

# FRAME

## **An Aging Community for All-Age**

The idea is to frame the important activities, frame your loved ones, and frame the special moments of life.

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**Dr. Ahmed K. Ali,** Committee Chair

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**Dr. James Haliburton,** Studio Professor

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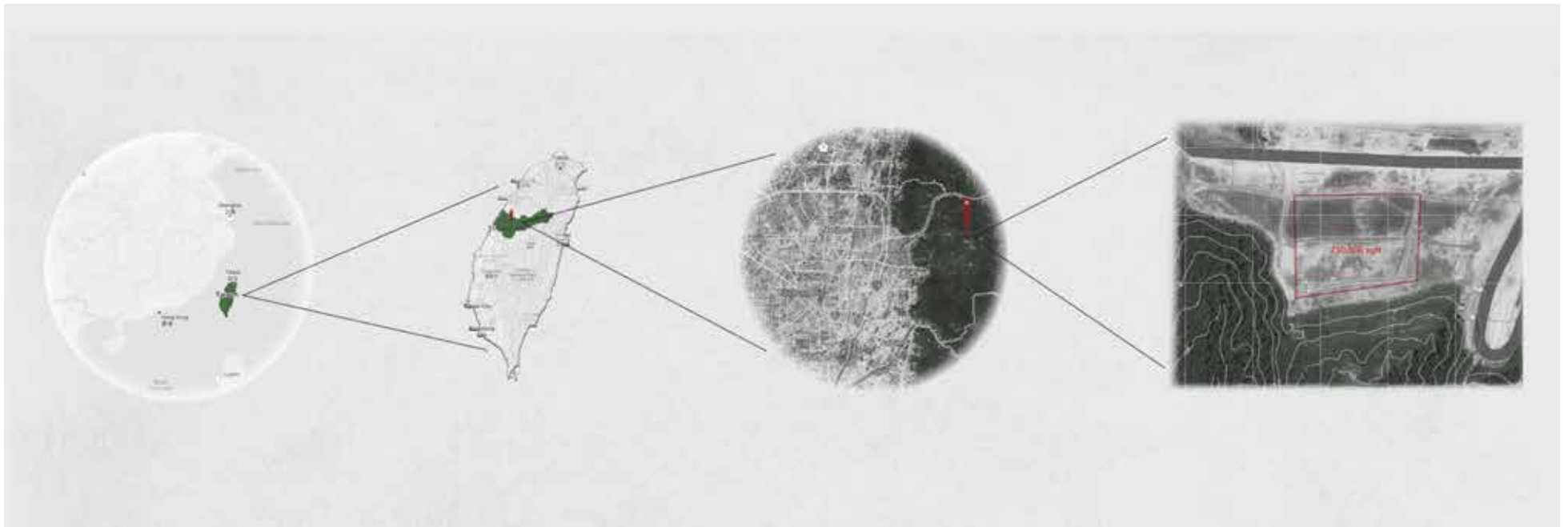
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# 臺中市 SITE

The project name is Frame. The idea is to frame the important activities, frame your loved ones, and frame the special moments of life. The project is an aging community for all-ages located in Taichung, Taiwan.

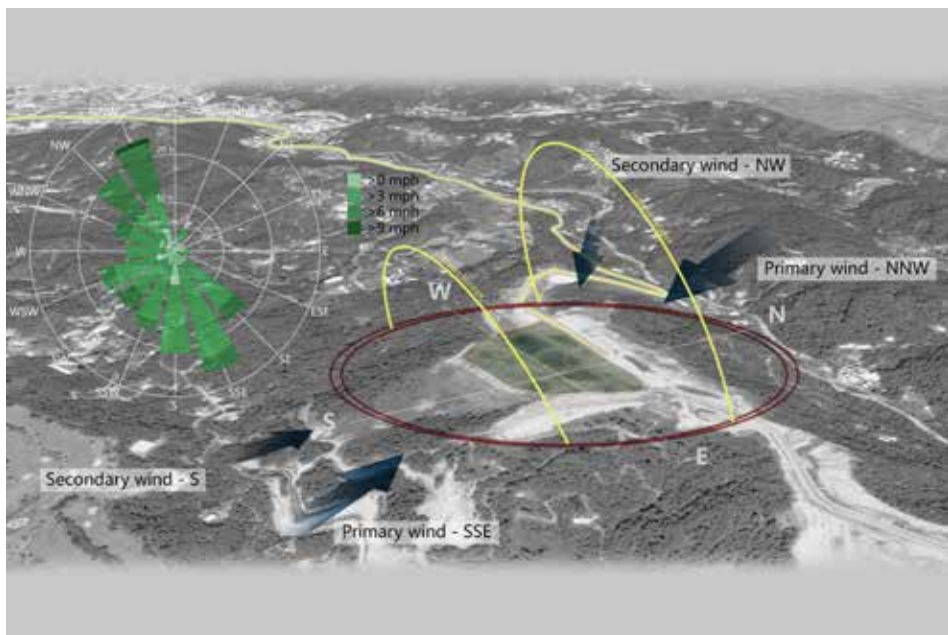
When I was doing my internship in Taiwan in the summer of 2019, I came across a project that is building on this site. Its idea is to build a village surrounded by mountains to bring people closer to nature for better health.

I saw this as a good opportunity to have an aging community built at this nature site. This way, the nature property of the site and the green surrounding can benefit the health of the seniors.



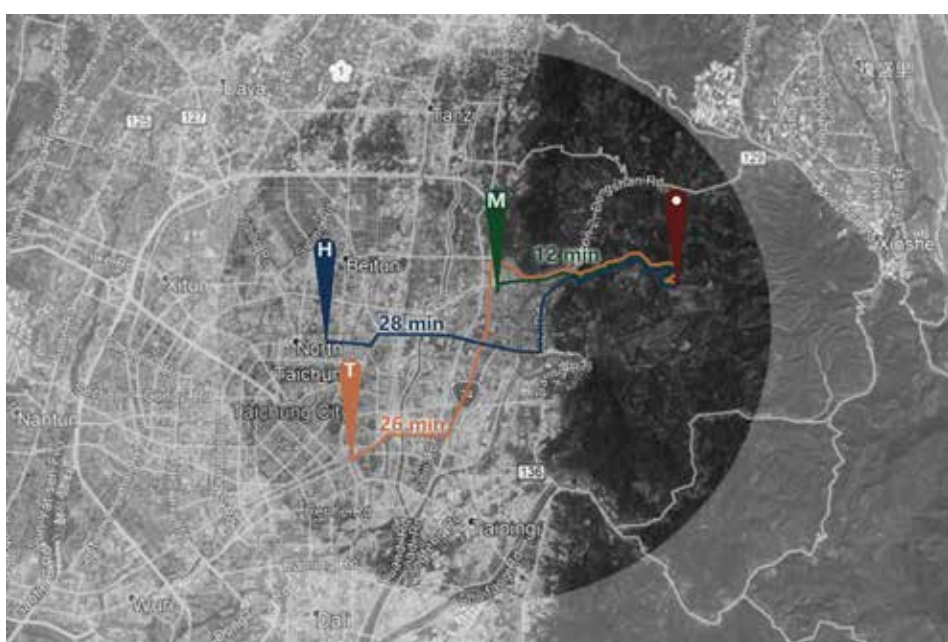
## Taichung, Taiwan

This site is located in a mountain area East of Taichung city. The site area is about 250,000 ft<sup>2</sup> with steep slopes on the South and West sides. Taichung city is the second most populous city in Taiwan with approximately 2.82 million people. Taichung was planned and developed by the Japanese during the era of Japan ruling. When looking at the topography of Taichung, the ratio of the flat ground to the mountain region is about half and half. Because Taichung is located in a humid subtropical climate, the weather is expected to be hot and humid during summer and mild during winter.



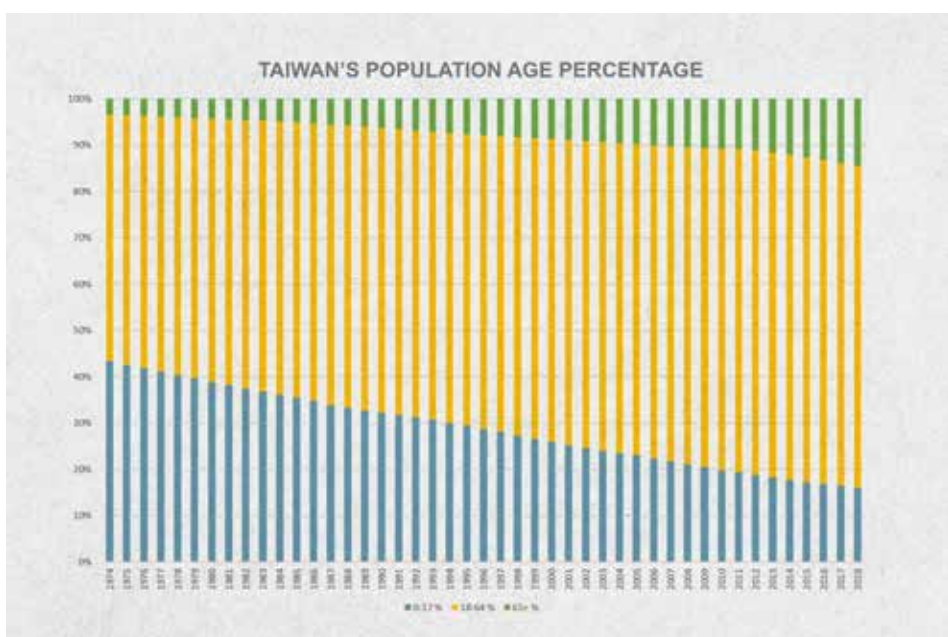
## Site Analysis

The latitude is about 24° North of the equator. Therefore, the sun is mainly on the South side going from East to West. This greatly affects the orientation of the buildings in the community. The wind direction usually goes in the North-south direction.



Even though the site is in the mountain area. It was not far from the Taichung city on its West side. It only takes at most 30 minutes driving to get to the city center from the site. For the convenience of the residence, a bus station will be needed in the community.

The reason that I choose to do an aging community is because I saw the issue of the increasing aging population and decreasing children population. Because of the long-life expectancy and low birth rate, there will be a lot of seniors without offspring living on their own in the future. Therefore, having a place that is built for seniors can ensure they have a safer and healthier life.

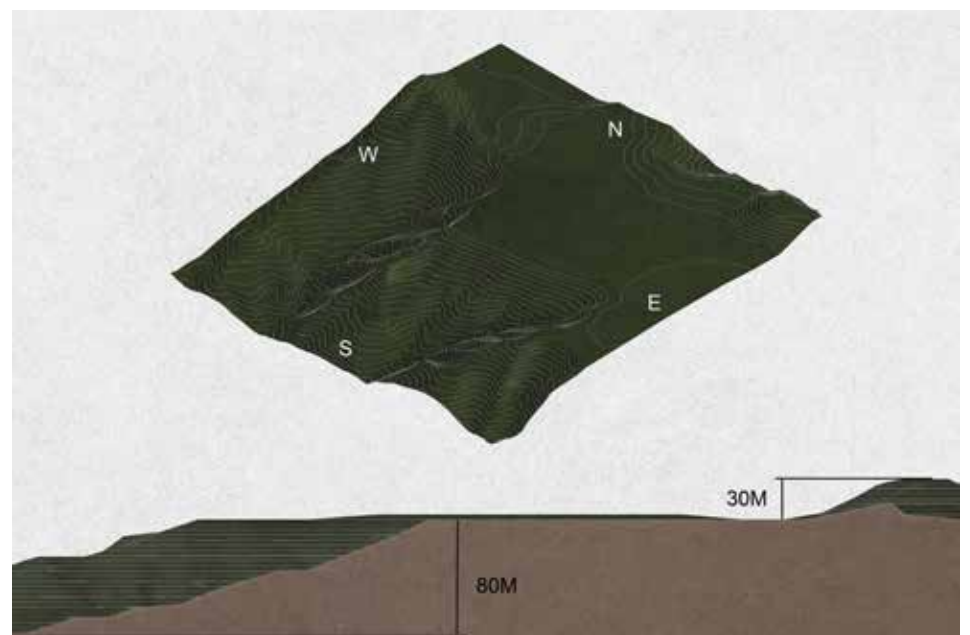
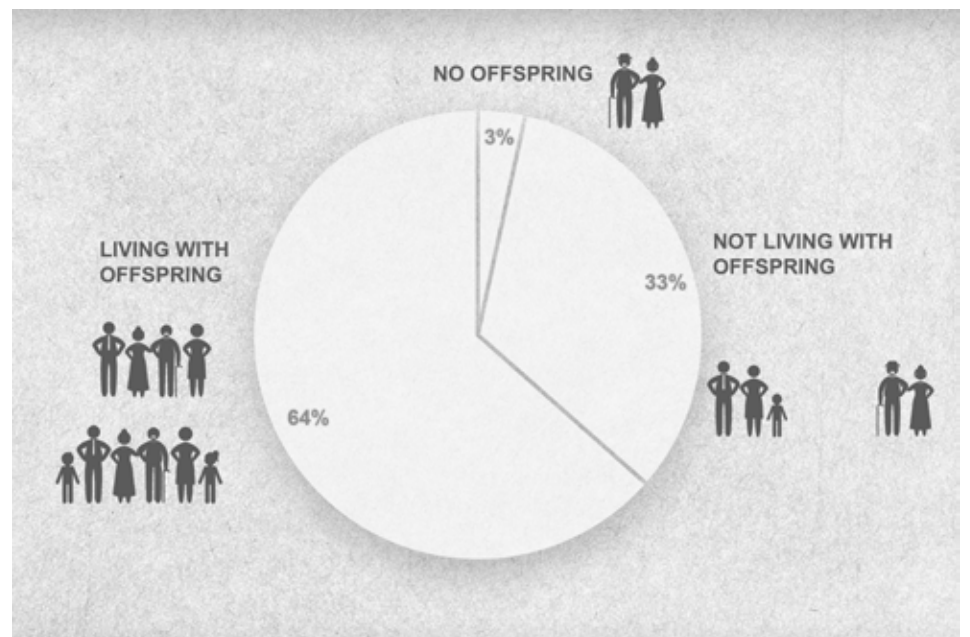
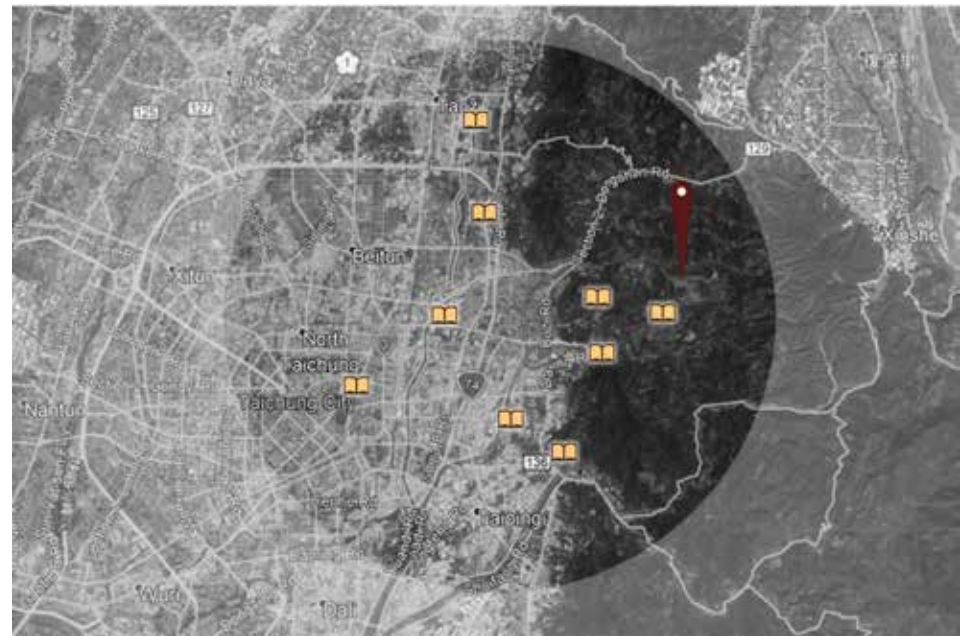




Even though there will be more seniors living alone in the future, having offspring living with the seniors is still a very common culture to see in Taiwan. There is a census showing that today there are 3% of seniors who have no offspring, 33% have offspring but not living together, and 64% living with their offspring. This data will help me decide the numbers of different sizes of living units that I am going to place in the community.

Because this community is built for all ages where some seniors can be living with their kids and grandkids. It is important to locate the education facilities around the site. Luckily, there are plenty of educational facilities nearby for kids to go to school.

This shows the initial condition where it has steep downward slopes on the East and South side of the site and hill on the North.



## 文化 CULTURE

A key component of good architecture is the designed objects ability to emotionally connect users to the larger context, physically, culturally, and spiritually. Taiwan is unique and connects on an emotional level, especially to me, because the interplay and synergy between the natural physical characteristics, the deep rooted cultural practices, and long standing spiritual traditions.

Some culture aspects that are explored in the project are traditional Taiwanese housing layout, arcade storefront culture, gathering spaces between housing, and traditional Taiwanese roofing style.

However, those elements do not just resemble Taiwanese culture, they also have functional purposes such as a safer environment, shaded walking path, proper social area, and sufficient natural light. By fusing the culture elements in the project, the intelligence within the past designs can be passed on to the next generations.



## Three-Section Compound

The first culture element I look into is the layout of the traditional Taiwanese housing, the three-section compound house. The house is basically a central building with two wings attached perpendicular to either side. The layout of the house can be divided into four areas, functional space, gathering space, walking space, and main living space. This layout of the three-section compound house is used to arrange the community layout. The main living space at the inner section of the architecture is away from the main road to create a sense of safety. The functional space on the two sides in front of living space to keep it in a distance from the main road. The gathering space is placed between the living and functional spaces for residences to have a place to social and relax.

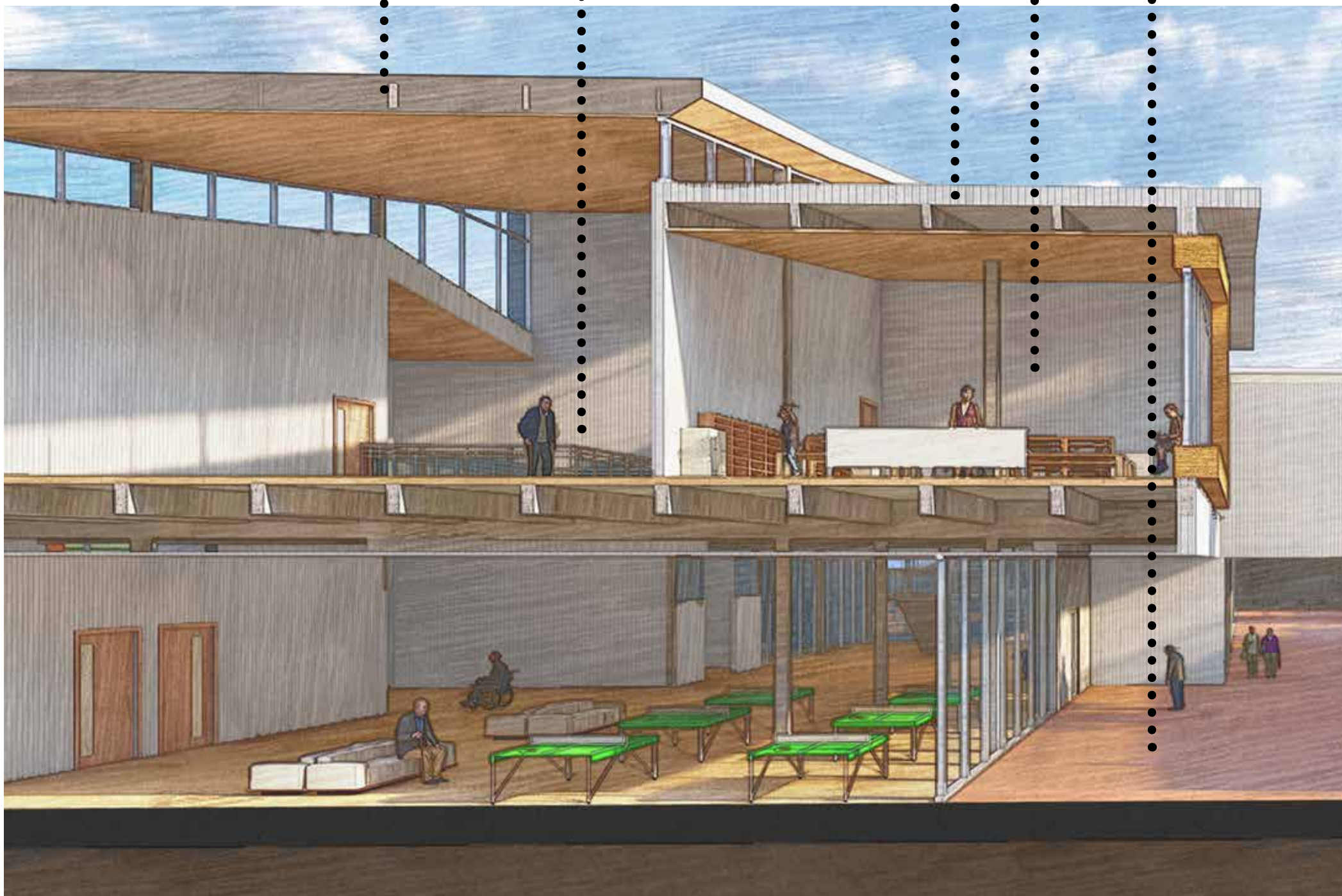
Lobby / Hallway

Arcade

Shed Roof

Daycare Center

Gable Roof

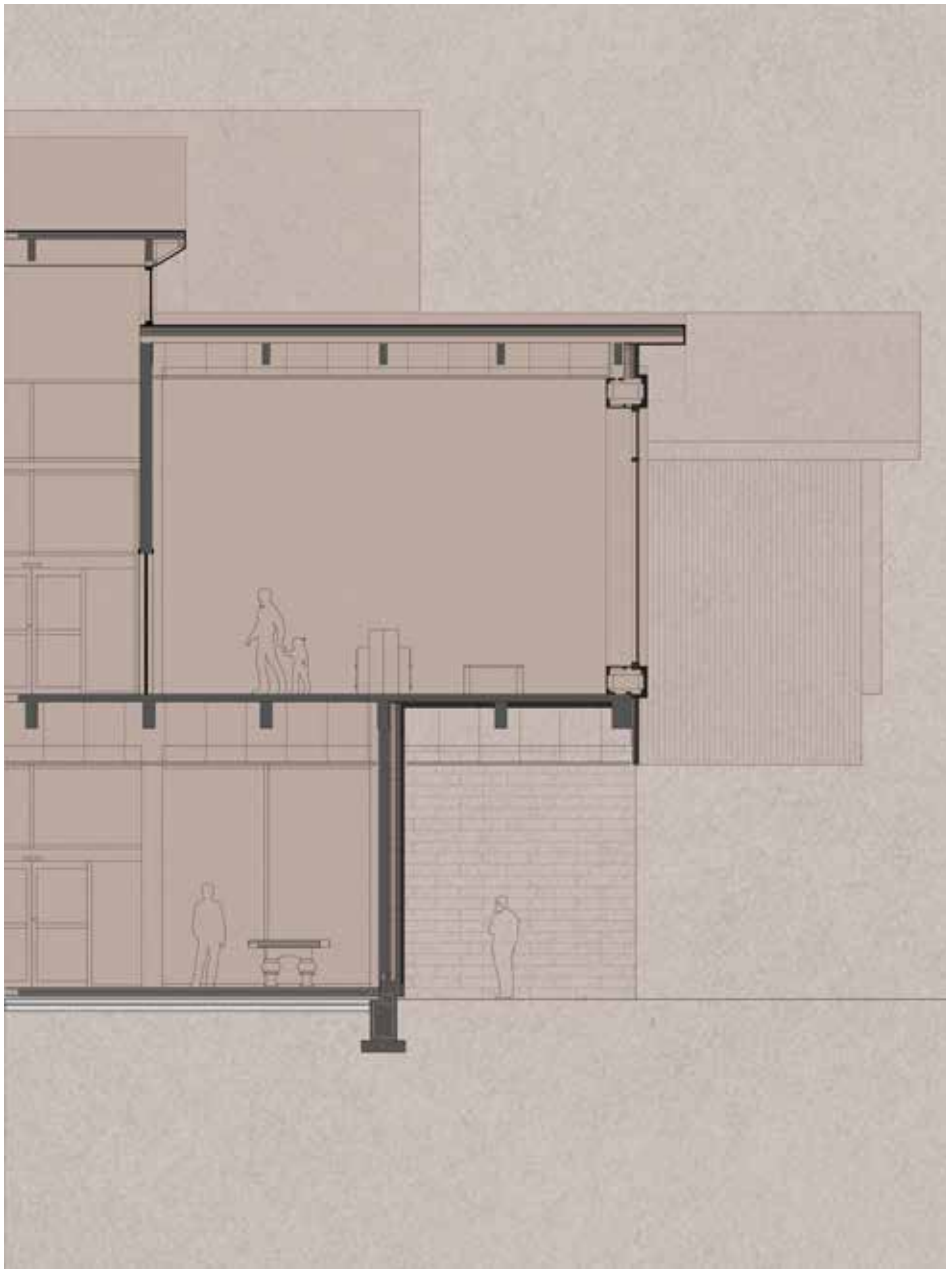


..... Ramp

..... Walkway

..... Small Living Unit





## Arcade

Taiwan is located in a tropical climate zone. In order to accommodate rainy weather, many street side buildings are built with an arcade, a covered walkway, out front. Thus, residences can walk under shades near the building and also enjoy the outdoor weather. With the arcade, the spaces above the arcade can be occupied with other indoor activities.

For the arcade to have a more open feeling, the floor above is cantilevered out without column support. The arcade becomes an exterior hallway that is parallel with the interior hallway in the community center.





## Roofs

Roof is an important element in traditional Chinese architecture. The roof can represent the social hierarchy of the architecture and the people in it. Complicate roofs that involve more construction skills usually represent higher social hierarchy. It is common to see roofs with multiple “layers” to add complexity and different depth to the design. This also gives the look of the building a sense of dignity. The roof of the community center is designed with two curved gable roofs sandwiching a taller shed roof in the middle. The gable roofs cover the activity area to make the spaces more dynamic. The shed roofs cover the hallway/lobby spaces, which provide natural sunlight from North and South directions.



## Large Living Unit

As mentioned before, it is common to see large family households in Taiwan, where grandparents are living with their kids and grandkids. Therefore, living units have three layouts to accommodate for different size families.

The large living units shown here have two floors, ground and first floors. The first floor is at the same level as the pedestrian walking path in the community. The ground floor is at the same level as the driveway for easy car access.

Seniors will be living on the first floor where all the commonly used spaces, such as living room, dining room, kitchen, are located. This ensures a safer living environment for the seniors and allows them to have easy access to everything they need for daily living. This also ensures they have access to community facilities. On the other hand, younger people with more mobility will be living on the ground floor, where they have better access to cars.







## Small Living Unit

Gathering spaces in the neighborhood is another culture element explored in this project. When I visited my grandparents at the countryside in Taiwan. I noticed that elders in the neighborhood like to get together at a gathering place to hang out and socialize. The small living units shown here are for single people or senior couples. The living units are placed in clusters of three which create some shared spaces in between the houses. This becomes a gathering space and allows people to sit on their porch to chat with their neighbors. The exterior porch extends along three edges of the house to allow more flexibility for people to walk in the outdoor environment under shades. The house has many large window openings to allow natural lights into the interior. Beside the shared spaces between the houses, there is also a rest area beside the living units for people to sit and rest under the shades of trees.

# 健康 HEALTH

Healthcare of the residences is a major focus of this project. The whole purpose of making an aging community is to provide a safe environment and the necessary support facilities for the seniors. Thus, having programs that manage residents' health and promote well being become essential for the success of the project.

Also, transportation systems should be provided so residents have access to city services, such as hospitals, markets, and train stations. This ensures that the residents are not isolated in one place.

To provide a safe walking environment in the community, the circulation of pedestrian walkway and vehicle driveway should be carefully thought-out. A well-designed circulation not only can reduce the risk of accidents, it can also solve the problem of wayfinding.





## Programs

The community center is designed to provide any services that the residents might need. This includes healthcare services, grocery shopping, dining services, spiritual supports, transportation services, physical fitness, and leisure activities etc. Since the first floor is on the same level of the community residential areas and the ground floor requires a vertical circulation to get to, the placement of the programs needs to be carefully designed. The organization of the programs in the community center follows the hierarchy, where the most essential programs that are related to residents' health and daily needs are located on the first floor, and the other more physical active programs that require some physical mobility are located on the ground floor. Vertical circulations including elevators, ramps, and stairs are placed at various locations to make sure the accessibility to the ground floor is available. Furthermore, the bus station is located on the first floor to take people to the city area.



## Facade

Visibility of the leisure activities from the exteriors, especially from the residential area, is essential to promote leisure activities for the senior residences. In order to increase the visibility of the activities in the community center, large window openings are placed on the façade to show the activities happened inside. To further emphasize each space, large frames are placed around the windows to focus people's view inside the frame. People occupying the space are also able to look out to the community and the surrounding nature environment. Better visuals of the programs from the outside can also be a simple solution to the wayfinding issues. If residents are able to see their targeted destination from the outside of the building, it will be a visual clue for the direction to get there.





## Walkway vs. Driveway

Safety of the community environment is essential for the health of the residents in a way that it can prevent possible accidents. Walking path in the community is designed not only for traveling purposes but also for people to walk around as an exercising activity. In order to create a safe walking environment, the vehicle driveway along the outer edge of residential living areas is completely separate from the walking path. This eliminates any possibility of people accidentally walking into the driveway. The walking path extends across the driveway through a bridge where people can get down to the park at the lower level with a ramp. In the park, people are able to exercise under the shades of the trees. There are two farming areas in the park dedicated for residents who enjoy planting. For residents who enjoy hiking up a hill, there is also an observation deck where people walk up the ramps to enjoy the views.

## 自然 NATURE

The nature environment is the primary reason that this site is chosen. Many studies have shown that nature is prone to benefit the health of human beings. Since the site is located in a mountain area, it has the advantage of being surrounded by nature in all directions. Having the opportunity to design in this mountain site, I want to explore the natural environment with this project to its full potential.

In today's Taiwan, a great population of people lives in the city area, where the environment is surrounded by tall buildings and air pollution. This can be a threat to the wellbeing of the senior population group. By bringing people into nature, the green surrounding can benefit the health of the seniors by giving them a better quality of life.



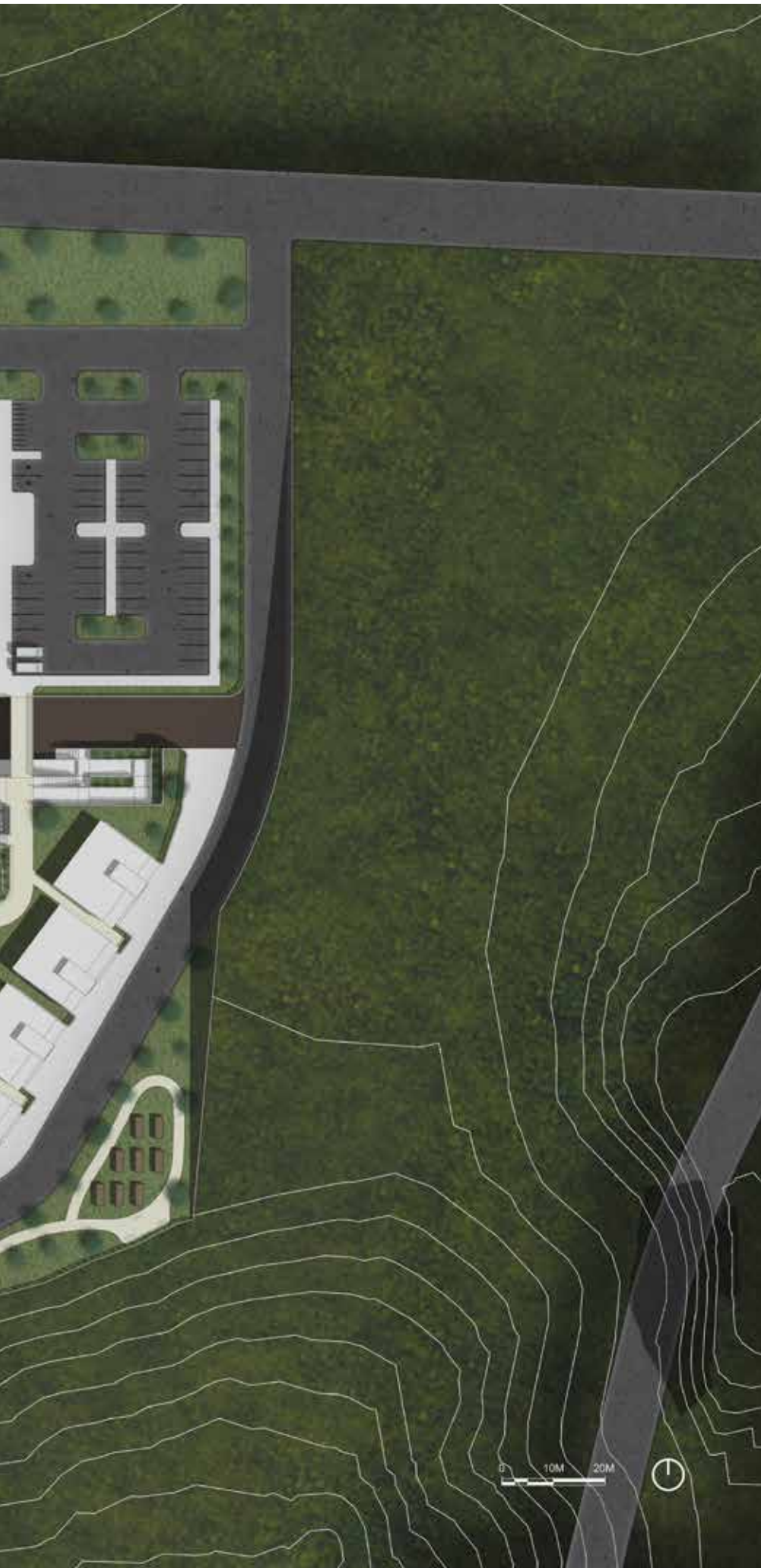


## Restore Nature

Besides being surrounded by the nature environments, the site itself has a nature terrain before it was fattened for a project that is being built right now. I was fortunate to find the original contour map for this site on the government website. To further engage nature into this project, I decide to restore some original terrain characteristics into the project. On the contour map, there is a river running through the site with a hill beside it. This creates a large elevation change in the site. I saw this as an opportunity to design an underground arcade walkway along where the river trench is. The high point created by the hill is transformed into an observation deck for residents to enjoy the beautiful views. Furthermore, the housing placements and the walking path in the community follows the organic shape of the contour lines, which give people the sense of walking in nature.



SITE PLAN



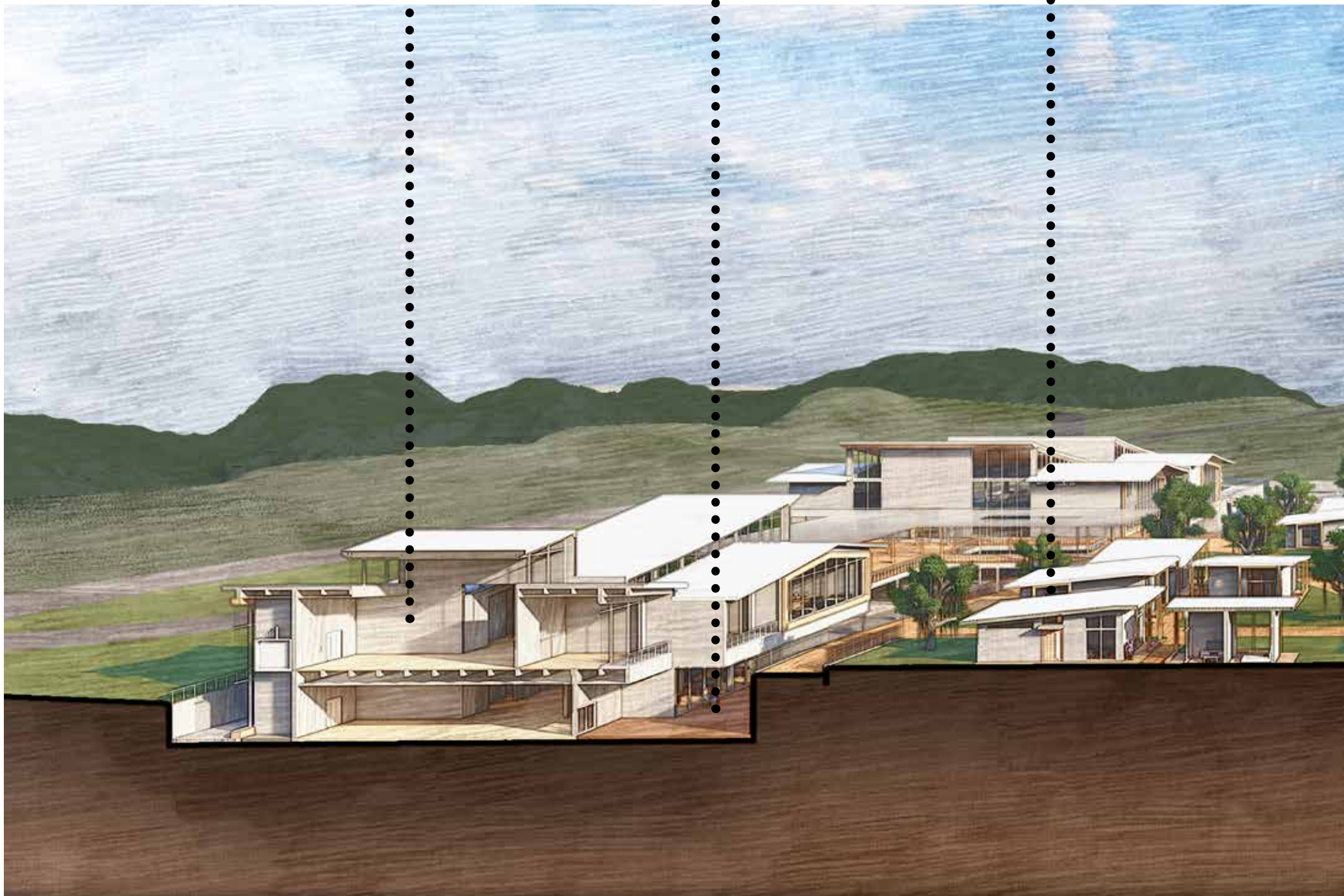
## Views

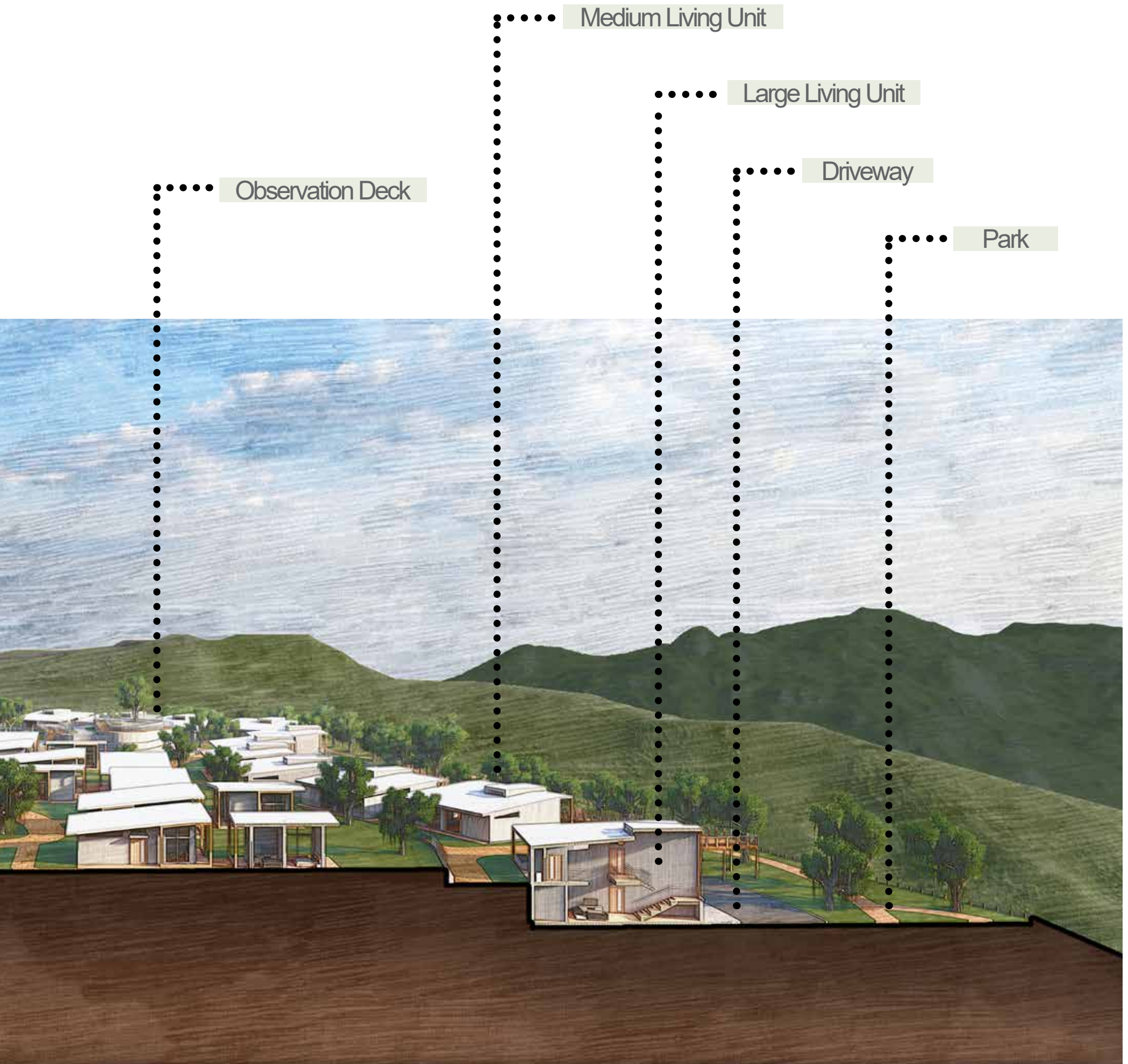
With the downhill slopes on the South and West side, the site is rewarded with magnificent mountain views on the South side and beautiful city views on the West side. Because of this, the orientations of the housing units are designed to face the views. The small housing units behind the medium and large housing units are also raised up on a higher elevation to look past the houses in the front. Furthermore, there are three view spots designed in the park on the South edge of the site for people to enjoy the views while exercising. Finally, the observation deck has the highest elevation point on the site, which allows a 360-degree view of the community and the surrounding nature environment.

Community Center

Arcade

Small Living Unit





Observation Deck

Medium Living Unit

Large Living Unit

Driveway

Park

