in) ^b	CONCURRENT WIND SPEED, V_c (MPH) ^c	S_s^d	$S_{s,0}^e$	S_1^d	$S_{1,0}^e$
Hart	15	0.75	30	30.4	24.8	12.1	10.6
Henderson	15	0.75	30	79.7	56.3	22.4	17.5
Henry	20	0.75	30	21.4	20.0	9.2	8.6
Hickman	15	1.00	30	251.3	135.2	64.5	36.1
Hopkins	15	0.75	30	81.8	57.7	23.4	18.2
Jackson	15	0.75	30	26.2	23.6	9.1	8.9
Jefferson	15	0.75	30	27.2	22.2	11.0	9.6
Jessamine	15	0.75	30	22.7	22.2	8.9	8.9
Johnson	15	0.75	30	23.1	21.8	8.0	7.7
Kenton	20	0.75	40	22.6	19.3	8.8	7.9
Knott	20	0.50 ^b	30	28.7	24.5	8.9	8.4
Knox	15	0.75	30	37.5	29.3	10.3	9.5
Larue	15	0.75	30	27.1	23.5	11.2	10.2
Laurel	15	0.75	30	29.8	24.5	9.6	9.1
Lawrence	15	0.75	30	27.9	21.7	8.7	7.7
Lee	15	0.75	30	25.0	24.6	8.7	8.5
Leslie	20	0.50 ^b	30	35.2	26.8	9.8	8.9
Letcher	20 ^f	0.50 ^b	30	33.1	27.5	9.5	8.7
Lewis	20	0.75	30	23.7	19.2	7.9	7.0
Lincoln	15	0.75	30	23.1	22.8	9.5	9.2
Livingston	15	1.00	30	150.0	103.0	43.9	28.0
Logan	15	0.75	30	48.5	36.7	16.4	13.9
Lyon	15	1.00	30	107.3	82.9	29.2	23.6
McCracken	15	1.00	30	281.3	138.3	87.5	37.3
McCreary	15	0.75	30	34.1	25.7	10.3	9.7
McLean	15	0.75	30	65.7	49.3	19.7	16.3
Madison	15	0.75	30	23.8	23.2	8.8	8.8
Magoffin	15	0.75	30	24.8	22.5	8.4	7.9
Marion	15	0.75	30	23.8	22.2	10.3	9.7
Marshall	15	1.00	30	140.5	92.6	37.9	25.4

Regulatory Environment Summary Report

Building Code Analysis:

Minimum Frost Protection Depth for Kentucky

TABLE 1805.2.1

MINIMUM FROST PROTECTION DEPTH FOR KENTUCKY

County	Frost Depth d_f (in)	County	Frost Depth d_f (in)	County	Frost Depth d_f (in)
Bell	27	Johnson	30	Magoffin	30
Boone	30	Kenton	30	Martin	33
Breathitt	30	Knott	33	Owsley	27
Campbell	30	Knox	27	Perry	30
Clay	27	Lawrence	27	Pike	33
Floyd	33	Leslie	30	All other KY counties	24
Harlan	30	Letcher	33		

For SI: 1 inch = 25.4 mm

Regulatory Environment Summary Report

Building Code Analysis:

Minimum Frost Protection Depth for Kentucky

County	Ground Snow Load p_g (psf) ^a	Seismic Design Category ^b	County	Ground Snow Load p_g (psf) ^a	Seismic Design Category ^b
Adair	15	B	Hancock	15	C
Allen	15	B	Hardin	15	B
Anderson	15	B	Harlan	15 ^c	C
Ballard	15	D ₂	Harrison	15	B
Barren	15	B	Hart	15	B
Bath	15	B	Henderson	15	C
Bell	15 ^c	C	Henry	20	B
Boone	20	B	Hickman	15	D ₂
Bourbon	15	B	Hopkins	15	C
Boyd	20	B	Jackson	15	B
Boyle	15	B	Jefferson	15	B
Bracken	20	B	Jessamine	15	B
Breathitt	15	B	Johnson	15	B
Breckinridge	15	C	Kenton	20	B
Bullitt	15	B	Knott	20	B
Butler	15	C	Knox	15	C
Caldwell	15	D ₀	Larue	15	B
Calloway	15	D ₀	Laurel	15	B
Campbell	20	B	Lawrence	15	B
Carlisle	15	D ₂	Lee	15	B
Carroll	20	B	Leslie	20	C
Carter	15	B	Letcher	20 ^d	C
Casey	15	B	Lewis	20	B
Christian	15	C	Lincoln	15	B
Clark	15	B	Livingston	15	D ₁
Clay	15	C	Logan	15	C
Clinton	15	B	Lyon	15	D ₀
Crittenden	15	D ₀	McCracken	15	D ₂
Cumberland	15	B	McCreary	15	C
Daviess	15	C	McLean	15	C
Edmonson	15	C	Madison	15	B
Elliott	15	B	Magoffin	15	B
Estill	15	B	Marion	15	B
Fayette	15	B	Marshall	15	D ₁
Fleming	15	B	Martin	20	B
Floyd	20	B	Mason	20	B
Franklin	15	B	Meade	15	B
Fulton	15	D ₂	Menifee	15	B
Gallatin	20	B	Mercer	15	B
Garrard	15	B	Metcalfe	15	B

Regulatory Environment Summary Report

Building Code Analysis:

Bearing Values of Foundation Material

**TABLE R401.4.1
PRESUMPTIVE LOAD-BEARING VALUES OF
FOUNDATION MATERIALS^a**

Class of Material	LOAD-BEARING PRESSURE (pounds per square foot)
Crystalline bedrock	12,000
Sedimentary and foliated rock	4,000
Sandy gravel and/or gravel (GW and GP)	3,000
Sand, silty sand, clayey sand, silty gravel and clayey gravel (SW, SP, SM, SC, GM and GC)	2,000
Clay, sandy clay, silty clay, clayey silt, silt and sandy silt (CL, ML, MH and CH)	1500 ^{b,c}

For SI: 1 pound per square foot = 0.0479 kN/m².

- When soil tests are required by Section R401.4, the allowable bearing capacities of the soil shall be part of the recommendations.
- Where the building official determines that in-place soils with an allowable bearing capacity of less than 1,500 psf are likely to be present at the site, the allowable bearing capacity shall be determined by a soils investigation.
- 2000 psf presumptive load-bearing value shall be used for Boone, Campbell and Kenton counties for CL and CH soils only.

Technical Investigation Outline



Structural Issues:

The soil qualities and components will impact the depth and scope of the structure needed to stabilize the building formation. The typical rock unit in the site area is “clay, silt, sand, and gravel” and “sandstone, siltstone, shale, and thin coal.” As outlined in the “Planning Guidance by Rock Unit Type,” “clay, silt, sand, and gravel” has severe limitations for residences with basements because of the high water table [which is the composition of the selected site]. The foundation material is fair, and easy to excavate, but is subject to flooding. The area described as “sandstone, siltstone, shale, and thin coal” is a fair to good foundation material, but difficult to excavate. Because of the possible presence of shale, the ground material may not be as strong. This area is also associated with steep slopes.

Sustainable challenges:

With sites being located in a mountainous terrain and their proximity to a water source, a key concept that is explored in this project is the possibility of harvesting rainwater and grey water for reuse in this community, as well as taking advantage of solar energy. Many residents rely on their own wells in Magoffin County to provide sufficient water for their needs.

Skin or cladding ideas:

A challenge in regards to the building envelope is being able to differentiate from the vernacular forms and more contemporary responses, indicated with unique incidents, while using materials present in this area of Kentucky. In an area where there are no zoning regulations, it is important to recognize that what is built has not followed any comprehensive plan or analysis. In order for the new structures to be expressive and iconic, is it possible to introduce new materials within the current Appalachian palette to reflect a change in the values of society?

Technical Investigation Outline

Sensory Issues:

In a natural environment, it will be important to respect the existing tree canopy as much as possible. The destruction of trees will have a large impact on the quality of the soil. By manipulating the current ground formation too drastically, the risk for landslides increases.

In addition, lifelong residents of the Appalachian Mountains live there because of the strong connection that they have to the environment and their adaptation of a style of living. In the new structure, it is important to maintain respect for the land but introduce a bold move to challenge the way that these residents have grown accustomed to living.

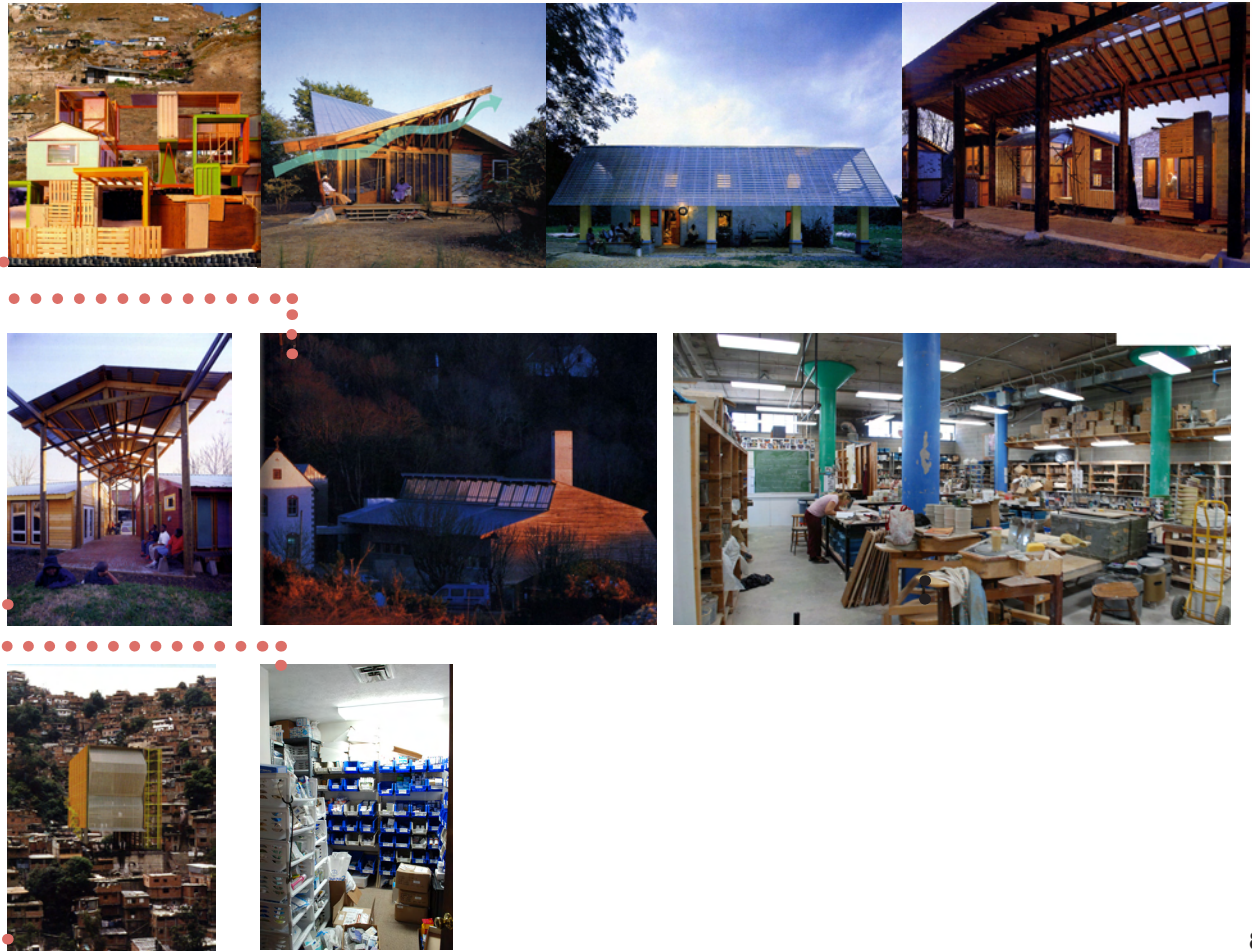
Issues of technical nature:

Besides developing methods to harvest and store water in cisterns for future use, it is necessary to investigate techniques to keep the operating costs of the building low over the life of the building. This has involved studies of solar orientation and ways to introduce natural ventilation throughout the spaces.

Precedent Analysis

The following precedents relate to the program of this proposed thesis project in 4 manners.

- Program relationship: housing
- Program relationship: community building
- Program relationship: manufacturing/crafts
- Program relationship: health clinic
- Theme: iconic identity

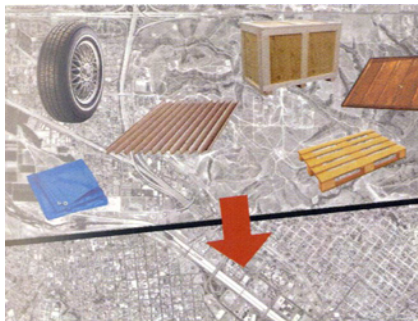


Precedent Analysis

Program Relationship: Housing
Tijuana Manufactured Housing



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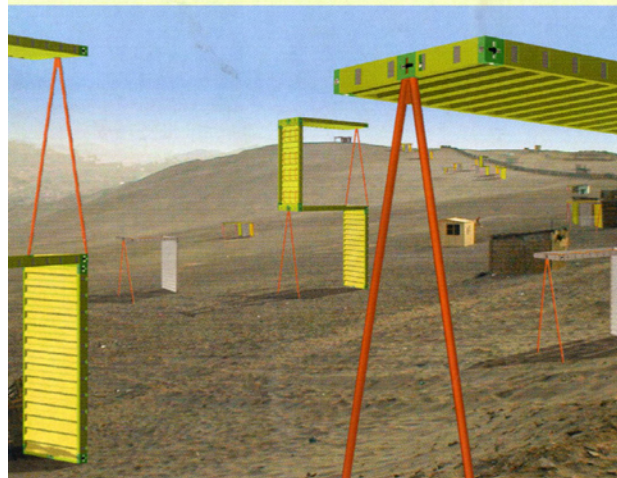


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First Step: The frame

The *maquiladora*-produced metal frames are distributed at the moment of invasion. Families use them to deploy their first traces of occupation on the vacant land. The frames come equipped with prefabricated footings that can be injected into the rubber-tyre retaining walls, providing added stability.



IDEA

This precedent is the expression of residence and resourcefulness. With an assembly of materials sent from San Diego, individuals in Tijuana use a prefabricated kit to begin to define their territory. With an individual expression, a unique architectural language and form evolves.

In relationship to this proposed thesis project, the manufactured housing explores the possibility of using local resources to develop a “kit of parts.” Through the exploration of the individual, the community begins to develop a variety of unique forms and vibrant themes to create a cohesive language.

Precedent Analysis

Program Relationship: Housing
Tijuana Manufactured Housing



Architectural Design. "Tijuana Case Study: Tactics of Invasion: Manufactured Sites." September/October 2005. p32-37.

Precedent Analysis

Program Relationship: Housing

Harris Butterfly House, Rural Studio, Hale County, Alabama, 2007



Form

The Harris Butterfly House is expressive with its crossing shed roofs. The intimate space contains approximately 600 sq. ft. made of reclaimed wood for the exterior skin and a metal roof. The size of the home is comparable to the spaces offered by mobile homes. [840 sq. ft. (60 ft. by 14 ft.)] With the use of recycled materials and free labor, the construction cost of this building was \$25,000.



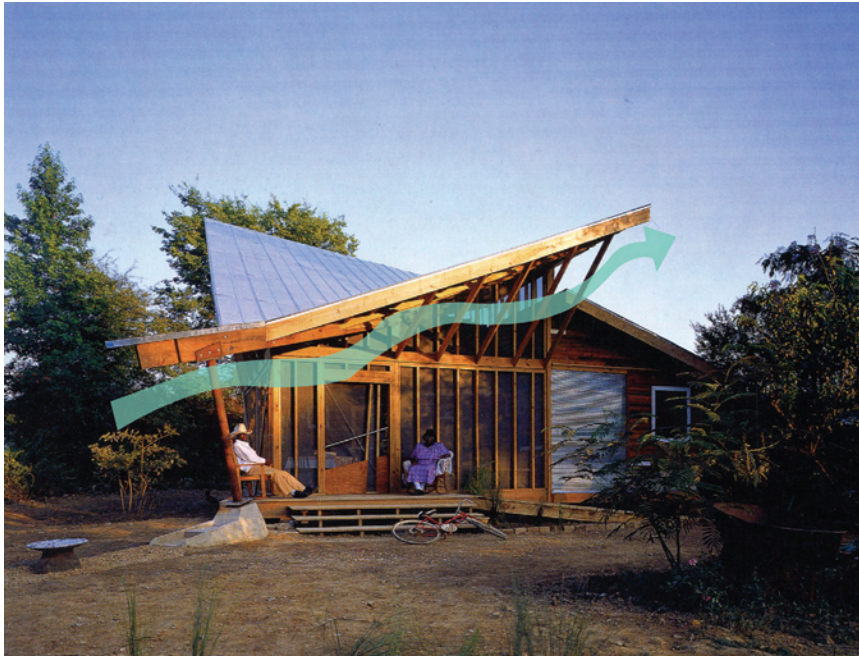
Exterior and Interior

The house contains 2 main components: the interior and exterior program. The pink in the diagram represents the interior while the green represents the exterior. With ample amounts of exterior space, the residents are able to enjoy Alabama's relatively benign environment.

Precedent Analysis

Program Relationship: Housing

Harris Butterfly House, Rural Studio, Hale County, Alabama, 2007



Natural Ventilation

Inexpensive ventilation and water collection methods are used in this house. It is heated with a wood burning stove. The home is cooled by natural air movement. Operable vents near the roof of the house allow the air to circulate from the lower floor level to the exterior with the help of a large fan. During cold temperatures, the vents can be kept closed.

The angled roof collects the rainwater for storage in a cistern. This water is used for laundry and flushing toilets.

Precedent Analysis

Program Relationship: Housing

Bryant (Hay Bale) House, Rural Studio, Hale County, Alabama, 1994



Form and Construction Materials

Similar to the Bryant Butterfly House, this home is separated into exterior and interior components.

The wall is constructed of hay bales that are 24-inch thick and 80 pounds each. They are then insulated with an exterior layer of stuccoed concrete.

The exterior porch is covered with a translucent acrylic roof to provide shelter and light to the space below, where the family spends much of their time.



Natural Ventilation

A single wood-burning stove heats the house and awning windows located on the front porch ventilate the interior in the warmer months.

Precedent Analysis

Program Relationship: Housing

Supershed and Pods, Rural Studio, Hale County, Alabama, 1997-2001



Form

The building acts as a live/study area for students at Auburn University. A 16' by 144' shed links a series of individual housing units that are created on a 16' module that acts as a promenade. The shed becomes the unifying social connection between the individual student pods.



Dean, Andrea O. Rural Studio Samuel Mockbee and an Architecture of Decency. New York: Princeton Architectural Press, 2002; p70-83.

Precedent Analysis

Program Relationship: Housing

Supershed and Pods, Rural Studio, Hale County, Alabama, 1997-2001



Space

While each pod is located off of the shed, which acts as an exterior promenade, a few of the pods contain a separate exterior space. As seen in this image, this pod's private exterior space is elevated from the main level shown by the green tone.



Construction Method

Similar to other projects completed by the Rural Studio, the materials here are recycled. The large timbers that create the shed are from a railroad trestle. The walls of the individual pods are constructed of large bales of shredded, corrugated cardboard waste.

Precedent Analysis

Program Relationship: Community Building

Hero Children's Center, Rural Studio, Hale County, Alabama, 1999



Program

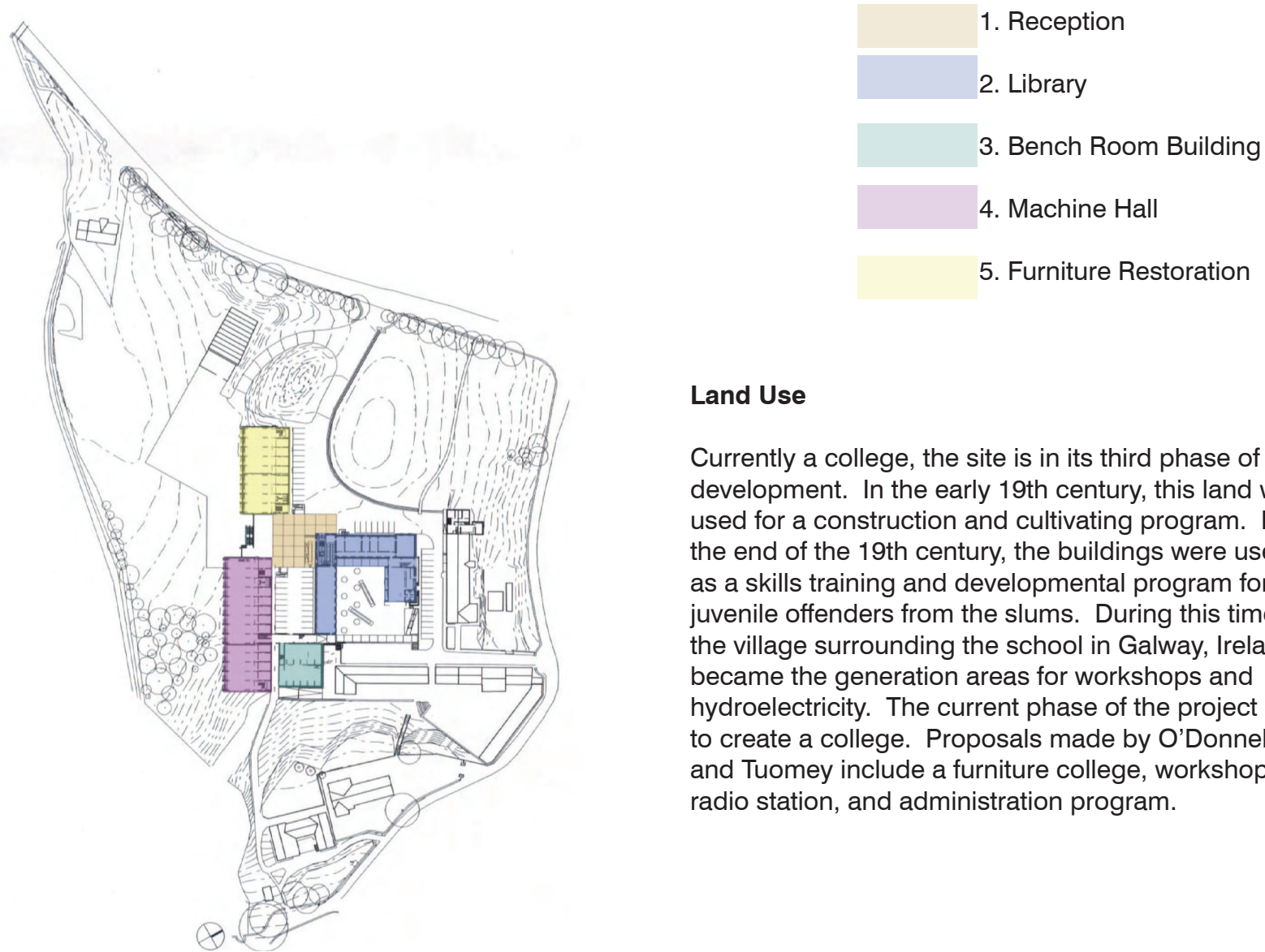
The Hero Children Center is a building that operates as a resource center. It is used by multiple organizations within the county including the Family Resource Center, the Hale County Department of Human Resources, the District Court, District Attorney, the Greensboro Police Department, and the Hale County Sheriff's Department.

The structure is physically separated by the exterior terrace that connects two different programs. One side is used to interview and counsel abused children. The space allows the children to be interviewed or observed by various officials in a separate room through one way glass. While one of the segments is used for examining and evaluating children (as seen in the lower left image) the other is used as a training facility for adults studying child development. It includes spaces such as a meeting/ educational/computer room, an office workspace, storage, and a restroom, totaling 1,285 square feet.

Precedent Analysis

Program Relationship: Manufacturing

Furniture College Letterfrack, Sheila O'Donnell + John Tuomey, Galway, Ireland, 1999-2001



Land Use

Currently a college, the site is in its third phase of development. In the early 19th century, this land was used for a construction and cultivating program. By the end of the 19th century, the buildings were used as a skills training and developmental program for juvenile offenders from the slums. During this time, the village surrounding the school in Galway, Ireland became the generation areas for workshops and hydroelectricity. The current phase of the project is to create a college. Proposals made by O'Donnell and Tuomey include a furniture college, workshop, radio station, and administration program.

Precedent Analysis

Program Relationship: Manufacturing

Furniture College Letterfrack, Sheila O'Donnell + John Tuomey, Galway, Ireland, 1999-2001



Site

With the renovation, the architects were attempting to create a contemporary identity. In order to accomplish this, they redesigned the site into a curvilinear path within the landscape.

Materials

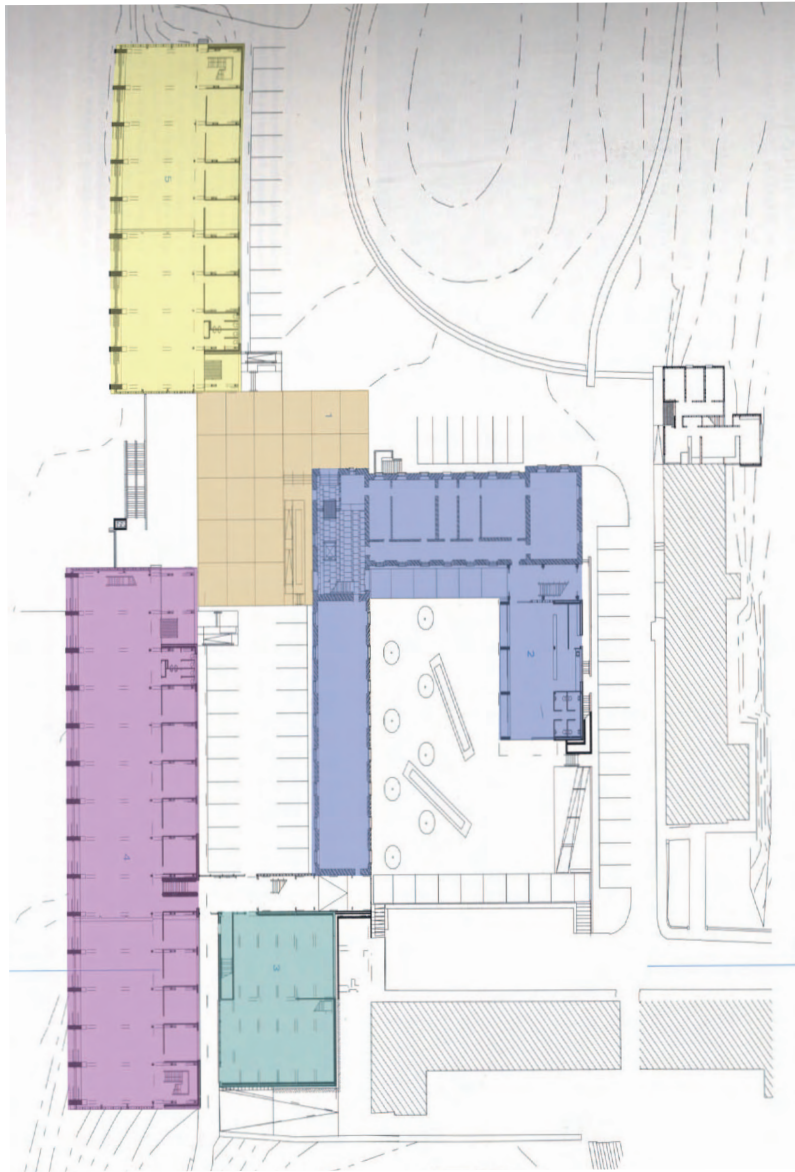
The use of vernacular materials respects the local setting. A variety of materials are used including Irish Green Oak, Tened stainless steel, concrete, and sand-pigmented render that weathers naturally.

A+U. "O'Donnell and Tuomey." 2003 Oct. n10(397); p138-141.
Architectural Design. "O'Donnell and Tuomey." 2003 Jan./Feb. v73 n1; p47-51.
Baumeister. "O'D,T 4." 2005 Aug. v102 n8; p58-65.

Precedent Analysis

Program Relationship: Manufacturing

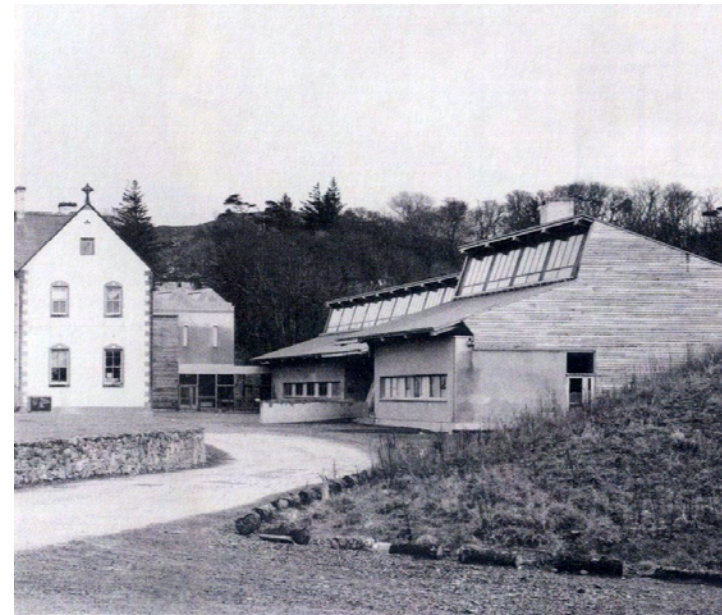
Furniture College Letterfrack, Sheila O'Donnell + John Tuomey, Galway, Ireland, 1999-2001



- 1. Reception
- 2. Library
- 3. Bench Room Building
- 4. Machine Hall
- 5. Furniture Restoration

Program

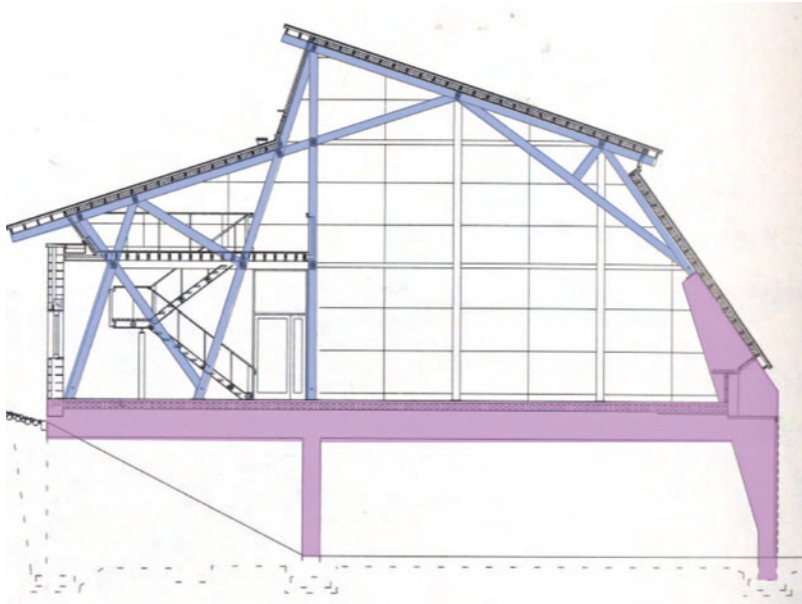
The diagram shows the variety of program uses within the site context.



Precedent Analysis

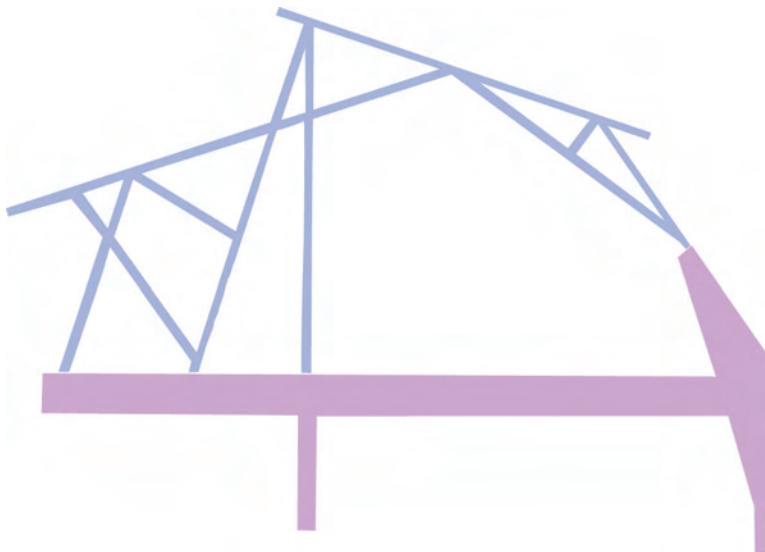
Program Relationship: Manufacturing

Furniture College Letterfrack, Sheila O'Donnell + John Tuomey, Galway, Ireland, 1999-2001



Structure

The structure within the site varies in response to the individual nature of the program. Within the machine halls the heavy timber frames and trusses sit on a concrete platform.



A+U. "O'Donnell and Tuomey." 2003 Oct. n10(397); p138-141.
Architectural Design. "O'Donnell and Tuomey." 2003 Jan./Feb. v73 n1; p47-51.
Baumeister. "O'D,T 4." 2005 Aug. v102 n8; p58-65.

Precedent Analysis

Program Relationship: Manufacturing

Furniture College Letterfrack, Sheila O'Donnell + John Tuomey, Galway, Ireland, 1999-2001



Furniture Restoration

- 1. Entry
- 2. Circulation
- 3. Auxiliary Space
- 4. Restrooms
- 5. Furniture Restoration

Machine Hall

- 1. Entry
- 2. Circulation
- 3. Auxiliary Space
- 4. Furniture Restoration
- 5. Restrooms

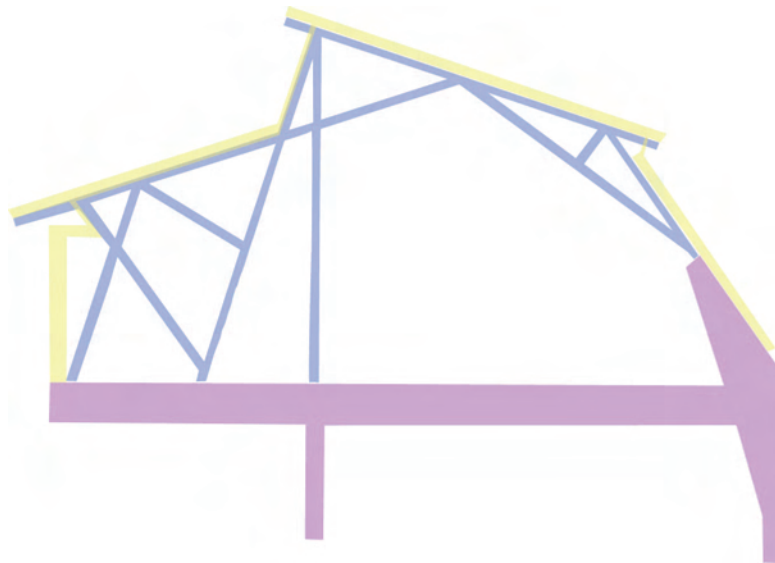
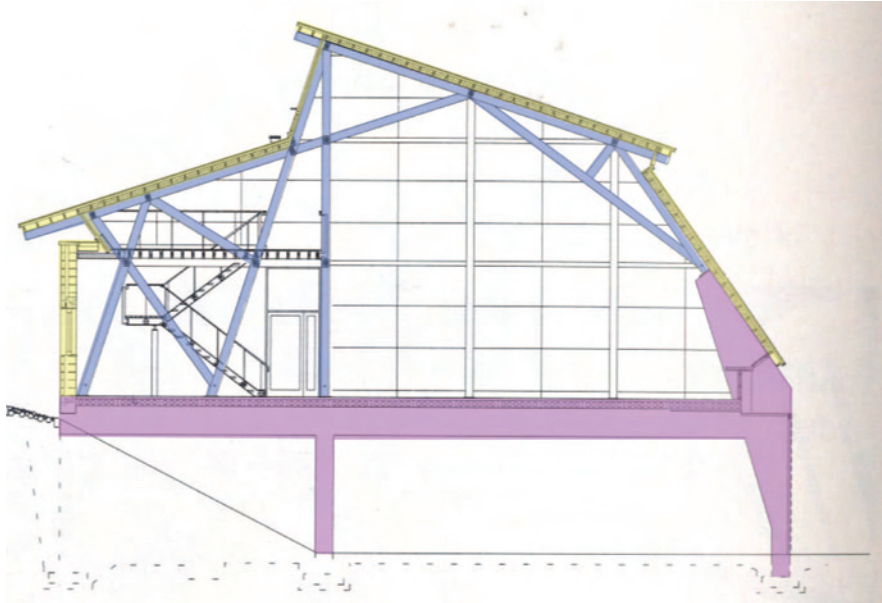
School

When the buildings were upgraded, the architects began to redefine the entry in relationship to the exterior areas, eliminated corridors, added a library raised over a cafe, and lowered the windows so that individuals could see out. This was all done in an effort to break down the institutional self containment that these buildings represented.

Precedent Analysis

Program Relationship: Manufacturing

Furniture College Letterfrack, Sheila O'Donnell + John Tuomey, Galway, Ireland, 1999-2001



Enclosure

The heavy trusses allow ample light to enter through clear spans in the top of the structure within the workshop spaces in addition to other openings on the facade.



A+U. "O'Donnell and Tuomey," 2003 Oct. n10(397); p138-141.
Architectural Design. "O'Donnell and Tuomey," 2003 Jan./Feb. v73 n1; p47-51.
Baumeister. "O'D,T 4." 2005 Aug. v102 n8; p58-65.

Precedent Analysis

Program Relationship: Crafts-woodworking
Berea College, Berea, Kentucky



Woodworking

These images show the process that Berea College uses in their woodworking studio. The material enters the building, is processed, then is stored. It then goes to the pre-assembly room, followed by the assembly room. Once put together, the piece of furniture goes into the finishing/spray booth room. When each process is complete, it goes into storage and enters into the inventory.



Precedent Analysis

Program Relationship: Crafts-ceramics
Berea College, Berea, Kentucky



Ceramics

The ceramic studio incorporates work completed by one of two methods: using the wheel, or sculpting the clay by hand. The drying and glazing process involves many cycles of firing in the kiln and storing on shelving units.

Precedent Analysis

Program Relationship: Crafts-weaving
Berea College, Berea, Kentucky



Weaving

Weaving requires an open space where the fly looms can be operated. As a time consuming process, weaving requires skill, rhythm, and concentration. Storage is necessary for the supplies and finished product. To achieve a finished product, the item must be washed and finished on a sewing machine.



Precedent Analysis

Program Relationship: health clinic
St Mary's Health Wagon, Clincho, Virginia



Health Clinic

This health clinic offers free health care to individuals in remote areas of Virginia. With administration and doctors offices, patients are able to receive care and prescription medications. For areas where individuals are unable to come for care, the mobile home, also known as "The Health Wagon," travels to 8 different areas on a rotating schedule.

Precedent Analysis

Theme: Iconic Identity

Urban Think-Tank (U-TT), work outside Caracas, Venezuela, 1999-2001



Identity

These projects, that are located in the slums of Venezuela, became an icon for the residents in the vicinity. The top image is a concept for a “vertical gym,” whereas the bottom left image is an “urban music center” and the bottom right a “growing house.” While the projects may be representative of the surrounding context, with the use of form and color, their structure distinguishes the buildings from the residential areas in which they are located.

Design

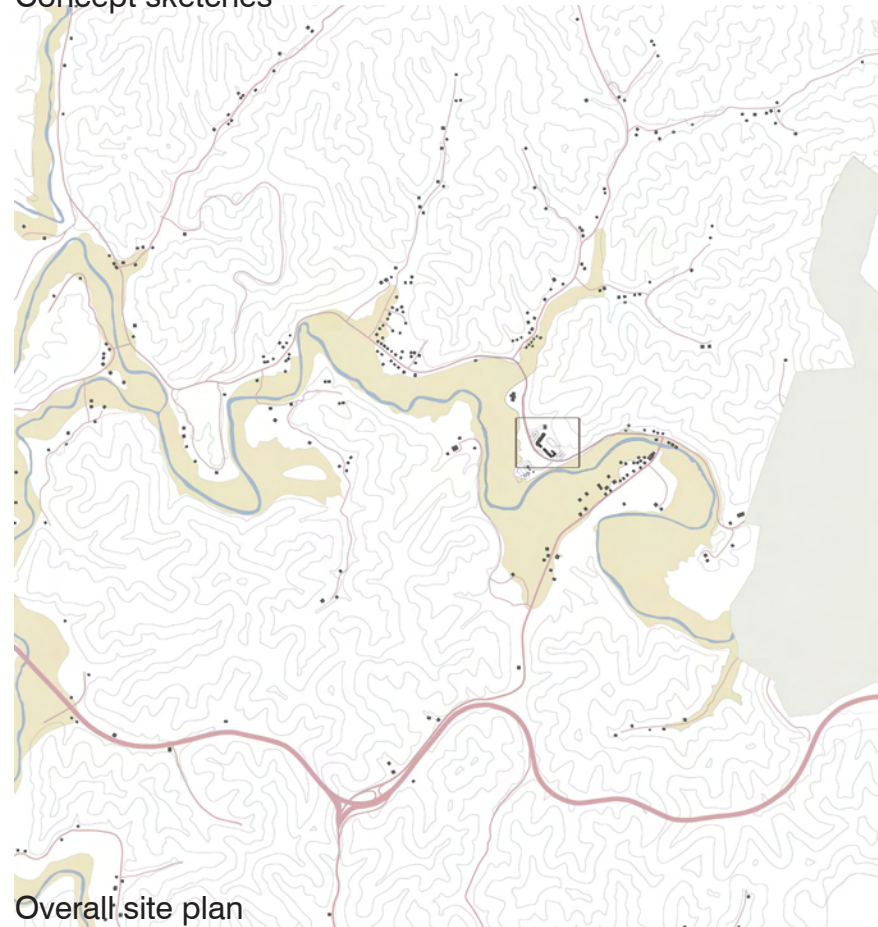
With mountainous landscape to the north and east of the site, the final design reflects the massing of its context. To continue this sense of enclosure, while simultaneously creating an internal community green, the program wraps the site thereby defining an edge along the street.

To help create a communal identity to the site, the masses are distinguished by various features, thus identifying them as an intention, or incident. These forms are articulated in different manners in order to create a play on the vernacular form, as well as introduce new elements to the community. The incidents become the exception to the rigidity of the design, becoming the moments of transition between two intentions.

As the program sprawls across the site, a porch defines the interior boundary of the internal communal space to allow individuals to circulate between the different programs. The access points to the site create opportunities for individuals to be welcomed into the complex.



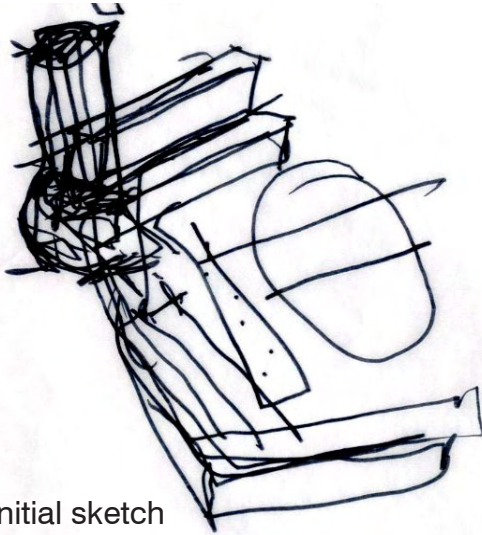
Concept sketches



Overall site plan

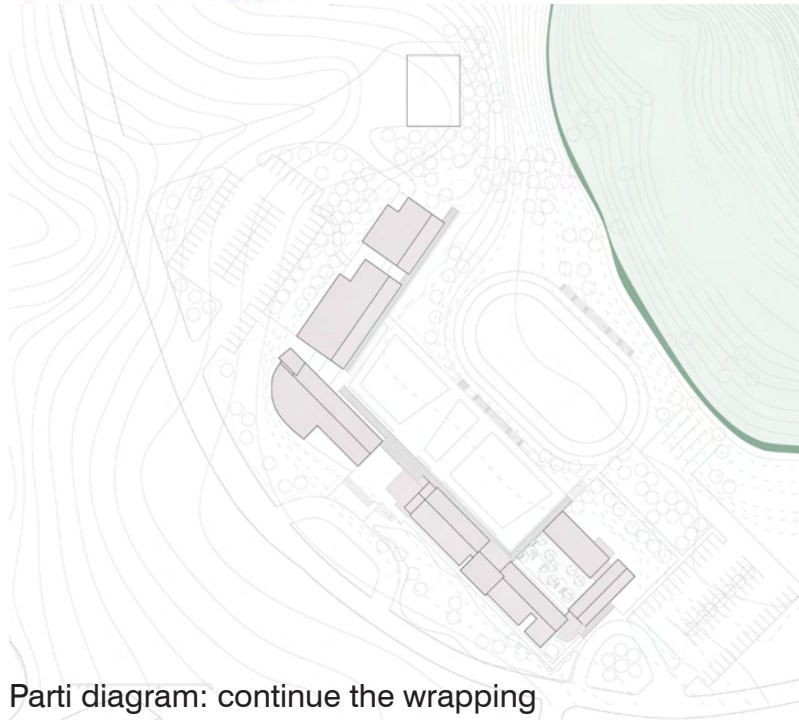
Design

Key concepts

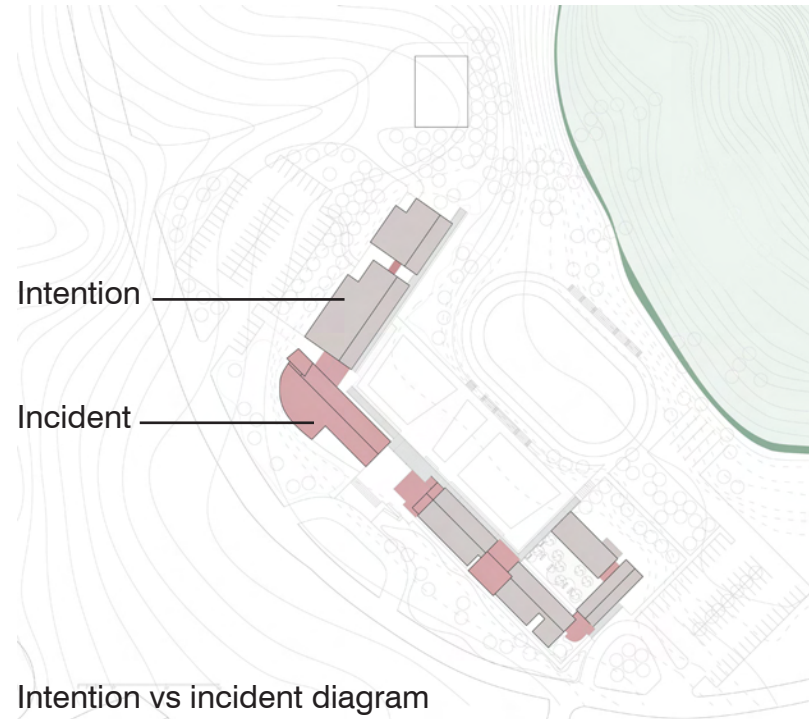


Initial sketch

With a large mass to the north of the site, the tower situated between the gallery and craft studios serves as both a water collection point and as a transition in mass to the urgent care facility. As the program expands, the mass is distinguished by the intentions and incidents throughout the buildings.



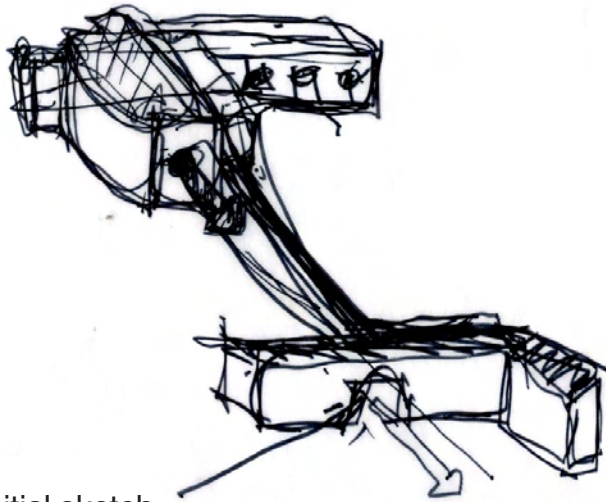
Parti diagram: continue the wrapping



Intention vs incident diagram

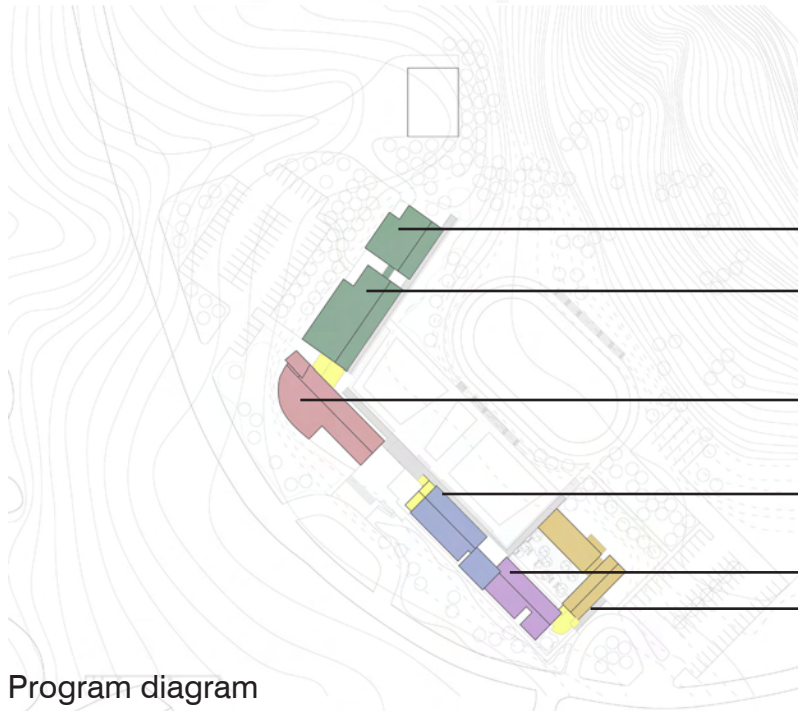
Design

Key concepts



Initial sketch

The programs within this site context are all related. Whether directly or not, the program elements are aimed to improve the well being of the individuals in the surrounding community. Because of this, the program is dispersed throughout the site and is linked with a continuous exterior porch.



Ceramic/weaving

Woodworking

Gallery/retail

Food distribution/
day care

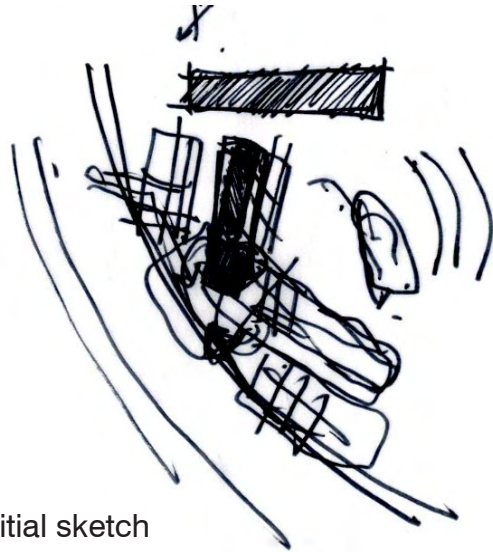
Health center

Urgent care

Program diagram

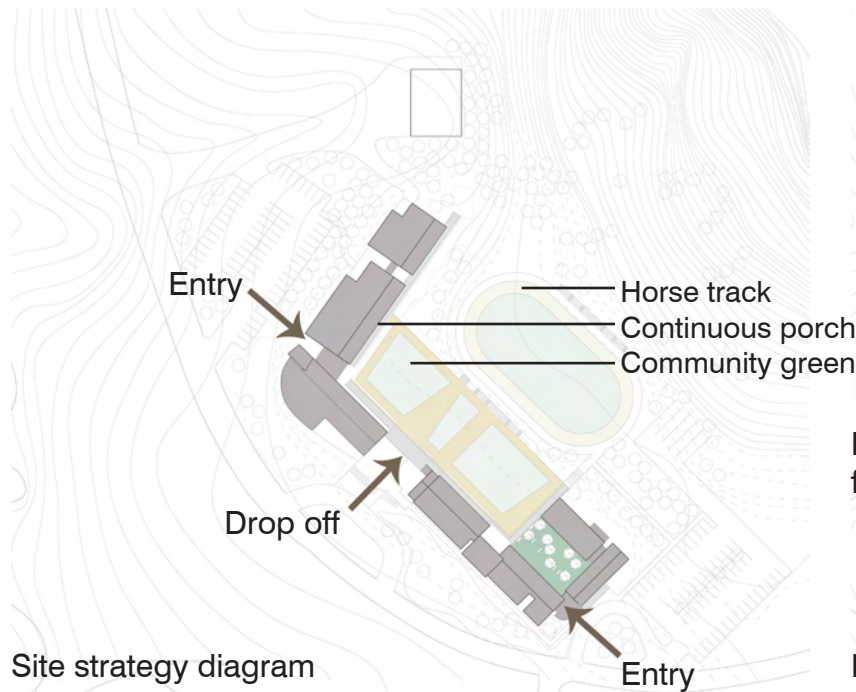
Design

Key concepts

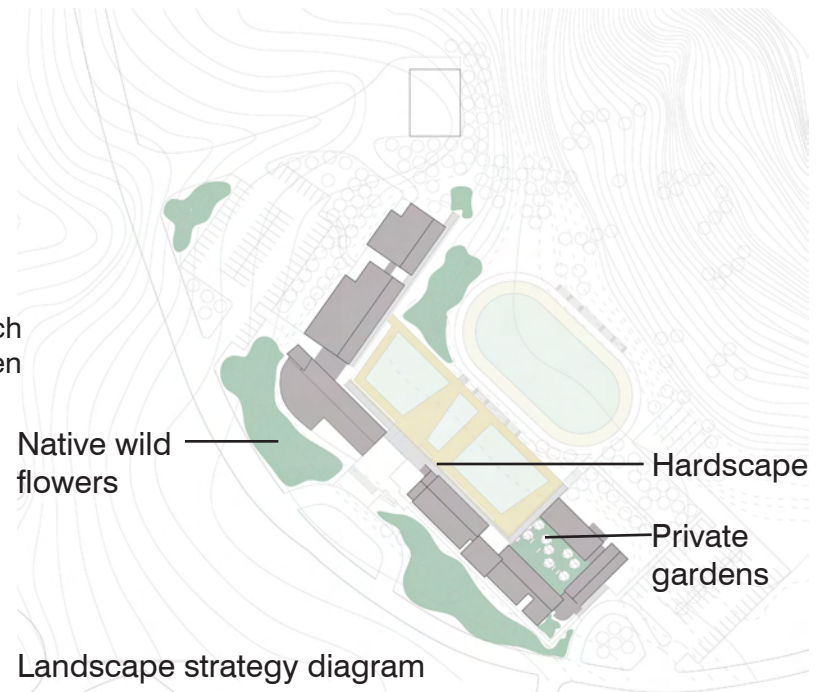


Initial sketch

Two main access points are located at either end of the site, and a drop off location is located at a central point. To make pedestrian circulation more convenient, as well as allow emergency vehicles easier access to the urgent care and health clinic area, the two parking locations separate the potential users. However, the porch and exterior landscape link these different programs with pervious pavers to signify to visitors the path of circulation.



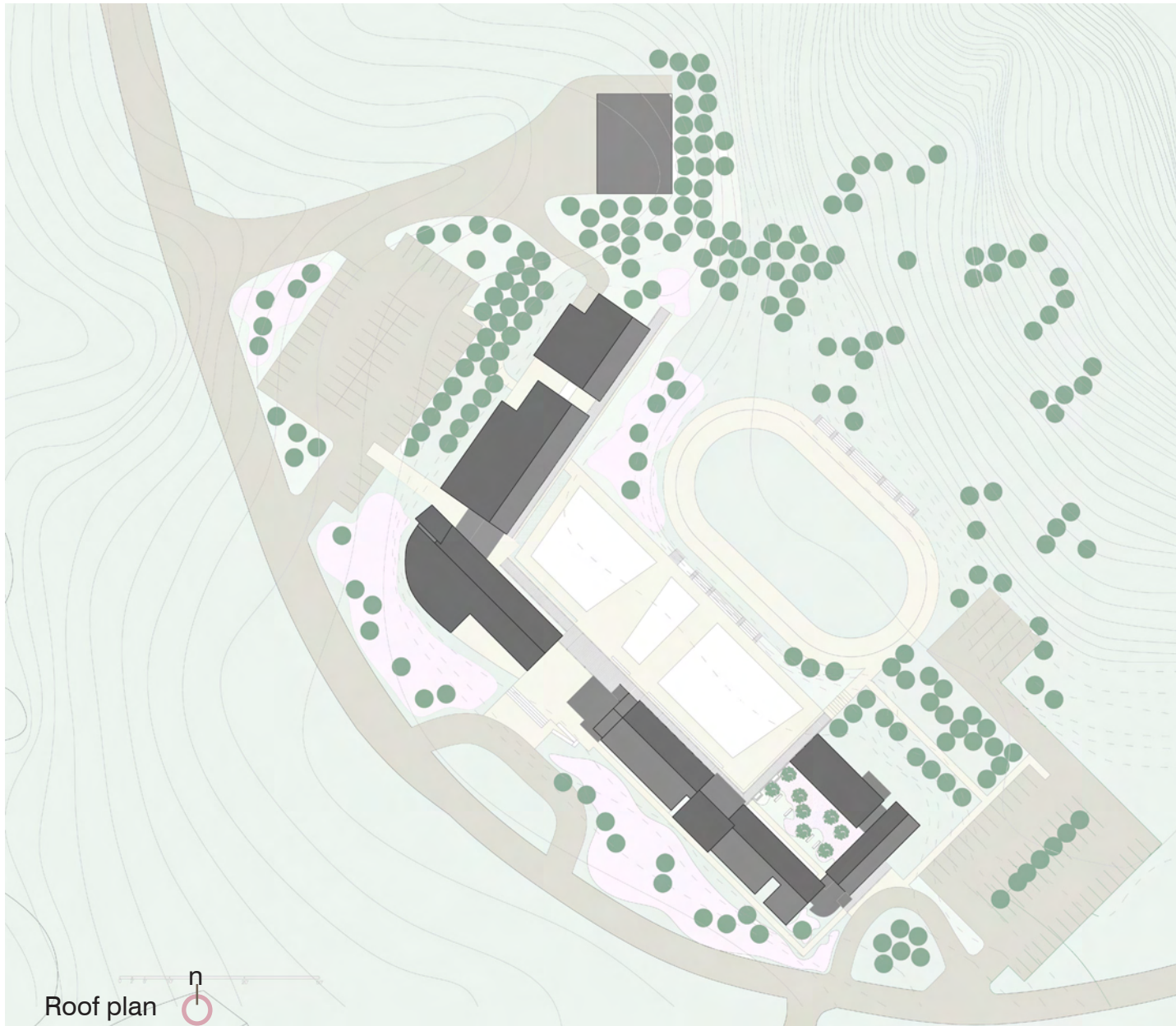
Site strategy diagram



Landscape strategy diagram

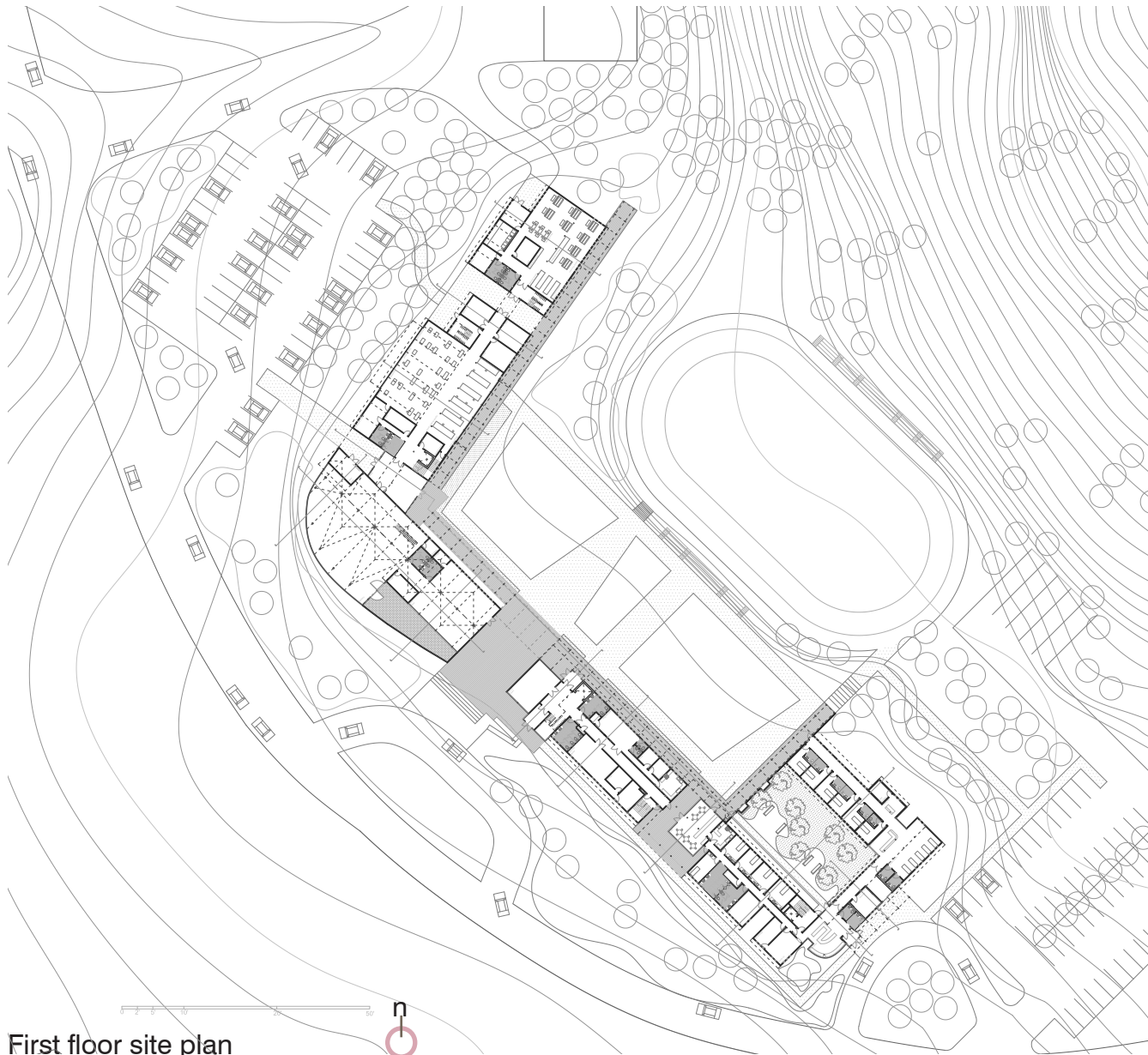
Design

Drawings, renders, and models



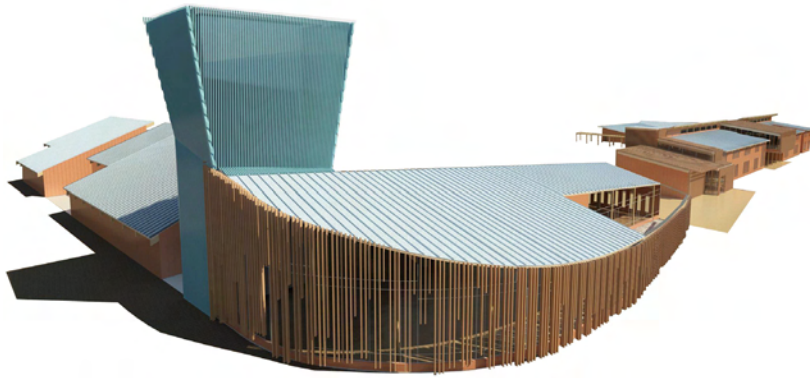
Design

Drawings, renders, and models

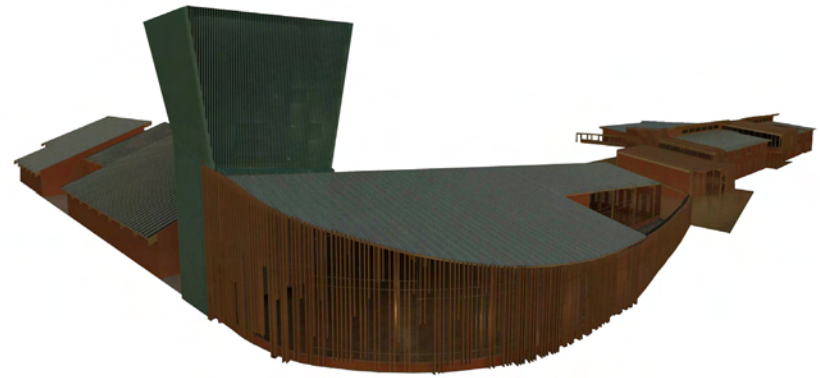


Design

Drawings, renders, and models



Overall image



Overall image at night



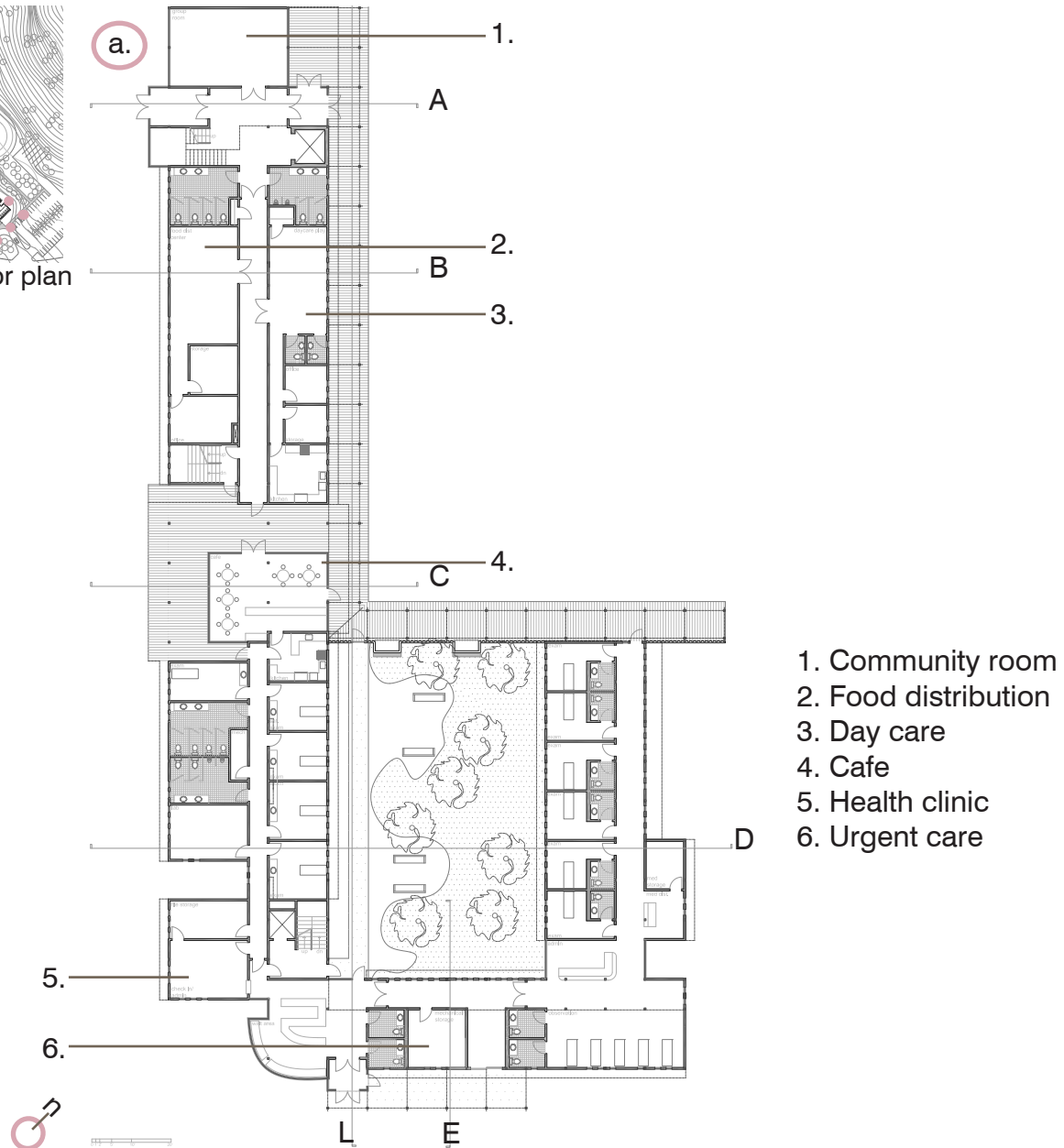
Entry from gallery

Design

Drawings, renders, and models



Building 1 first floor plan



Design

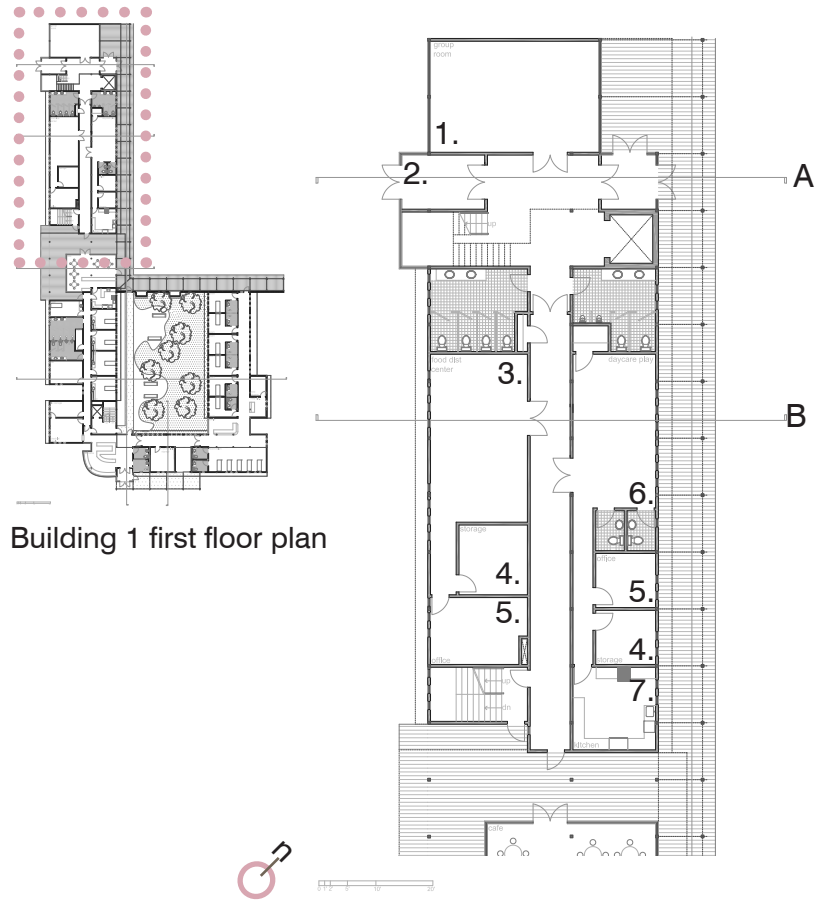
Drawings, renders, and models



a. Education and community room entry

Design

Drawings, renders, and models



Building 1 first floor plan

1. Community room
2. Entry
3. Food distribution
4. Storage
5. Office
6. Day care
7. Kitchen



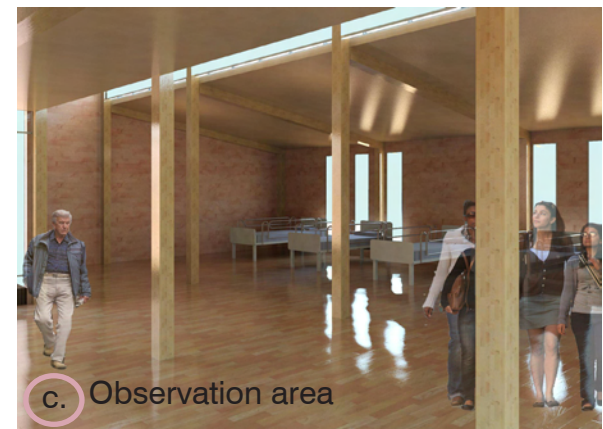
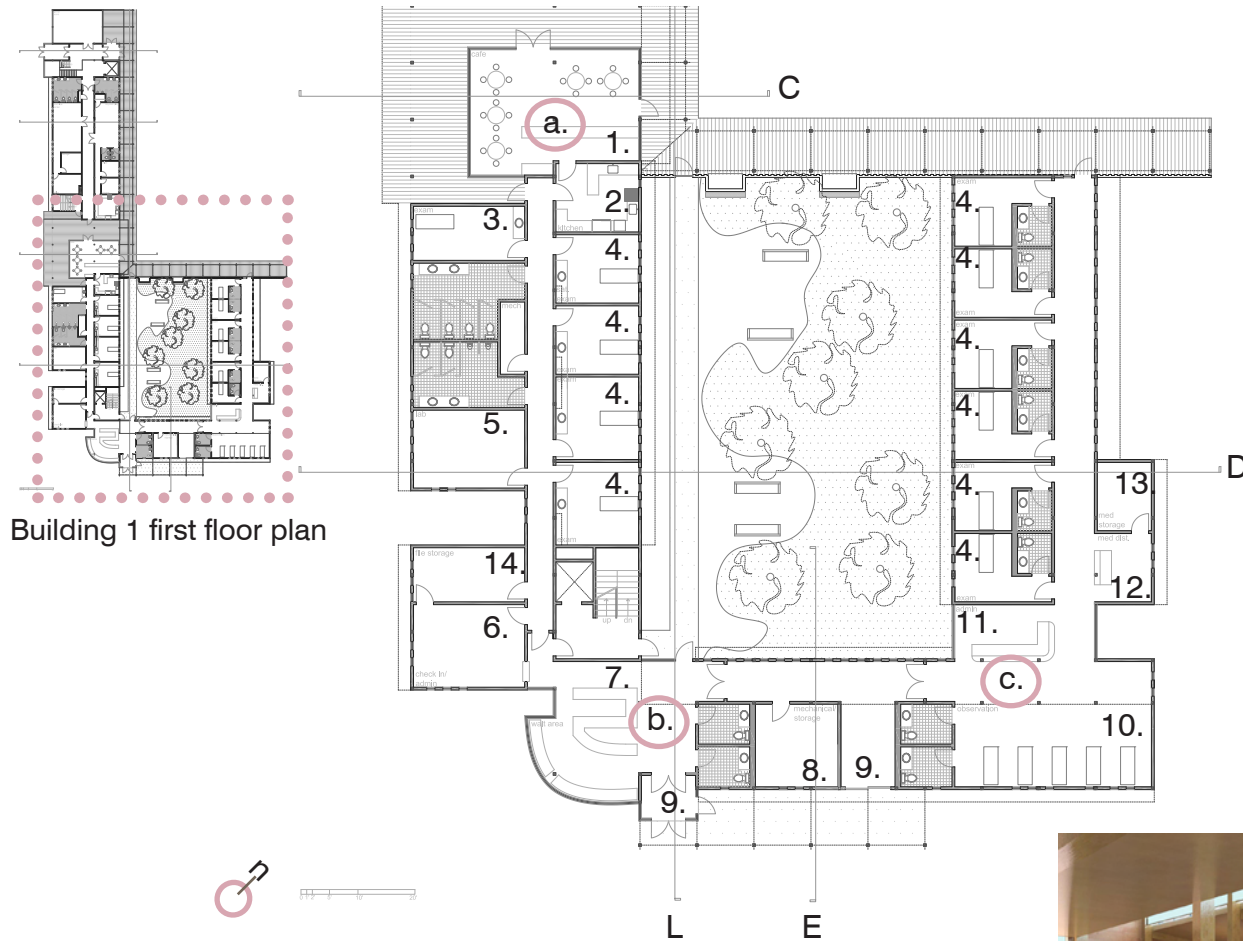
a. Inside cafe



b. Health care waiting room

Design

Drawings, renders, and models

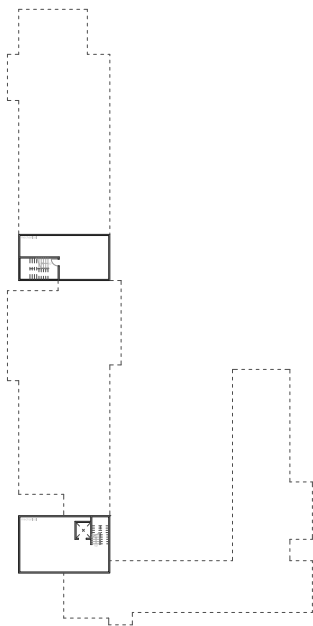


Design

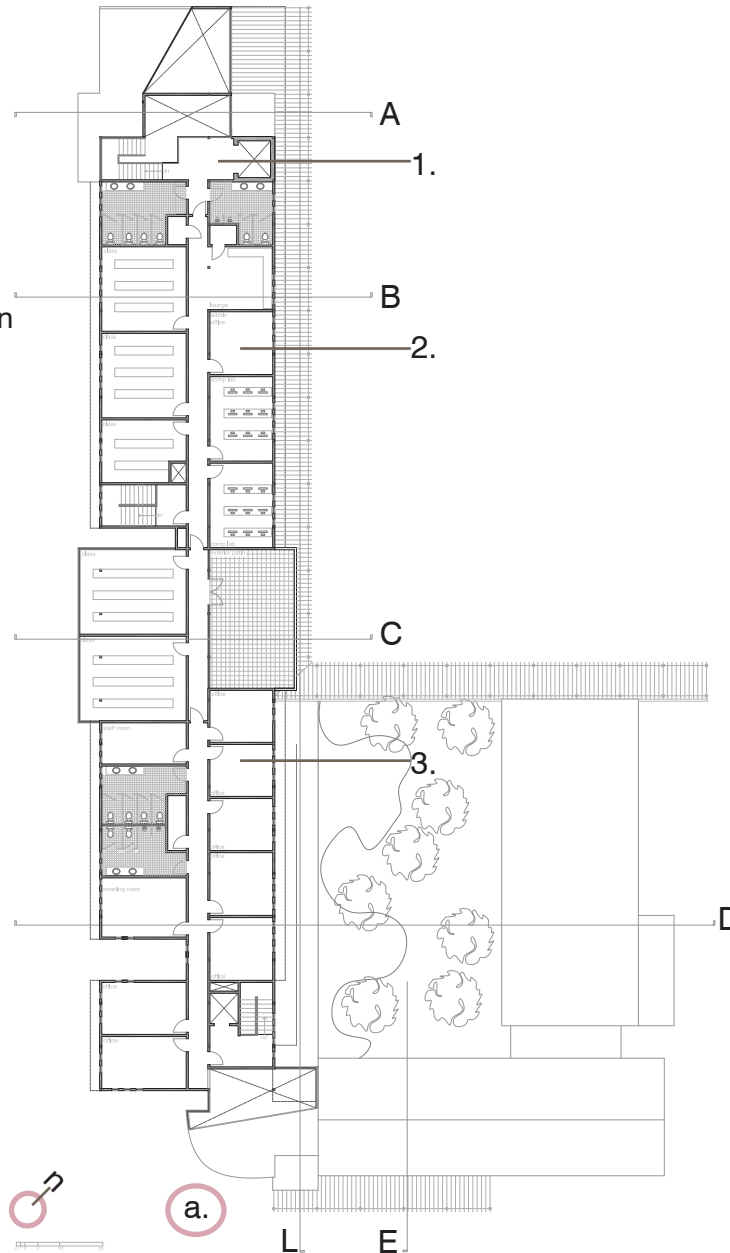
Drawings, renders, and models



Building 1 second floor plan



Building 1 basement plan



- 1. Entry
- 2. Continuing education
- 3. Health clinic

Design

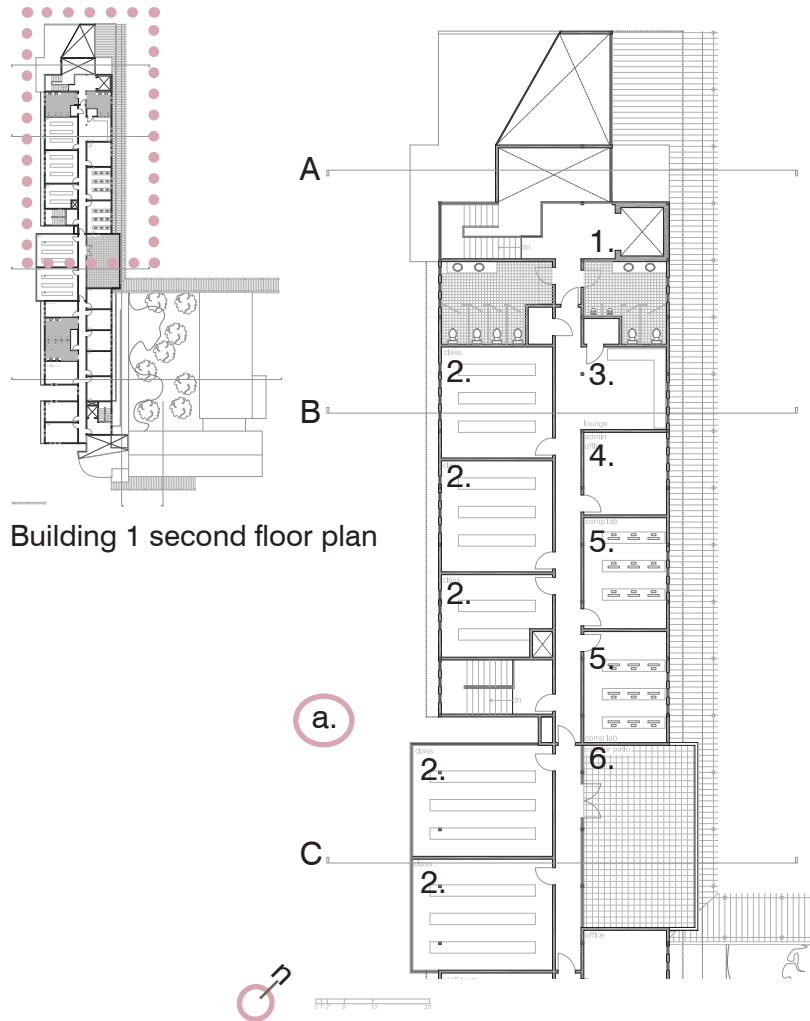
Drawings, renders, and models



a. Waiting room entry

Design

Drawings, renders, and models



Building 1 second floor plan

- 1. Entry
- 2. Classroom
- 3. Lounge
- 4. Office/administration
- 5. Computer lab
- 6. Exterior terrace



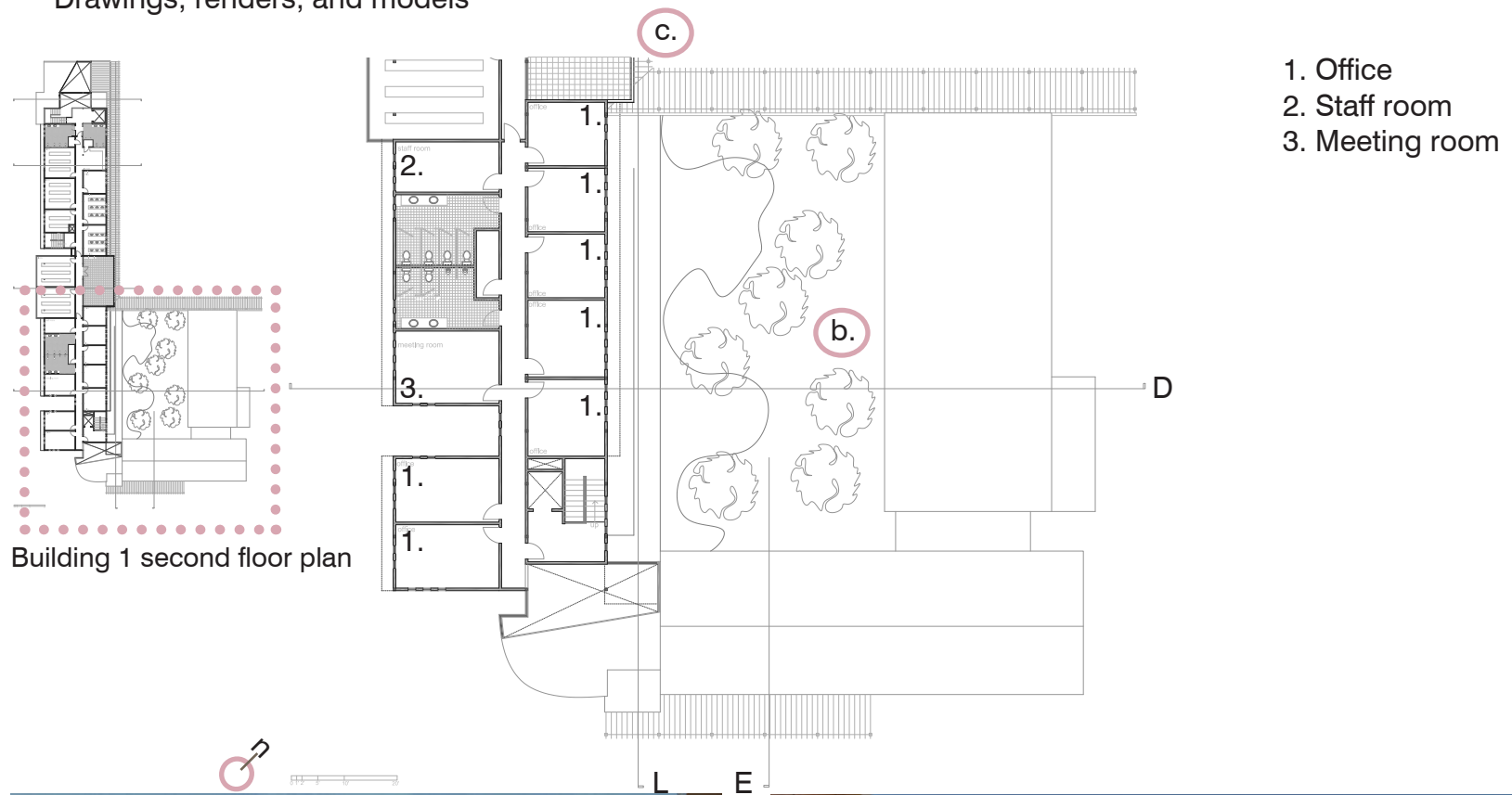
a. Outside of cafe



a. Outside of cafe at night

Design

Drawings, renders, and models



b. Exterior private gardens outside urgent care rooms



c. Exterior porch

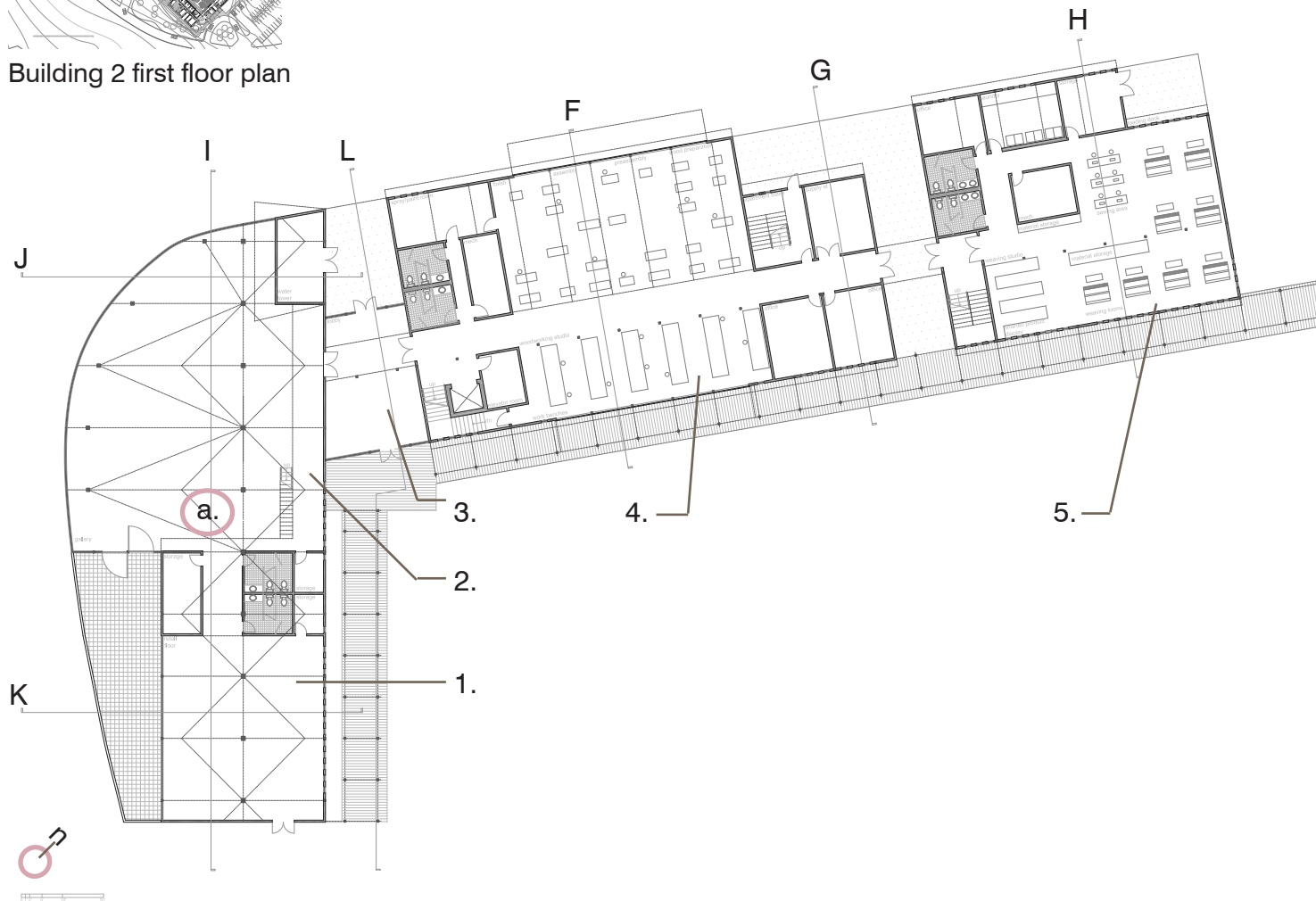
Design

Drawings, renders, and models



1. Retail
2. Gallery
3. Lobby
4. Woodworking studio
5. Weaving studio

Building 2 first floor plan



Design

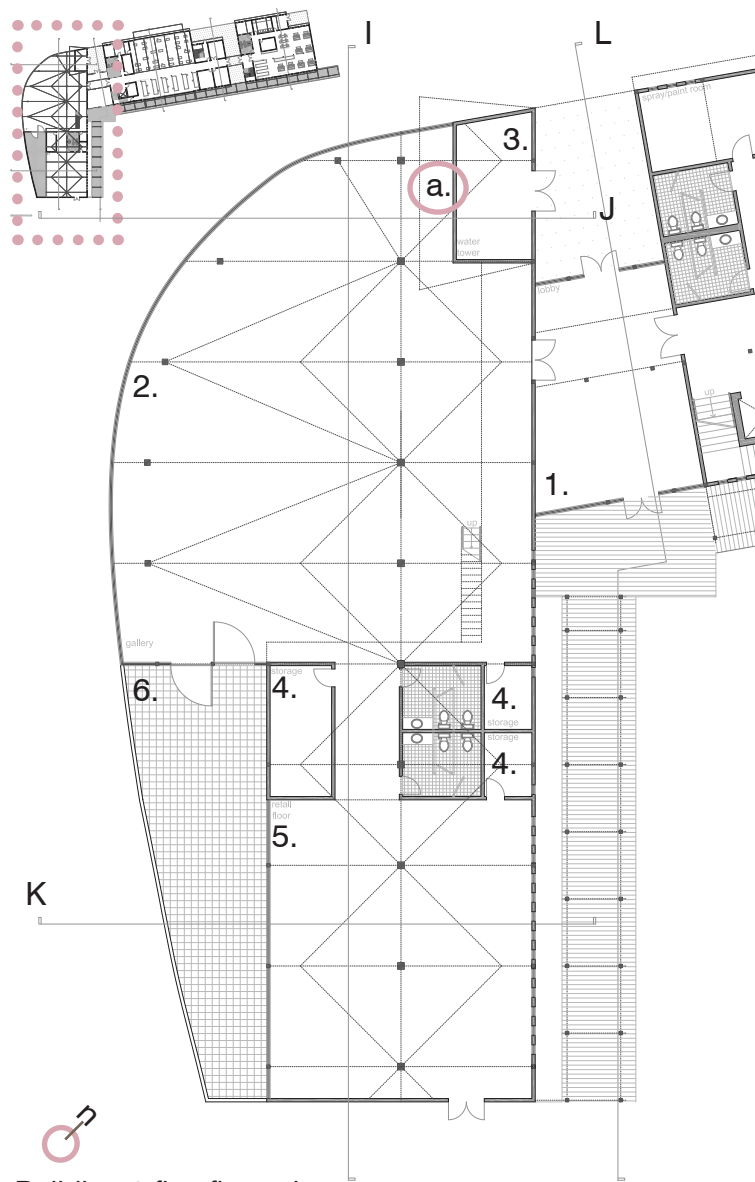
Drawings, renders, and models



a. Gallery space

Design

Drawings, renders, and models



Building 2 first floor plan

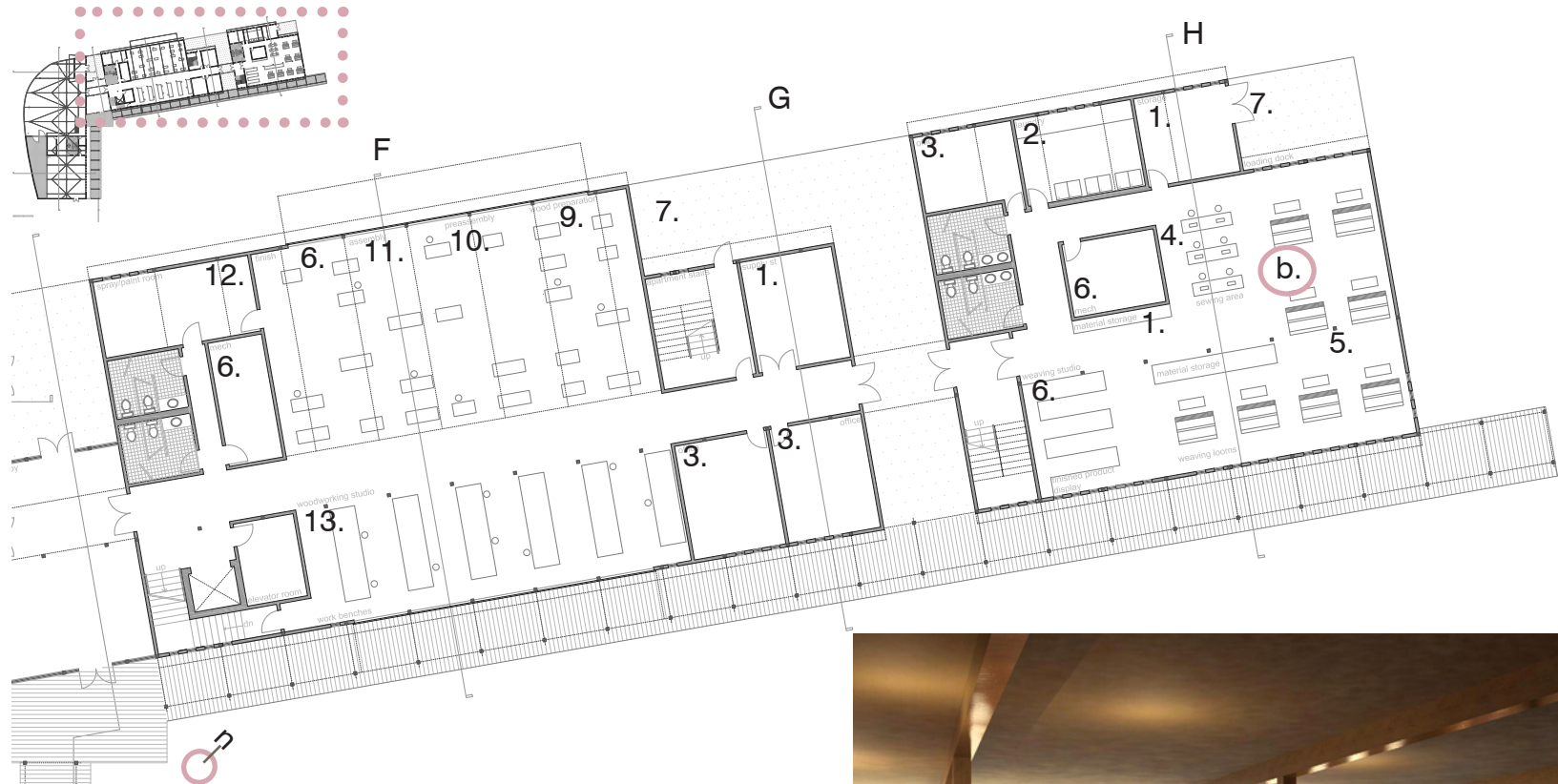


a. Looking at structure next to tower

- 1. Lobby
- 2. Gallery
- 3. Tower
- 4. Storage
- 5. Retail floor
- 6. Exterior gallery patio

Design

Drawings, renders, and models



Building 2 first floor plan

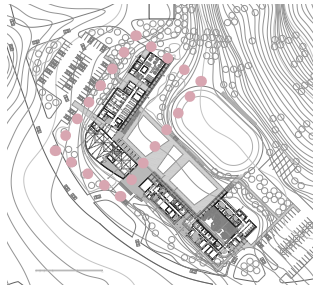
- | | |
|-----------------------|----------------------|
| 1. Storage | 8. Loading dock |
| 2. Laundry room | 9. Wood preparation |
| 3. Office | 10. Pre assembly |
| 4. Sewing area | 11. Assembly |
| 5. Weaving looms | 12. Spray/paint room |
| 6. Finished product | 13. Work benches |
| 7. Storage/mechanical | |



b. Weaving studio

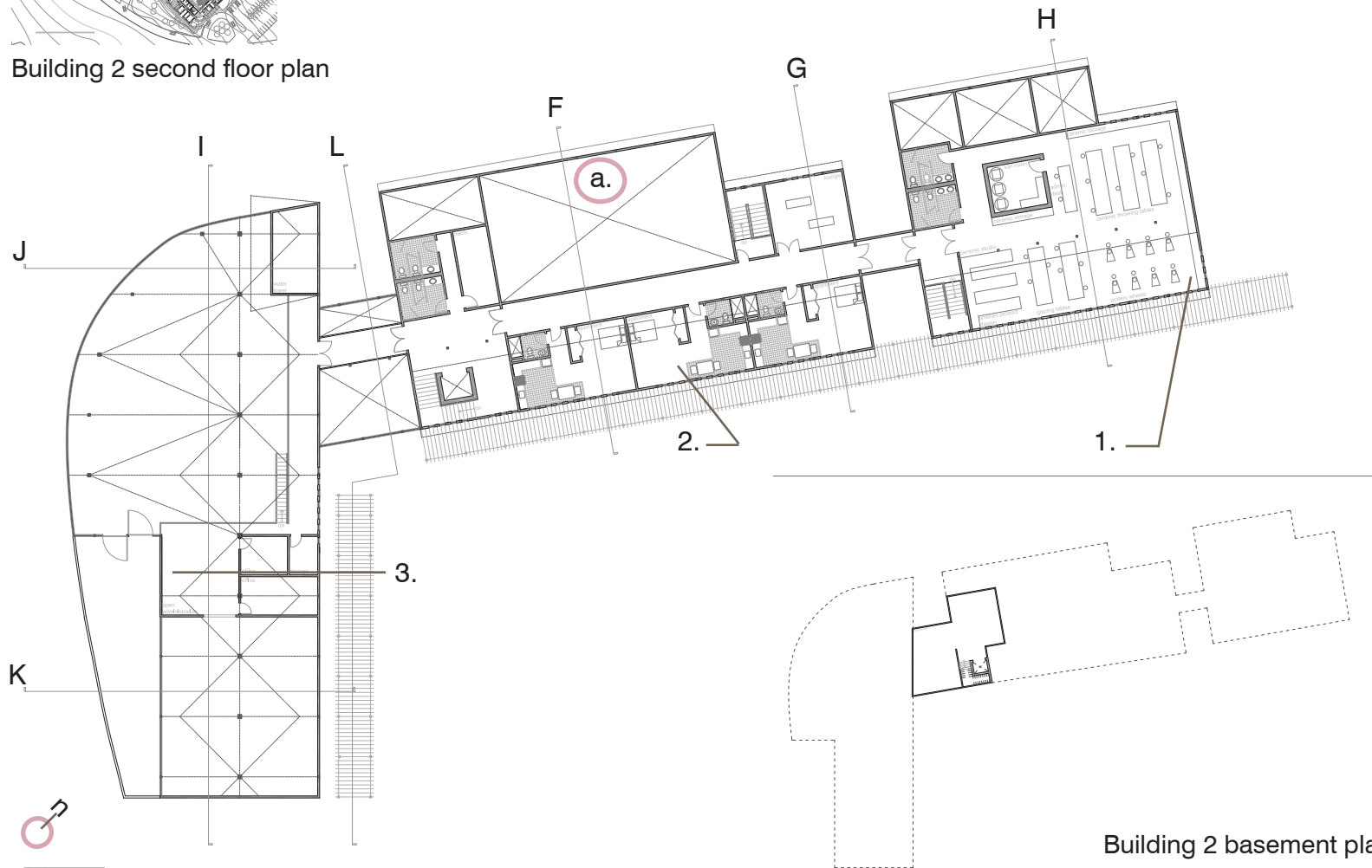
Design

Drawings, renders, and models



1. Ceramic studio
2. Apartments
3. Gallery/retail administration

Building 2 second floor plan



Building 2 basement plan

Design

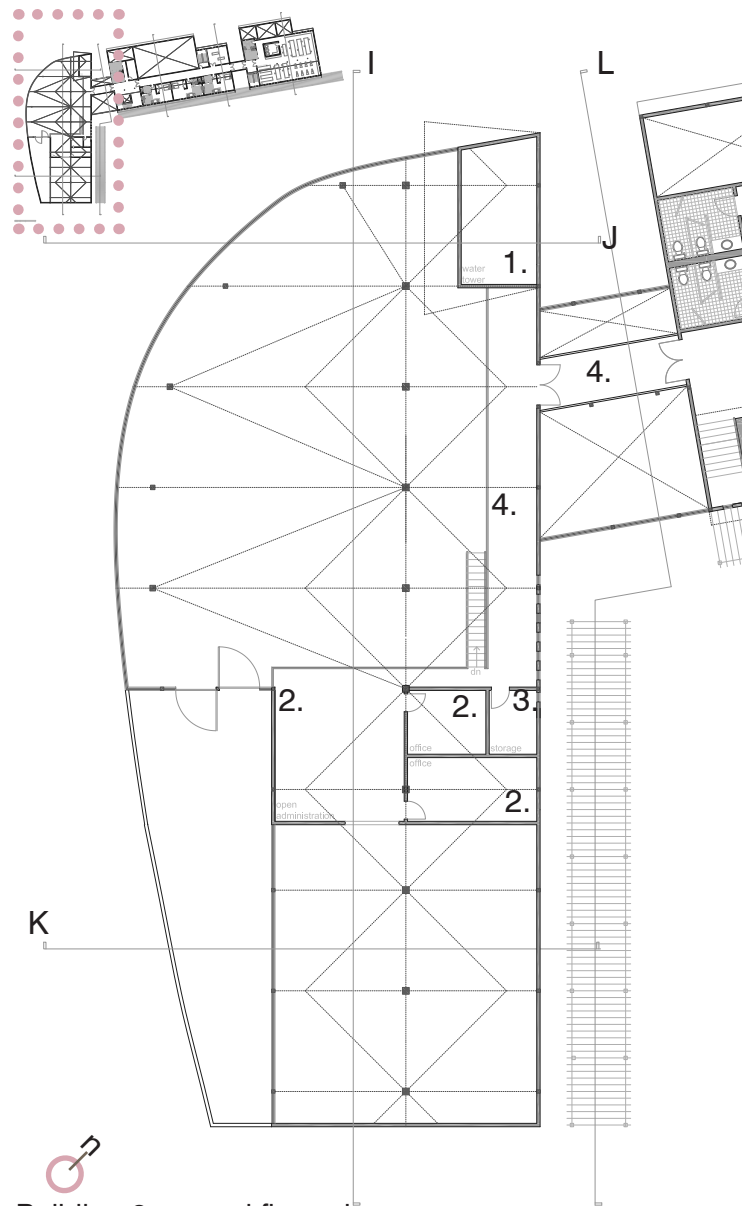
Drawings, renders, and models



a. Woodworking studio

Design

Drawings, renders, and models



Building 2 second floor plan

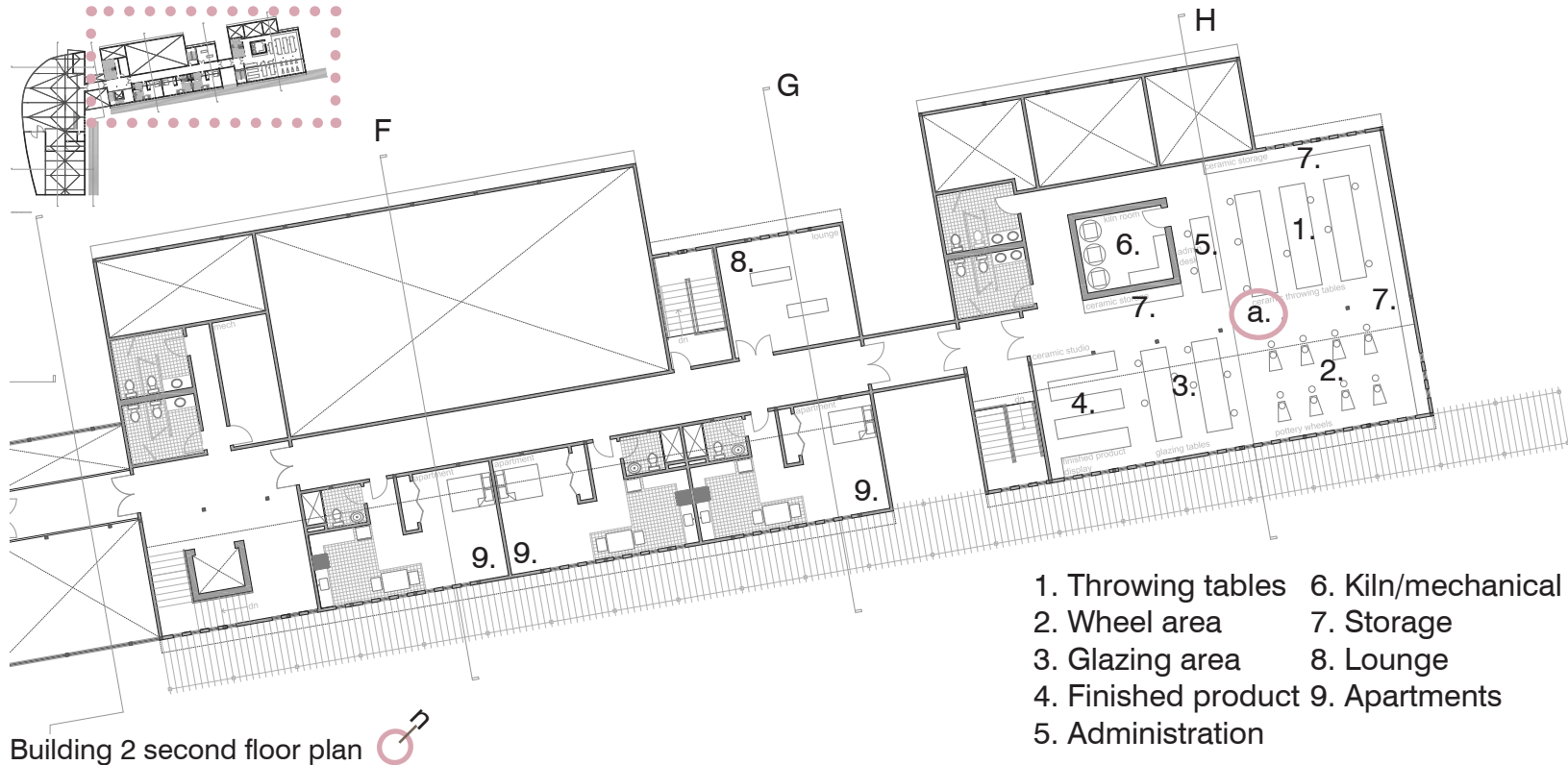


a. Ceramic studio

- 1. Water tower
- 2. Office
- 3. Storage
- 4. Walkway

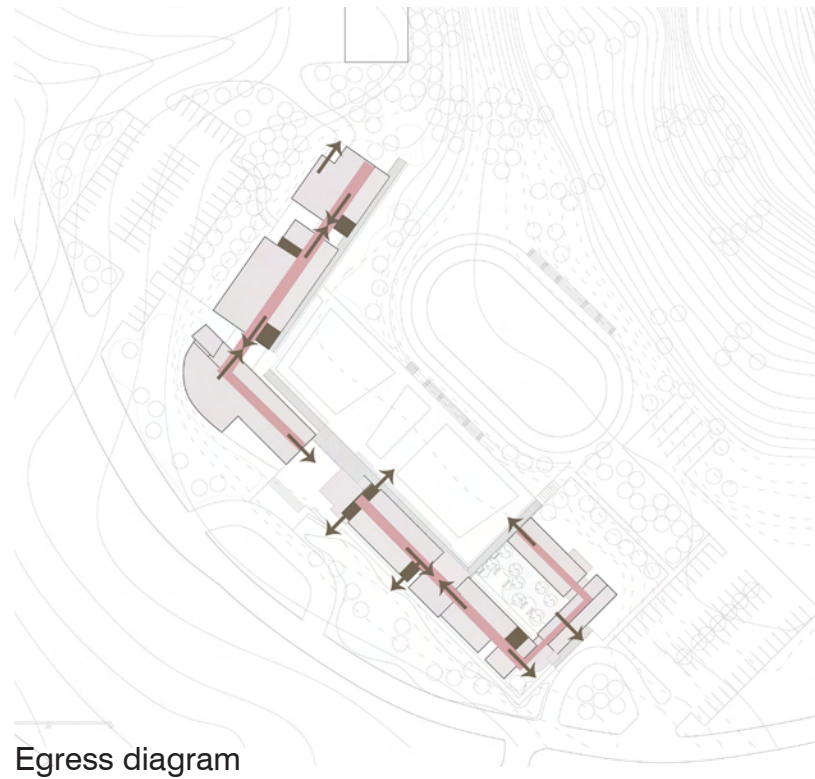
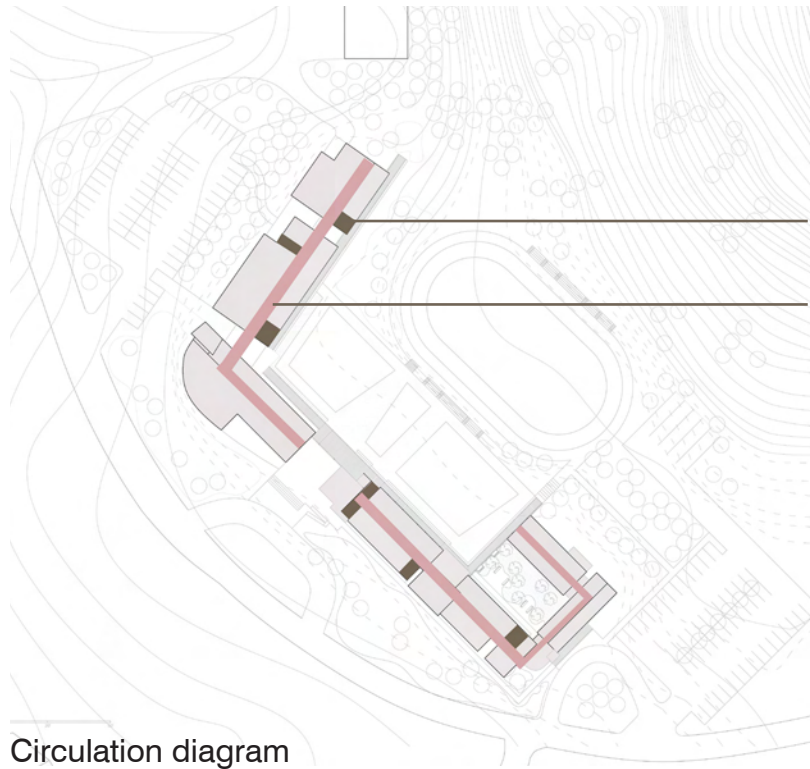
Design

Drawings, renders, and models



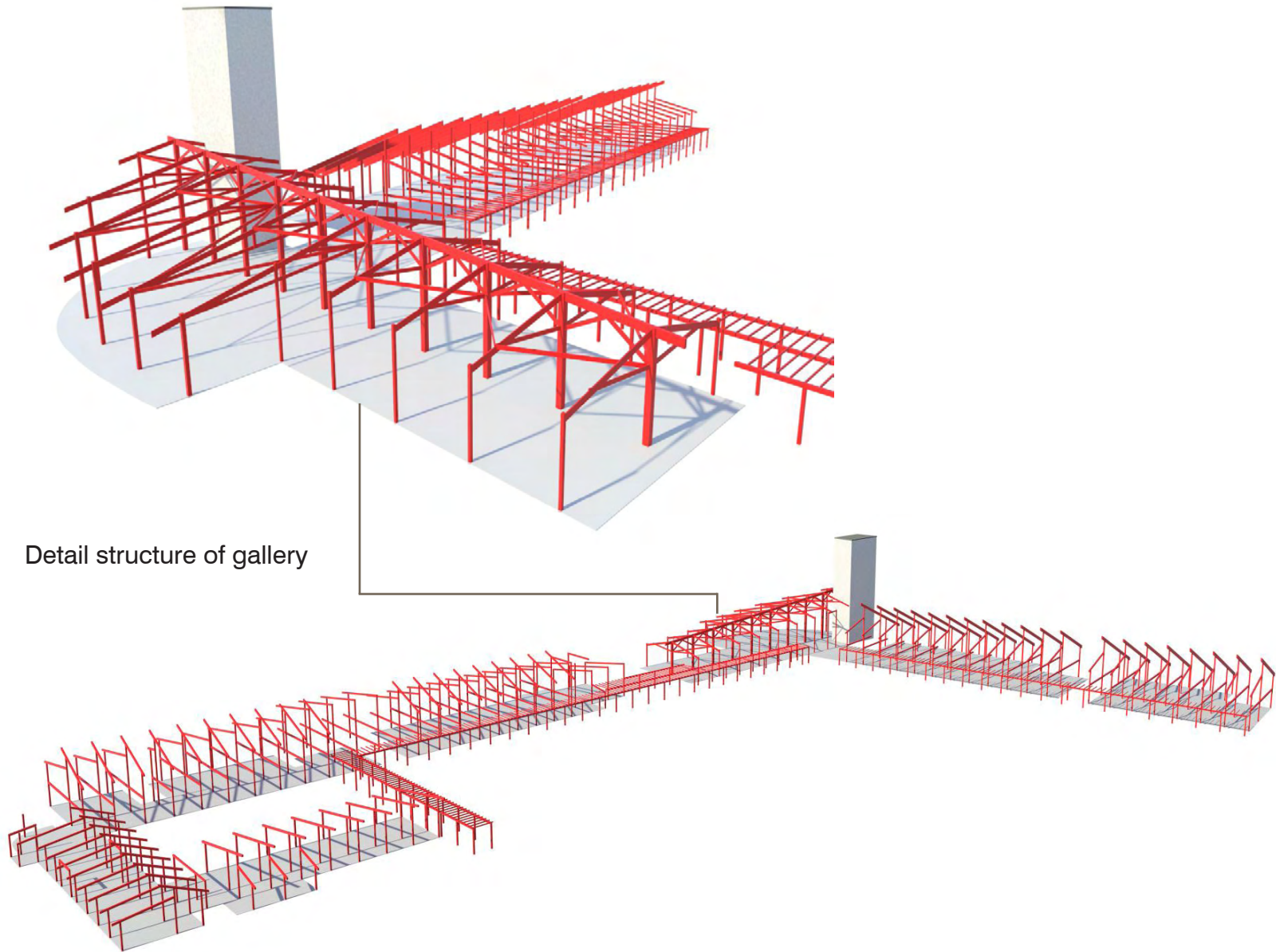
Design

Drawings, renders, and models



Design

Drawings, renders, and models



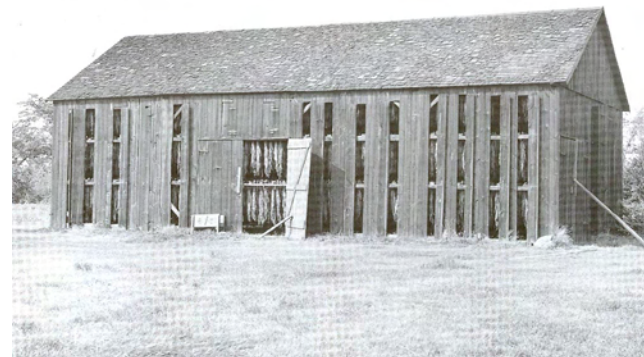
Detail structure of gallery

Structure diagram

Design

Drawings, renders, and models

As a precedent for the elevations, I referenced typical barn structures. These particular structures are tobacco barns where the side panels were open to naturally ventilate the interior spaces. This concept is used within the design of the “intention” areas of the elevation. The cladding panels in these areas are 16” which also relates to the size of the window panel.

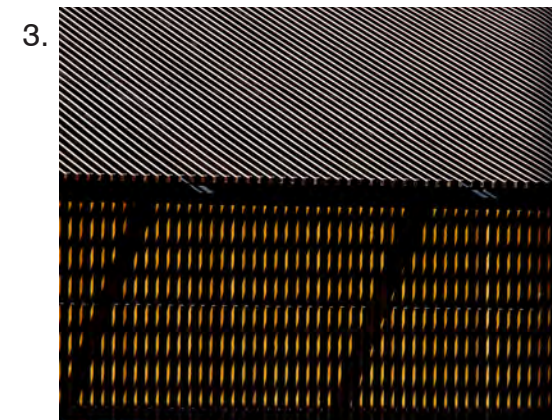
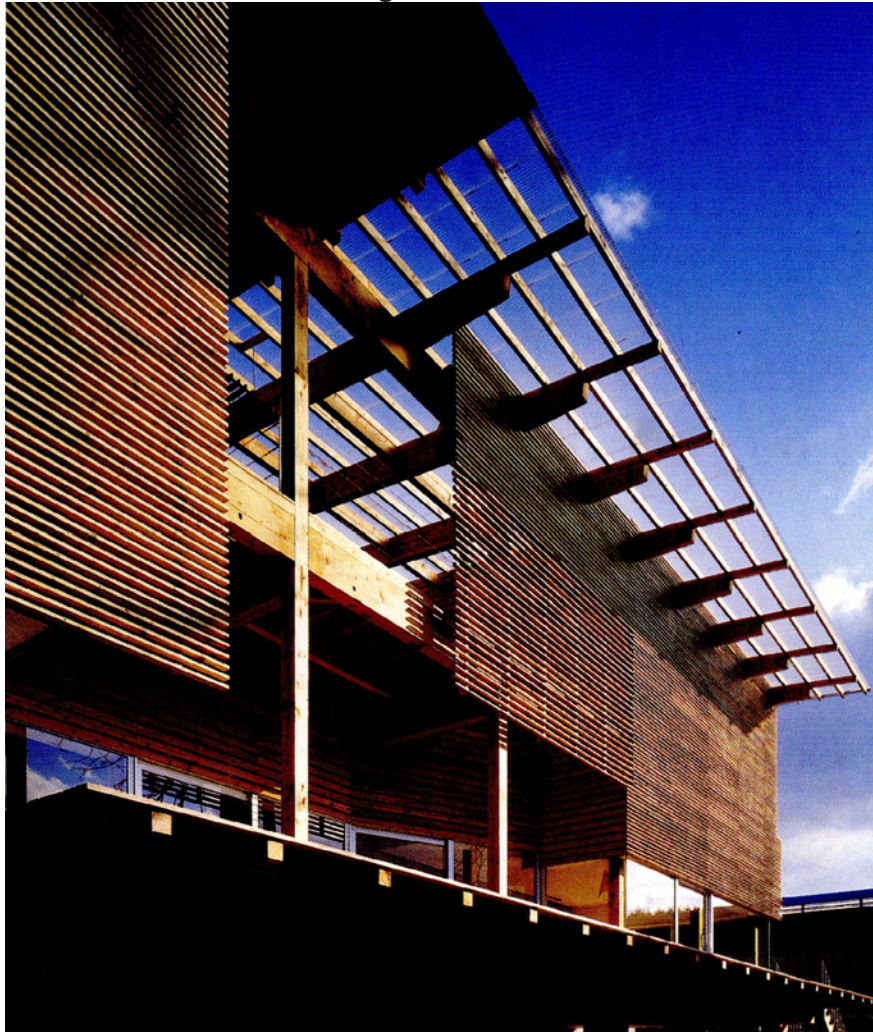


Design

Drawings, renders, and models

Similar to the screens Kengo Kuma uses in his projects, this proposed project uses a vertical screening device during the “incident” moments.

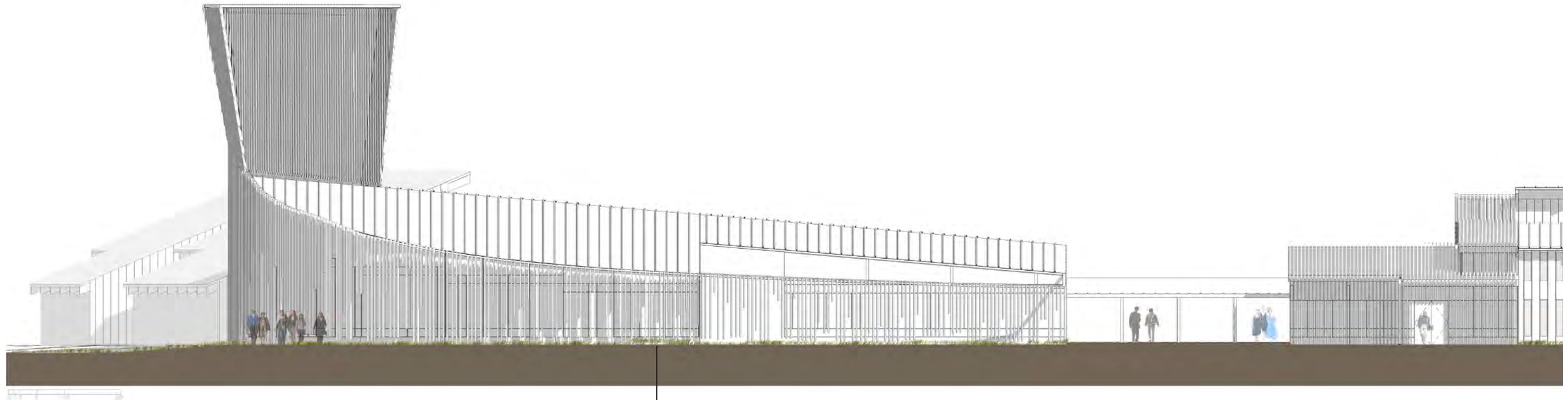
1. The River/Filter
2. Noh stage in the forest
3. Bato-Maschi Hiroshige Museum



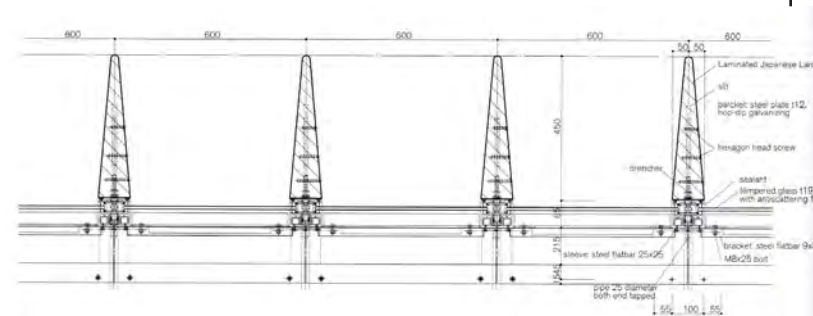
Bognar, Botond. Kengo Kuma Selected Works. New York: Princeton Architectural Press, 2005; p 59.
Alini, Luigi. Works and Projects: Kengo Kuma. Milan, Italy: Princeton Architectural Press, 2005; p 55-81.

Design

Drawings, renders, and models



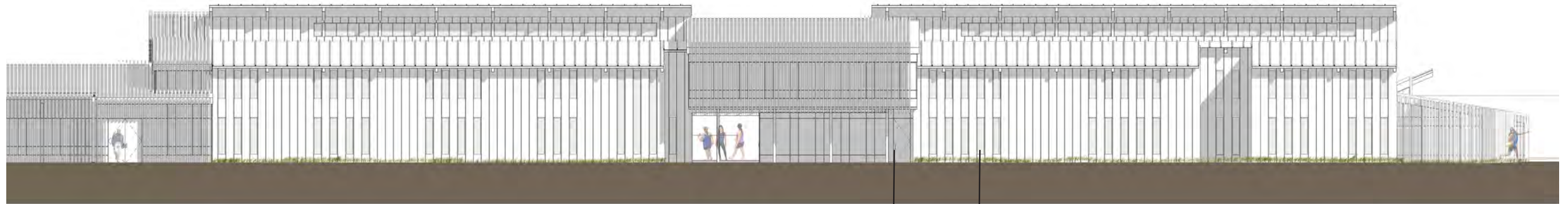
West elevation



Kengo Kuma uses a similar screen in a building called One Omotesando in Japan. This screen is present throughout the incident locations.

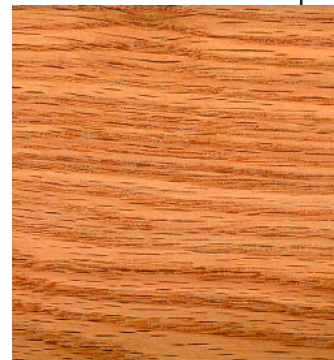
Design

Drawings, renders, and models



[West elevation continued]

Red oak is used in the
incident locations.



White oak is used throughout the
intention areas. Both woods are
prevalent in this region of the
Appalachian Mountains

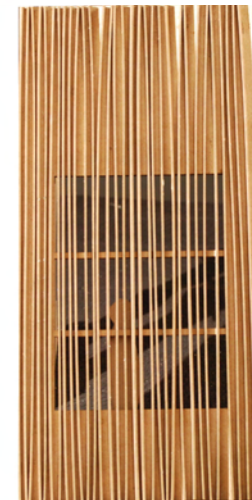
Design

Drawings, renders, and models

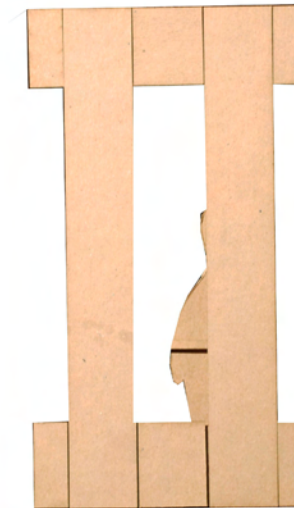


Interior east elevation looking towards building one and the gallery

Model showing an incident construction.

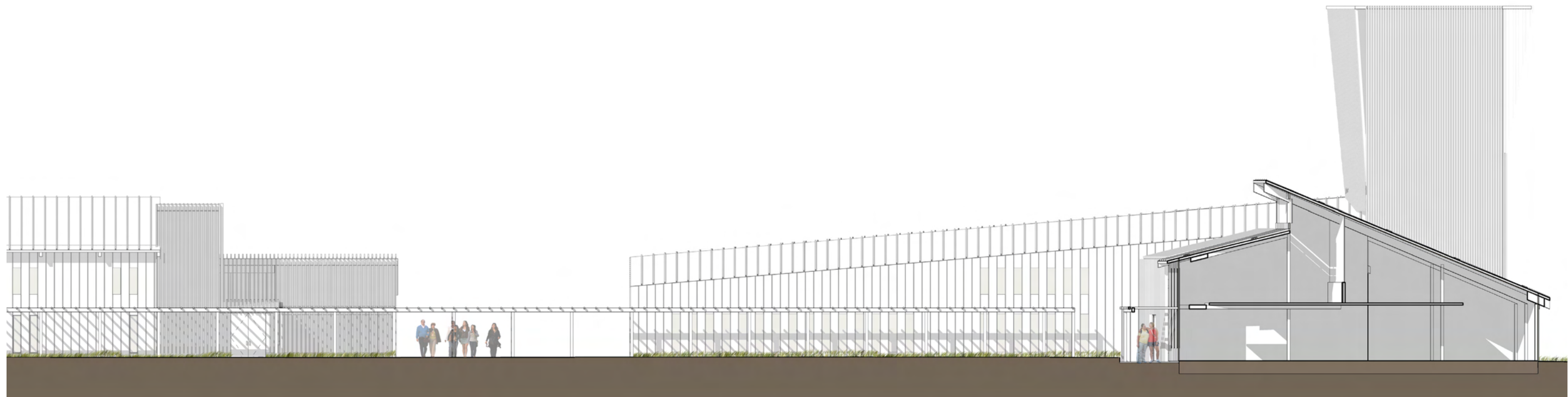


Model showing an intention construction.



Design

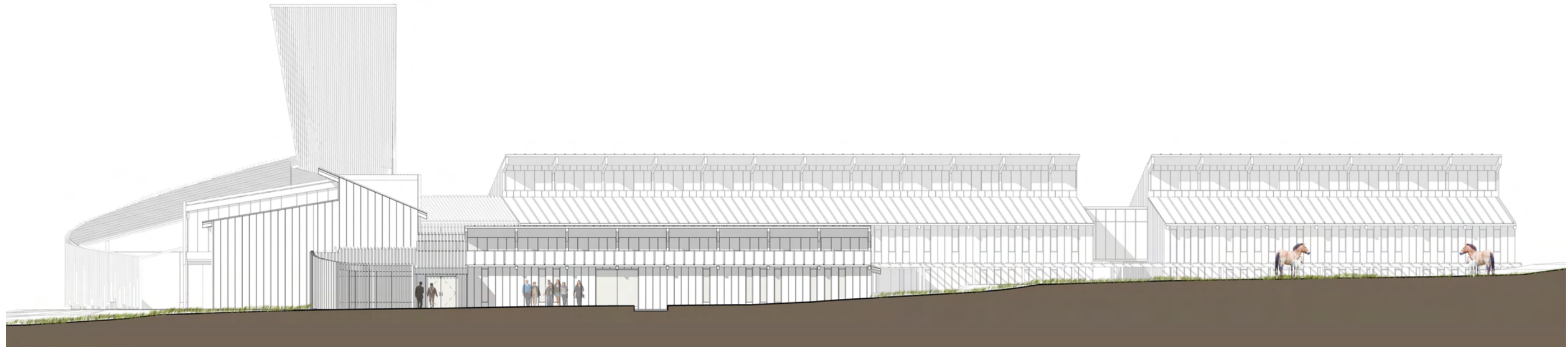
Drawings, renders, and models



[Interior east elevation looking towards building one and the gallery continued]

Design

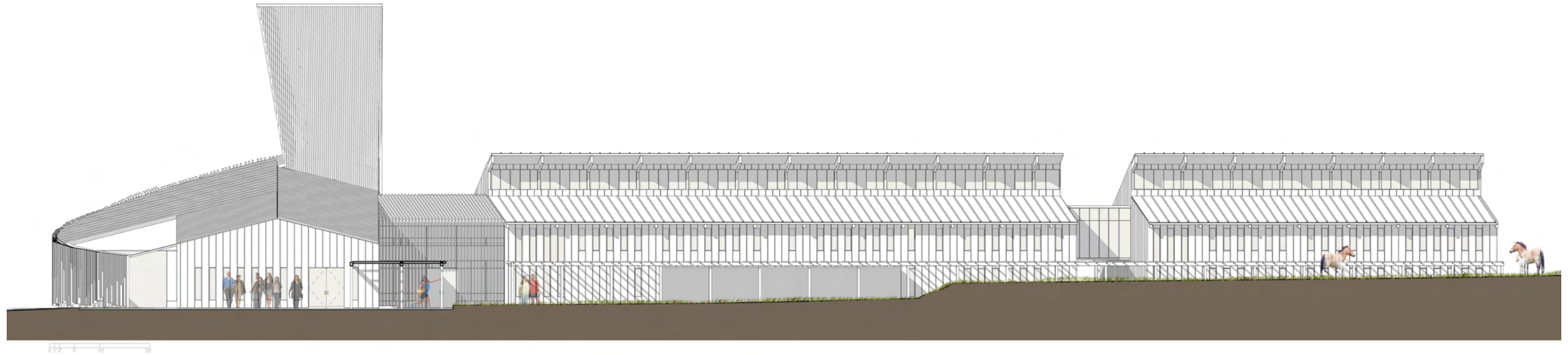
Drawings, renders, and models



South elevation

Design

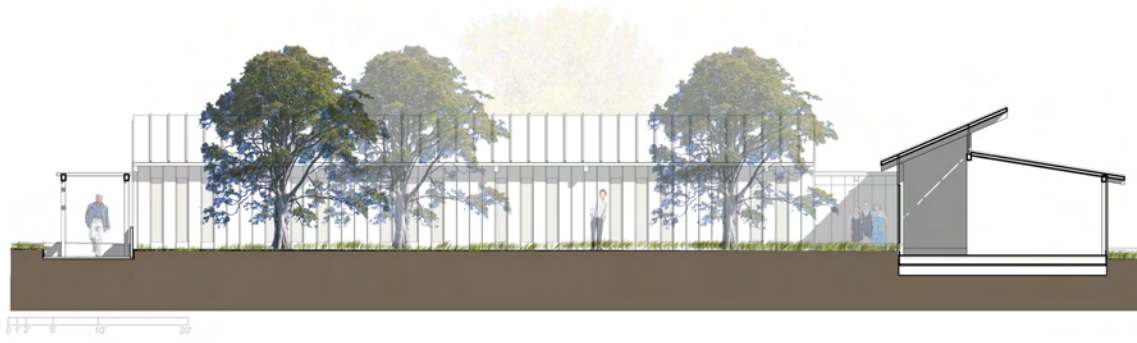
Drawings, renders, and models



Interior south elevation looking towards the craft studios

Design

Drawings, renders, and models



Interior west private gardens elevation looking toward the urgent care exam rooms



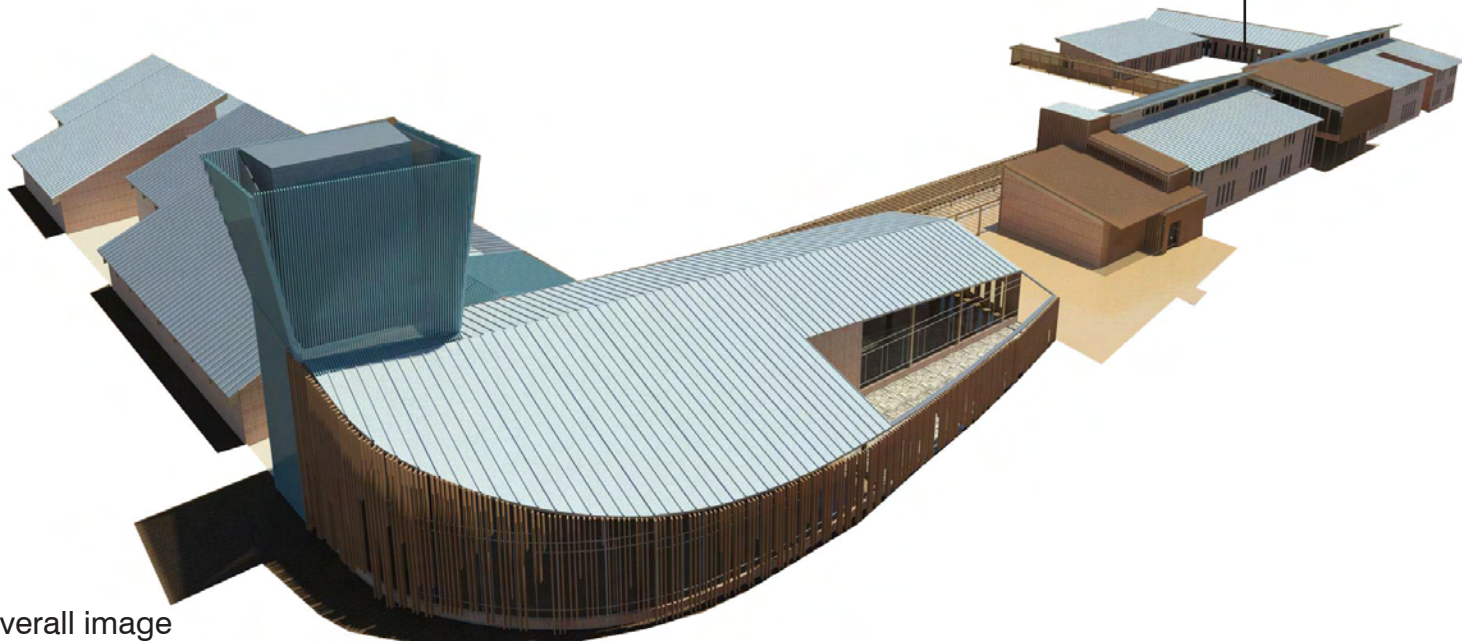
Interior north community greens elevation looking toward the urgent care hallway and waiting room

Design

Drawings, renders, and models



Interior north private gardens elevation looking toward the urgent care hallway and waiting room

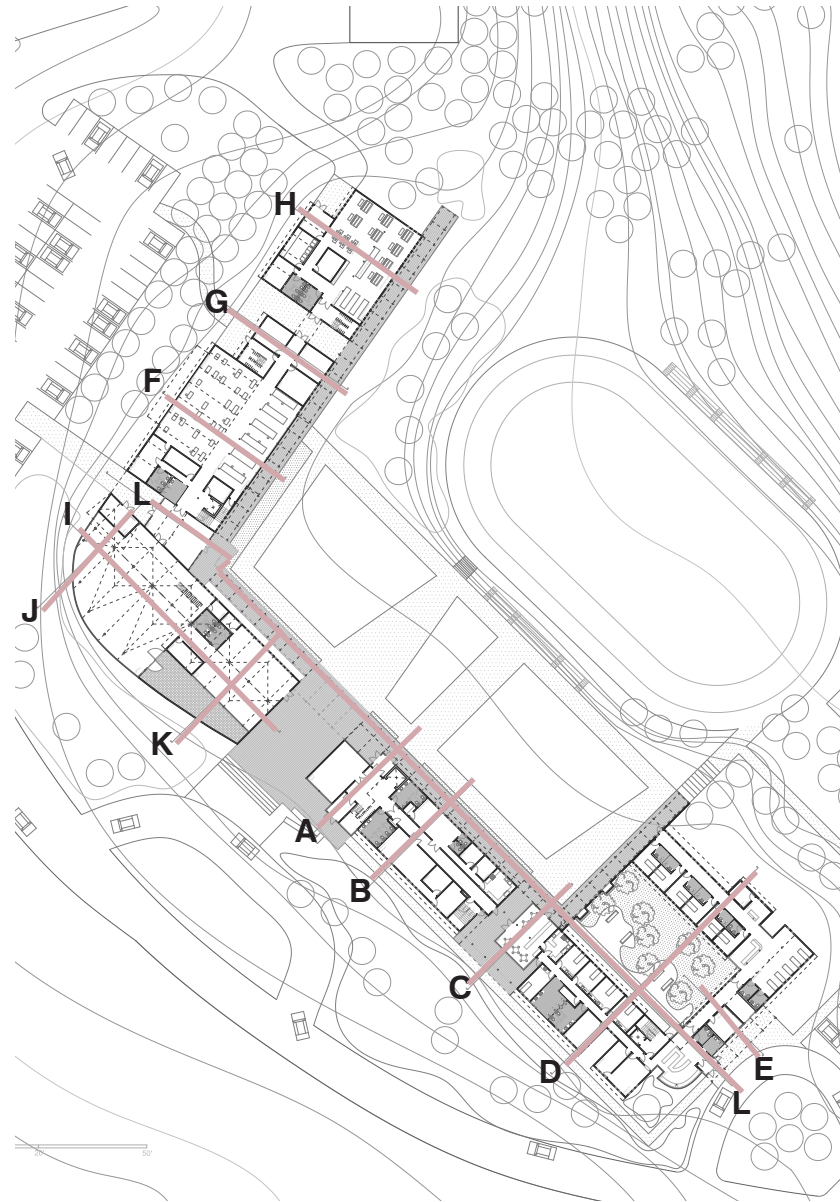
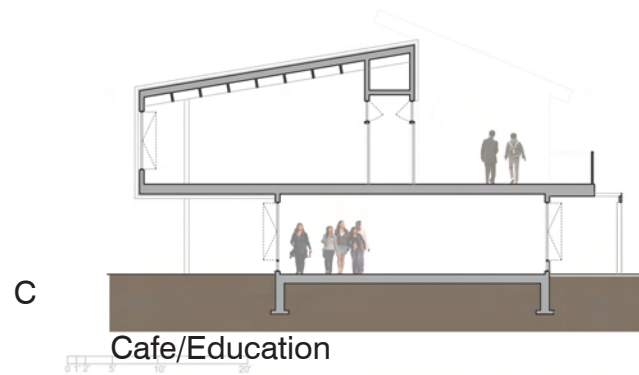
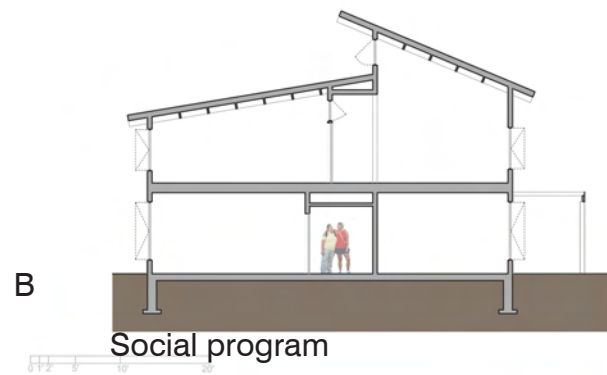
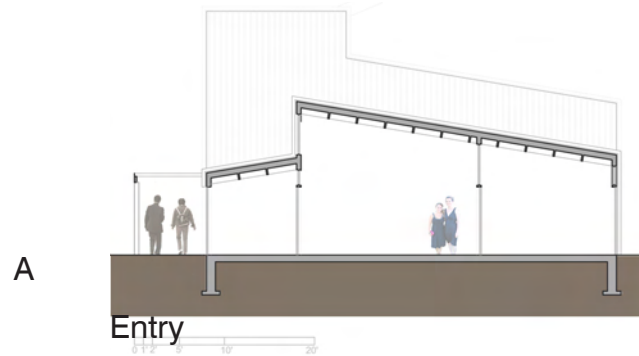


Overall image

Design

Drawings, renders, and models

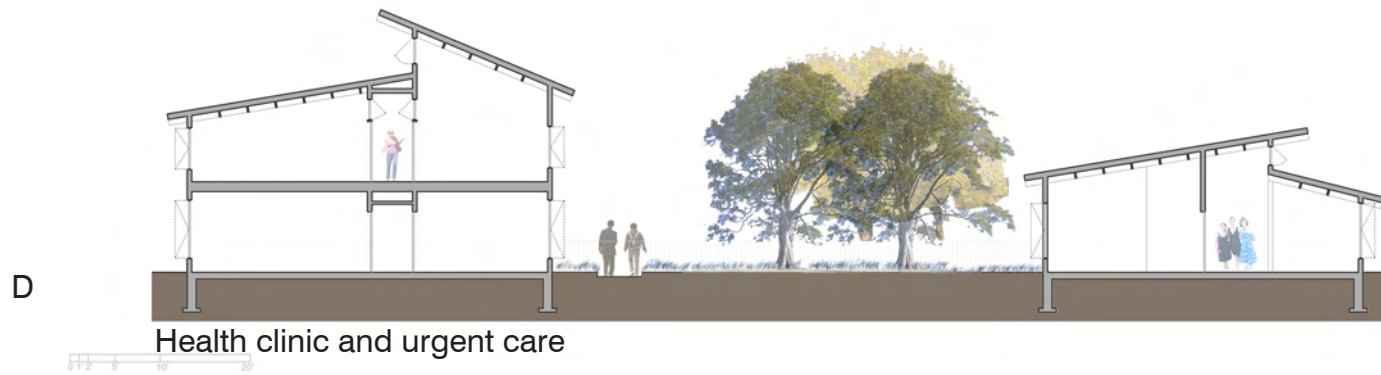
Building one sections



Design

Drawings, renders, and models

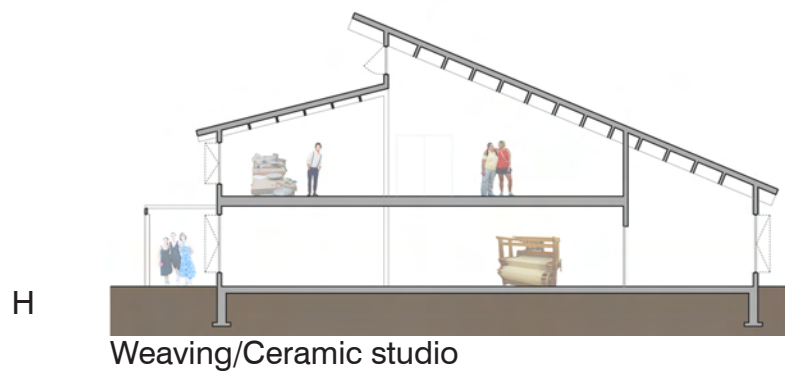
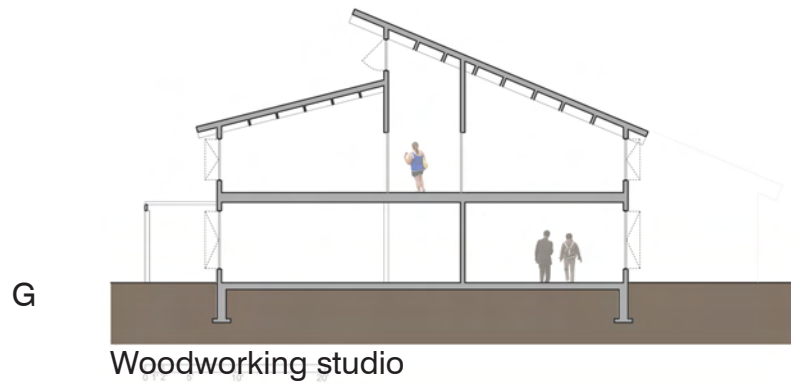
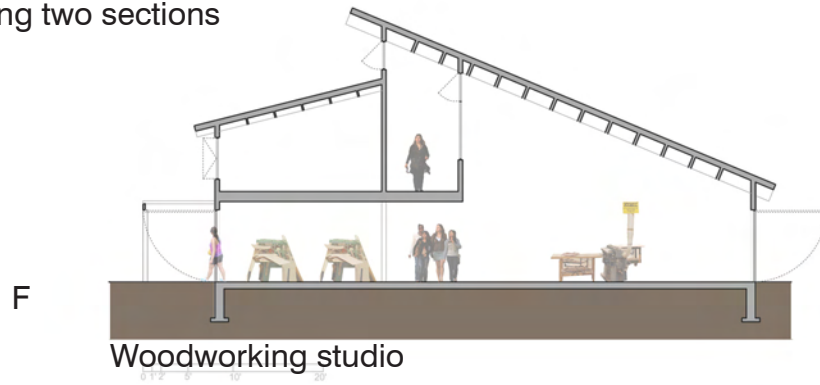
Building one sections



Design

Drawings, renders, and models

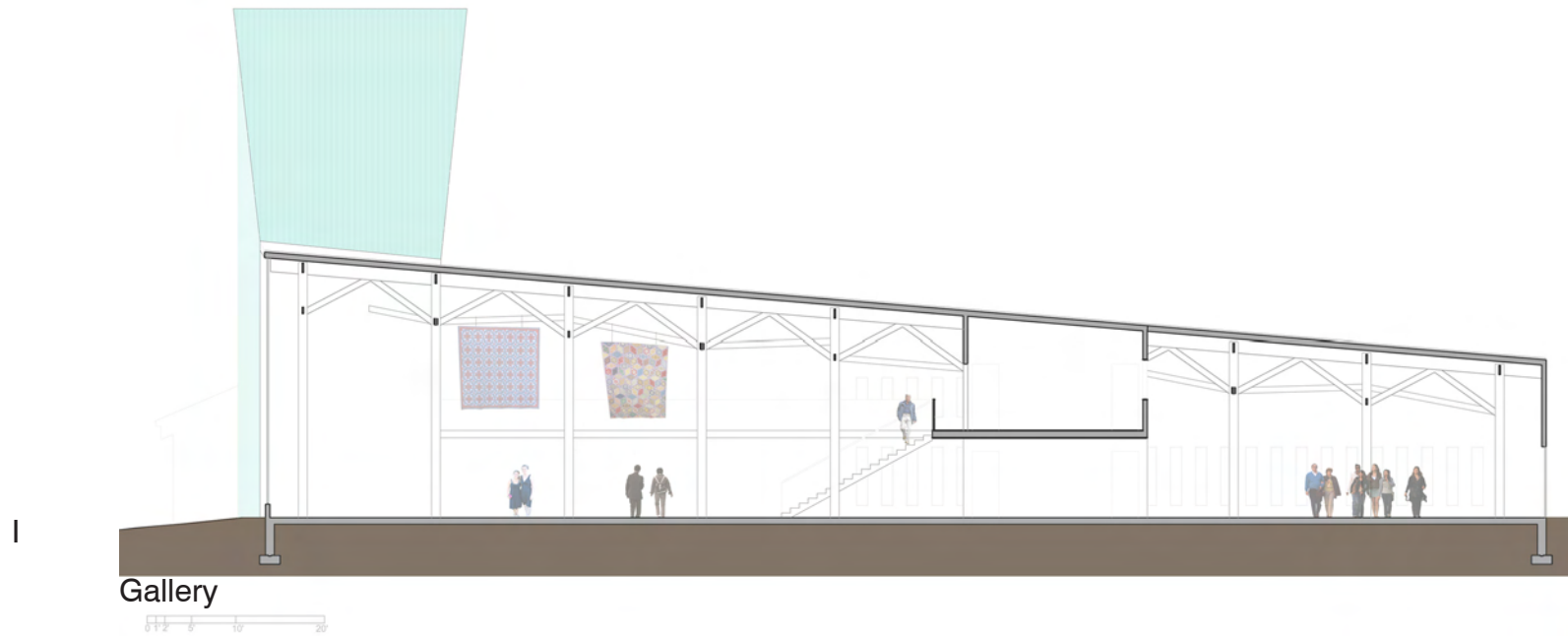
Building two sections



Design

Drawings, renders, and models

Building two sections



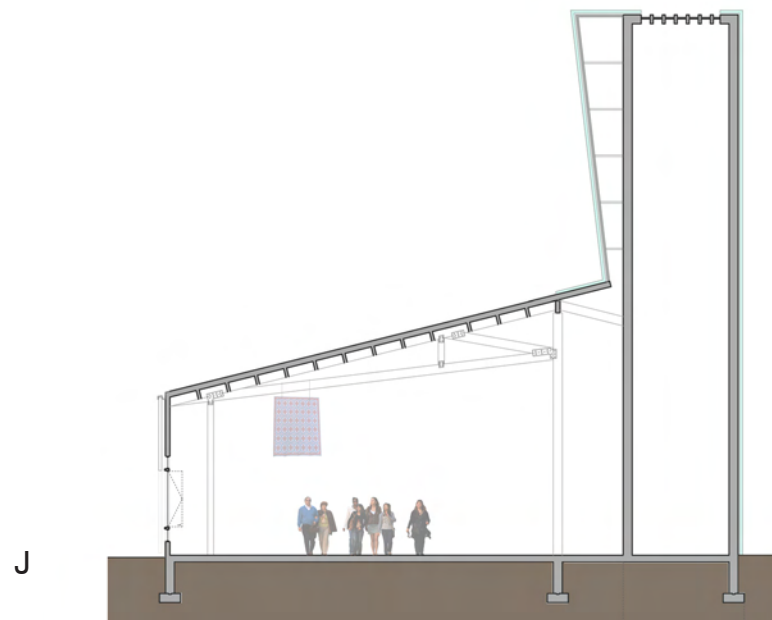
Design

Drawings, renders, and models

Building two sections

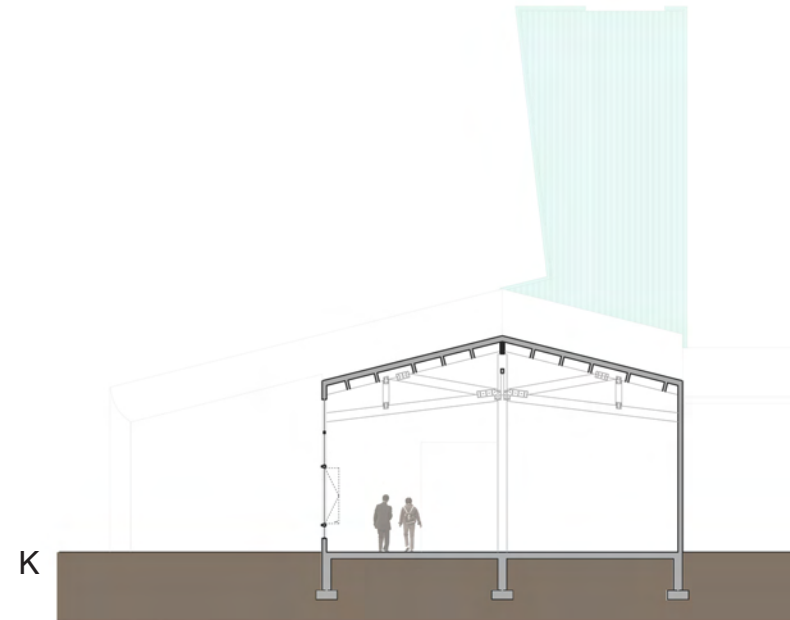


L Lobby of craft studio to lobby of health clinic



J

Tower



K

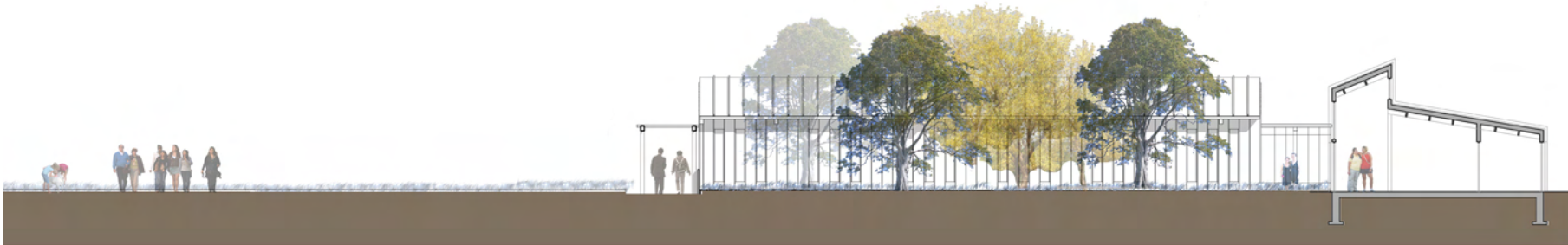
Retail

0 10 20

Design

Drawings, renders, and models

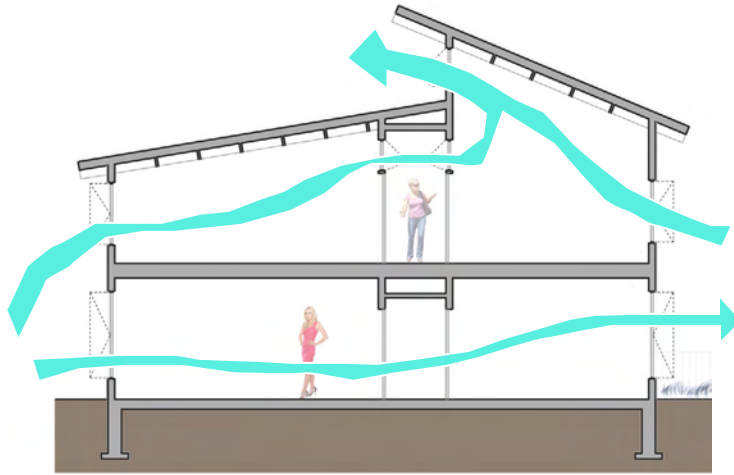
Building two sections



[Lobby of craft studio to lobby of health clinic continued]

Design

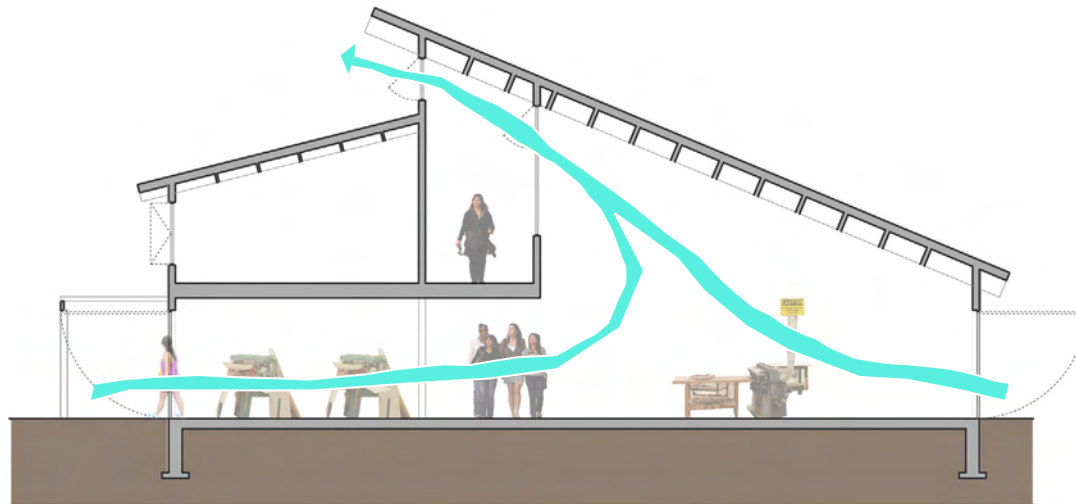
Drawings, renders, and models



0 1' 2' 5' 10' 20'

Ventilation diagram

With no cooling systems throughout the craft studios, gallery, retail, continuing education, food distribution, and day care, it is necessary to create cross ventilation within each space.

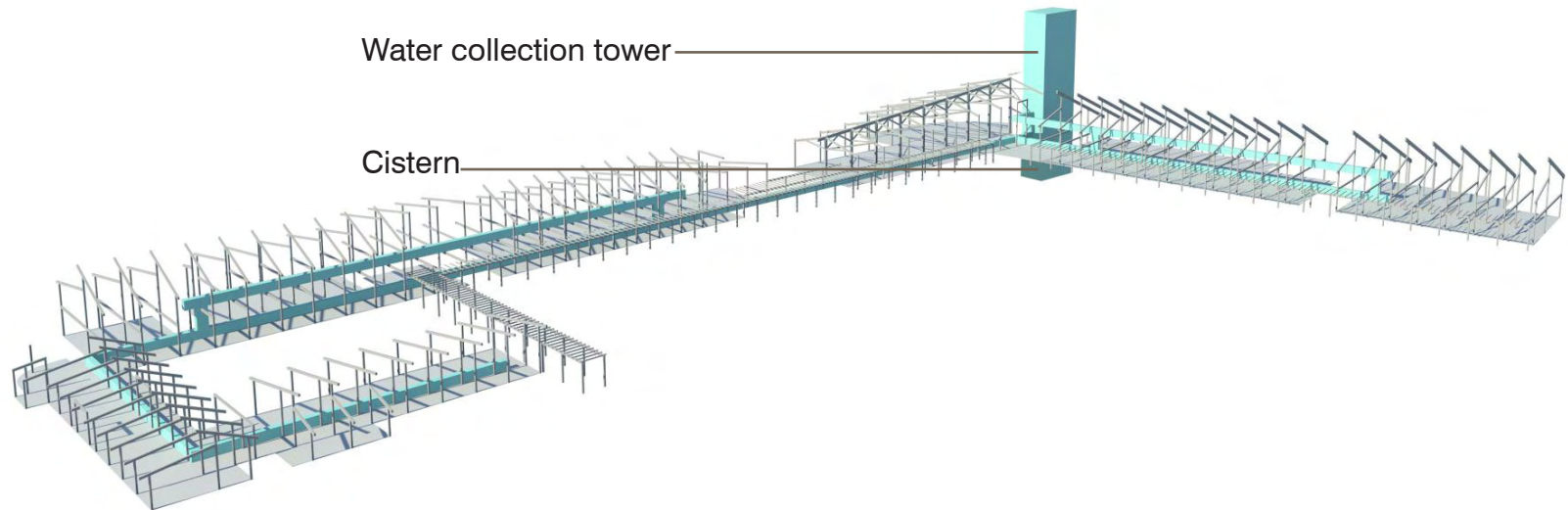


0 1' 2' 5' 10' 20'

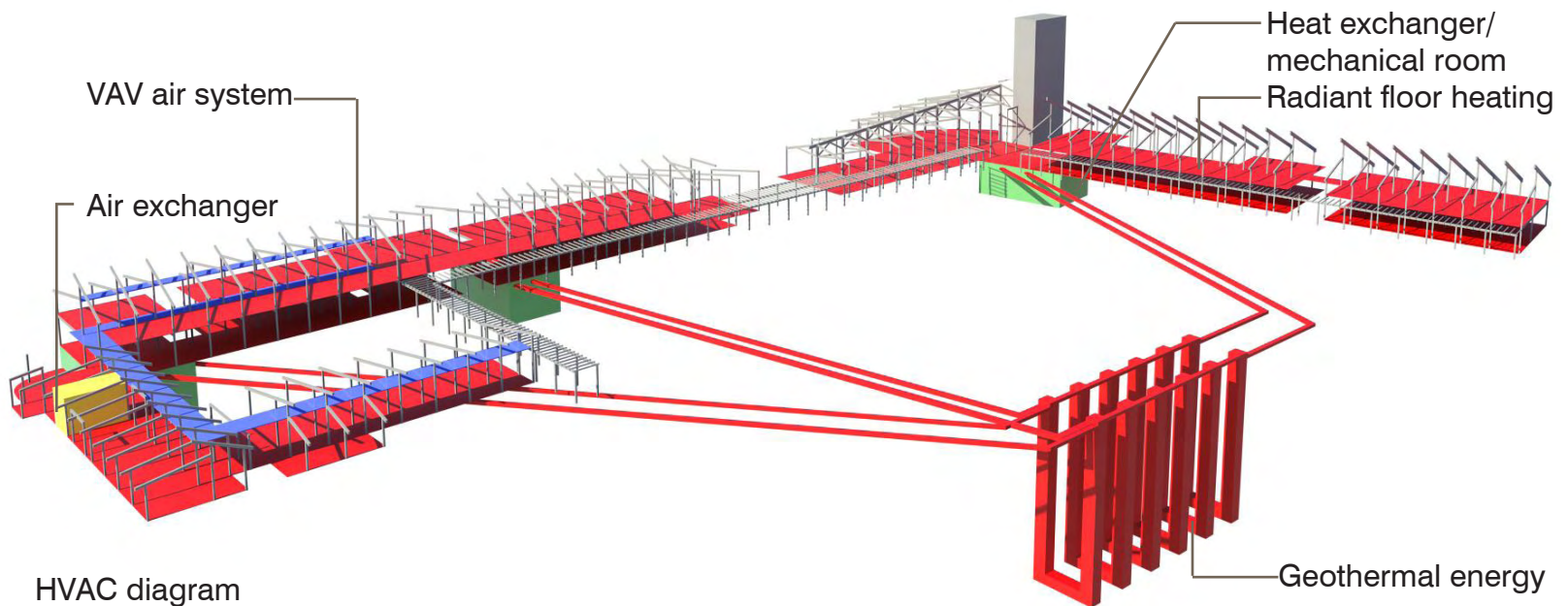
Ventilation diagram

Design

Drawings, renders, and models



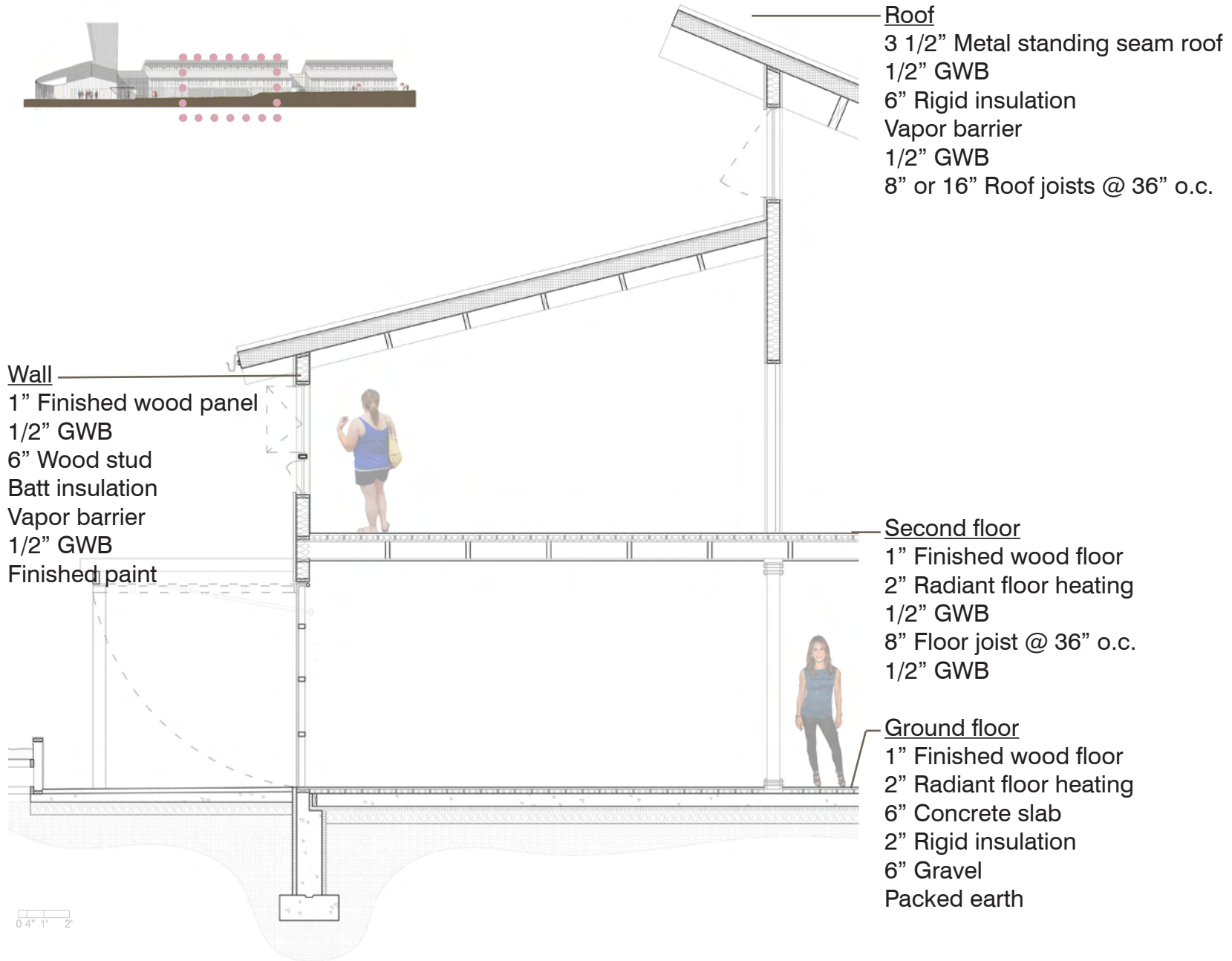
Water collection diagram



HVAC diagram

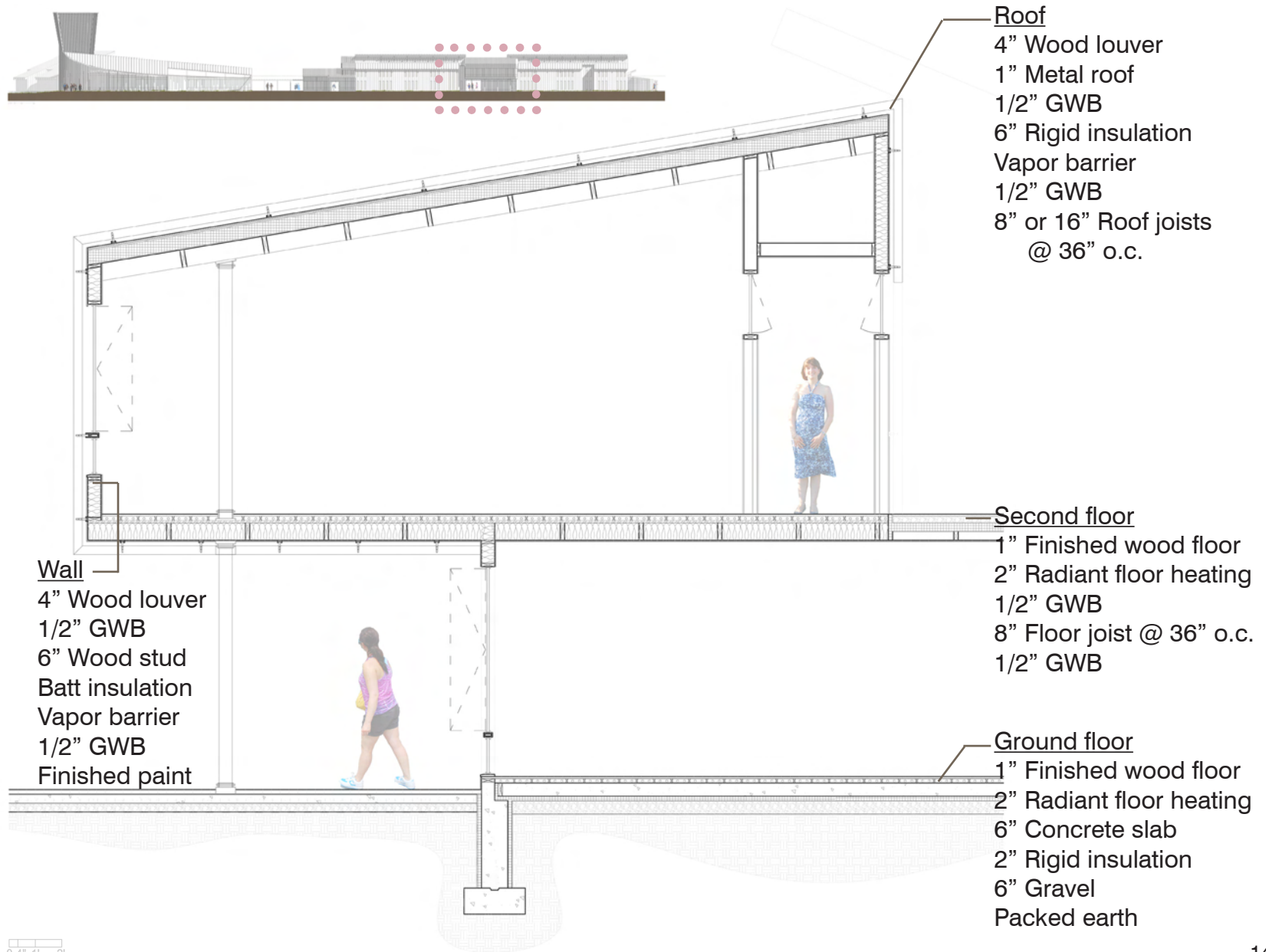
Design

Drawings, renders, and models



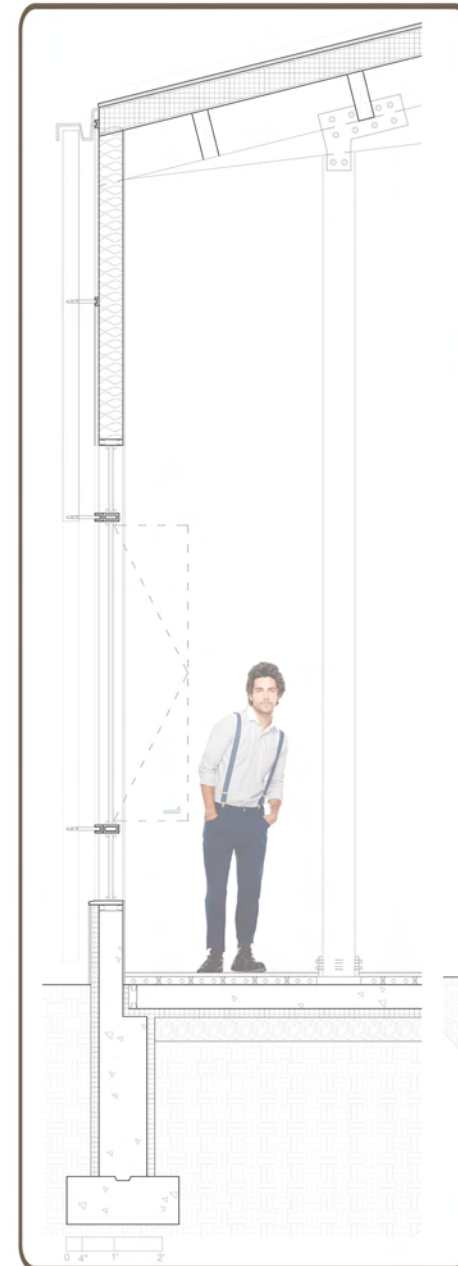
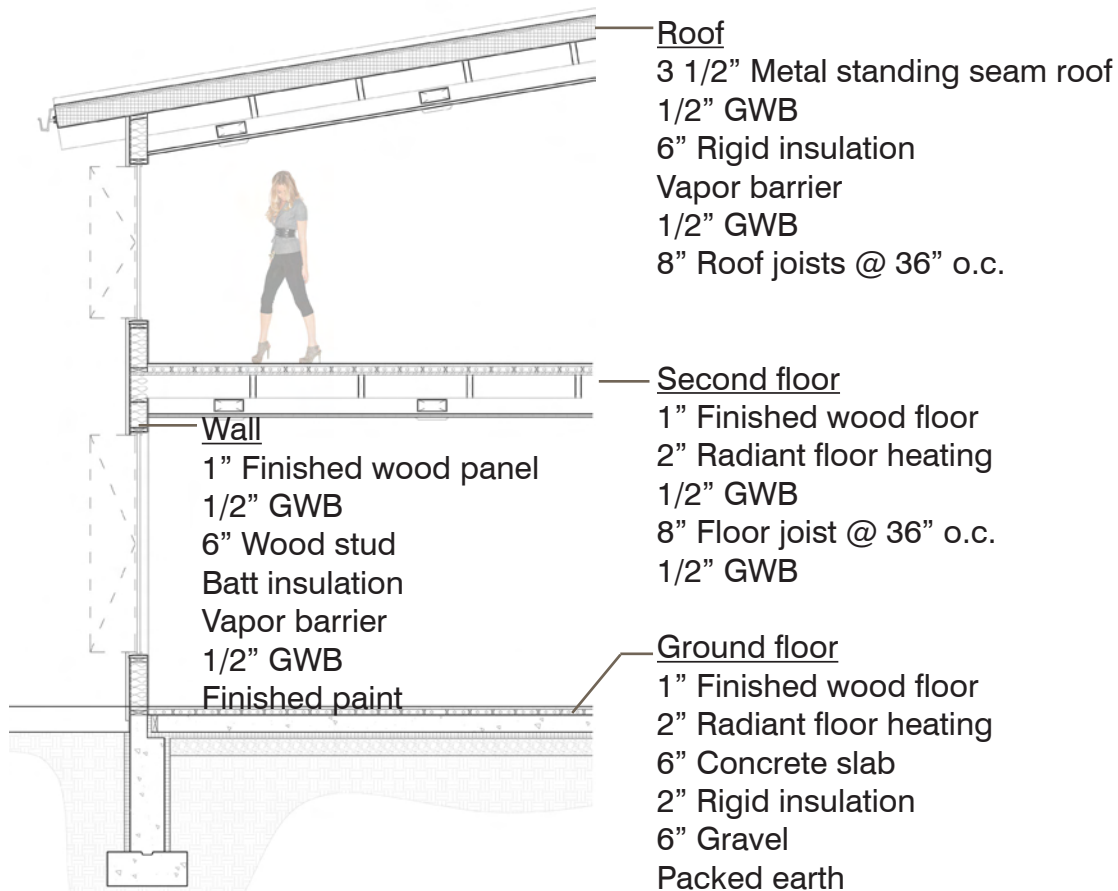
Design

Drawings, renders, and models



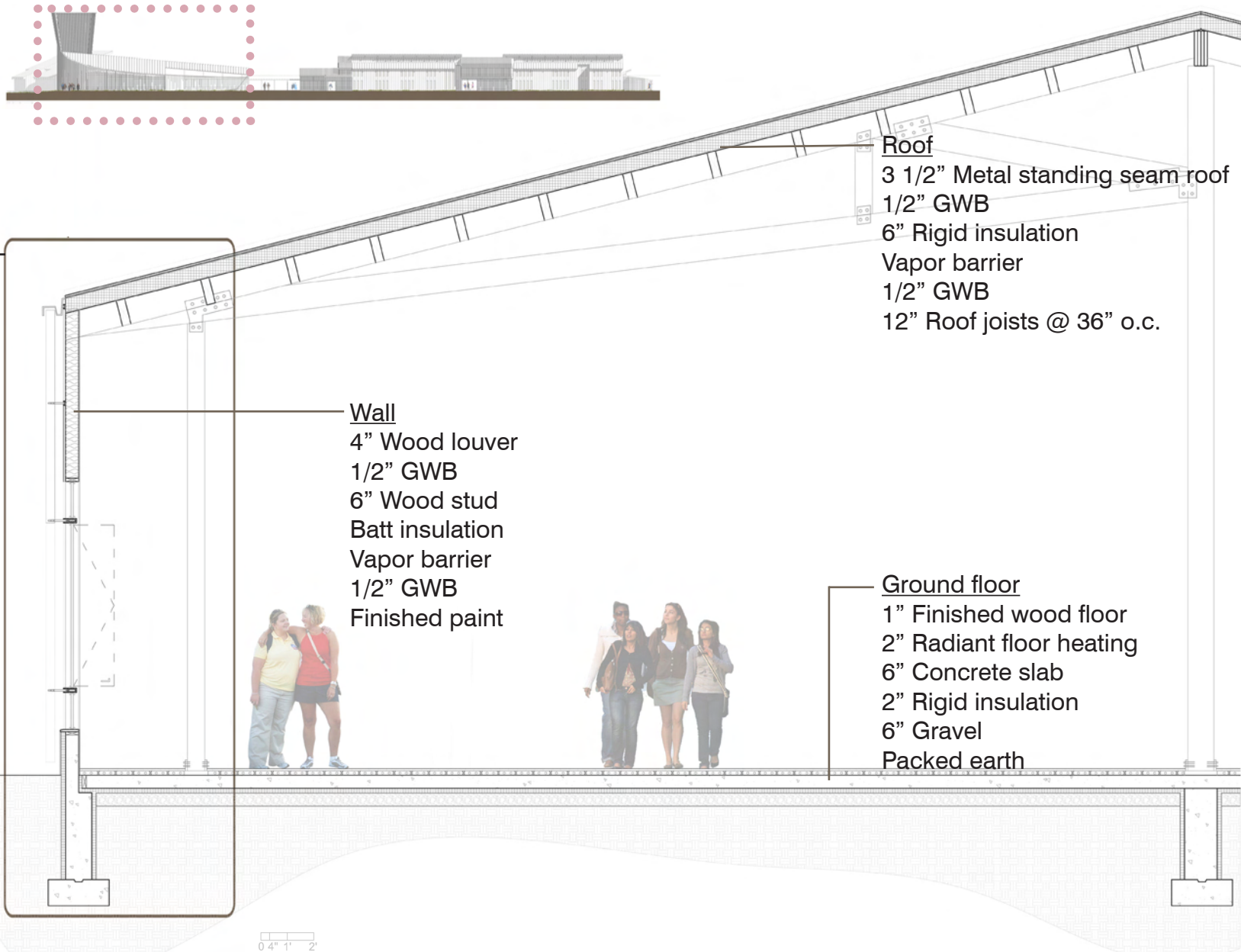
Design

Drawings, renders, and models



Design

Drawings, renders, and models



Design

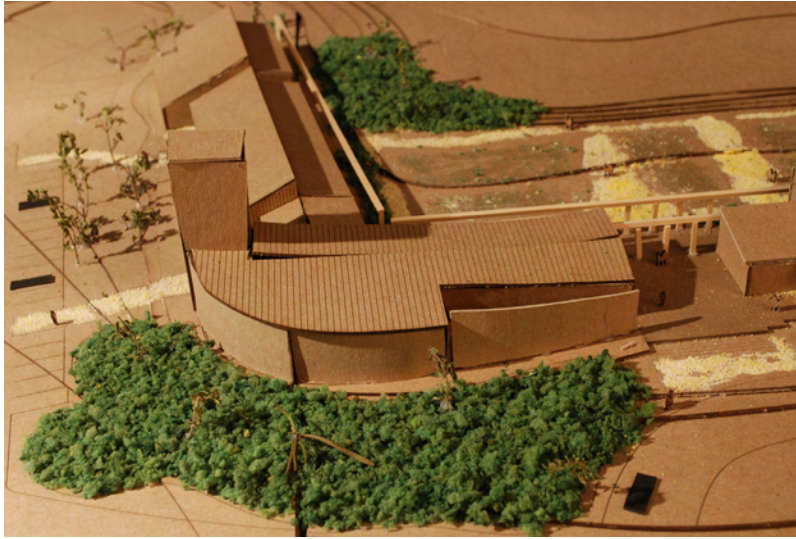
Drawings, renders, and models

Site model: overall

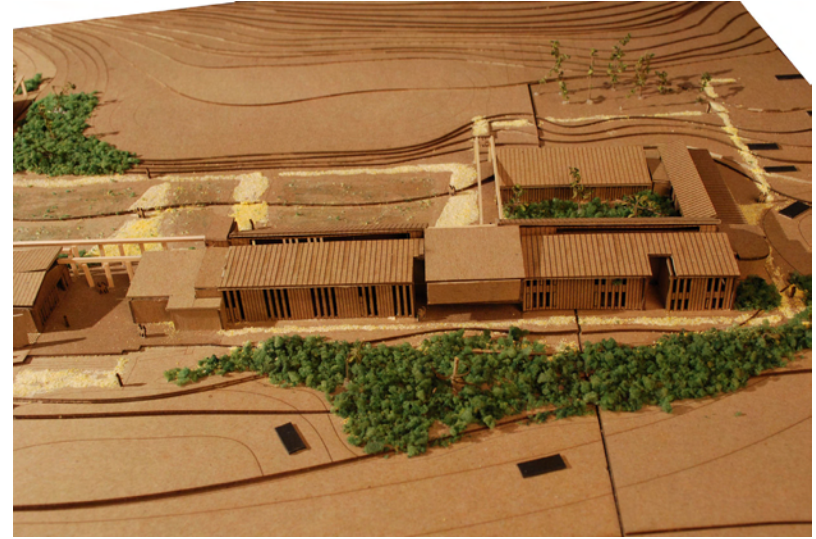


Design

Drawings, renders, and models



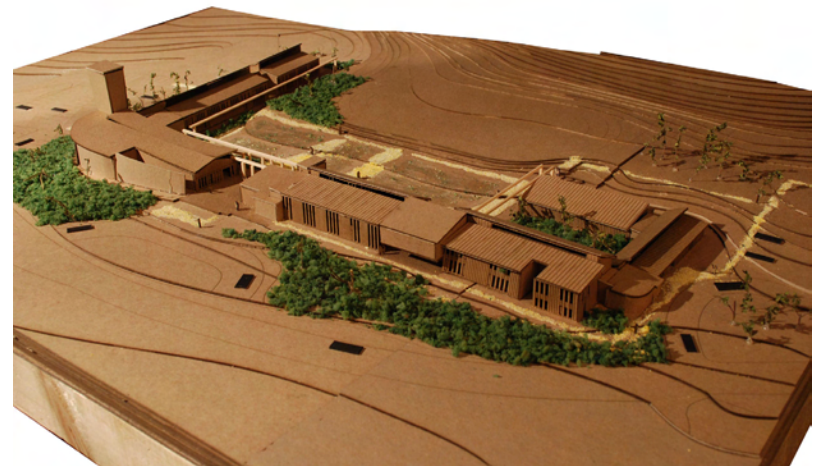
Site model: gallery



Site model: continuing education and health clinic



Site model: health clinic and urgent care center

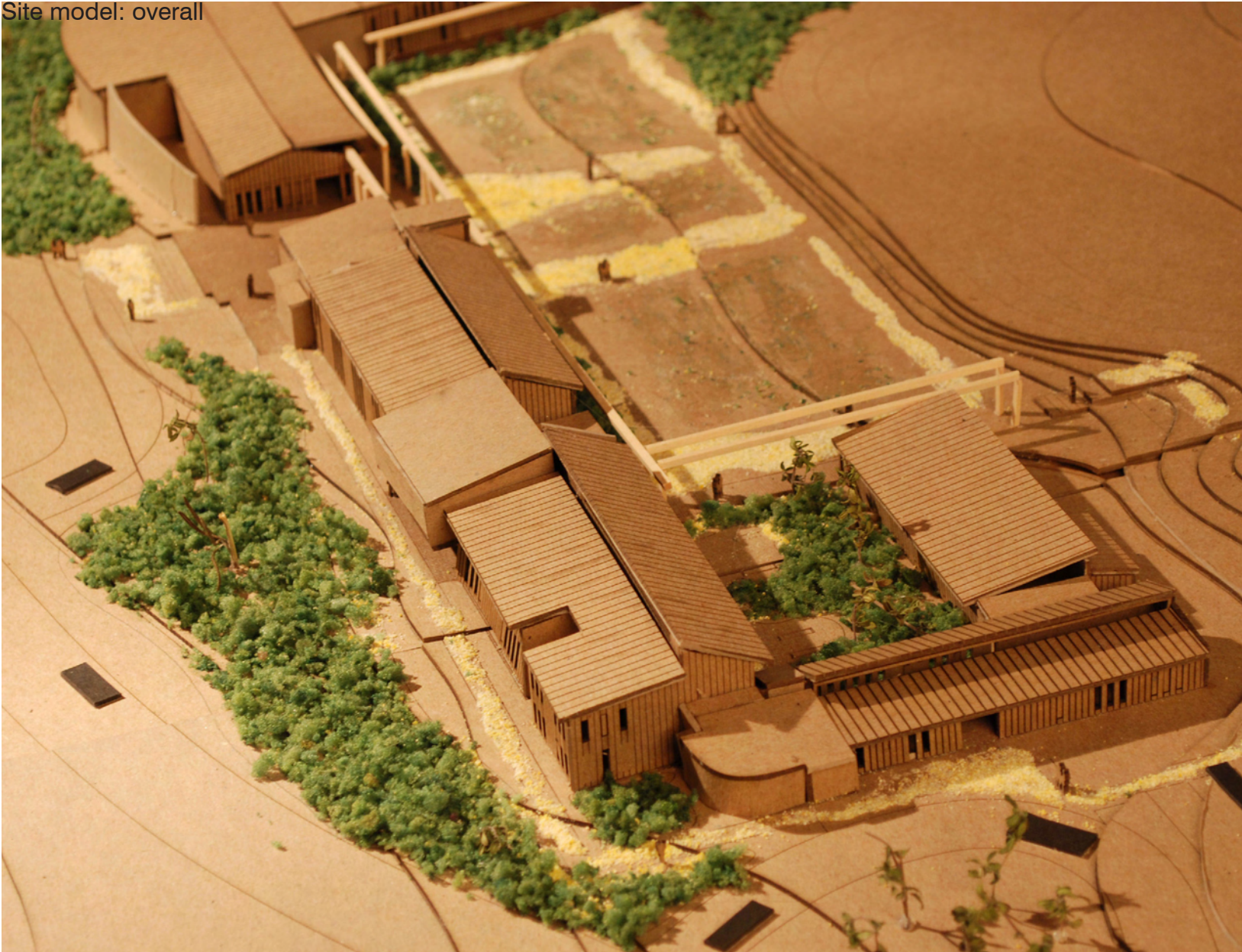


Site model: overall

Design

Drawings, renders, and models

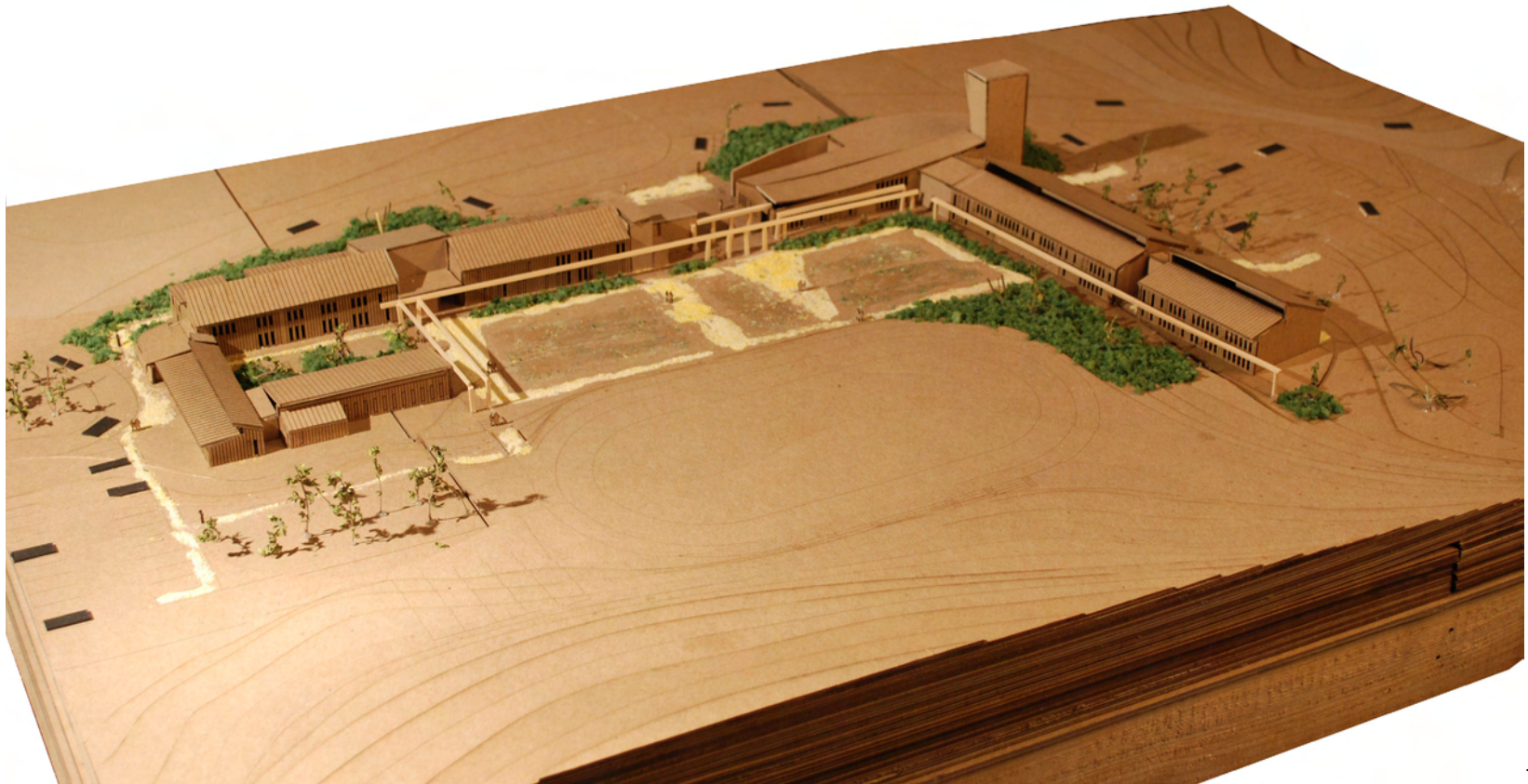
Site model: overall



Design

Drawings, renders, and models

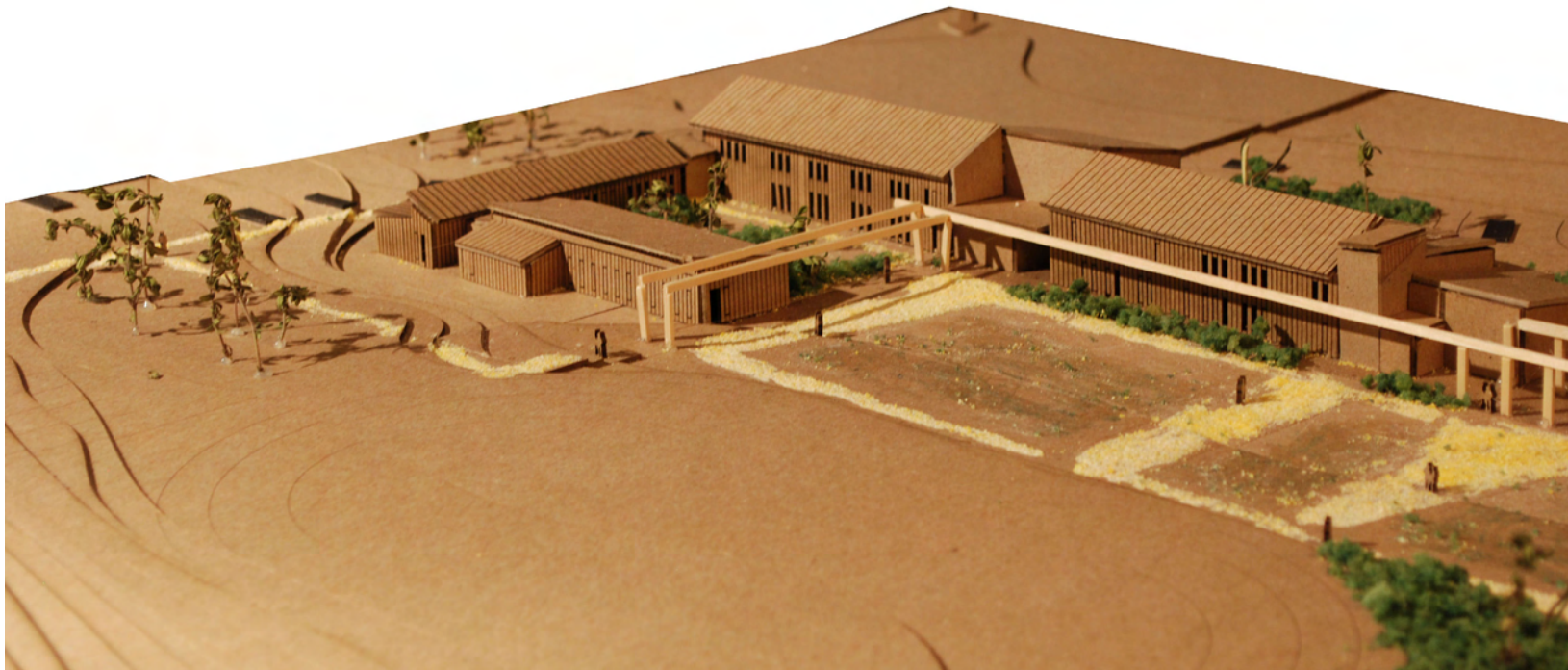
Site model: overall



Design

Drawings, renders, and models

Site model: looking towards health clinic and urgent care center



Design

Drawings, renders, and models

Site model: urgent care center



Design

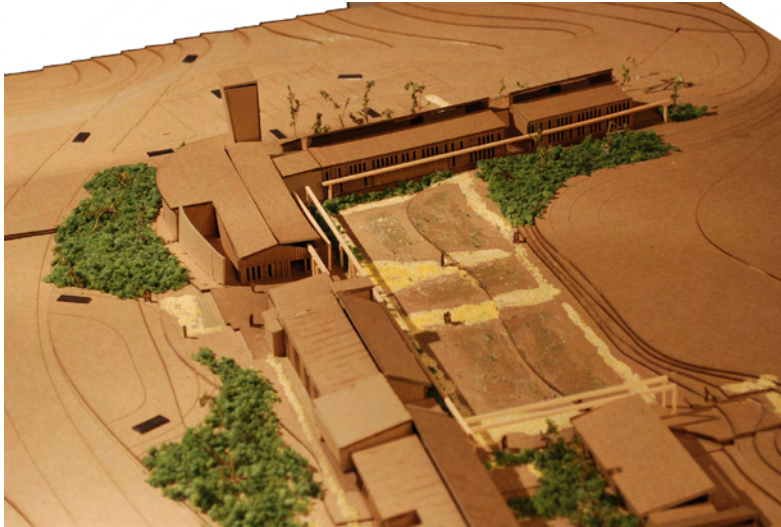
Drawings, renders, and models

Site model: craft studios



Design

Drawings, renders, and models



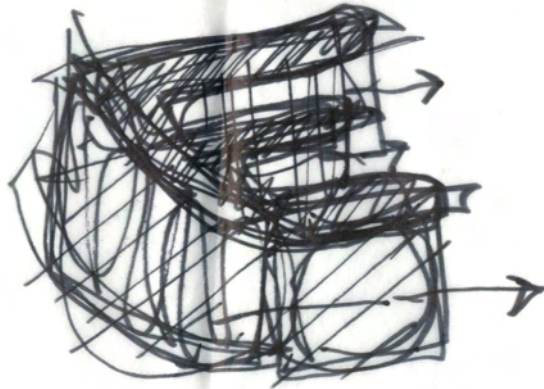
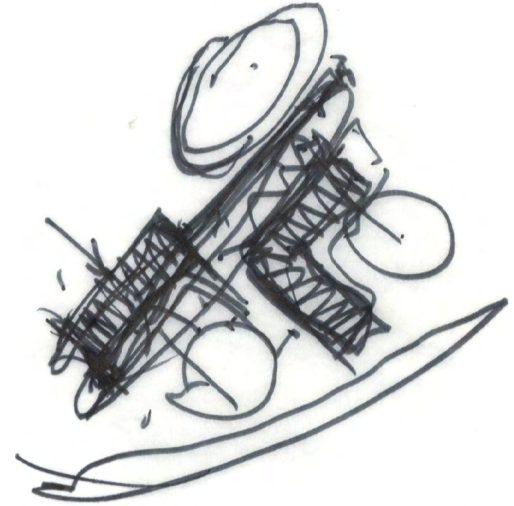
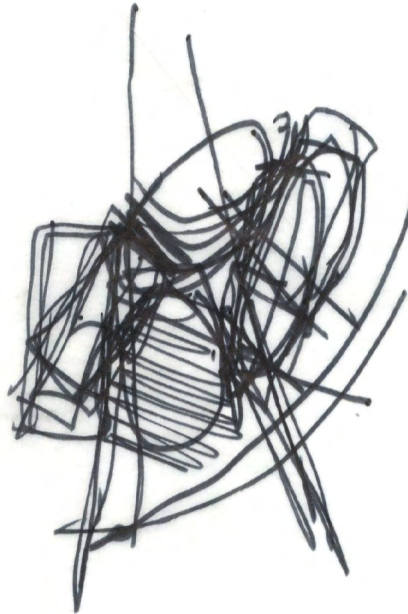
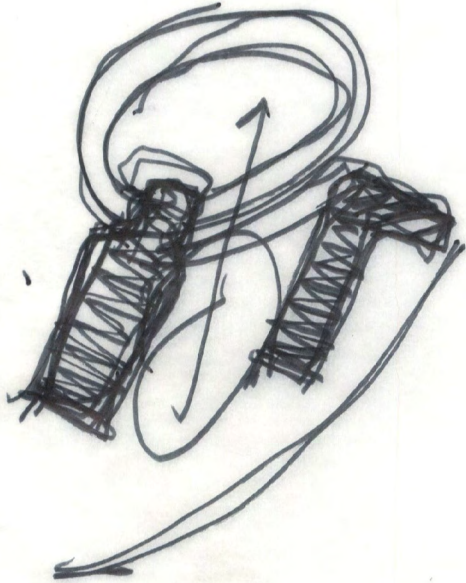
Site model: craft studios



Site model: craft studios

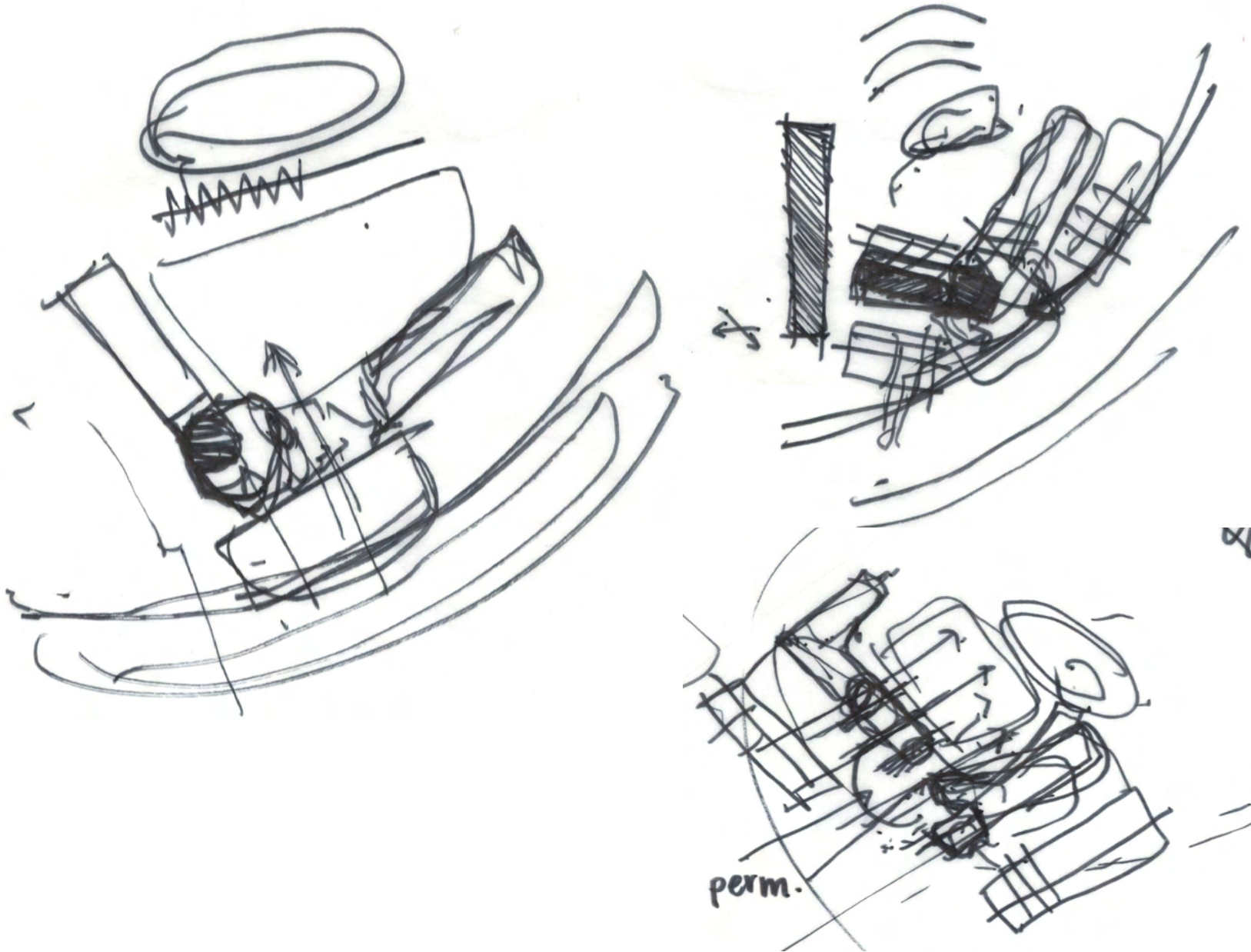
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Site development sketches



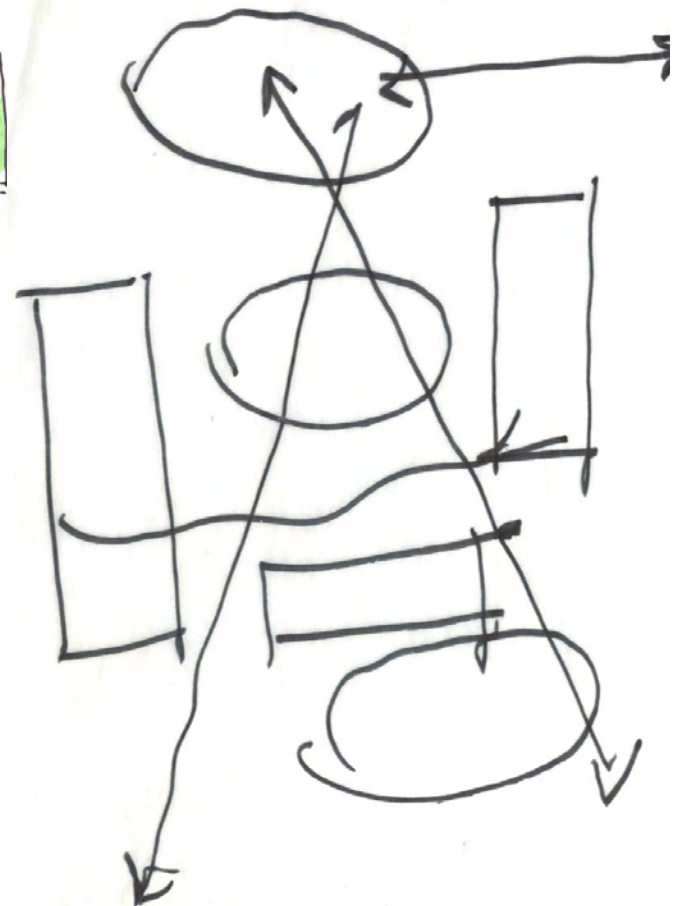
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Site development sketches



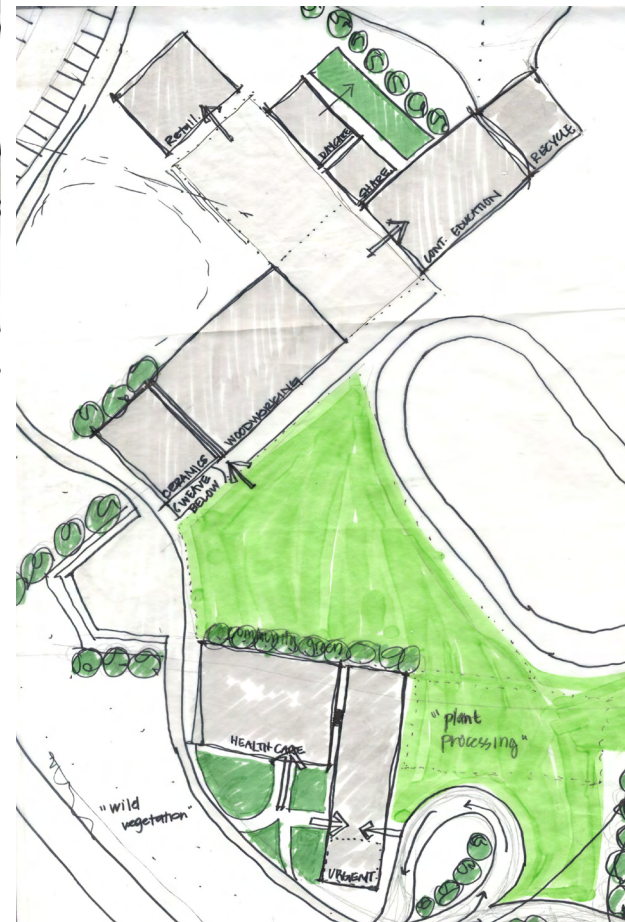
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Site development sketches



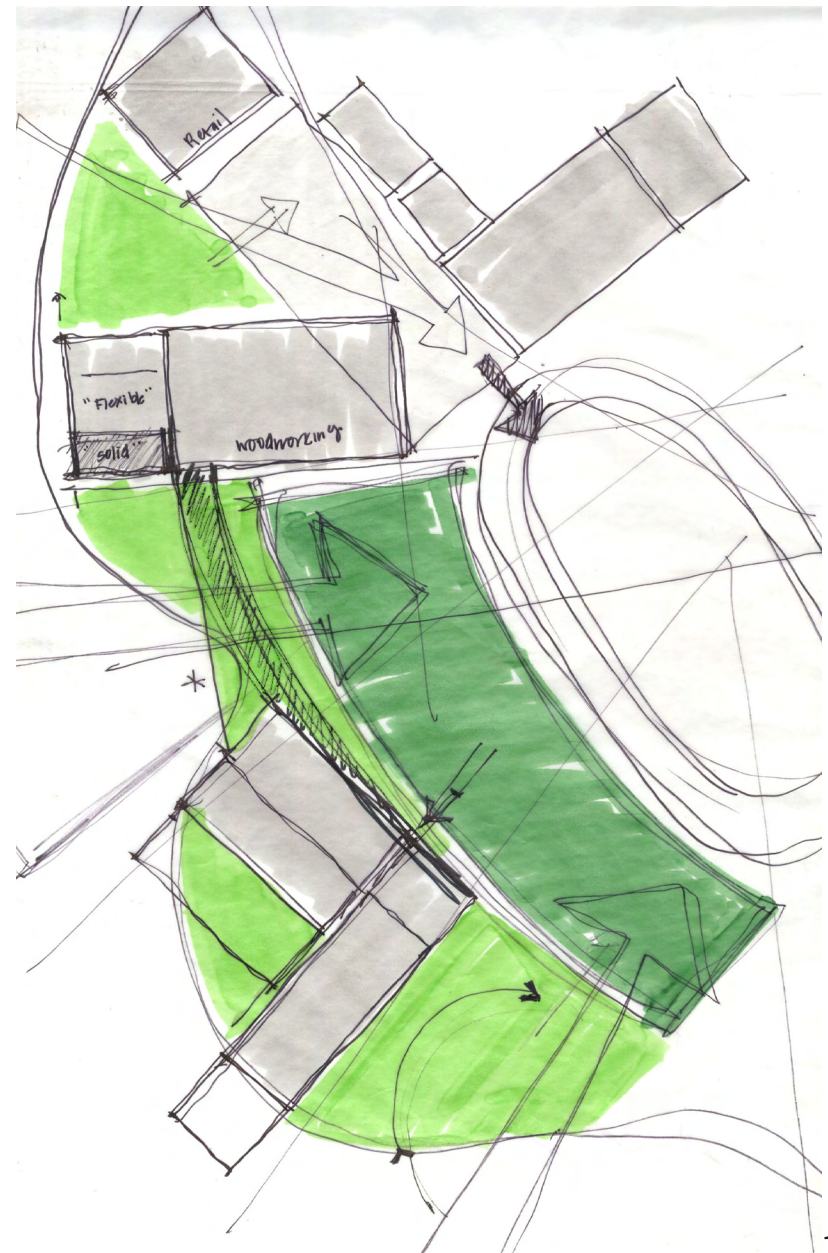
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Site development sketches



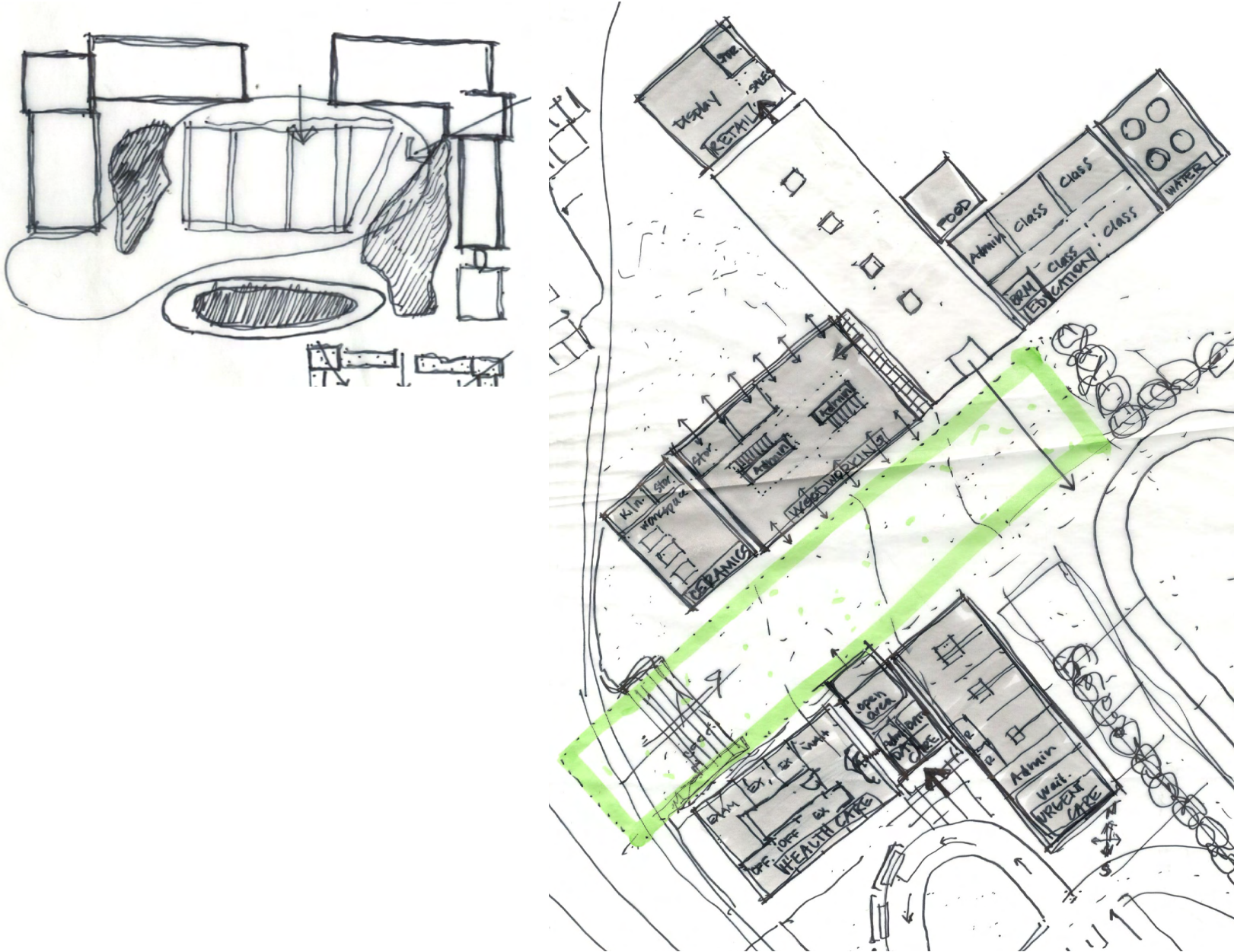
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Site development sketches



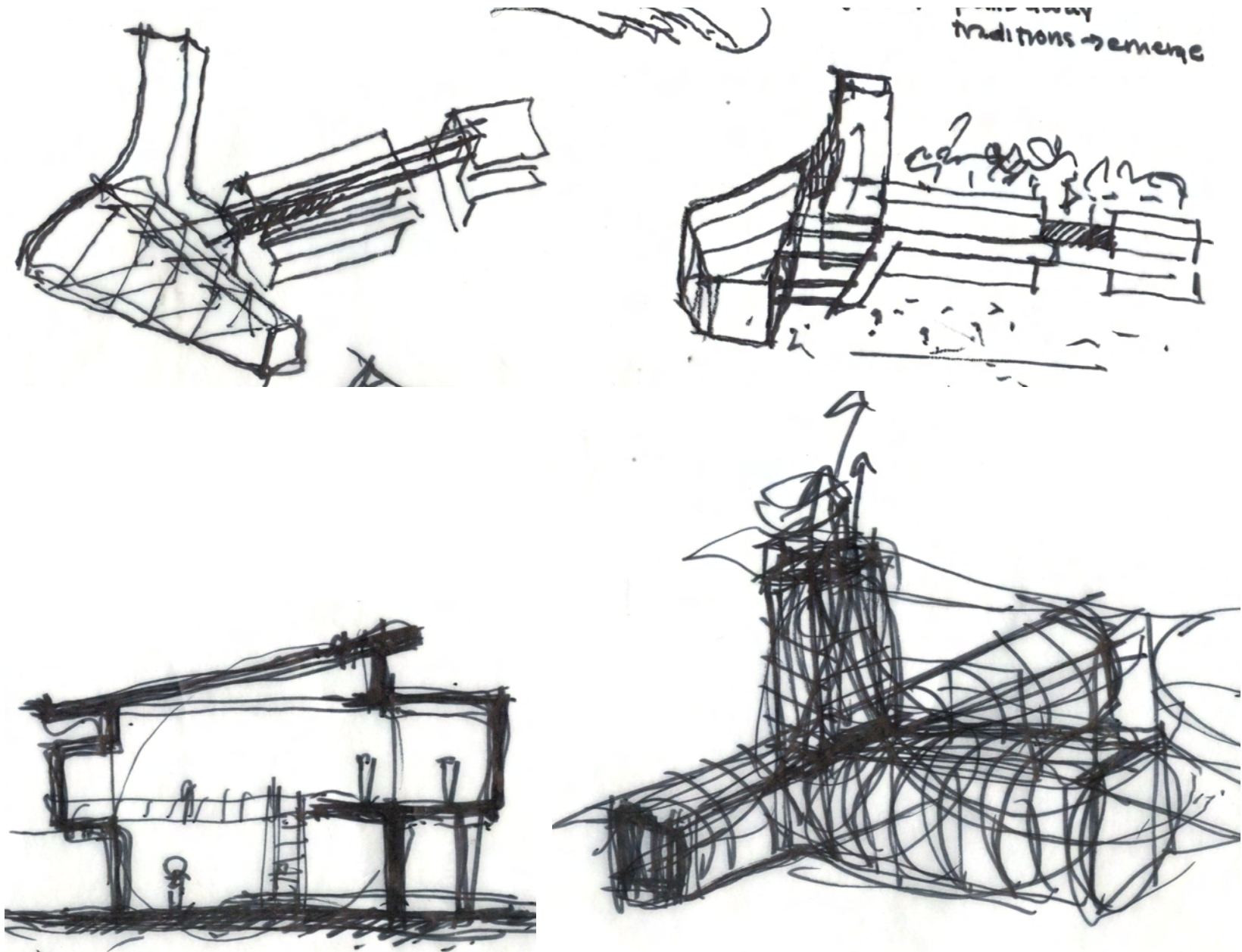
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Site development sketches



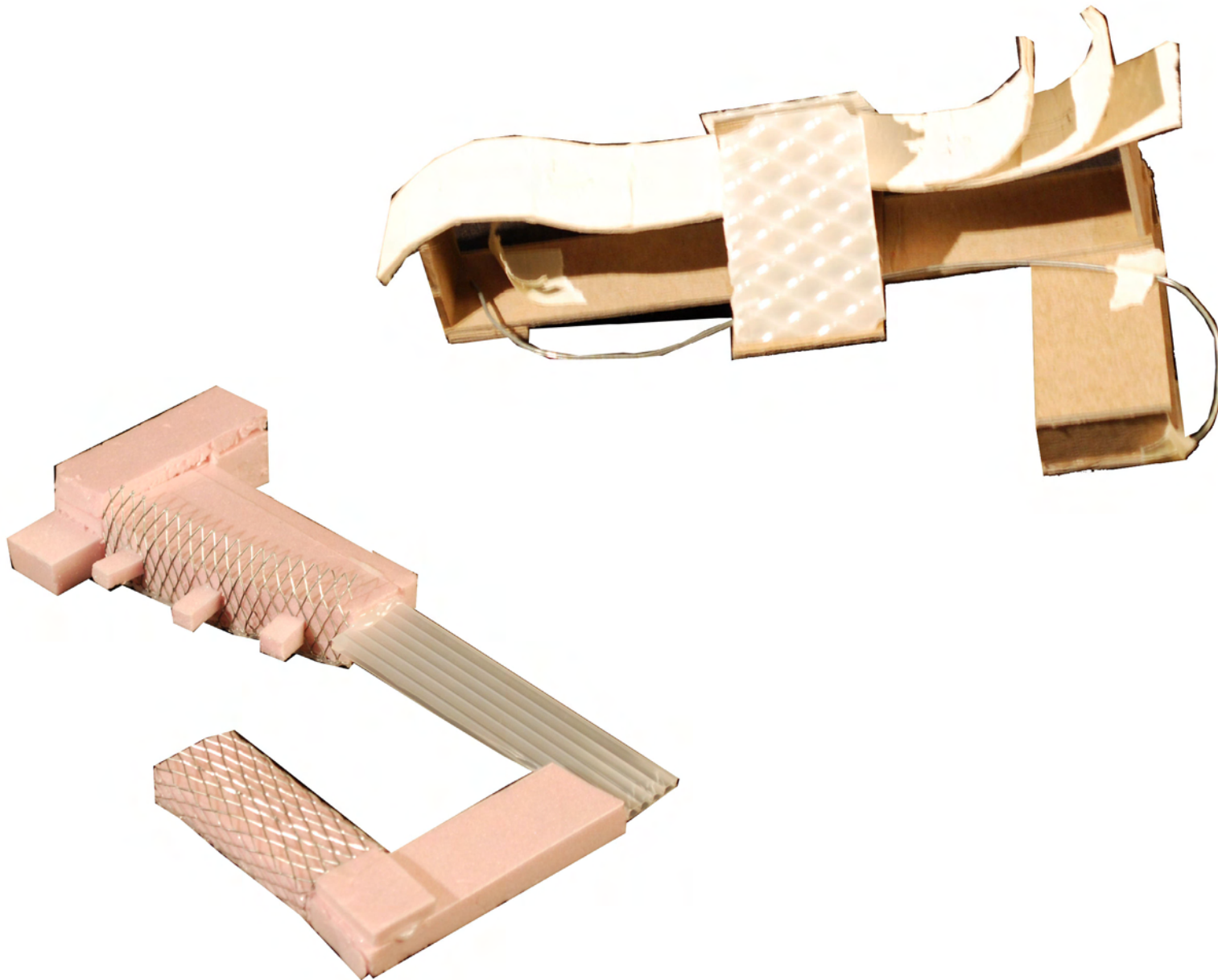
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Massing sketches



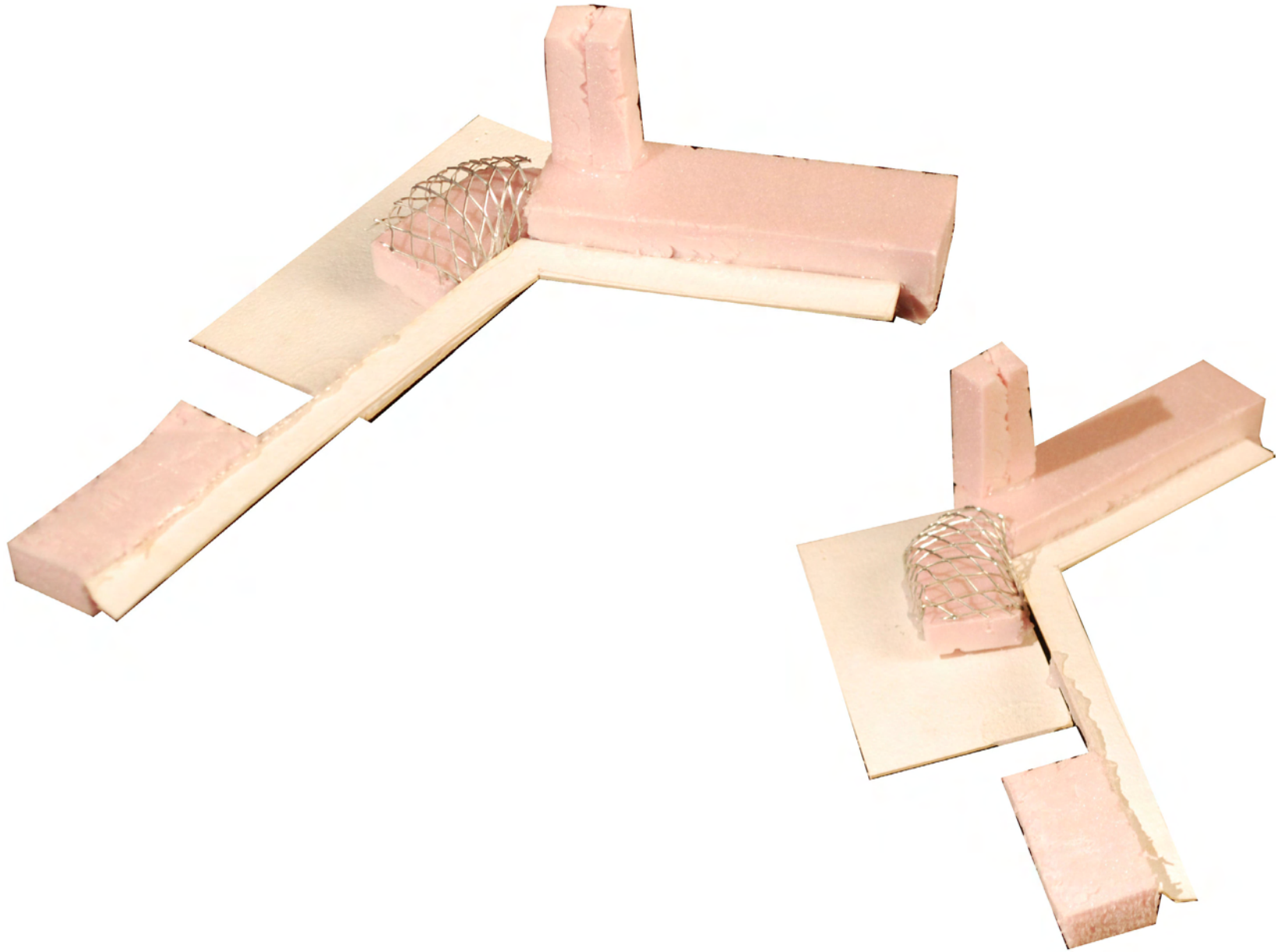
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Massing model exploration



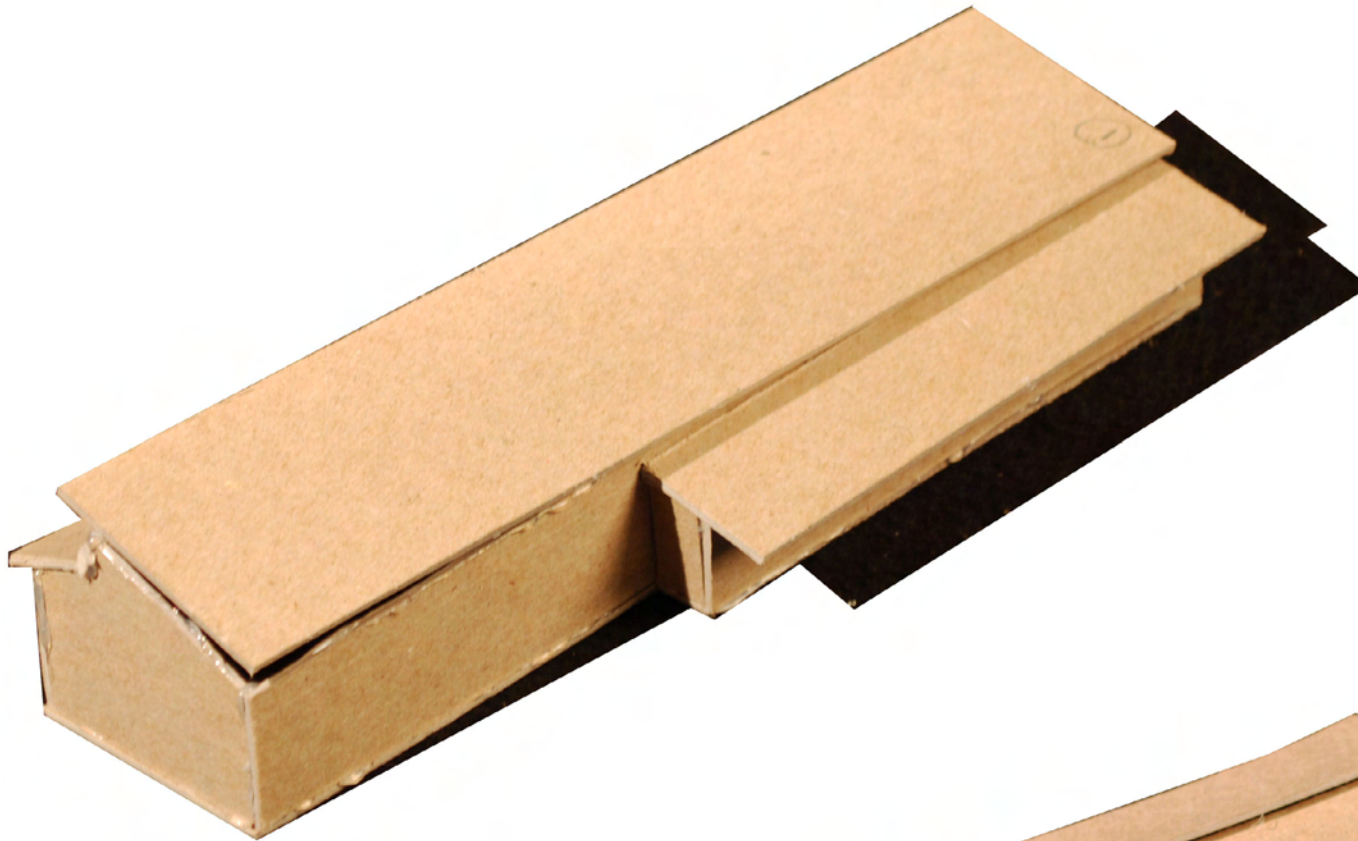
Appendix

Massing model exploration



Appendix

Massing model exploration



Education and health



Urgent care center

Appendix

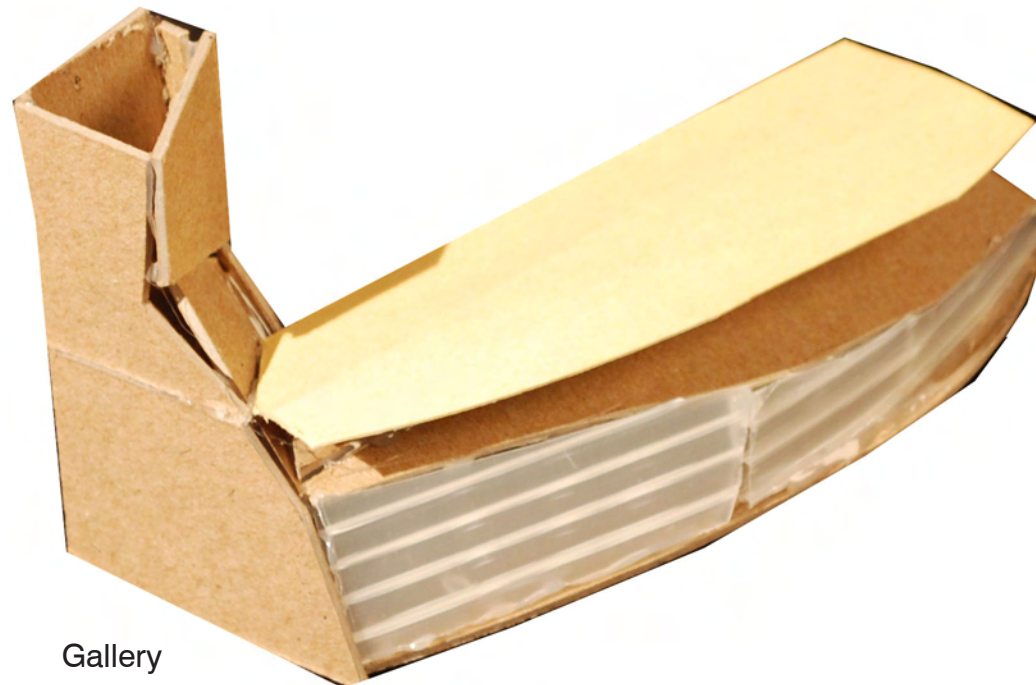
Massing model exploration



Gallery



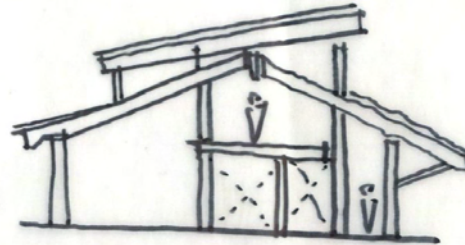
Gallery



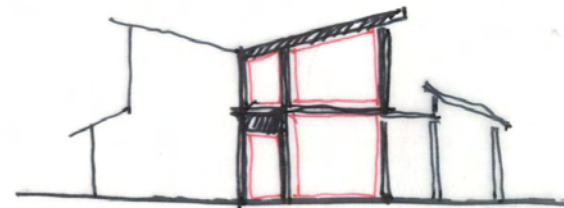
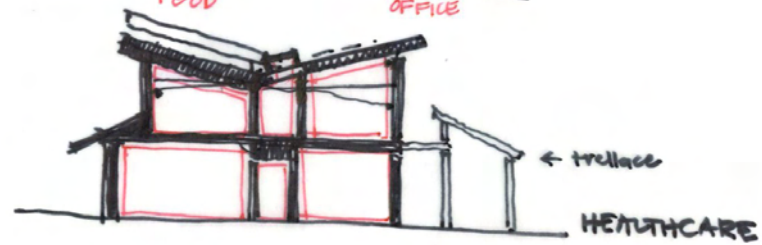
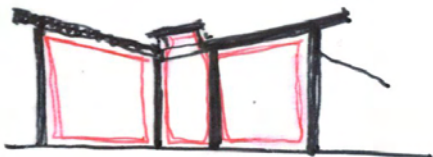
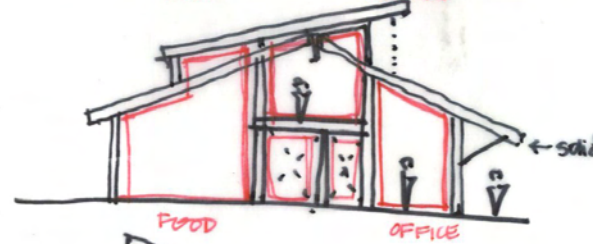
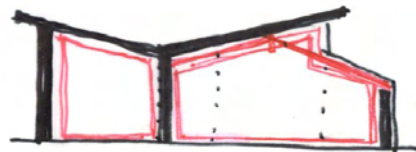
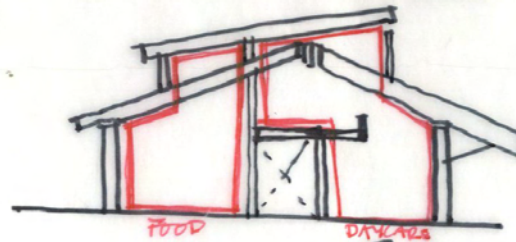
Gallery

Appendix

Section exploration

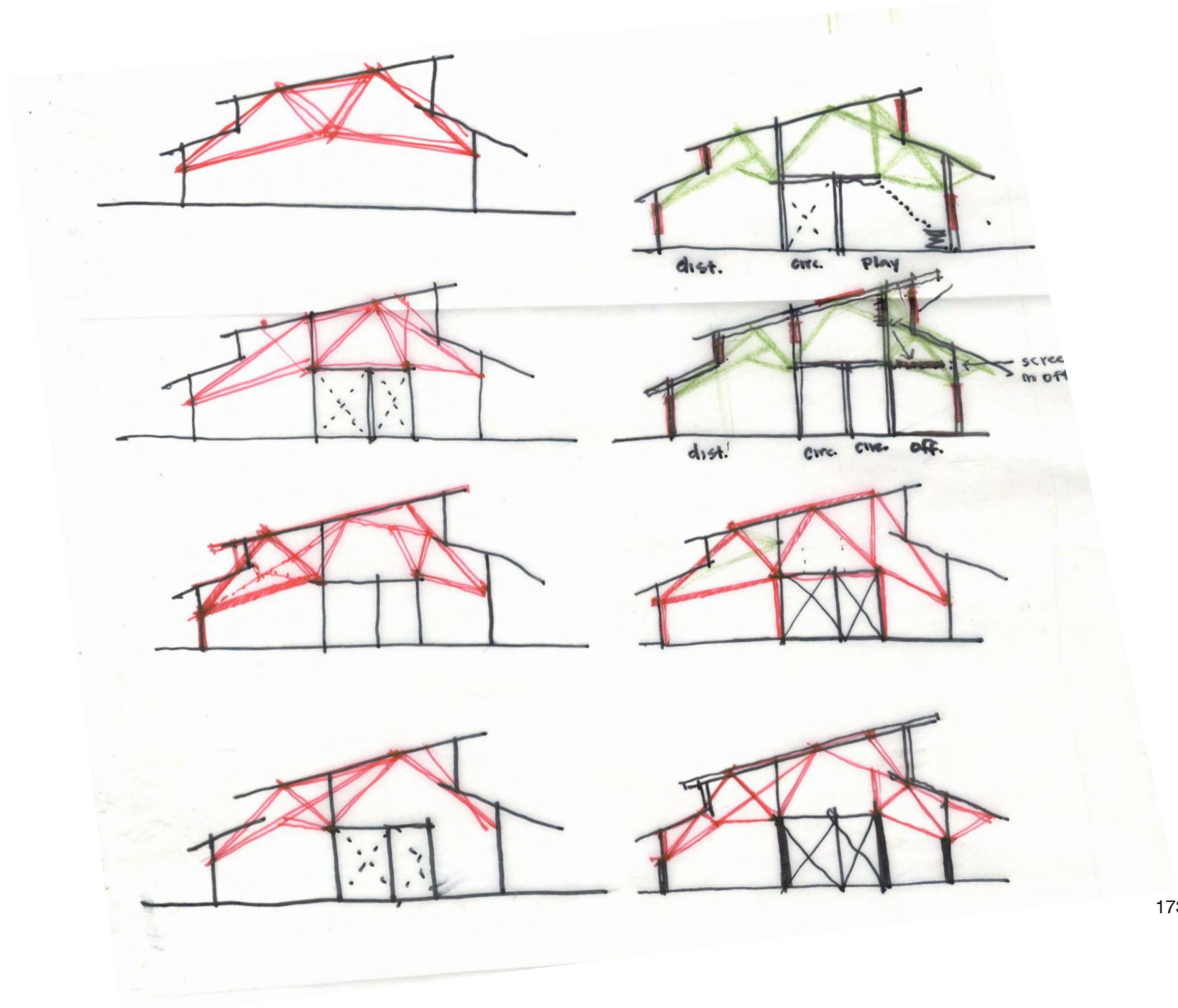


DAYCARE/
FOOD DIST.



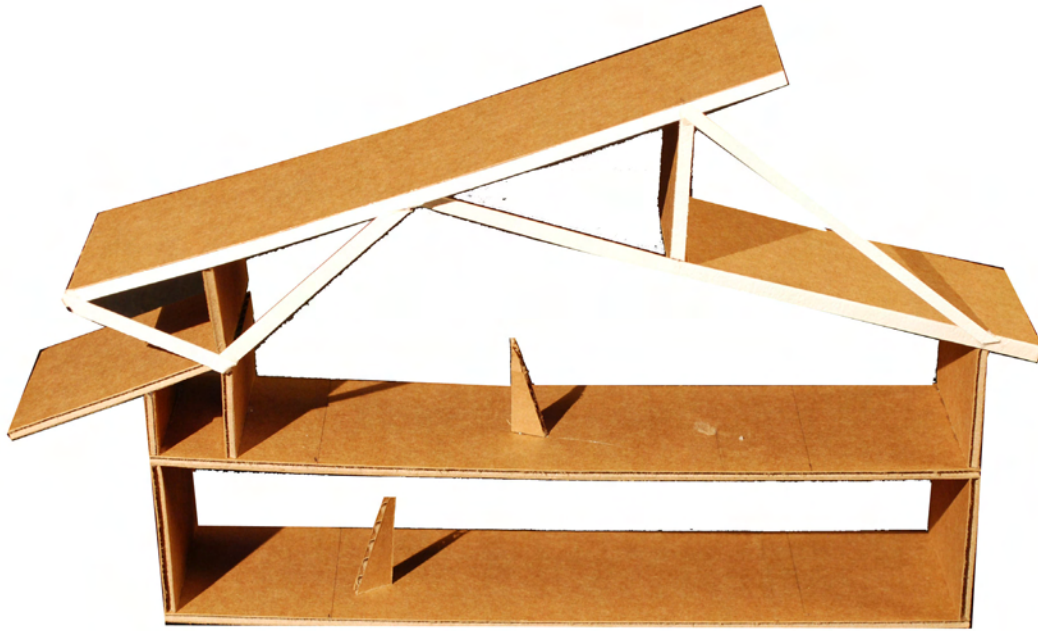
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Section exploration

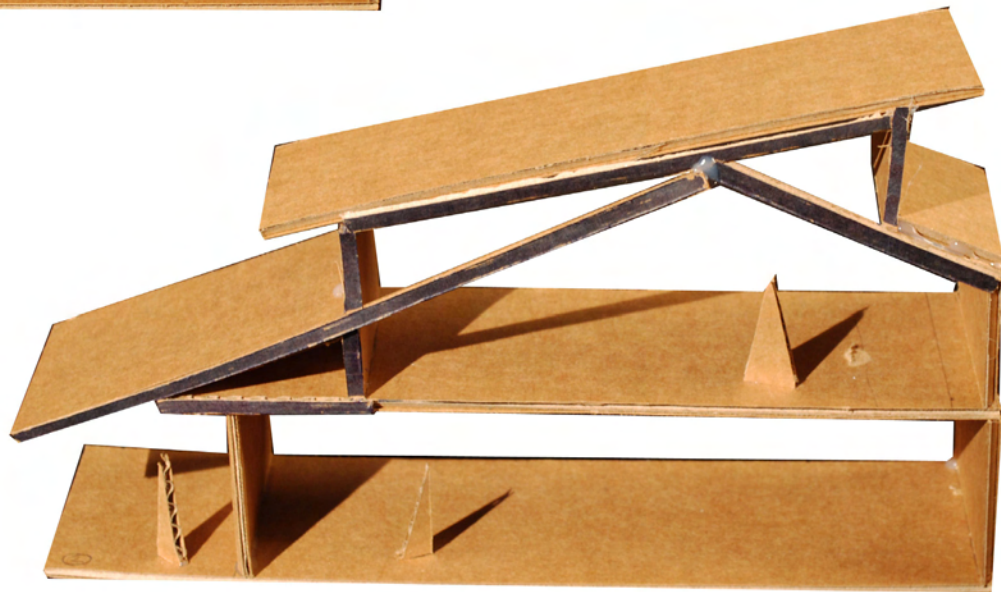


Appendix

Section exploration through models



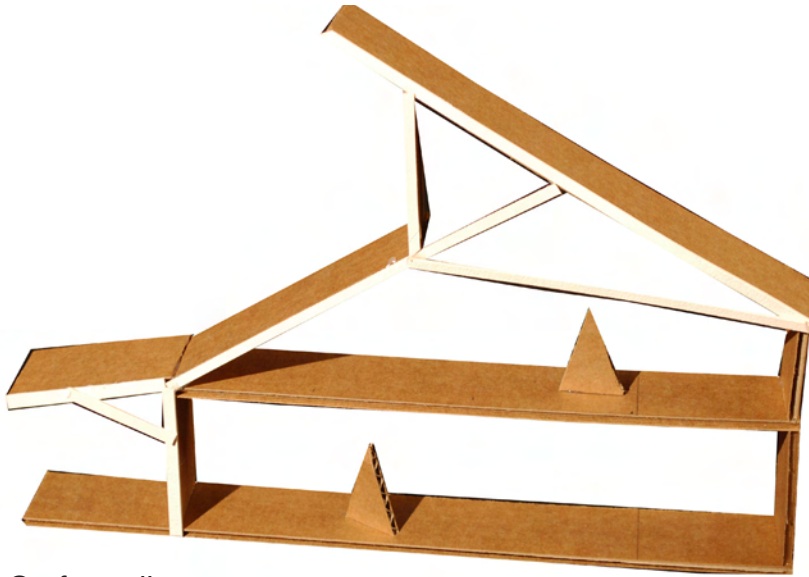
Craft studios



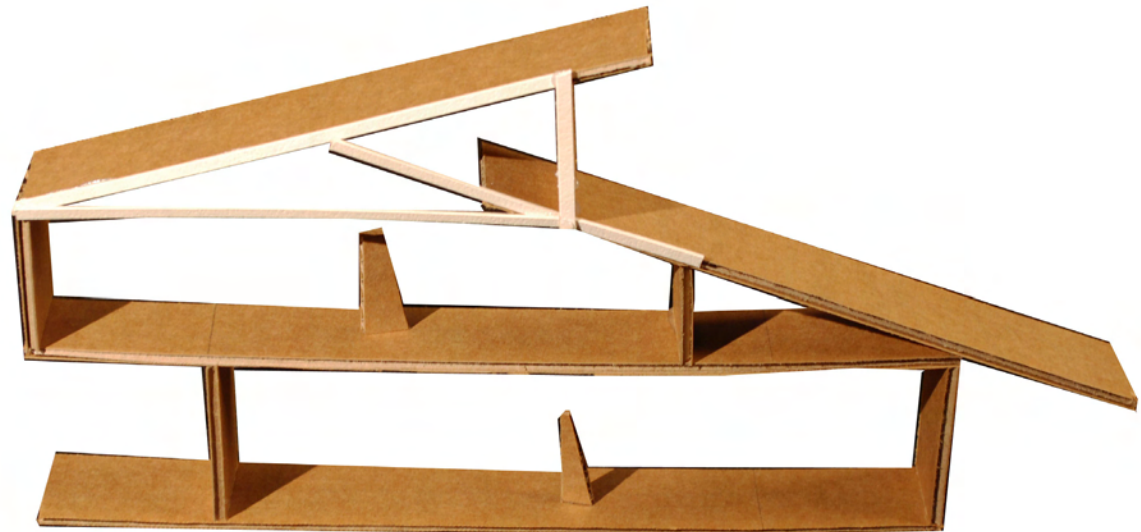
Craft studios

Appendix

Section exploration through models



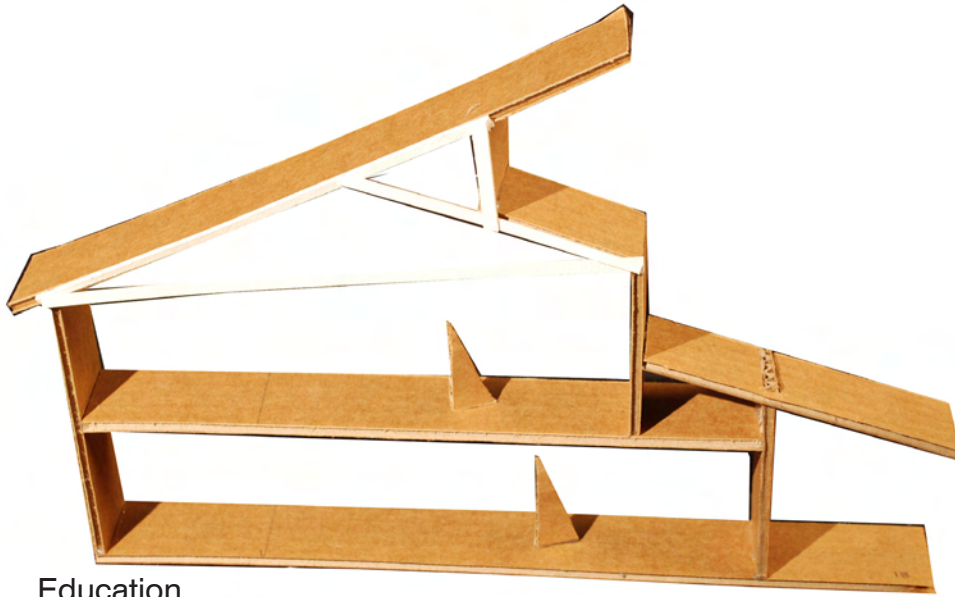
Craft studios



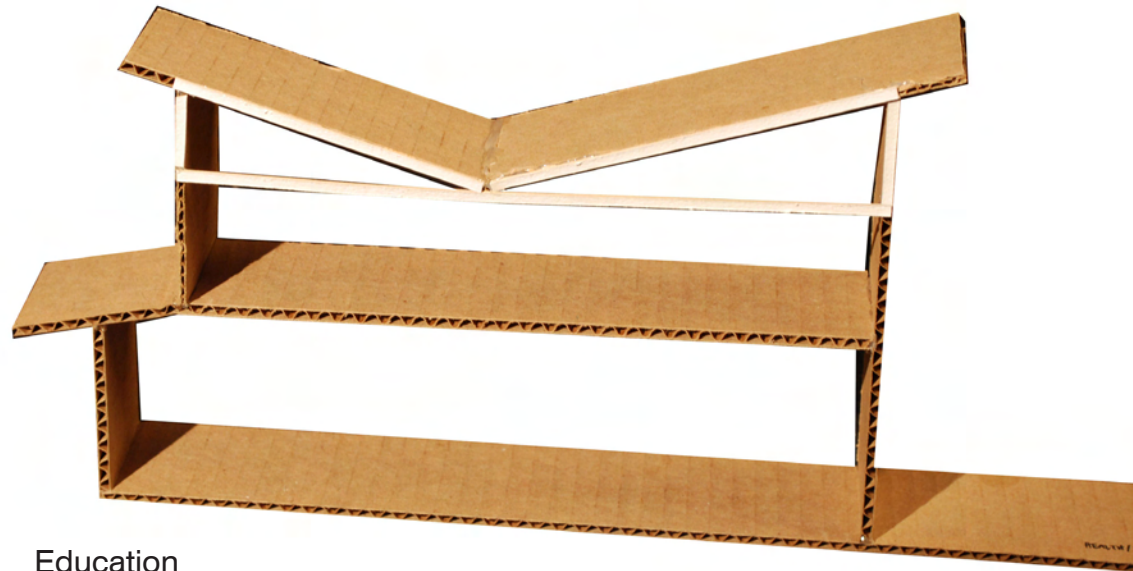
Craft studios

Appendix

Section exploration through models



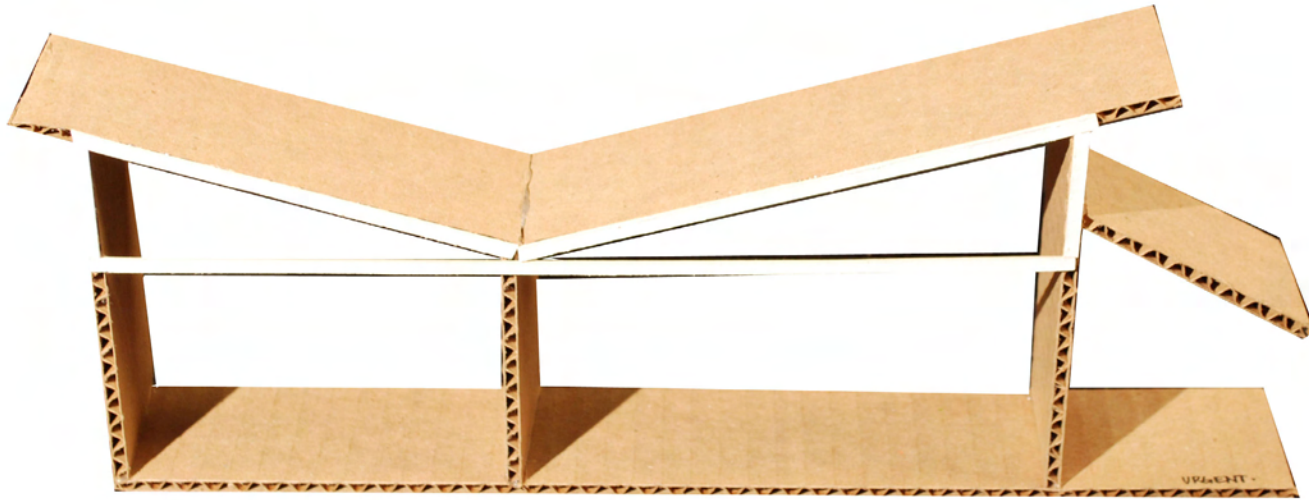
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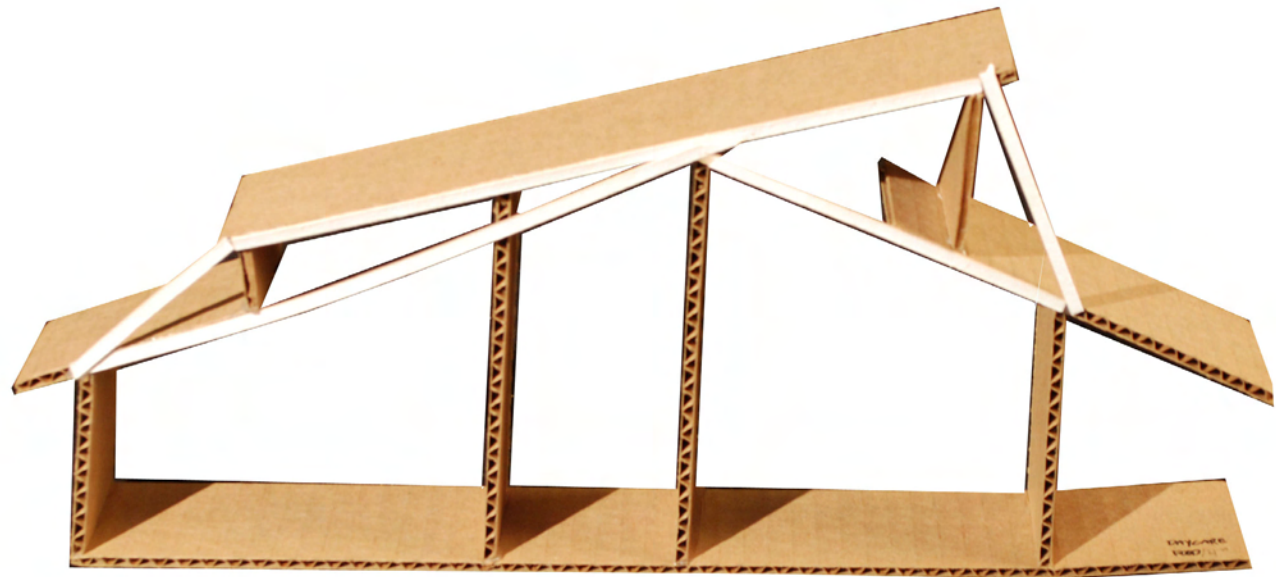
Education

Appendix

Section exploration through models



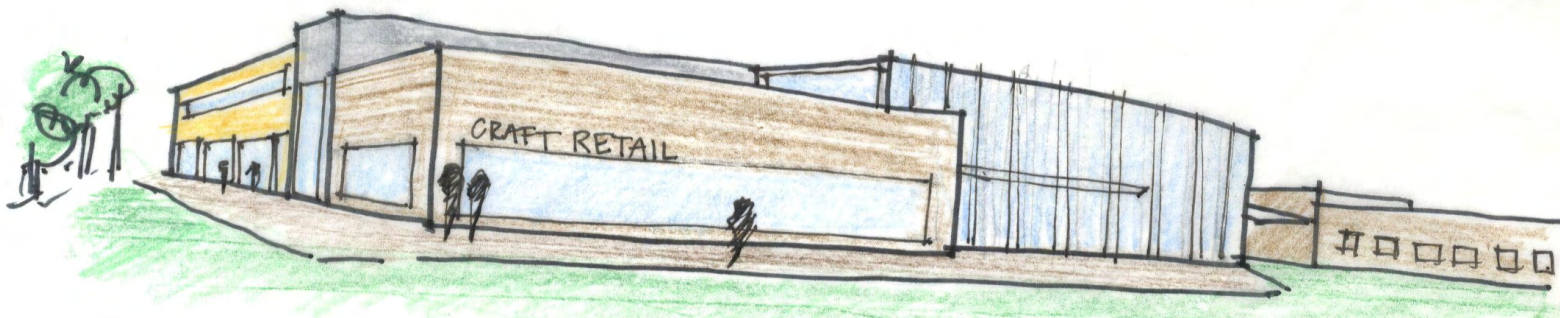
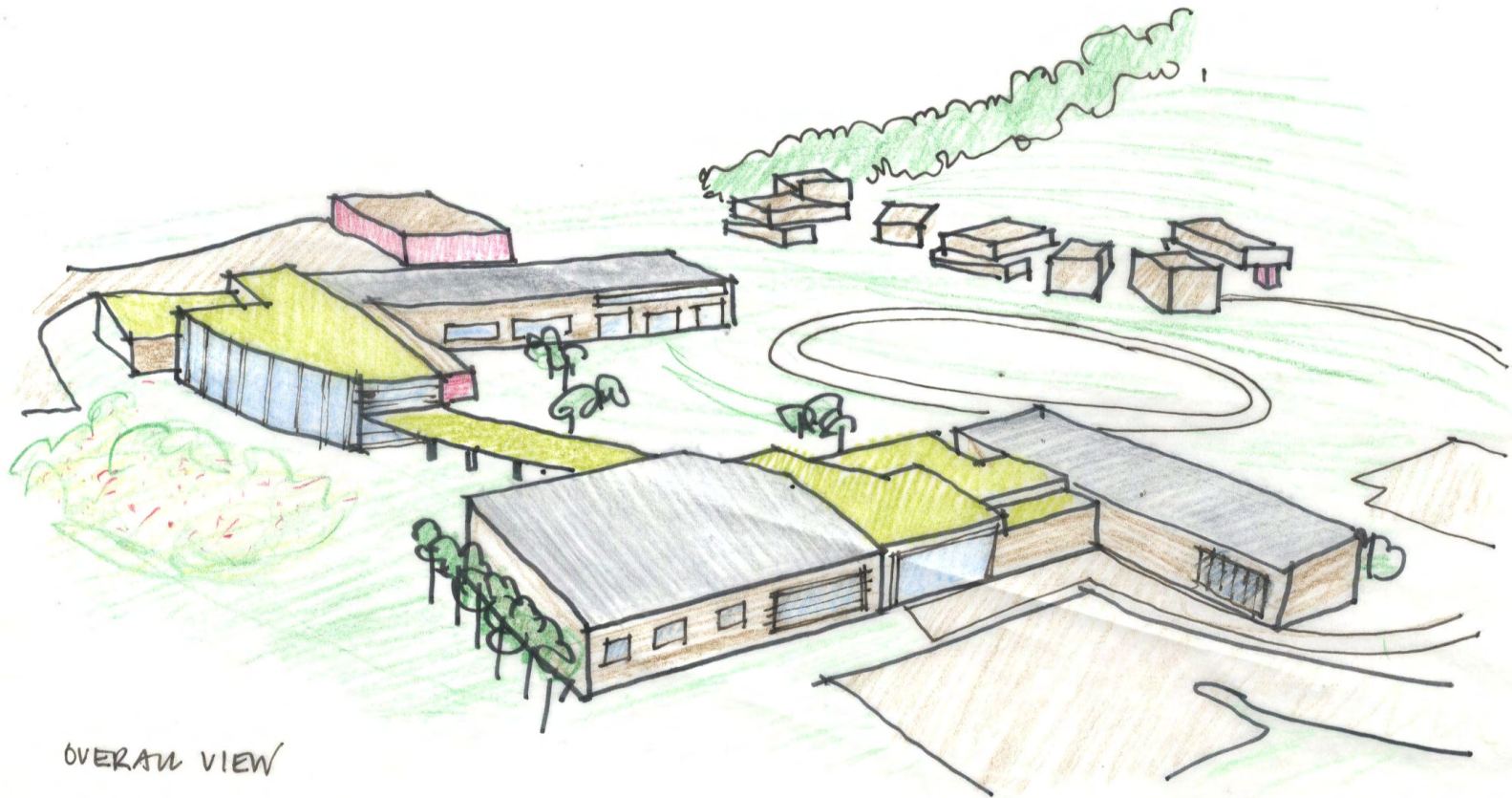
Urgent care center



Urgent care center

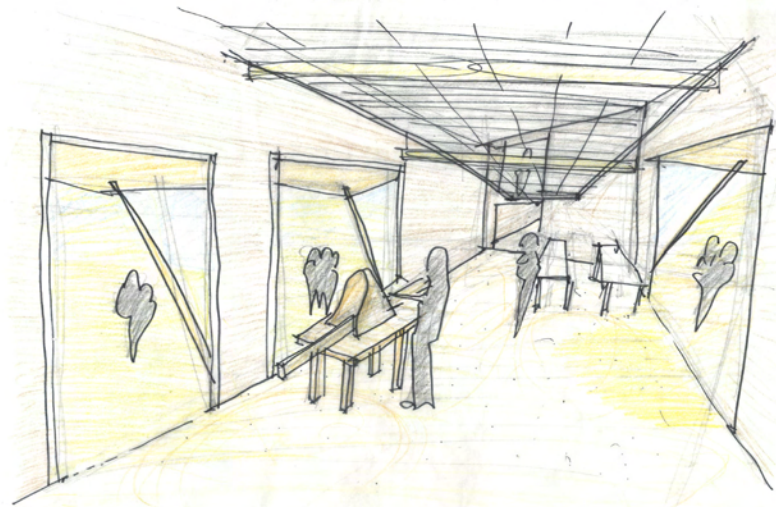
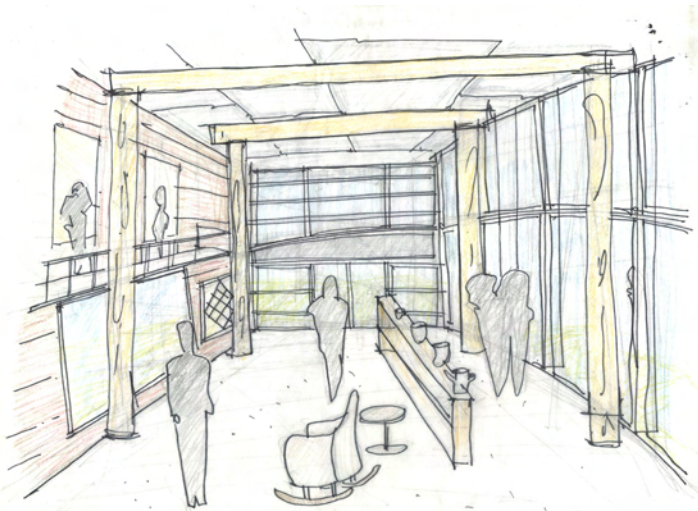
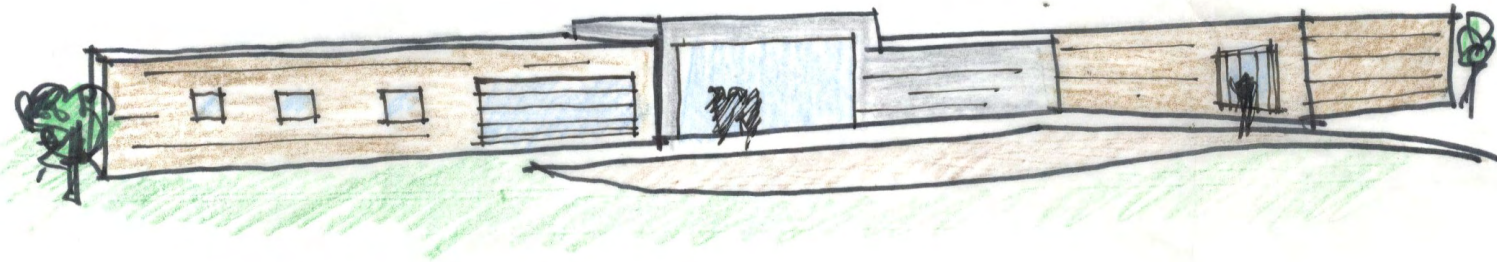
Appendix

Preliminary Review



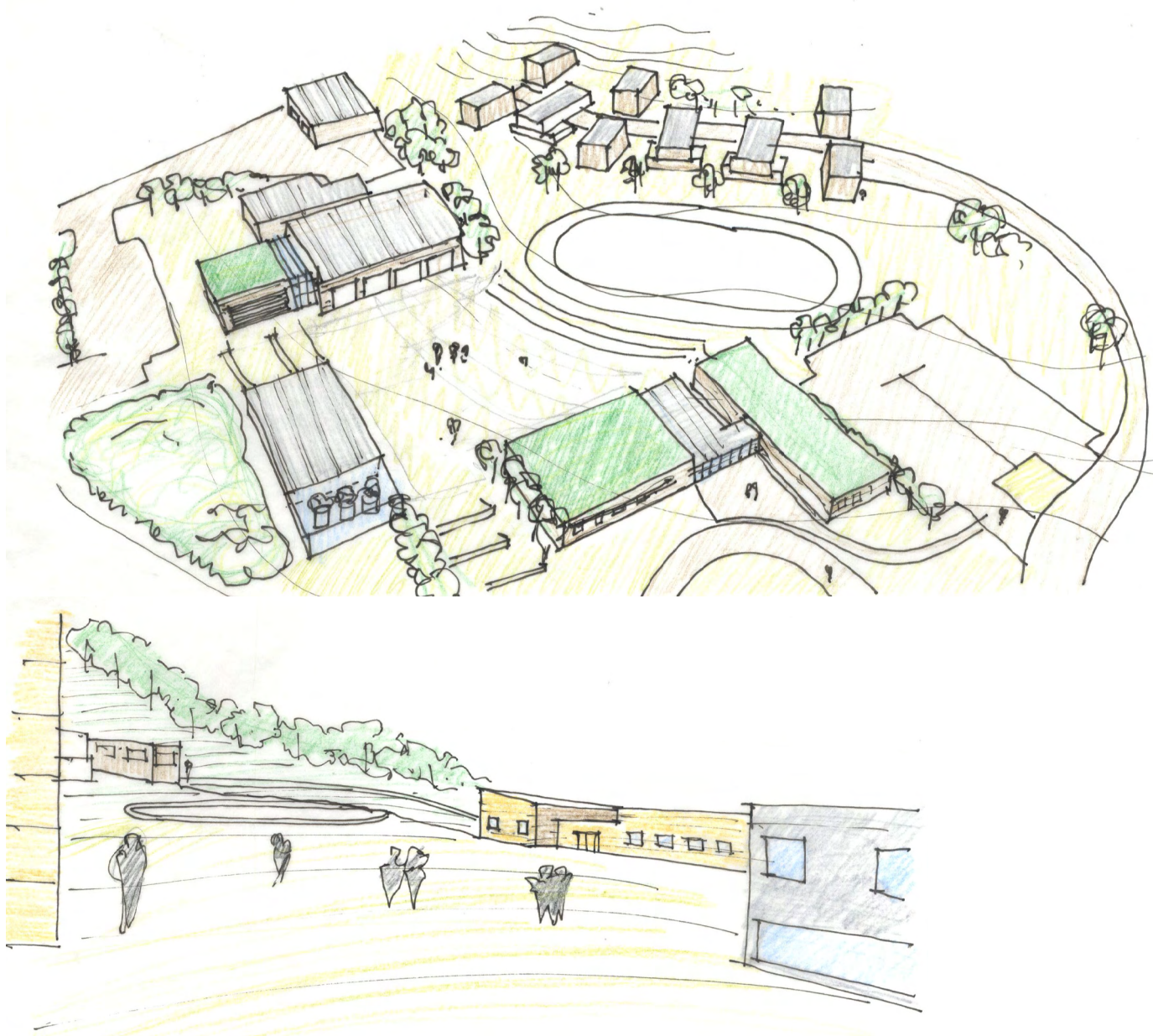
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Preliminary Review



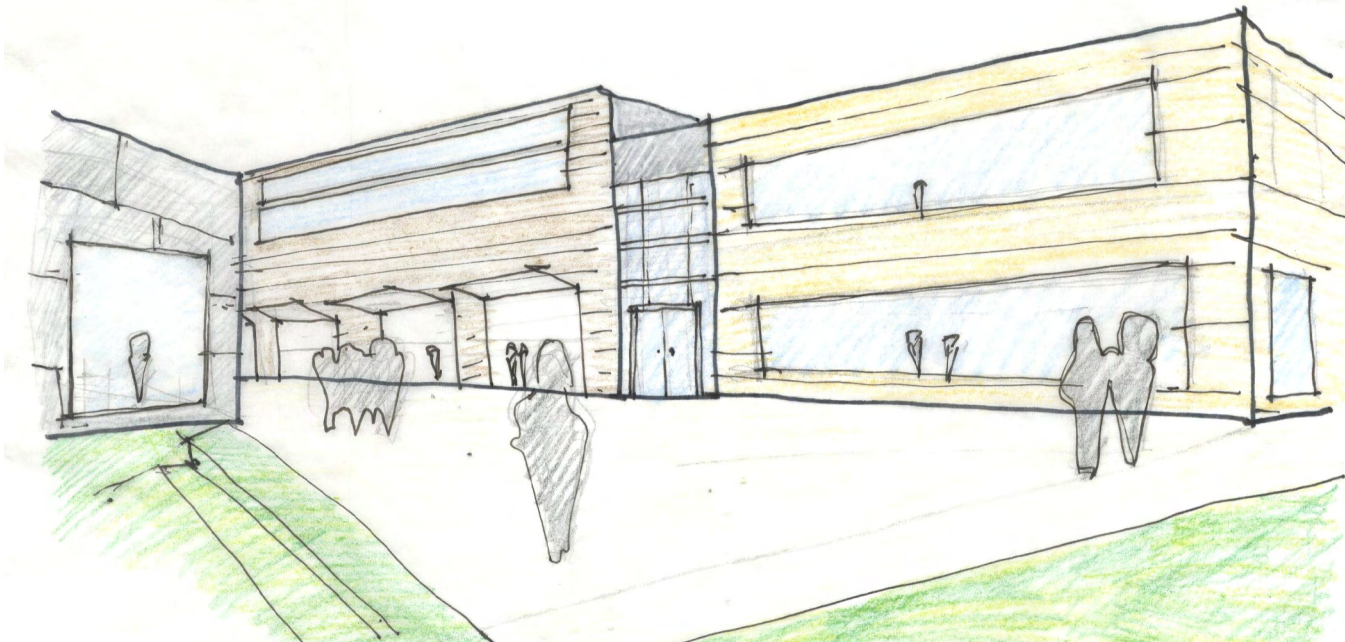
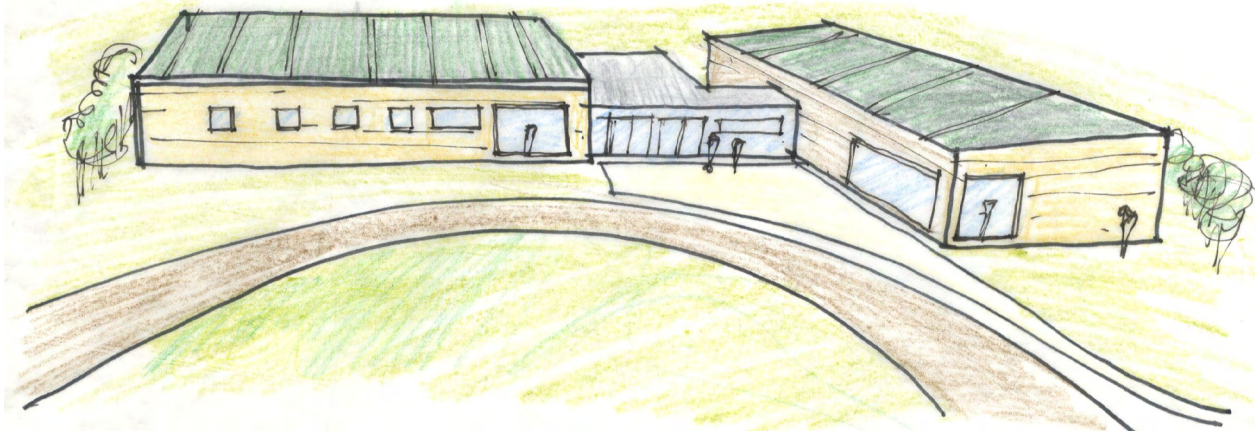
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Preliminary Review



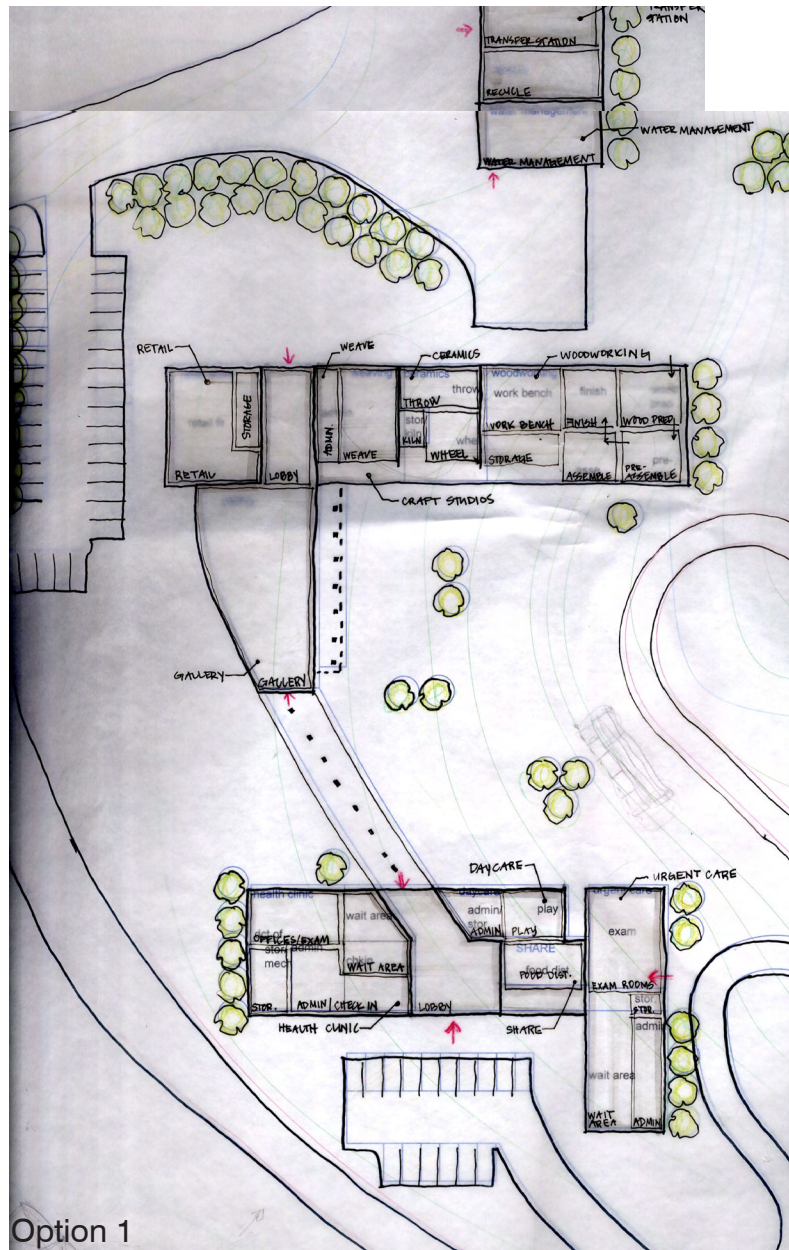
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Preliminary Review



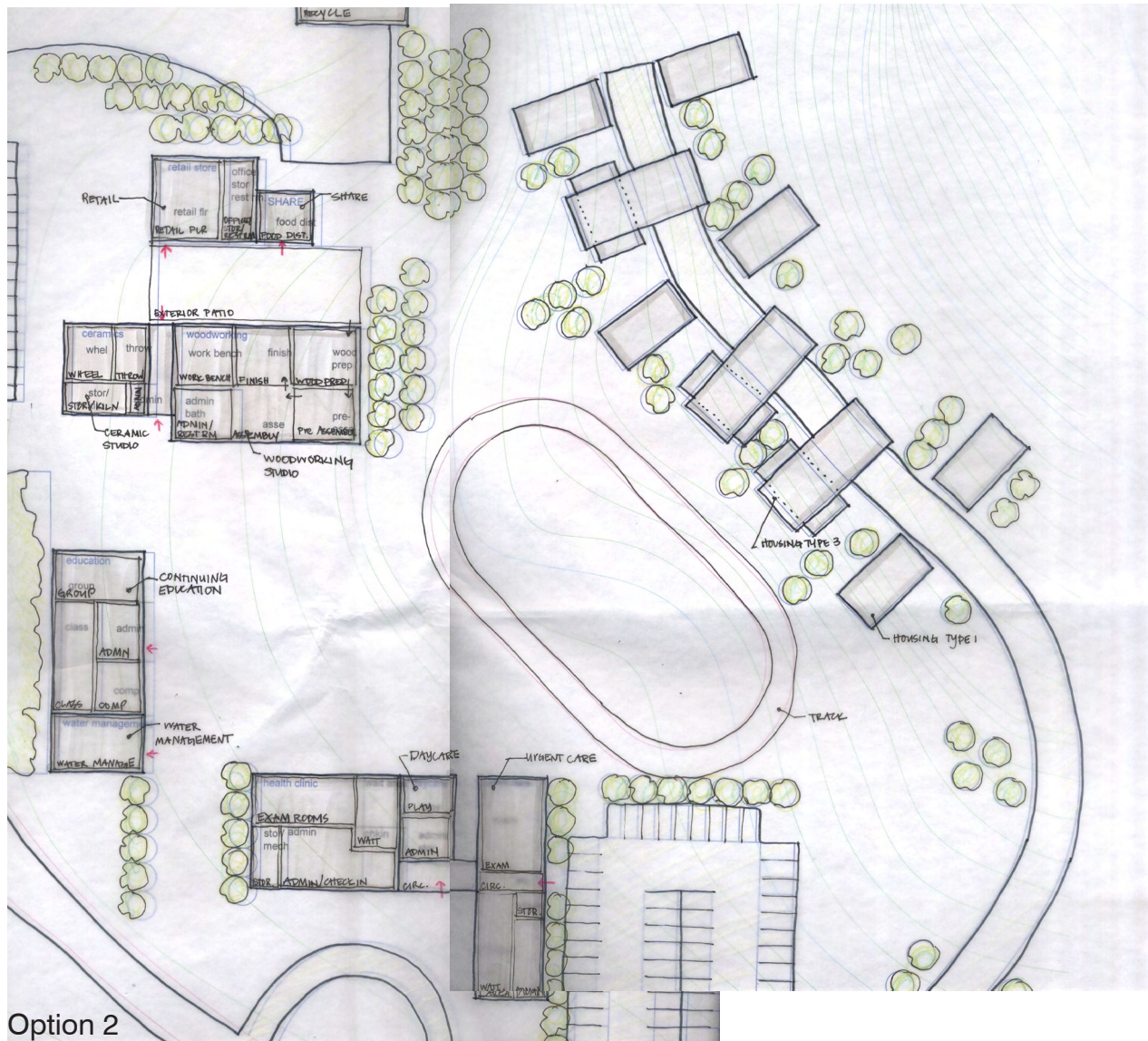
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Preliminary Review



Appendix

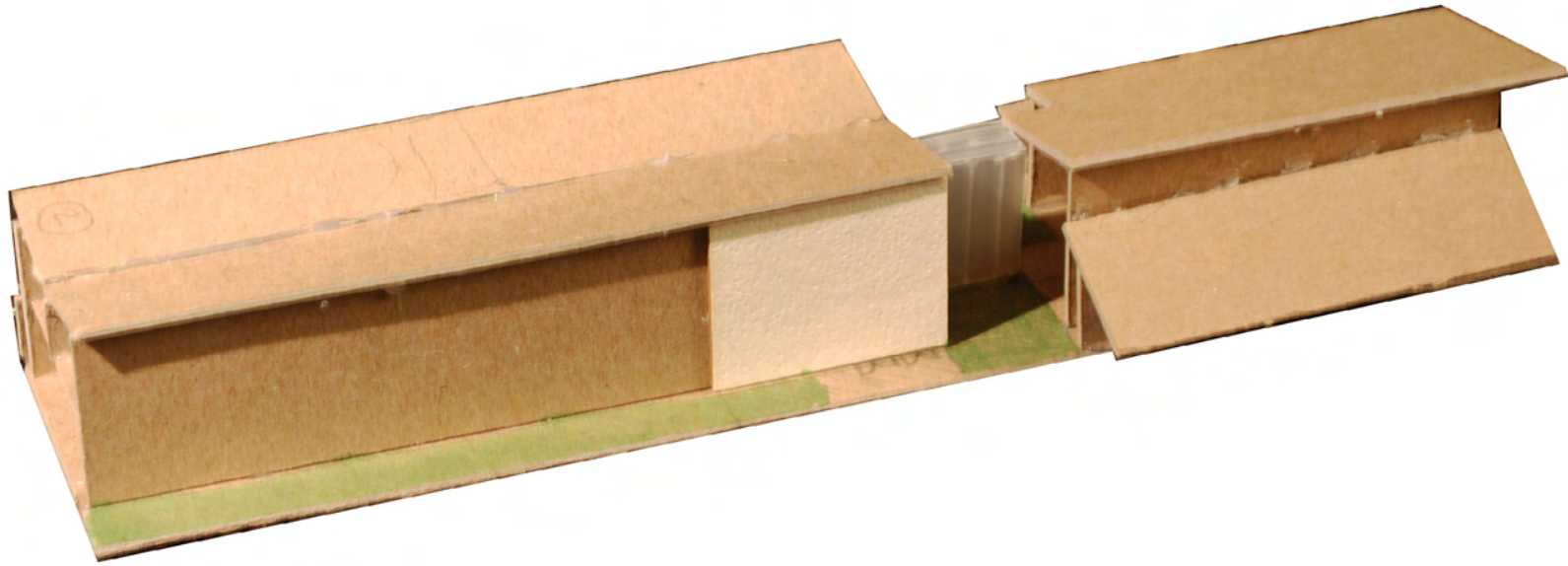
Preliminary Review



Option 2

Appendix

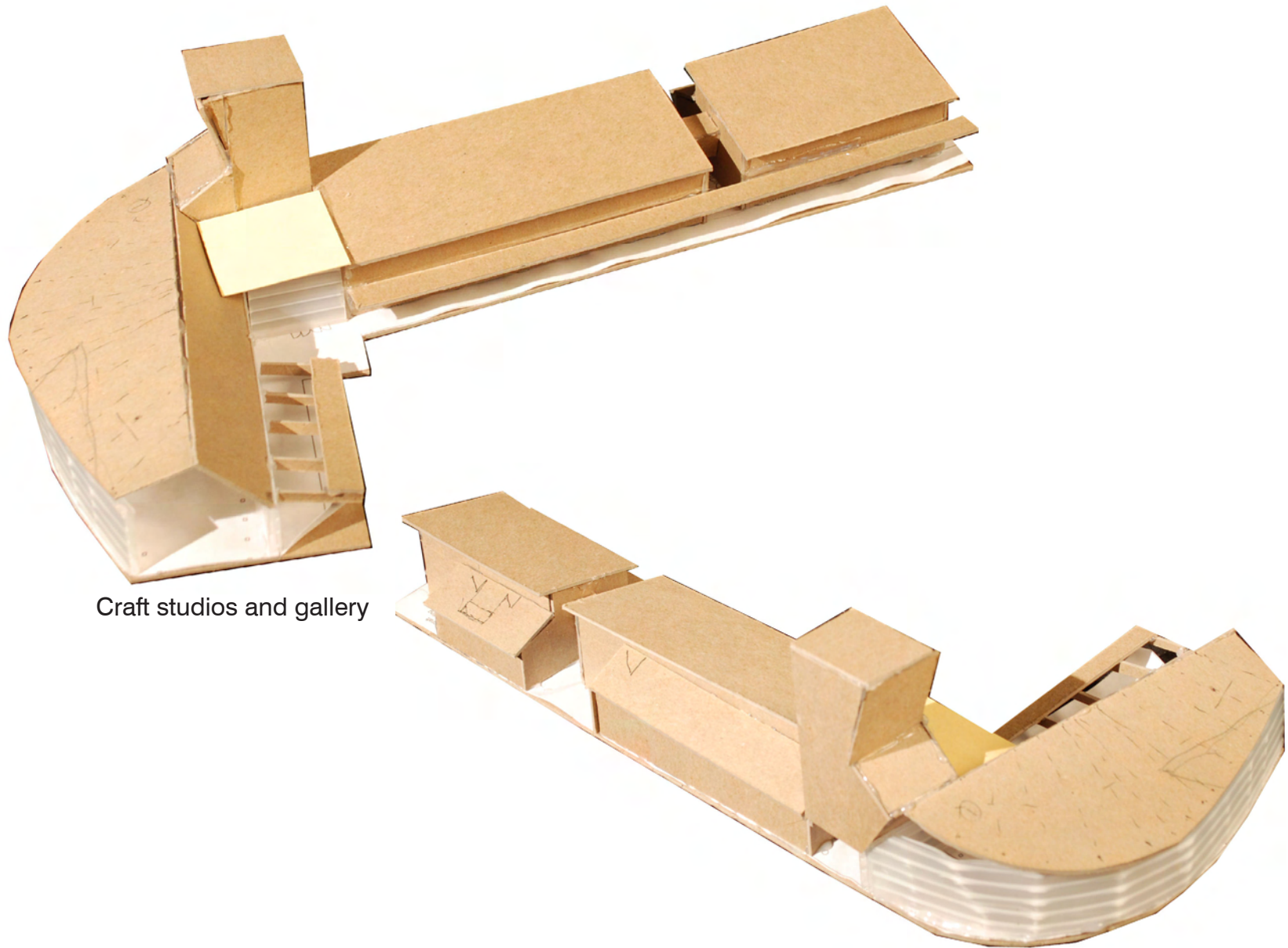
Preliminary Review



Education and health clinic

Appendix

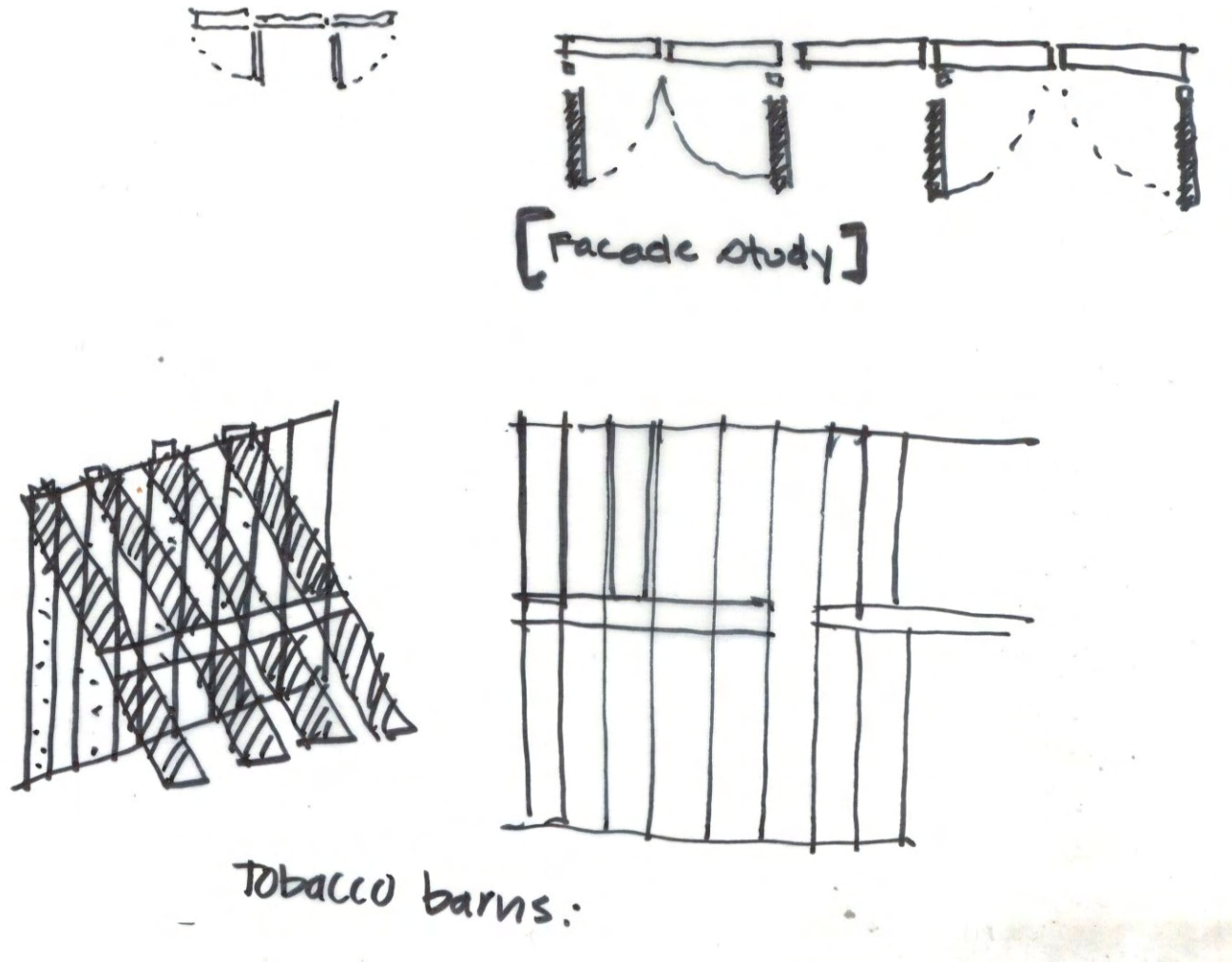
Preliminary Review



Craft studios and gallery

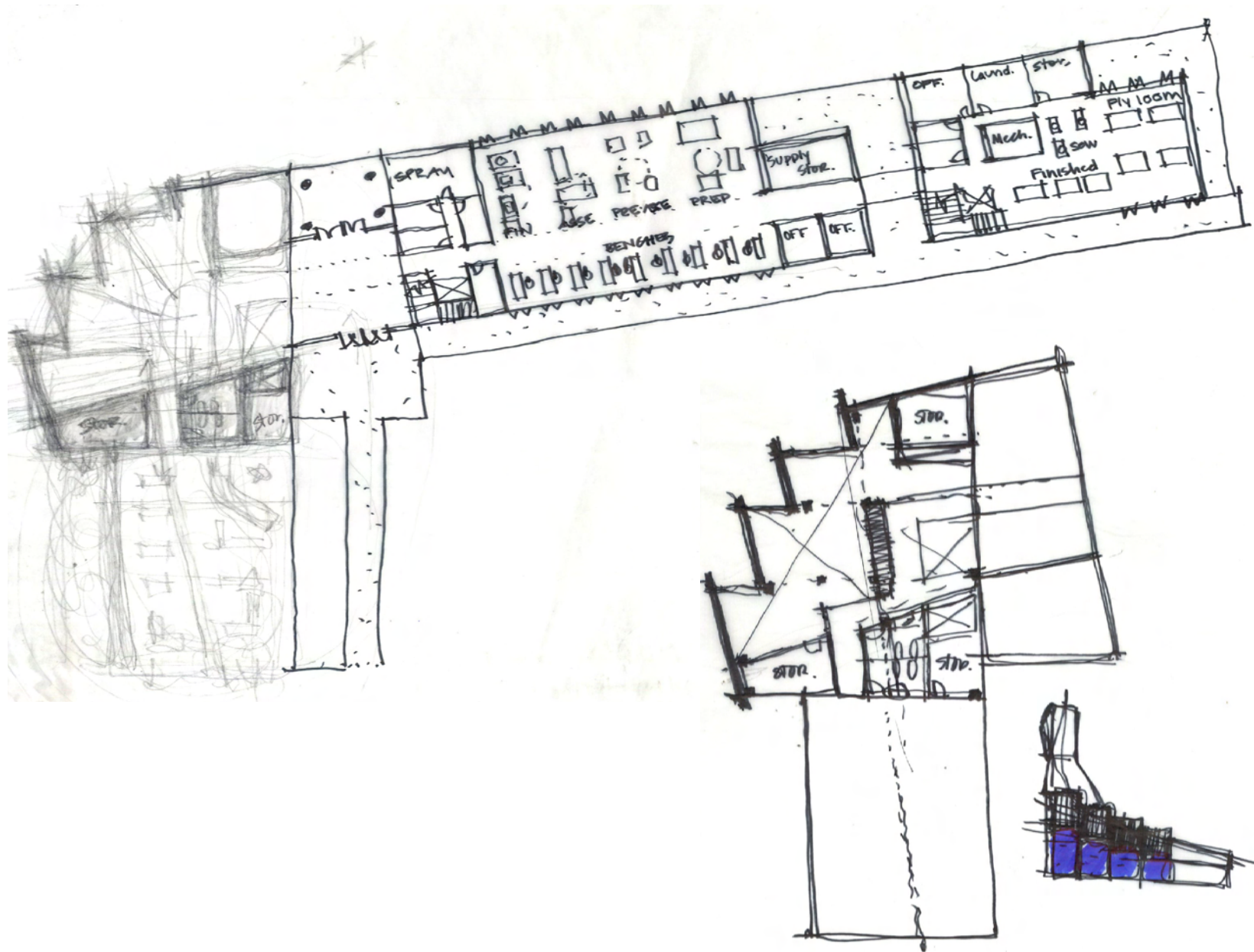
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Ventilation ideas

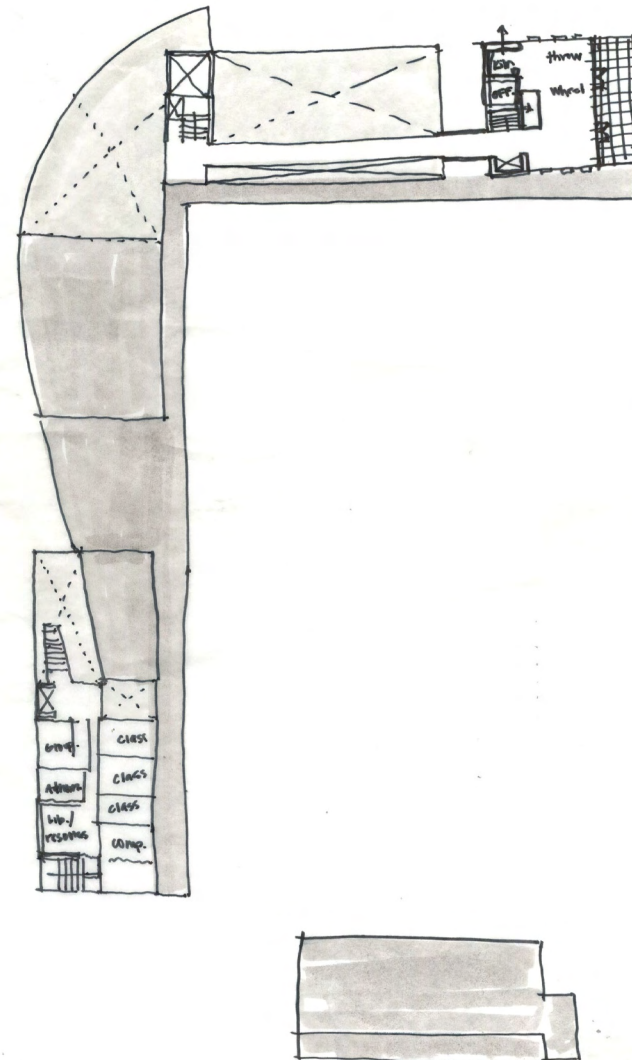
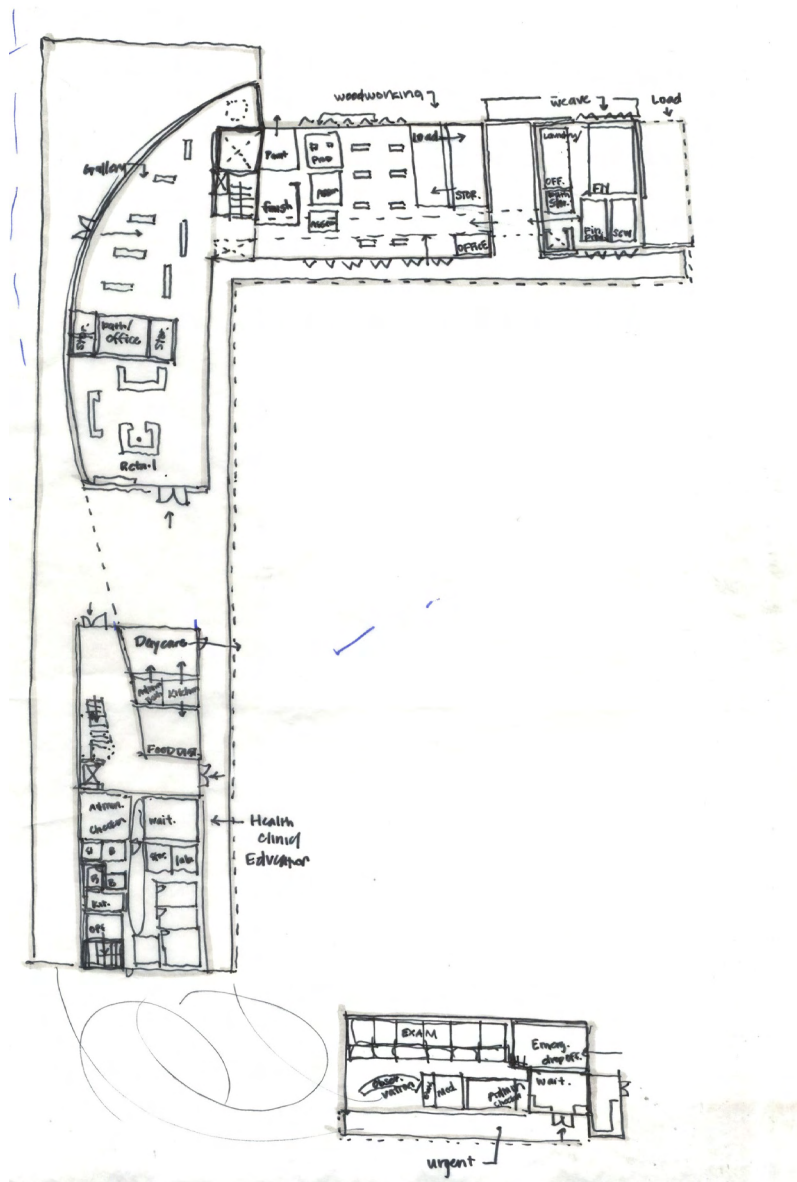


Appendix

Design sketches

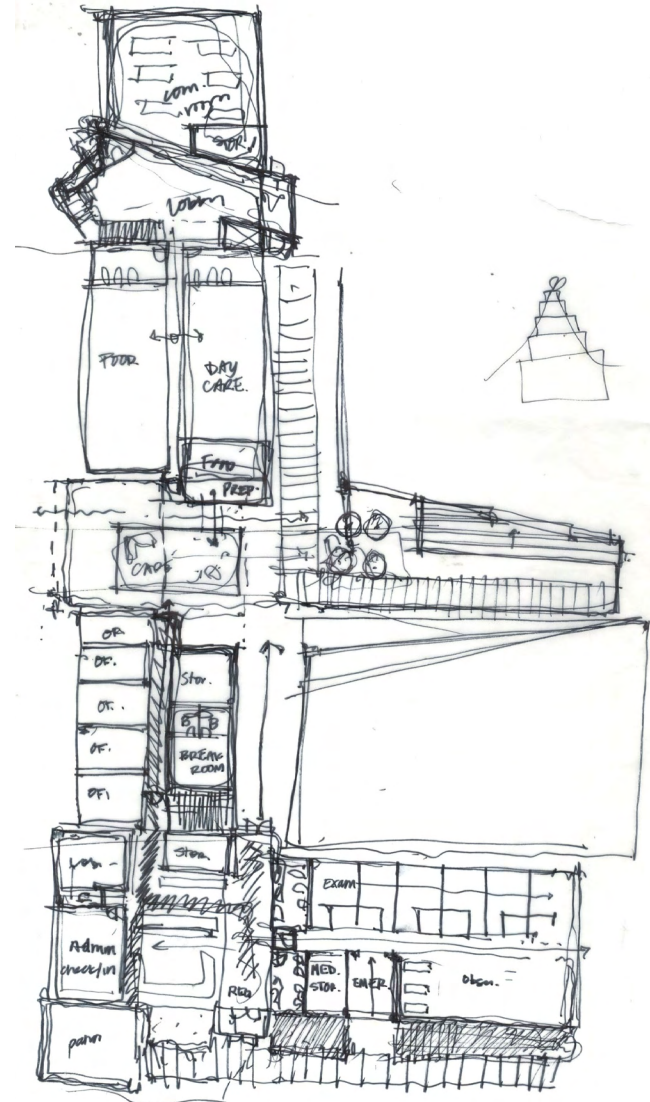
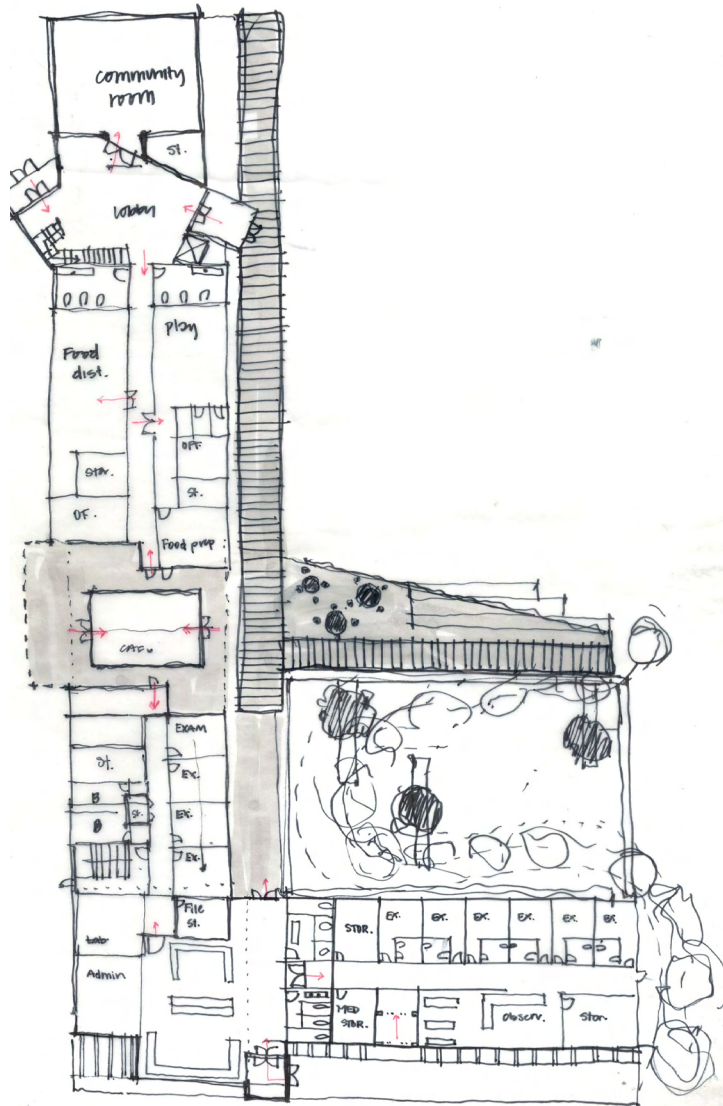


Design sketches



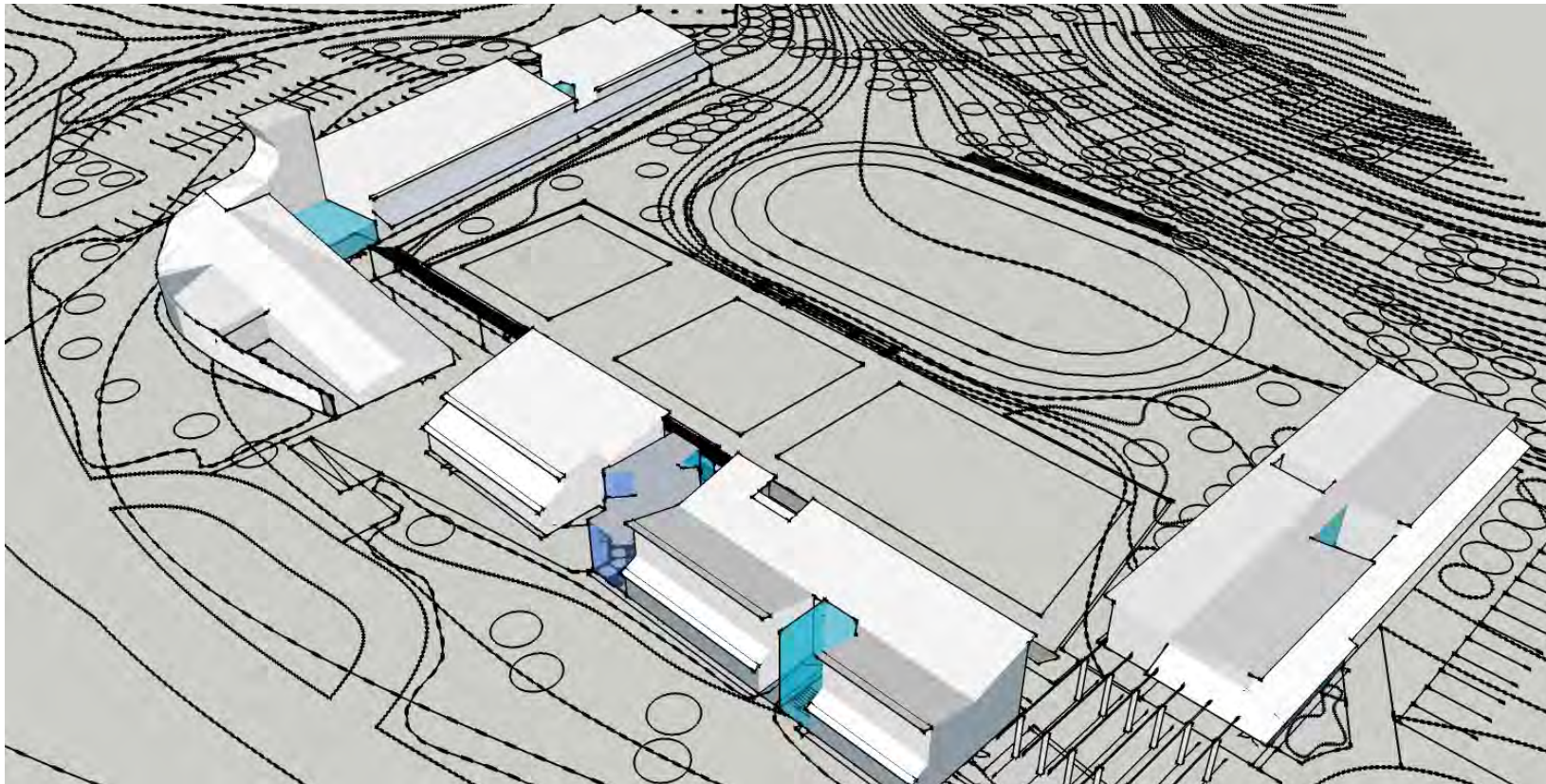
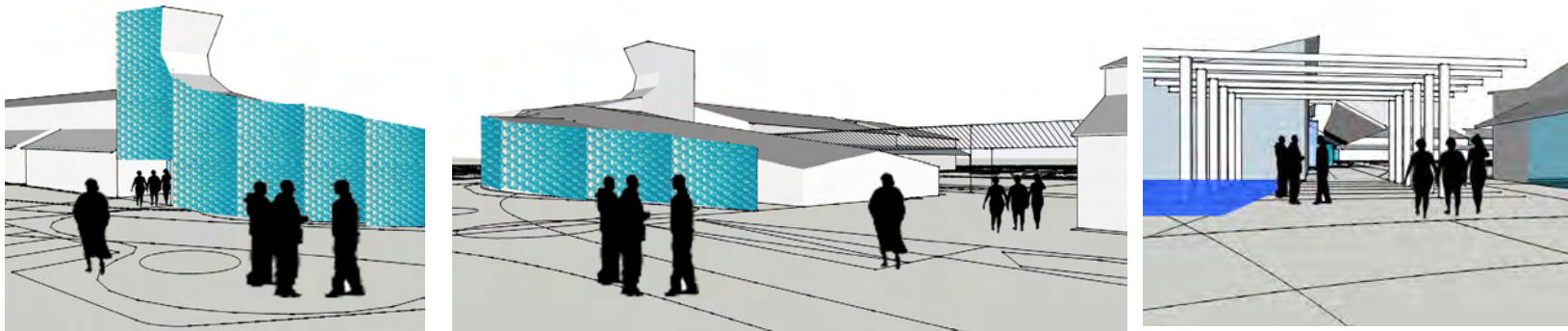
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Design sketches



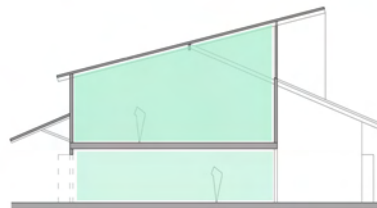
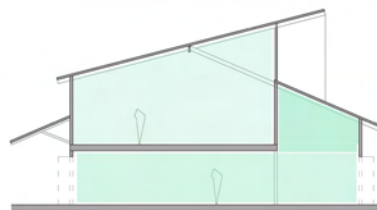
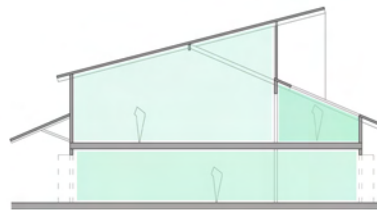
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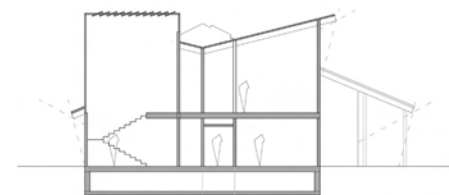
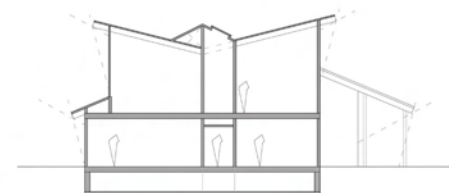
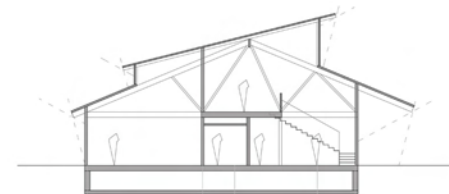
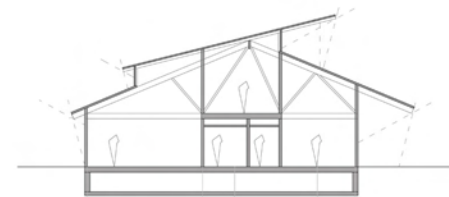
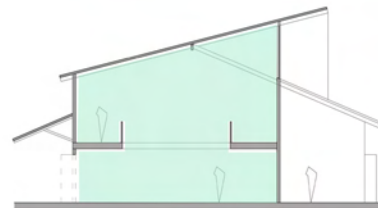
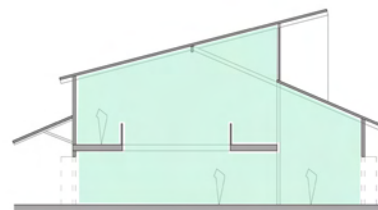
Midreview



Appendix

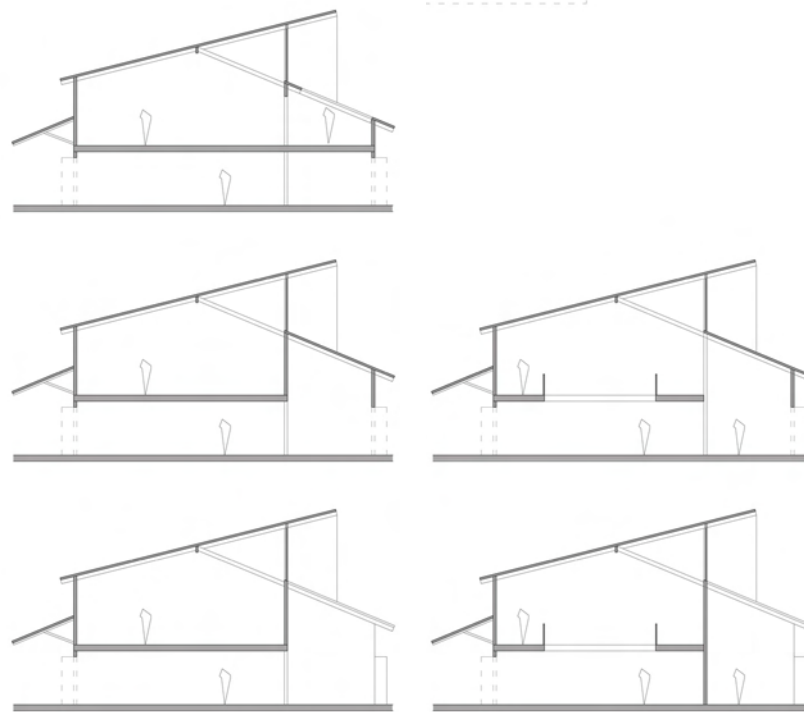
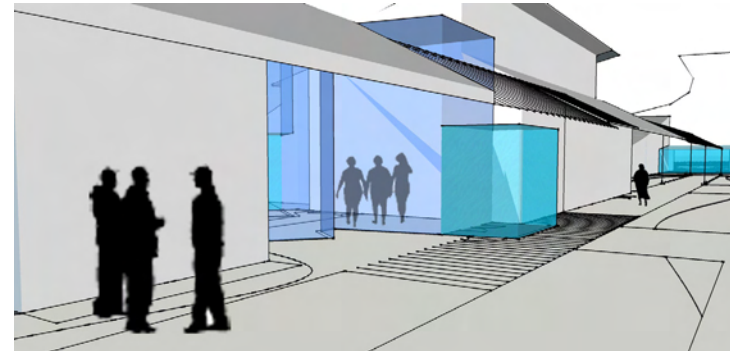
Midreview





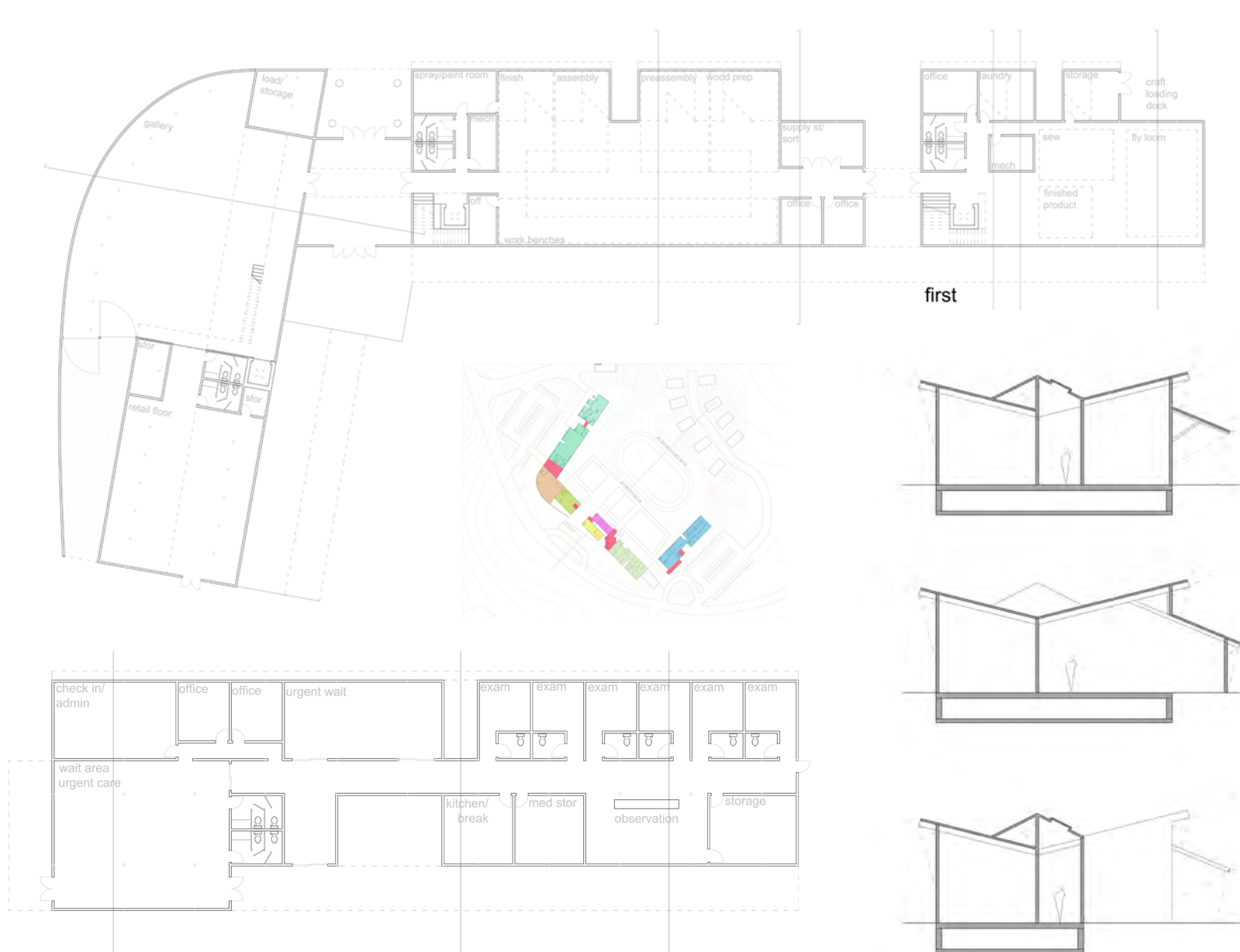
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Midreview



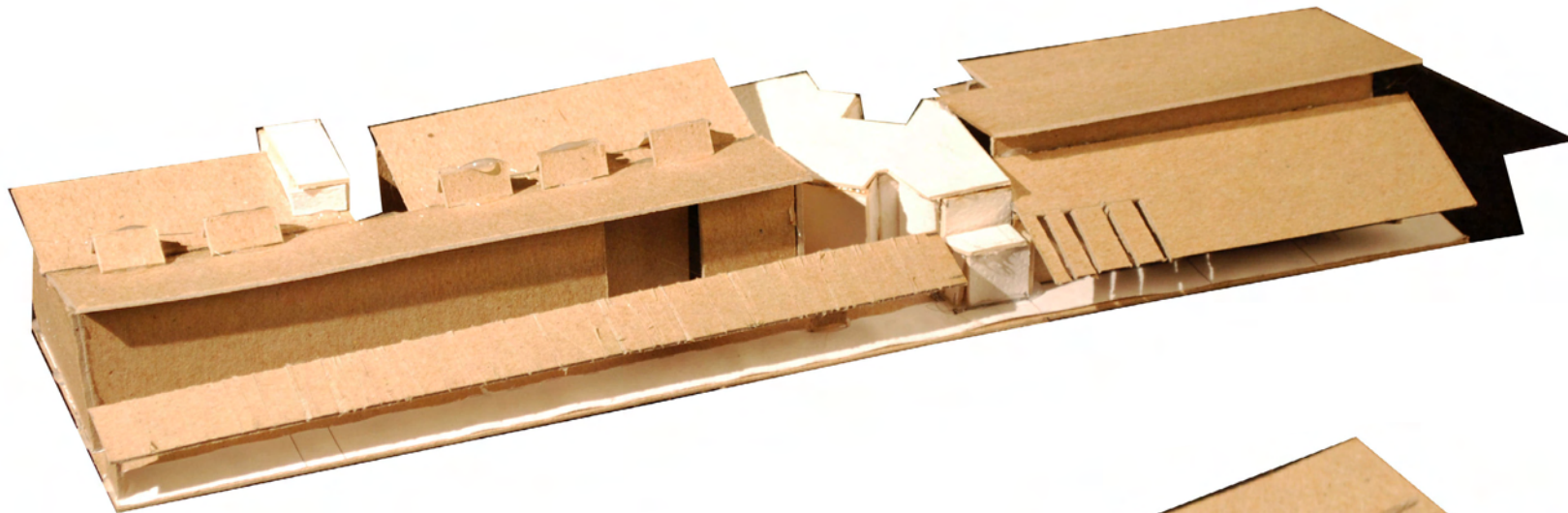
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Midreview

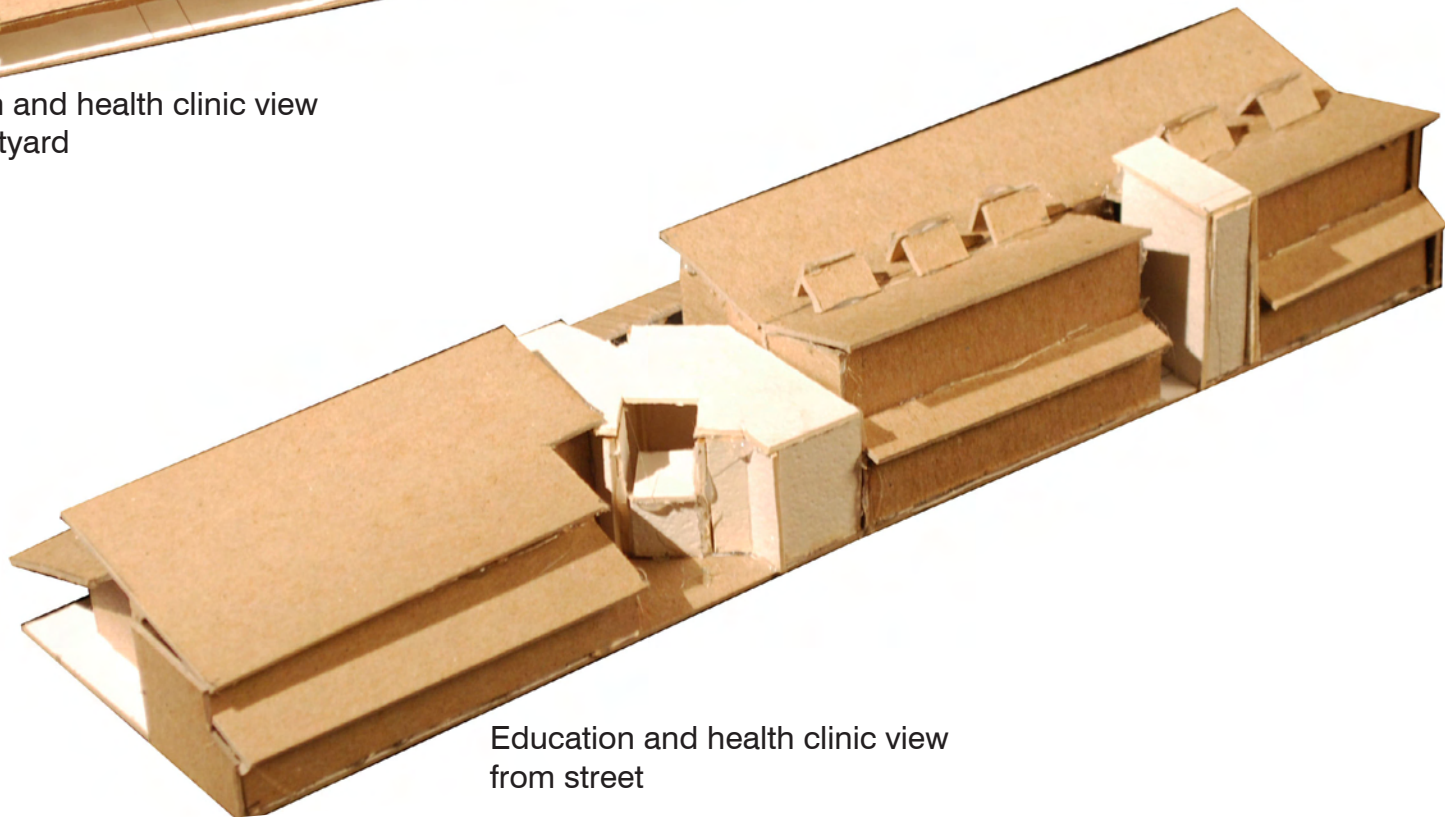


Appendix

Midreview



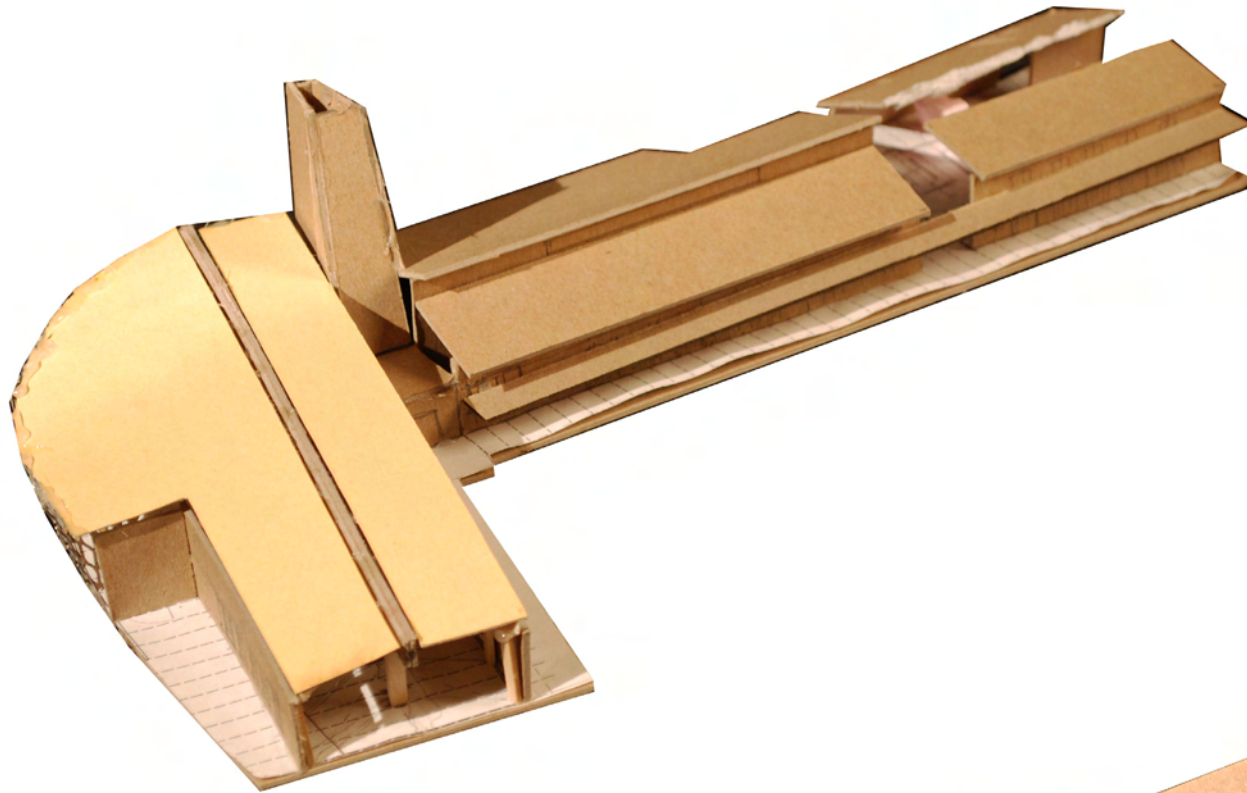
Education and health clinic view
from courtyard



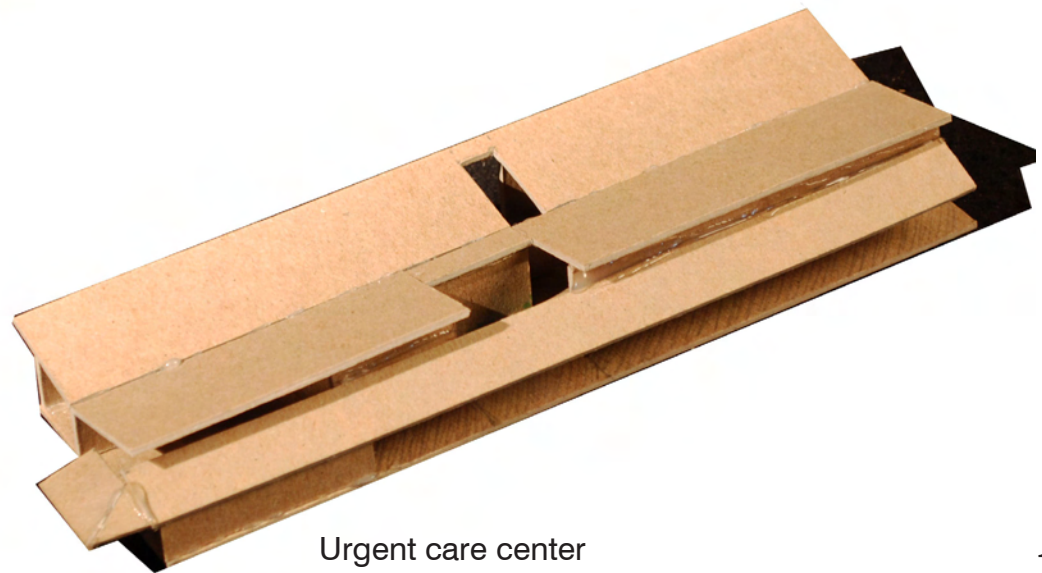
Education and health clinic view
from street

Appendix

Midreview



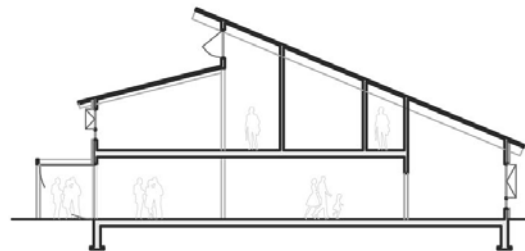
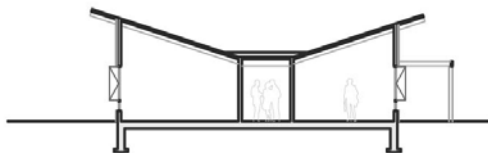
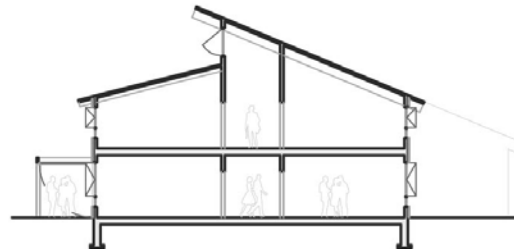
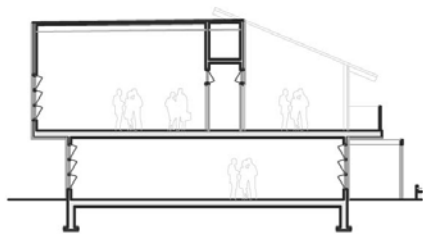
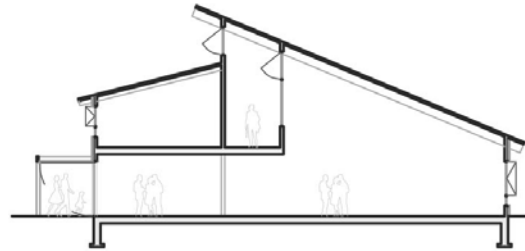
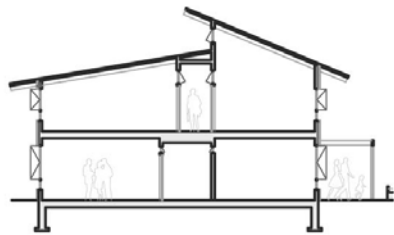
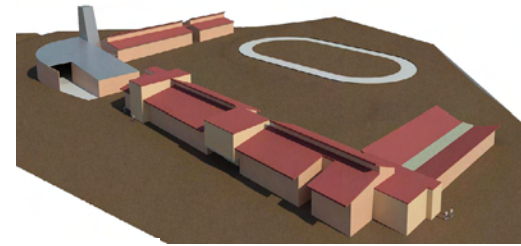
Craft studios and gallery



Urgent care center

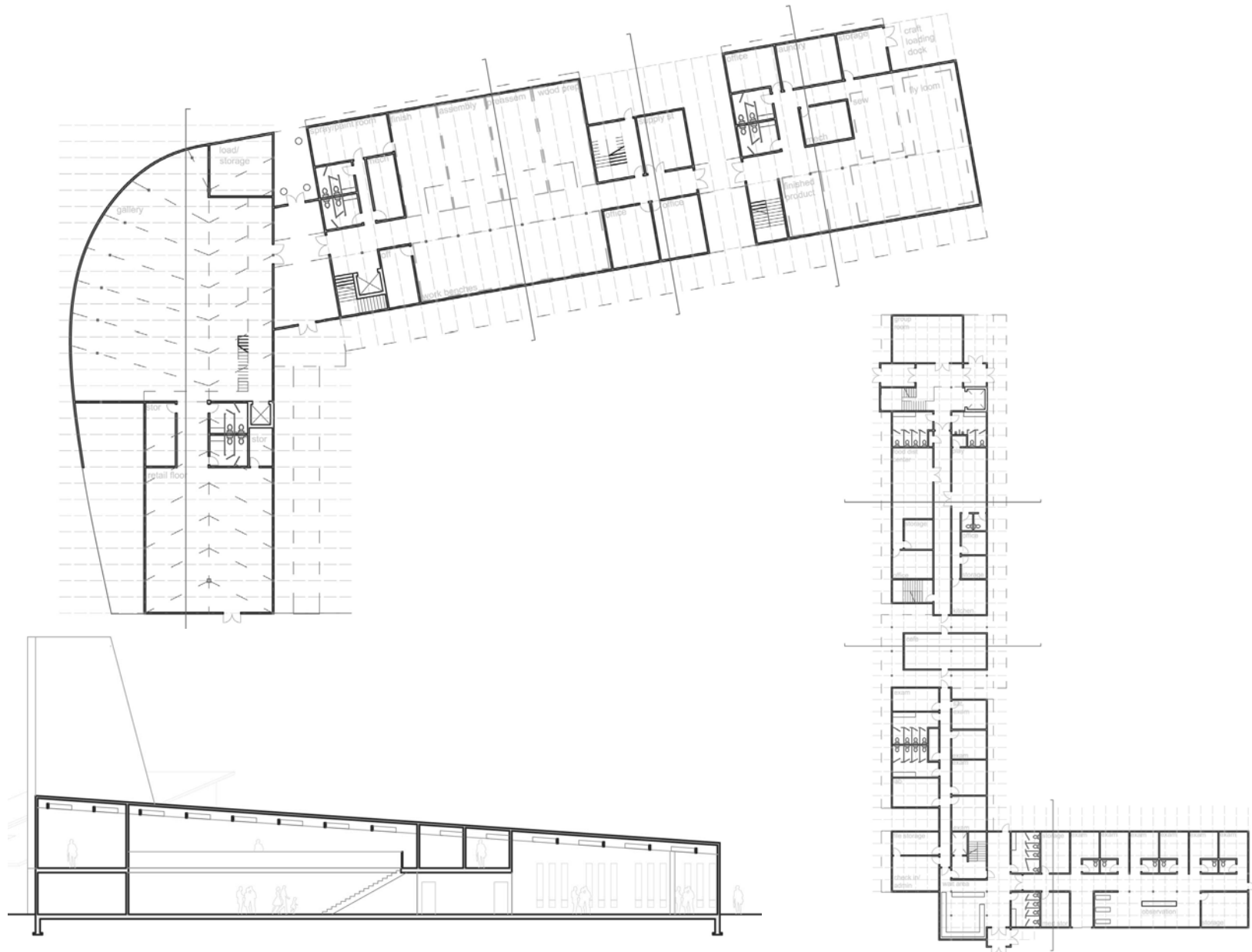
Appendix

Gate review



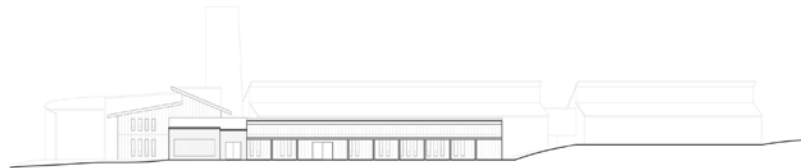
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Gate review



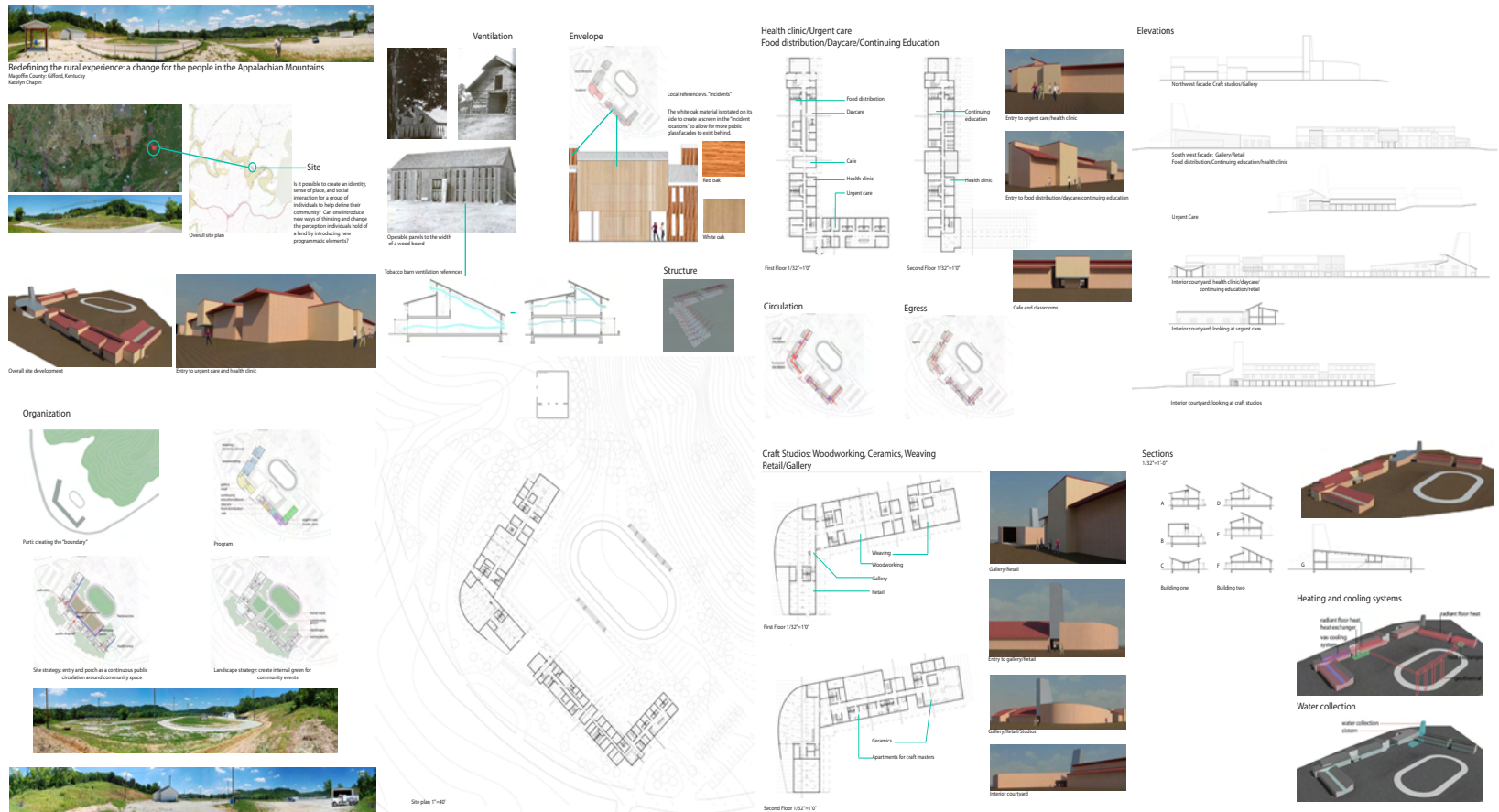
Appendix

Gate review



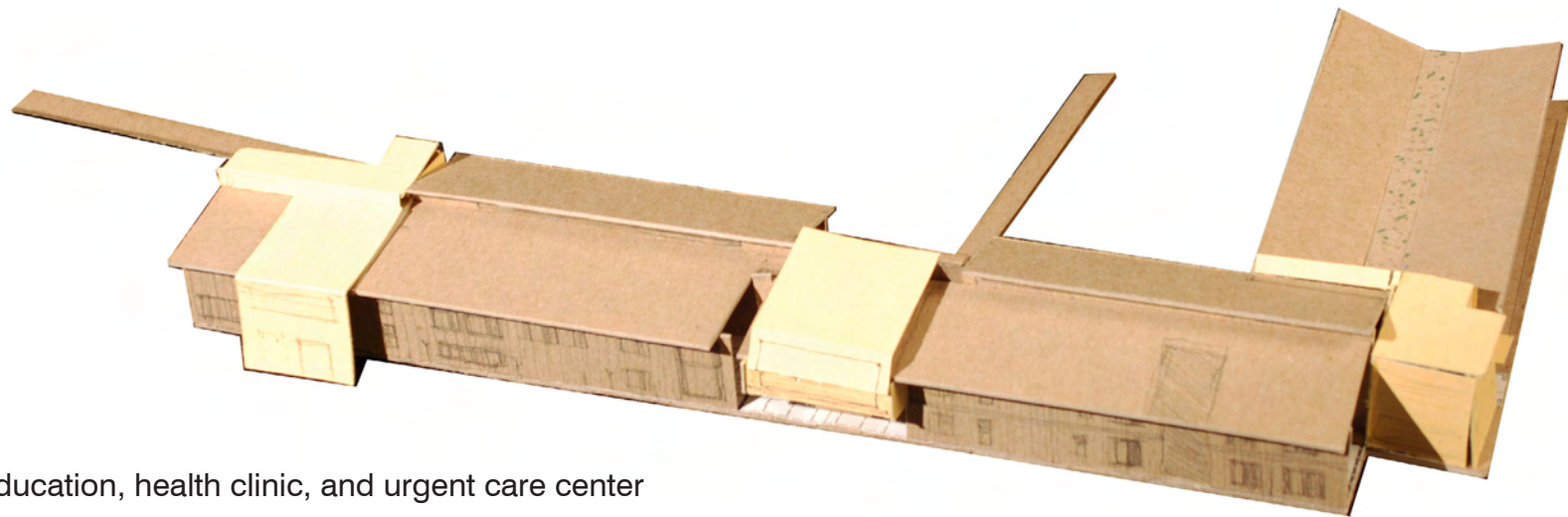
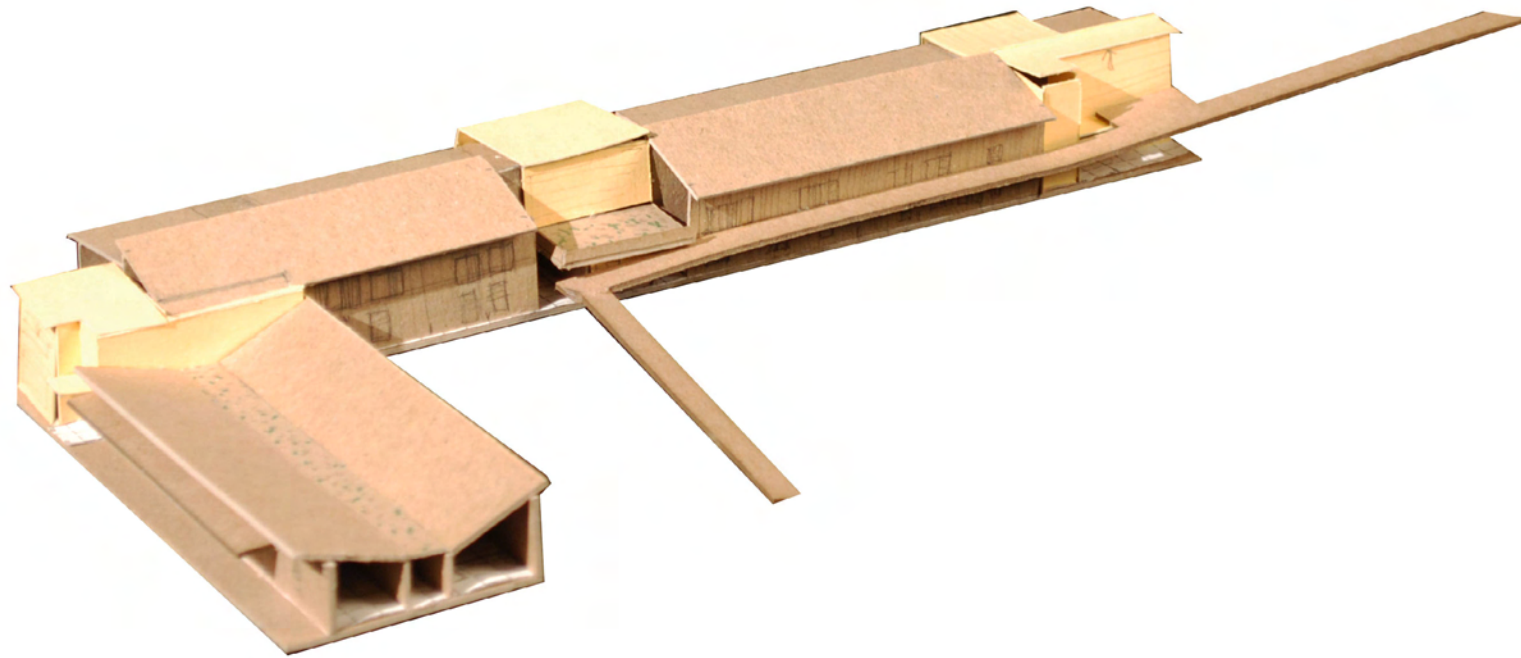
Appendix

Gate review



Appendix

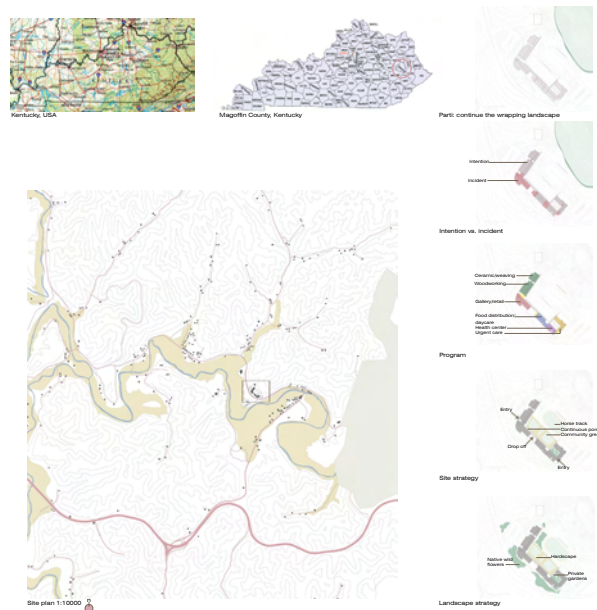
Gate review



Education, health clinic, and urgent care center

Appendix

Final presentation layout



Redefining the rural experience: a change for the people of the Appalachian Mountains

Magoffin County Crafts, Social, and Health Services Center, Gifford, Kentucky
Katelyn Chapin

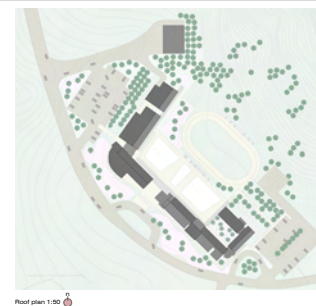
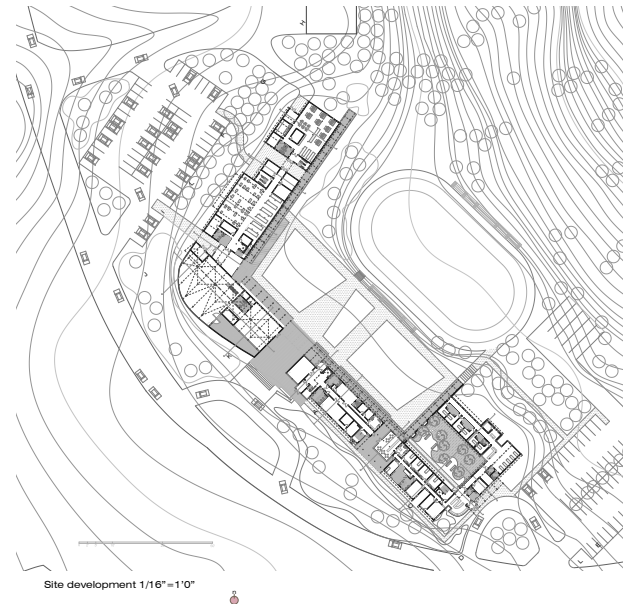
Is it possible to create an identity, sense of place, and social interaction for a group of individuals that can help define their community? Can one introduce new ways of thinking and change the perception an individual has of a place by introducing new programmatic elements?

In a land defined by mountainous contours, residents have continued to raise generations of families within the restrictions that the natural environment. Because of restrictions of travel and the vast distances that separate people from each other, individuals have adapted to living in a setting that is hostile to them. As a result of the family oriented culture, individuals have a strong sense of pride of their home and are attached to the land that has remained in their family for generations. This has led to the poverty that exists in some of the central Appalachian Mountains, specifically Magoffin County. The county is statistically proven to have a high rate of poverty, high unemployment rate, low income levels, and one of the leading high school drop out rates compared to the US average.

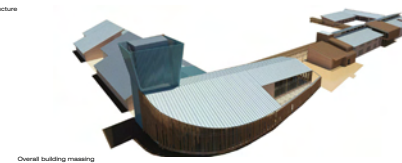
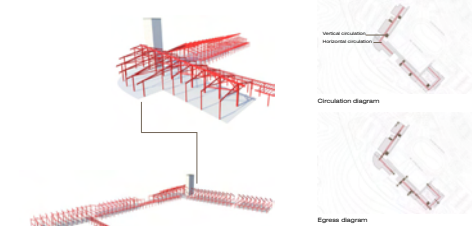
With the given situation of this area, how can new programmatic functions reduce the spirit of the people and encourage them to explore various opportunities to expand their knowledge and potential to improve their lives?



Initial concept sketches



Structure and circulation

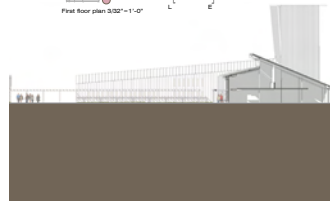
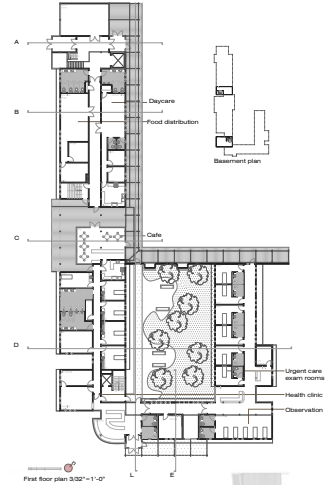
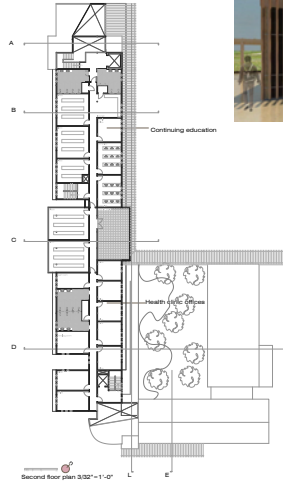


Sectional elevation of the rear of health clinic and gallery
3/32"=1'-0"

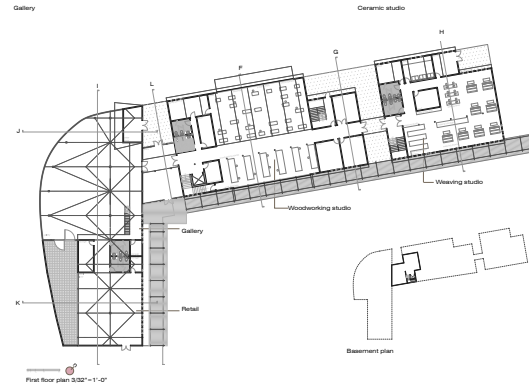
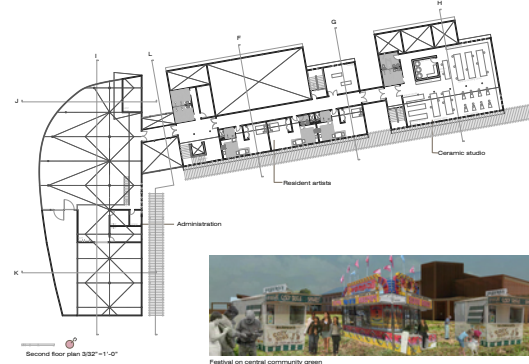
Appendix

Final presentation layout

Mixed use program plans



Craft Studio plans



Appendix

Final presentation layout

Elevations



West elevation



South elevation



Interior elevation looking at craft studios



Interior elevation looking at urgent care hall

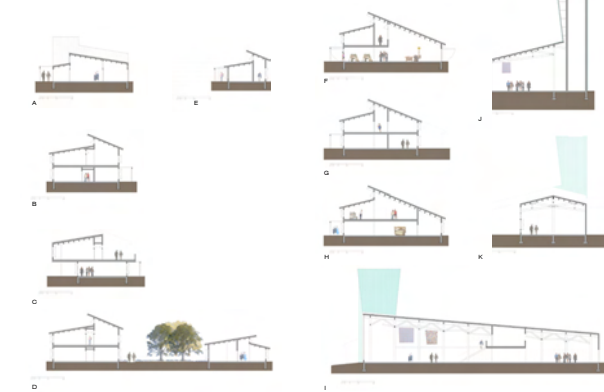


Interior elevation looking at urgent care rooms

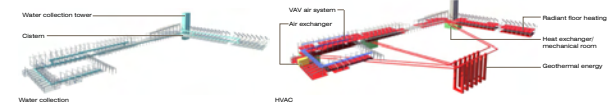


Interior elevation looking at urgent care

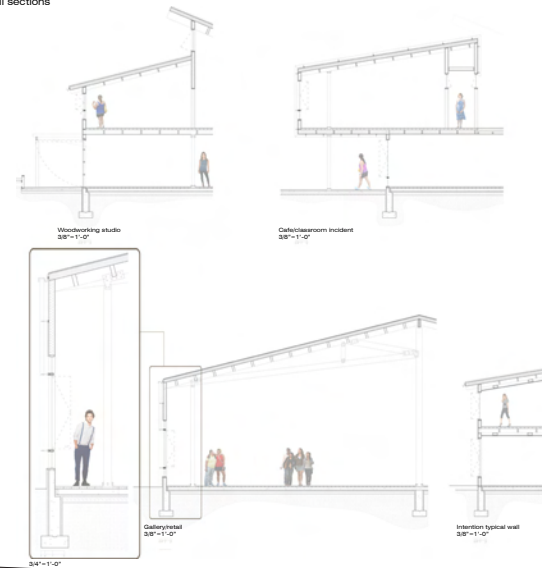
Sections



Integrated systems



Wall sections



Ventilation



Tobacco barn precedents



Ventilation diagrams

Envelope



Kengo Kuma precedents: screens



For edge in the forest



The RiverPier



Boko-Maschi Hinshige Museum



One Omotesando, Japan Lower detail

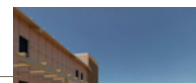


White oak

Red oak



Intention vs. incident facade system



Continuous porch wrapper

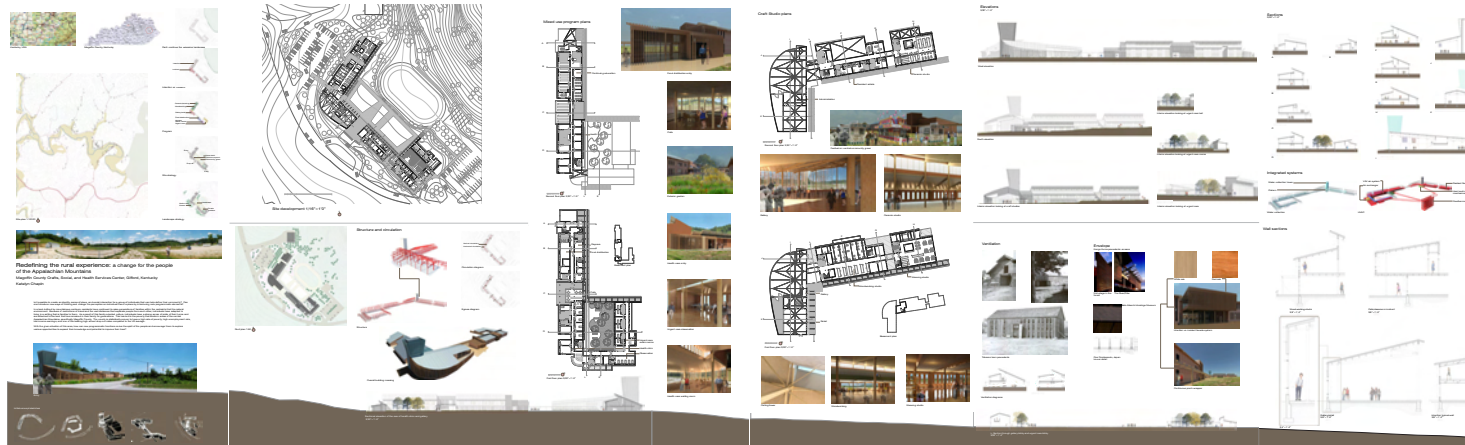


L Section through gallery lobby and urgent care lobby

3'8" x 1'-0"

Appendix

Final presentation layout



Presentation boards put together

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