Φάρσα

Ανάπλαση του παλιού χωριού

αναδεικνύουμε το παρελθόν
δημιουργούμε ένα βιώσιμο μέλλον

Foreward

“Sustainable Development Alternatives for the Historic Village of Farsa”
Report to the Farsa, Kefalonia, Greece Community

December, 2006
Kefalonia Program in Sustainable Community Development
Huxley College of the Environment, Western Washington University
AHA International, University of Oregon
A World Institute for a Sustainable Humanity (AWISH-Hellas)

Participating Universities – Fall Term 2006
University of Trier, Germany
University of Oregon, Oregon
Western Washington University, Washington

Introduction

The following report to the Farsa, Kefalonia community represents the culmination of an 11-week study into the redevelopment of the ancient village that was destroyed during the 1953 earthquake. This study is the third in a series of investigations that have commenced under the auspices the Kefalonia Program in Sustainable Community Development, sponsored through Western Washington University, Huxley College of the Environment, the University of Oregon, AWISH-Hellas, and AHA International.

This third phase of investigation used preceding recommendations from the past two teams and focused largely on the architectural design of the historic Farsa Community. Five teams, comprised three students each, redesigned specific clusters of buildings along the main street in the village of Farsa. The teams began their work by addressing infrastructure plans, which included roads, transportation, green energy, water, waste management, recycling, agricultural land use, and green spaces. Computer aided design coupled with hand drawings were used to portray a vision of what the new village might look like inside and out. Each team was responsible for 4-5 buildings and selected one of those buildings to detail. These specific buildings include a community center, a kafeneio, a taverna, a hotel, and a residence. Both exterior and interior proposals were addressed along with their respective architectural details, materials, and marketing strategies.

Five courses were integrated into the curriculum to support the planning studio project. Courses included a class in architectural design and CAD, which served as the main planning course; an architectural drawing course, to help illustrate ideas and innovations; a tourism economic class, to evaluate opportunities for sustainable tourism development; a sustainable energy class, which considered alternative sources for green energy; and a cultural course that introduced students to language and local customs.

The program faculty, organization, staff, and students, wish to extend their most sincere appreciation to the people of Farsa and Kefalonia, without whose welcoming assistance, this first phase project would not have been possible. We especially wish to express our appreciation to the Mayor of Argostoli, Mr. Gerasimos Fortes; the Governor and Vice Governor of Kefalonia, Mr. Lefkaditis and Mr. Kouris, the President and members of the board for the Farsa Community, Mr. Benetatos, Mr. Vasillis Voutsinas, and Mr. Aggelos Benetatos, former president, for all their assistance.

The chapters that follow this brief introduction summarize the fall 2006 work and presents preliminary recommendations concerning the redevelopment of the village. The overall recommendation supports the community's long-term desire to see the village redeveloped in both a traditional and sustainable manner. Each element presented in this preliminary report will be supported in subsequent future semesters with substantial research regarding the technical, social and economic feasibility of village redevelopment.

This work is dedicated to the people of Farsa and constitutes the total volume to work that had been generated between September and November 2006. Copies of this report are available at the Village of Farsa, the Office of the Mayor of Argostoli, and the Office of the Prefecture of Kefalonia, as well as in the Argostoli public library. For information about obtaining an electronic copy of the report in its entirety on compact disk, please contact the AWISH-Hellas program office.

Very Sincerely,

Nicholas C. Zaferatos, Ph.D., AICP
Associate Professor of Planning and Environmental Policy
Director, Kefalonia Program in Sustainable Community Development
Huxley College of the Environment, Western Washington University
President, AWISHhellas

Arunas P. Oslapas, IDSA
Professor of Industrial Design
Department of Engineering Technology
Western Washington University
NCSA Kefalonia Visiting Faculty

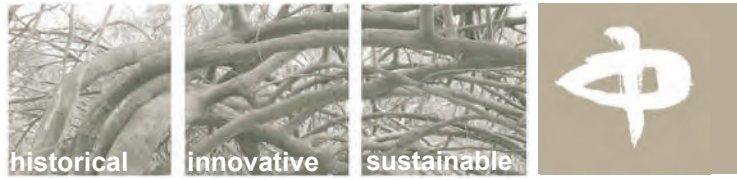


Table of Contents

Table of Contents

Acknowledgements

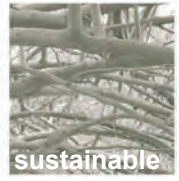
Acknowledgements

The design team owes a great debt of gratitude to many people for their help and support throughout our initial planning investigation. We experienced open doors and continuous welcomes, smiles, assistance, and advice from the Farsa and Kefalonia people. Our thanks is extended especially to the new President Mr. Aggelos Benetatos; Farsa Board Member Vasillis Voutsinas and to our international friends and research partners, including, Western Washington University's Huxley College of the Environment Dean Bradley Smith; AWISH Hellas staff Katerina Perraki and Matta Samiou; our program faculty: Marilena Theotokatou, Thodoris Benetatos, Dimitris Trachylis, Patras faculty….and Maria Voutsina; the visiting program director, our teacher, mentor and friend, Professor Arunas Oslapas.

Chapter 1 INFRASTRUCTURE

infrastructure

infrastructure



Agriculture . Green Space Public Space . Animals

Nature and green space are important aspects of infrastructure and essential pieces of a livable community. In our vision of redeveloped Farsa, we are attempting to combine historic agricultural practices with innovative new ideas to create a beautiful, functioning village and allows people to appreciate the natural environment.

AGRICULTURE

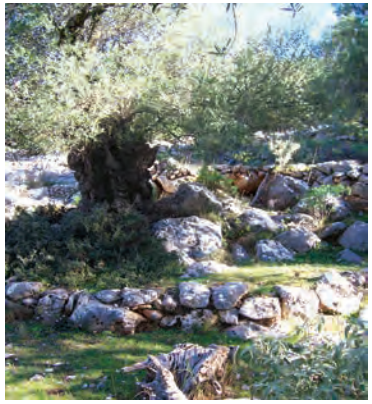
In the reconstruction of old Farsa, space up the hill should be terraced (or pre-existing terraced area should be preserved) and used for orchards. These orchards would be used to grow naturally occurring trees, such as lemon, fig, almond and olive.

Also, community gardens with edible plants (primarily vegetables and herbs) could be grown in properties where the owner is opposed to reconstruction of buildings. Some of the ruins could be left also, for aesthetics and the link to the past. Community members or tourists can take the produce in exchange for tending the garden. The food grown should be consumed within the town instead of being exported. A good location for the community garden would be the school (in the courtyard or on the rooftop). This garden could also serve as an educational center with signs and hands-on activities so the community and tourists can participate.

Some land should also be set aside for commercials agricultural plot where food is grown by a local business to be sold at a Farsan market.

Soil excavated during construction could be used a s topsoil for the gardens. Only environmentally friendly, non-chemical fertilizers should be used for any agricultural practices in Farsa. In the center of each garden, in the ground, there could be a large compost pit for anyone to deposit organic matter. For more information on composting, contact a local organization such as Compost Hellas (www.compost.gr).

Water to sustain plants can be obtained from a single grey water tank with multiple taps located near the orchards or fields. The grey water will come from street runoff and possible from filtered household wastewater as well.



ANIMALS

Animal husbandry was a traditional and important practice for Farsans and areas should be reserved for grazing, but because of sanitary and practical reasons, animals should be kept out of the center of the village. Traditionally, Farsans kept animals away from areas by planting thyme around the perimeter, which repelled the animals. This solution is easy and could be applied to the reconstructed Farsa.

Bee-keeping could continue in the same place it did in pre-earthquake Farsa. Honey that is not consumed by local residents would be bottled and sold as a branded Farsan good.

PLATEIA

The main plateia (square) could be centrally located on the main street and have a dancing circle like the one found in New Farsa's plateia. Other plateias could be located in traditional, historical locations. The stones from fallen Farsan buildings should be made into the ground surface of the plateias and benches.

GREEN SPACE

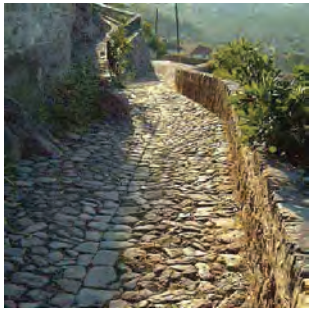
Areas that are not converted to gardens could be public parks. These parks would feature some of the Farsan ruins (after earthquake-proofing measures have been taken, naturally), public artwork (sculptures or fountains), playgrounds and stone benches.

Existing trees in Farsa should be preserved unless they interfere with building reconstruction. The wood from trees that are in the way can be used for trellises, doors or other wooden structures.

Trellis over the main street should be implemented in as many places as possible. Trellised plants are traditional, help control temperature and are also aesthetically appealing. Many buildings in Farsa show the traditional location of support beams for trellises extending over the street. An obvious place for trellises would be over the outdoor tables and chairs of cafes and kafenios.

Water to sustain plants can be obtained from a single grey-water tank with multiple taps located near the gardens, on the same system as the water for agriculture.

Transportation, Access, and Parking



The following are suggestions to improve access to this hillside community, specifically the construction of roads, parking areas, and ideas for pedestrian routes within and to the village.

NEEDS AND EXPECTATIONS

- Residences, small businesses, delivery of goods (import/export), shopping, tourism, visiting family/friends, church and cultural festivities
- Easy access to necessities (shelter, food, material goods)
- Reliable infrastructure (roads, drainage, traffic controls, parking)
- Preservation of past cultural expectations (limited non-pedestrian traffic)
- Pedestrian access to village from new Farsa
- Positive social capital amongst local residents/owners
- Close to New Farsa, so existing road can be utilized
- Possible reuse of materials already in Farsa (rubble)

LIMITATIONS

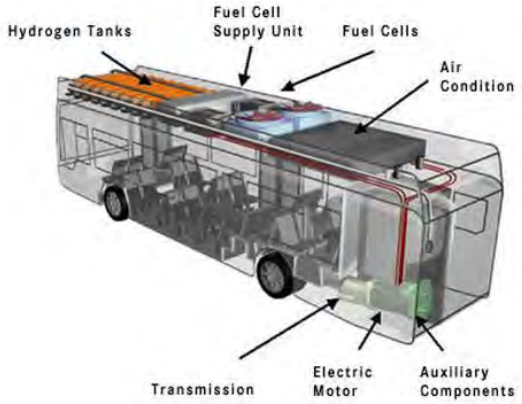
- The geographic location (hillside)
- Limited current road infrastructure up to Farsa is narrow, unable to handle high traffic volume
- Parking area is small (side of road before dirt path)

MODES OF TRANSPORT

Walking was the main mode of transportation in pre-earthquake Farsa and should remain the main mode of transportation within the main village after reconstruction. The current main path through the village is the appropriate size for foot or bicycle access, but if motor vehicles were accommodated, the road would need to be expanded. To preserve past cultural traditions and to further the connection between the Farsans and their community, there should be limited motor vehicle access in the main village.

Vehicles such as small electric cars and segues are an option for travel within the village. However, we should consider whether or not those modes of transportation are appropriate in this context of historic renovation. For convenient pedestrian access to the hill, a funicular or system of shuttle buses are both possibilities.

Delivery trucks and vans would use the access road and park in the parking lot(s) at the end(s) of the village. There, the goods would be delivered to businesses and residences with hand crafts.



Hydrogen powered buses could deliver visitors and residents up and down the hill on access roads around the outside of the village. Buses could be parked at solar charging stations while awaiting passengers.

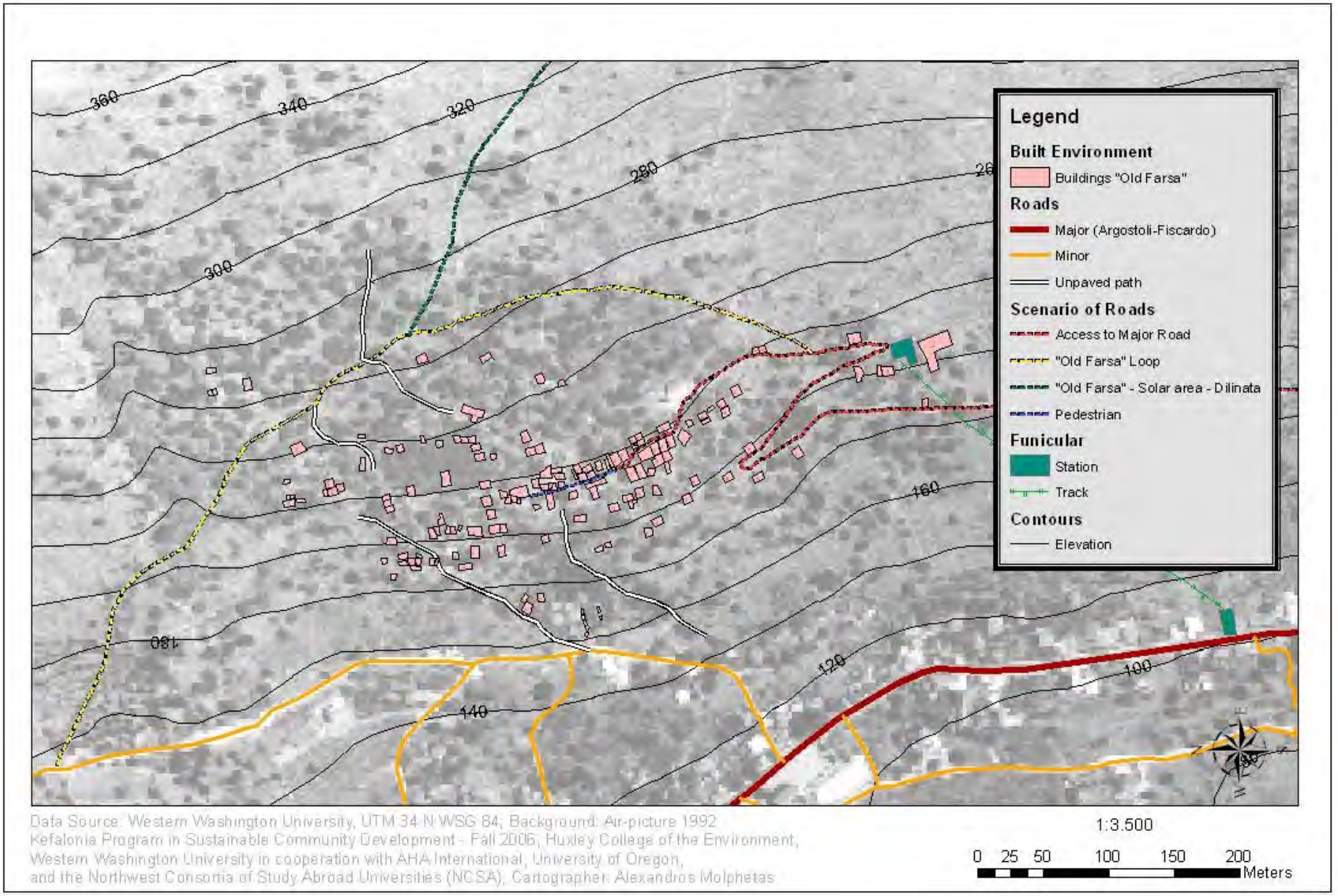
A funicular could also be utilized for the transportation of visitors and residents up and down the incline. A funicular operates on a rail system and is pulled up an incline by a cable. The picture to the left is a funicular on Mt. Vesuvious, while the picture to the right is an image of one on Lycabettus Hill in Athens.

ROADS

In order to make Farsa easily accessible, there will need to be at least one road leading up to the village. There are a couple of different options for road placement. The first option is to use roads that already exist on the north and south ends of the kafenio in New Farsa. These roads would need to be widened and repaved. Roads that connect the current roads to the parking areas at the ends of the village would need to be built as well. Another option is a road that loops the entire village, allowing for service vehicles and residents to access the top of the hill. The roads should be wide enough to accommodate emergency vehicles as well as passenger vehicle traffic both to and from the village.

Emergency vehicles would be allowed to use the main path through the village in order to provide services to the public. Farsan residents should determine the allowance of animal access in to the main village. Hoofed livestock damage many types of pavement and can cause erosion. Their droppings are an inconvenience in the pedestrian walkways and a pollutant to potential rainwater runoff catchment systems.

Tourists should be able to access Farsa by foot, cars, or the shuttle buses used by residents. A funicular for transportation could also become an attraction to the village as well. During the peak tourist season (summer) there may need to be additional shuttles added in order to accommodate the large number of tourists.

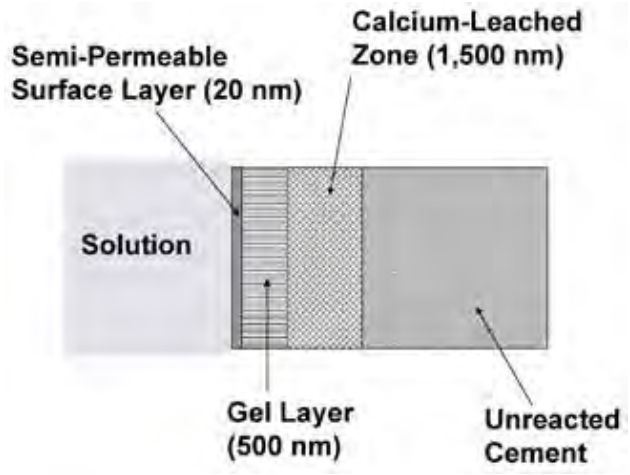

Legend
Built Environment
Buildings "Old Farsa"
Roads
Major (Argostoli-Fiscardo)
Minor
Unpaved path
Scenario of Roads
Access to Major Road
"Old Farsa" Loop
"Old Farsa" - Solar area - Dilinata
Pedestrian
Funicular
Station
Track
Contours
Elevation
360
340
320
300
280
260
240
220
200
180
160
140
120
100
Data Source: Western Washington University, UTM 34 N WSG 84; Background: Air-picture 1992
Kefalonia Program in Sustainable Community Development - Fall 2006, Huxley College of the Environment,
Western Washington University in cooperation with AHA International, University of Oregon,
and the Northwest Consortia of Study Abroad Universities (NCSA), Cartographer: Alexandros Molphetas
1:3.500
0 25 50 100 150 200
Meters

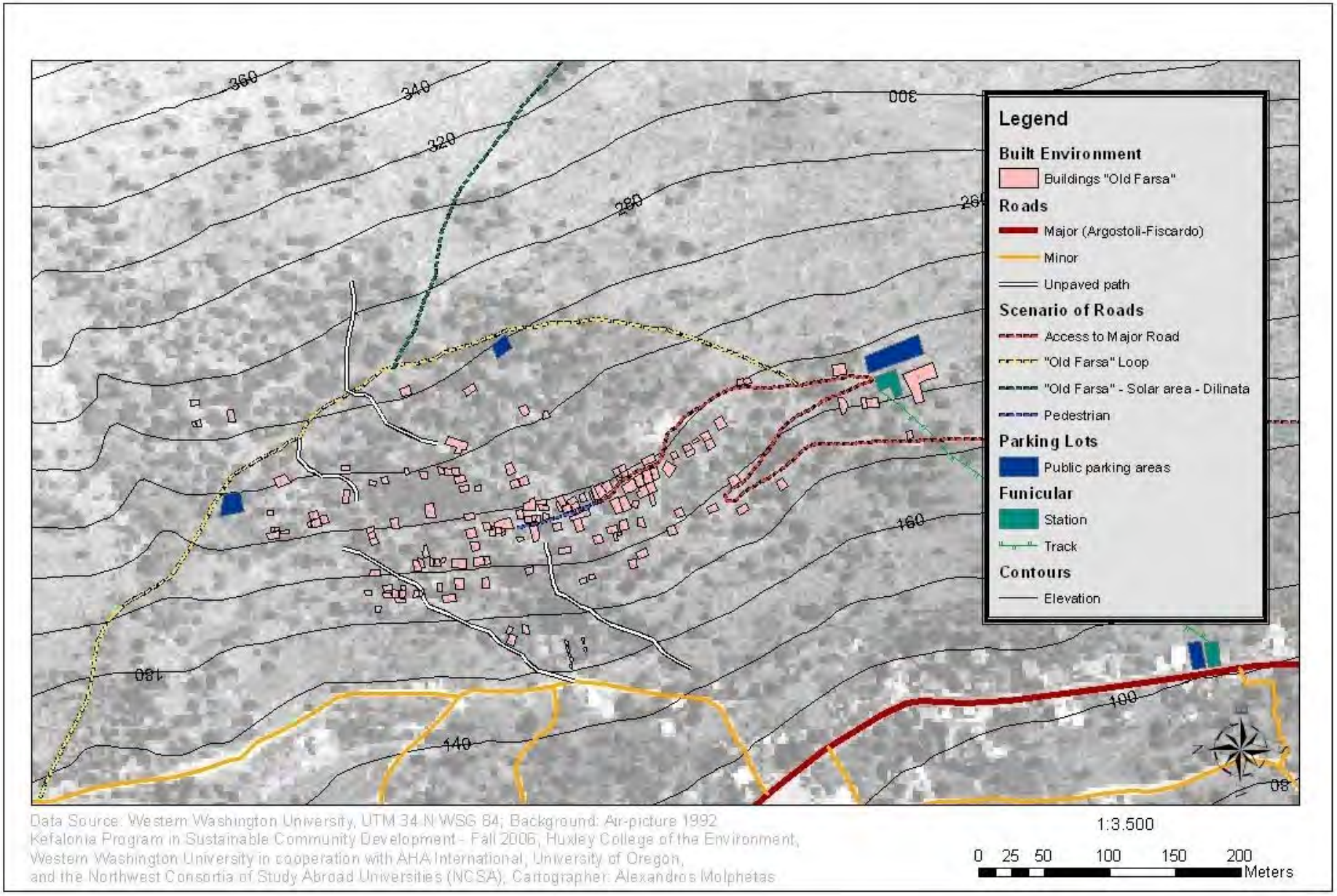
PARKING

There are several options for parking in Farsa. One option is the creation of two separate parking lots located at the North and South ends of the main village, which would allow the foot traffic to walk laterally along the hill. Another option is a large parking are at the base of the hill and a shuttle service up to the village. Bicycle parking will be provided within the main village so that bicycles would not block pedestrian access to the village.

MATERIALS / CONSTRUCTION OF ROADS

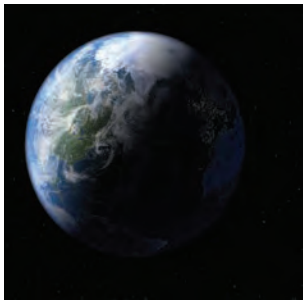
The roads can be constructed out of concrete, dirt, reused rubble or cobblestone. A good option for Farsa would be porous concrete, which allows for water catchment underneath the concrete. However, because of the complexity of filtering water catchment from the road, this may be more expensive to implement.





Data Source: Western Washington University, UTM 34 N WSG 84; Background: Air-picture 1992
Kefalonia Program in Sustainable Community Development - Fall 2006, Huxley College of the Environment,
Western Washington University in cooperation with AHA International, University of Oregon,
and the Northwest Consortia of Study Abroad Universities (NCSA), Cartographer: Alexandros Molphetas

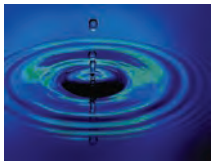
Renewable Energy Sources



Renewable energy sources include any naturally occurring, theoretically inexhaustible source of energy not derived from fossil fuels or nuclear reactions. A renewable energy system is an essential part of a sustainable community and must be considered in the design and construction.



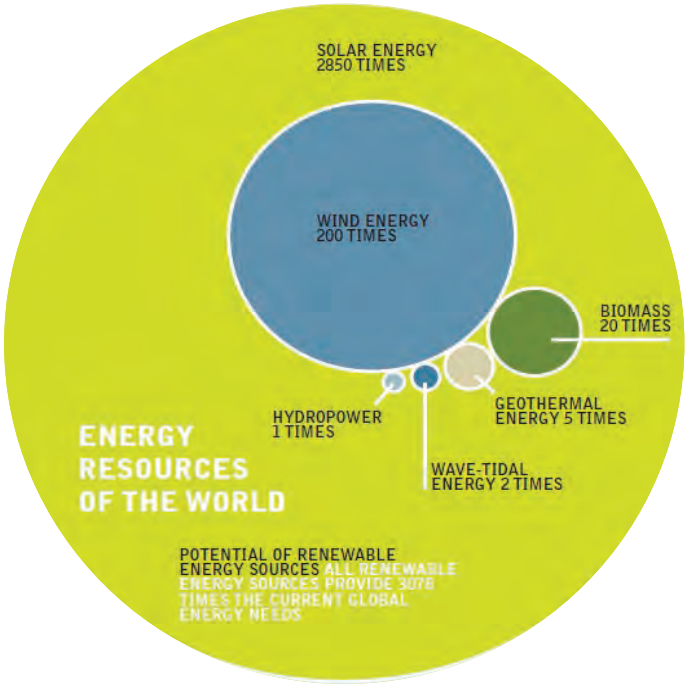




Wind

Biomass

Solar

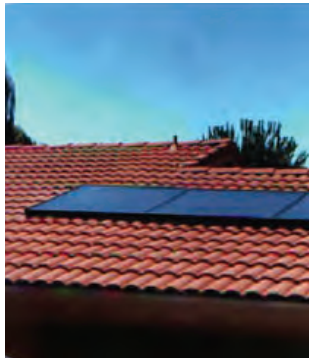


Geothermal

Micro-Hydro

Solar Power

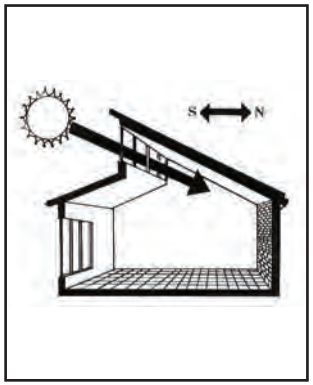
this power source comes from the most abundant form of energy in the universe... the sun. the sun's energy can be harnessed through multiple methods. the three that will be the most appropriate for Farsa include autonomous photovoltaic(PV) panels, photovoltaic arrays and passive solar methods. Farsa is an ideal location for the use of these technologies due to its optimal average temperatures and solar radiation.



The sun, our most abundant source of energy, fuels solar power. Farsa is in an ideal location for harvesting solar energy due to its optimal average temperature and quantity of solar radiation. The sun's power can be harnessed in multiple ways. The three that are most appropriate for Farsa include autonomous photovoltaic (PV) panels, PV arrays and passive solar diffusion.

autonomous - Solar Panels mounted on roofs or near a home provide an independent energy solution.

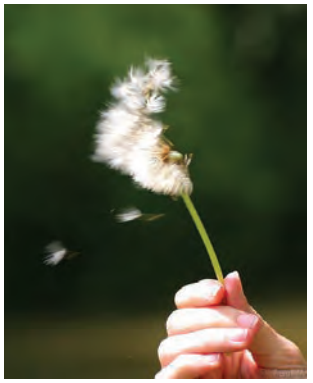
solar farm - A series of PV arrays providing for a group of homes and establishments.

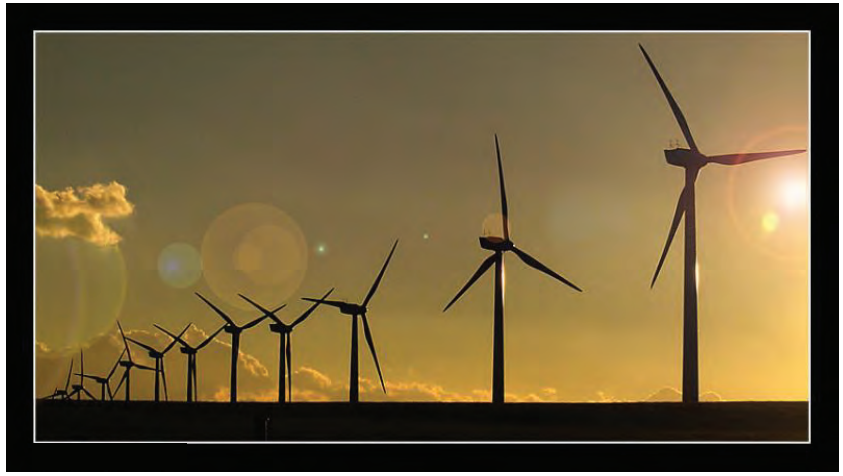


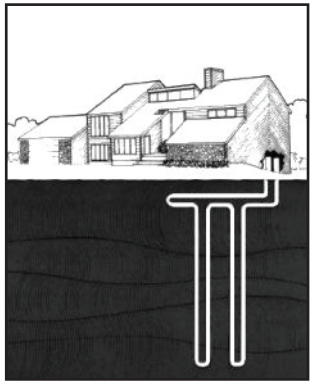
passive - Uses natural sunlight without the use of mechanical or electrical equipment to heat, cool, and/or ventilate spaces.

Wind Power

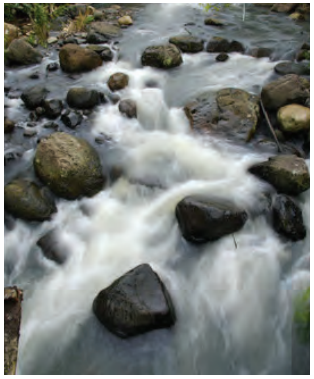
Strong winds can be harnessed by turbines and converted to energy, which can be stored in batteries or hydrogen gas. Utilization of windmills on Kefalonia (and future windmills expected to be constructed soon) or the construction of new windmills for Farsa are two possible options for energy sources in Farsa. Optimal wind-generation conditions above Farsa could provide exxcess electricity which could be sold to mainland Greece for a profit.





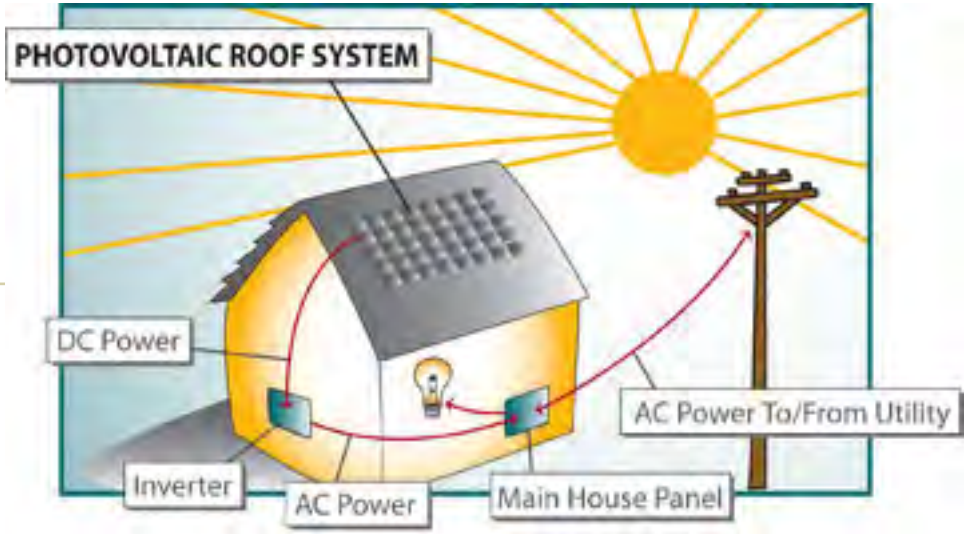


GEOTHERMAL Although air on the surface of the Earth ranges from 5^0 C- 40^0 C, the air 3 meters below the surface fluxuates less and remains between 13^0 C and 18^0 C. Geothermal technologies tap into that stable air, enabling houses to stay cool in the summer and warm in the winter with minimal to nonexistant electricty costs.



MICRO-HYDRO Moving water contains a large amount of potential energy. Water accelerated by gravity from rainwater cisterns above Farsa could be channeled through pipes with micro turbines. Those turbines would spin and convert the potential energy of the water into small amounts of usable electric energy.

BIOMASS Excess biological waste can be used to produce electricity and/or heat through a variety of methods (for example, direct combustion and pyrolysis). Using these techniques, Farsa could use anything from olive pits to goat manure (biomass is any organic matter) to generate electricity.

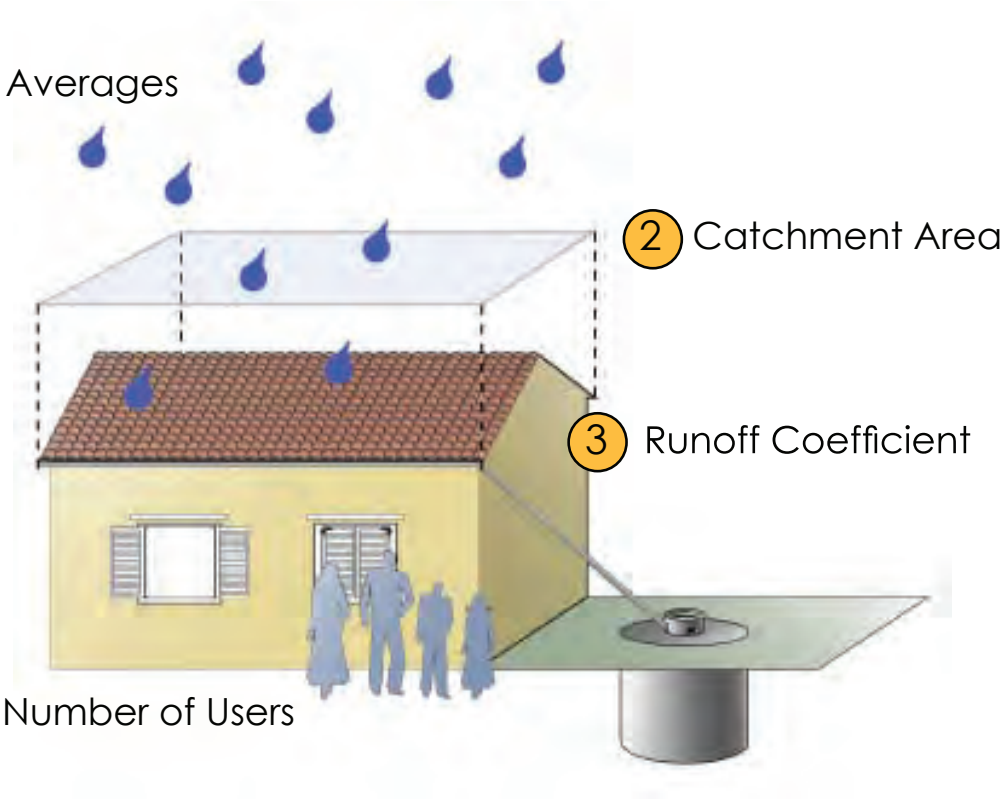

PHOTOVOLTAIC ROOF SYSTEM
DC Power
AC Power To/From Utility
Inverter
AC Power
Main House Panel

Solar Power

Water

Water management, collection and recycling are vital considerations in the design for reconstruction of Farsa. Some general solutions for rain catchment, water purification and reuse follow

1 Monthly Rainfall Averages



2 Catchment Area

3 Runoff Coefficient

Number of Users

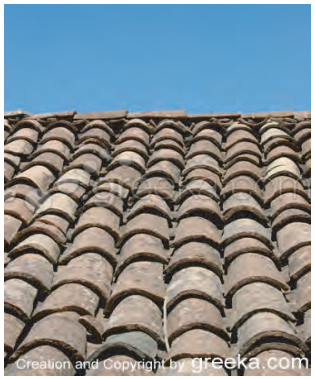
5 Daily Water Demand per Person

FARSA + WATER

Any future development of Farsa will require the reconstruction of the village's water system. This section is intended to assist the selection of traditional water collection components as well as inform the reader of modern technologies that can be implemented into the redevelopment of Farsa. This section will also address the catchment, storage, purification, and delivery of fresh water systems in the Old Farsa Village. The primary emphasis of this section is decentralized systems with a heavy emphasis on rain-water catchment.

CATCHMENT

There are three types of rainwater catchment: roof, ground and large-area field catchment. Roof catchment was the predominant from of collection in the old village. Clay roof tiles shed water off their surface and into clay gutters or directly on courtyards. The water in the courtyard was then funnelled into an underground cistern.

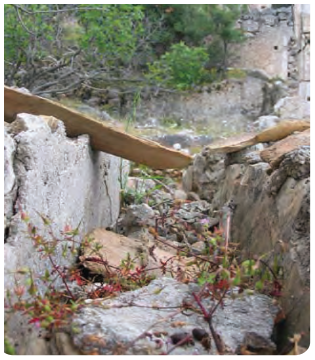


ROOF CATCHMENT

The most useful and efficient form of water collection is roof catchment. Clay tiles are used to funnel rainwater into a gutter system. New materials and clay glazes can increase the water collecting efficiency of the roof by decreasing the amount of water that absorbs into the roofing material

GROUND CATCHMENT

For domestic drinking, the Farsa school provides a good example of runoff from the ground collecting into a cistern. One form of ground catchment is road runoff. Depending on the rigor of santization, the water collected from roads could be used for drinking or for agricultural purposes.



FIELD CATCHMENT

A modern form of rain water catchment, the field model operates in essentially the same way as the roof catchment system works. However, the surface would consist of large, sloped solar panels, which serve both as an energy source and a runoff surface for rain catchment.

Left: A Farsan home with a sloping clay tile roof, an example of an efficient water catchment system

Above: A view of a preserved cistern from old Farsa

CATCHMENT MATERIALS

ALUMINUM

CLAY

GLAZED CLAY

*The number in the lower right corner of each material example is the percentage of water shed by the surface if the total amount of water hitting the surface is 100. The higher the number, the greater the efficiency of the material as a catchment surface.

STORAGE

Traditionally, subterranean cisterns were used to store rain-water throughout the year. The cisterns were made of stone on mortar and lined with lime paste to seal water in. Many of these underground cisterns are still intact and can be restored for future use. The development of durable and flexible poly-mers provide more possiblities for the materials for additional and restored cisterns. This section describes the different practical types of water storage possible for redeveloped Farsa, including subsurface tanks, above-surface rain barrels. and bioswells for road runoff.

BIOSWELLS

Prevention of storm-water flooding is very important given the geographic location of Farsa. Essentially a storm-water prevental system, bioswells are road-side garden beds that absorb and store water, dis-sipating water into the ground slowly instead of large volumes of water rushing down roads.

RAIN BARRELS

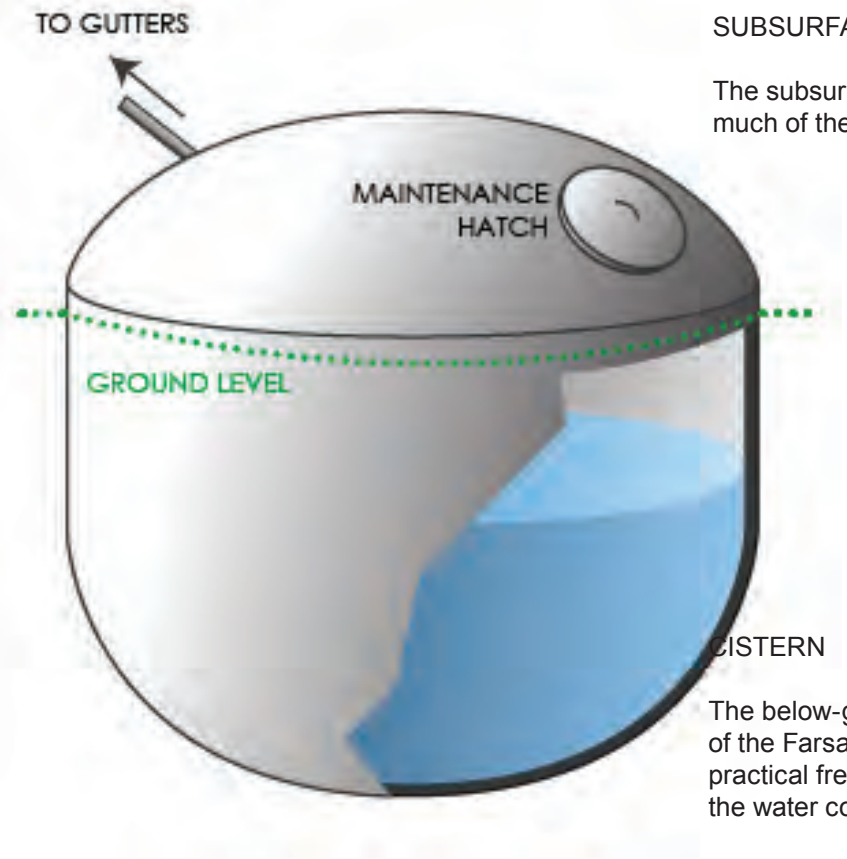
Rain barrels are a modern, above-ground stor-age method with the same operating principles as subsurface tanks. However, one drawback is that they’re generally much smaller than subsurface tanks.

SUBSURFACE TANKS

Subsurface tanks store water below the ground, helping to minimize the intrusiveness of the water tanks on the landscape. These tanks can be made from a variety of materials including fiberglass, polyproplene, metal, concrete, wood, and ferroce-ment. Proper placement is critical to prevent cracking and animal waste contamination. Conventional subsurface tanks were not con-structed in old Farsa, but their use in modern rain collection systems has been highly successful.

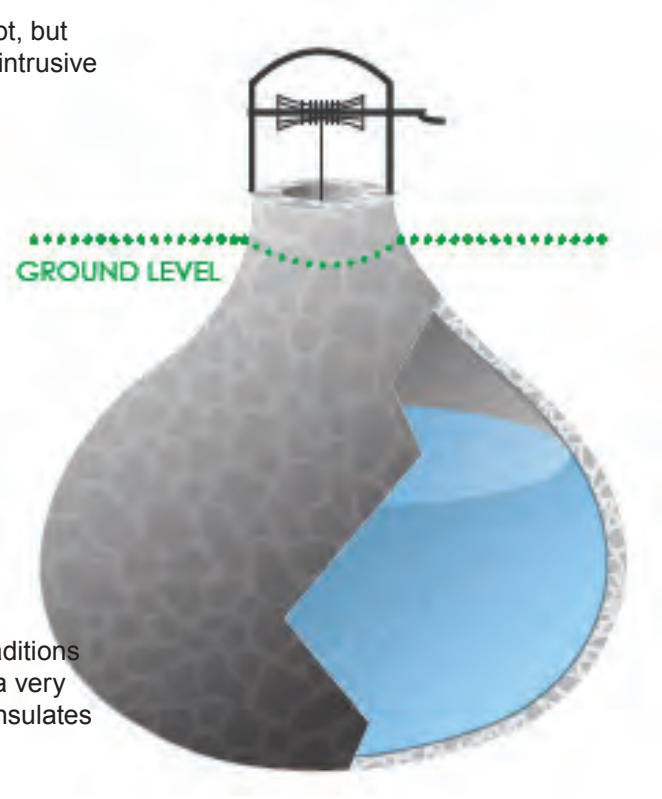
CISTERNS

Cisterns were historically suc-cessful for rainwater sotrage in old Farsa and could be used for future redevelopment. Another advantage of underground cisterns is the natu-ral insulation from the surrounding earth.



SUBSURFACE TANK

The subsurface tank is an excellent concept, but much of the tank is still above-ground and intrusive



CISTERN

The below-ground cistern preserves the traditions of the Farsan village as well as serving as a very practical freshwater storage device which insulates the water contained

Subsurface Tank

The subsurface tank is an excellent concept, but much of the tank is still above ground and intrusive

Cistern

The below ground cistern preserves the traditions of the Farsan village, as well as serving as a very practical for of freshwater storage and insulation

PURIFICATION

Our ability to purify water has increased substantially since the time Old Farsa was inhabited. It seems unlikely, therefore, that this aspect of the village will remain completely ”traditional” when people re-inhabit the village. Rain water is one of the cleanest forms of water there is, and the level of further purification will be far less extensive than ground water or seawater. This section will focus on sand, solar, and individual tap filters.

SAND FILTERS

Designed to use a gradient of sand particles to filter water, sand filters trap and absorb contamination and suspend solids to the sand grains. Surface water will have higher contamination levels than rain water, and slow sand filters would be effective for removing surface water runoff. The only constraint is land availability and the size of the system.

SOLAR DISTILLATION

Water is evaporated, leaving behind dissolved and suspended matter. The pure water vapor then condenses.

INDIVIDUAL TAP FILTERS

Installed on every water tap in every home. Much like a modern “Brita” filter, this serves as a final step in the water purification process and only filters out very small particles.

A view of a well preserved cistern in Old Farsa overlooking the Ionian Sea

SAND FILTER

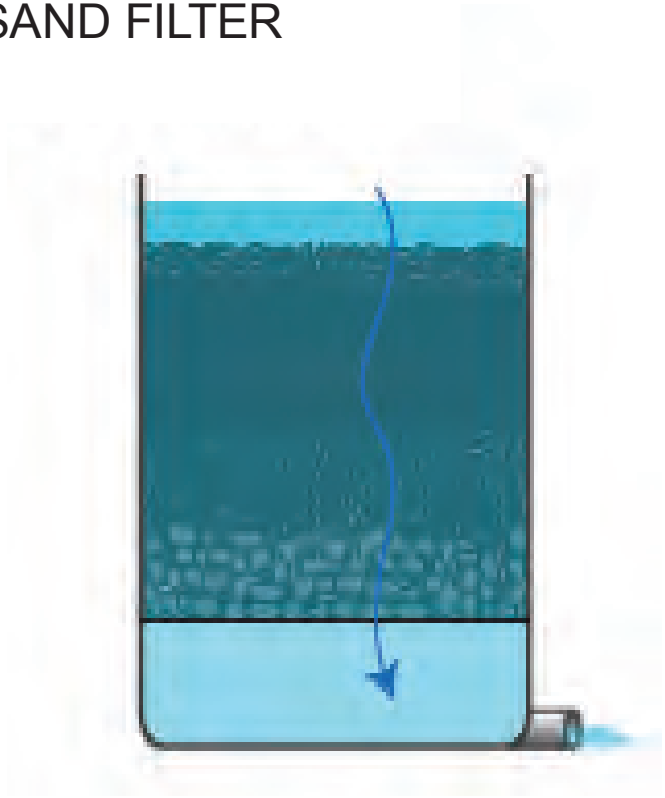


Diagram of sand method for water purification

SOLAR DISTILLATION

Diagram of solar distillation for water purification

Delivery

The general method of the Farsan fresh water delivery system will consist of two main components: first, the delivery of freshly caught rain water from the roof and gutter systems to the storage, and secondly, from the storage compartments to the tap for the consumers. The water transported form the roofs to the storage will be primarily gravity fed, as for no need for energy consumption in this process.

For one water extraction method, although very outdated and rather high energy, the water would be manually extracted from the cisterns by way of rope and buckets. Simply, the buckets would be dipped down into the
cistern with a rope, and then retrieved after they had filled with water.

Another, much more advanced and easier way for the consumer to get the freshwater from the cistern is by way of a water pump. This is the much more common form of water extraction. From the underground storage to the tap, a solar powered water pump would be used.
Powered by Farsa

Village and the existing photovoltaic system, these pumps would make water extraction and delivery very easy, going directly to the consumer's tap.

Manual Extraction

Essentially, this method of water delivery is very outdated, as there are many newer, more efficient, and easier ways to extract and deliver water directly to the consumer.

Water Pump

Working the same way as a modern day water pump, this water pump would work the same way as an ordinary water pump;
however, this would be sustainably powered by a solar powered electric source. Also, this same kind of pump could be used on
various applications throughout the rest of Farsa Village, such as
in a public fountain application.

A a simple rain water catchment showing transport from the roof to storage

An excellent example of a practical and efficient water catchment system is found in the school of Old Farsa. The gutter system structure utilized the rain water caught on the roof and channeled into the nearby underground cistern. The Ionian Sea is in the background below.

Backup and Emergency Water

In case of a shortage of the water supply in Farsa, especially in the late summer months of July and August when the water supply is lowers, there are a variety of options to meet the water demand of Farsa.

First, a backup water storage tank would be located within close proximity to solar field at the top of the village. A portion of the total water from the solar field catchment surface would go directly to the emergency system, while the remaining water would travel down to the village for day-to-day use. One advantage of having a supply of water stored above the village is that in the event of a power outage, no electricity is necessary to transport the water to the village.

Another possibility for an emergency water supply would be to transport water into the village with trucks. Although this is not the most practical or cheap method of meeting the water demands of Farsa, it is an important backup option. The water could be trucked in from the water source in nearby Argostoli.

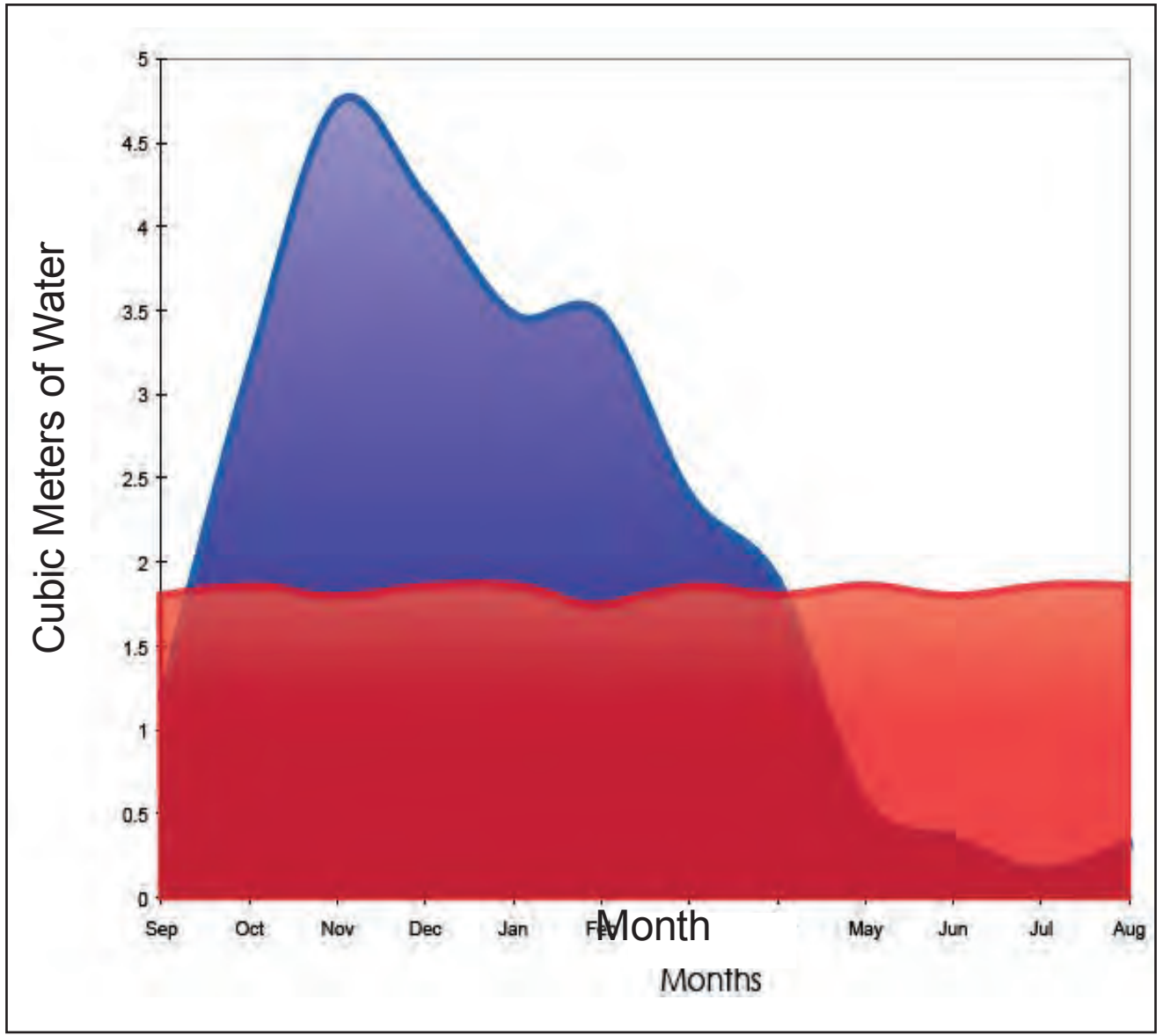
Rainfall in Kefalonia

The first step in calculating the size of the storage tank needed is to calculate the total amount of rain that is capable of being collected on a given catchment area for each month

Then, calculate the monthly water demand based on the total number of users that will rely on the given collection systems. A simply but effective way to calculate this is to display the cumulative water supply and cumulative water demand in a table as well as a graph. Each month's water supply and demand will include the sum total of the previous months' quantities as well.

When deciding on storage tank size it is necessary to find the largest gap between the supply and demand. In order to capture the greatest amount of water, it is necessary to construct a storage tank that can hold the largest amount of water surplus that occurs throughout the year.

On average, if the rainfall data goes back a few decades, this surplus should be sufficient to store the greatest surplus of rainfall. However, during years of higher than average rainfall, it will be useful to collect that extra surplus as well. To account for these years, increase the maximum average surplus by 20%.

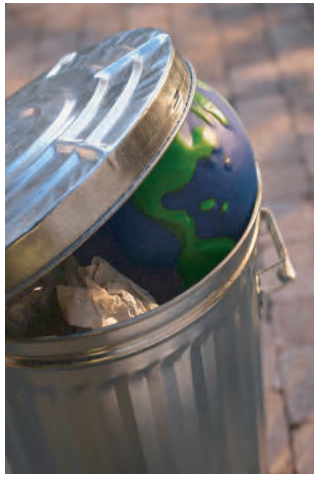


This graph shows the amount of annual rainfall in Kefalonia in centimeters and the demand per person per day in cubic meters

Waste

Currently, many resources are used once and considered trash. We can use traditional Farsan practices as examples of how to reduce waste while also using innovative ideas and continuing the efficiency and sustainability of the village.

Recycling and Garbage



Reduction and Re-use

The most environmentally-friendly solution to waste removal is waste reduction. The average household in the Ionian Islands produces 63 tons of waste a year. Much of this waste does not need to be created in the first place. Grocery and retail stores in Farsa could design their merchandise so less packaging is needed. Grocery stores could sell much of their food in bulk and cloth bags could be sold so consumers could reuse their bags. Many bottles and boxes can be reused, and while this wouldn't eliminate waste coming in from outside the village, it would serve as an example and would help reuduce the amount of waste.

Recycle

Currently Kefalonia has no recycling facility, but facilities do exist on the nearby island of Zakynthos and the city of Patras. It would ideal if the development of Farsa encourage the implementation of an island-wide recycling program. Many materials that can be recycled end up in landfills on the island, taking up space and reducing the aesthetic attributes of the land.

Waste Removal

Trash and recycle bins can be placed at either end of the main street in Farsa, making it a short walk to dump household wastes for communal pickup. Farsa is currently a small village and it would be disruptive and unnecessary to have large garbage trucks driving through the village. Small, fuel-efficient vehicles or vehicles that use alternative fuel could transport waste from the upper village to the main road in the lower village to be picked up by the regular trash service. In this way, little energy is expended for waste removal in the rebuilt village.

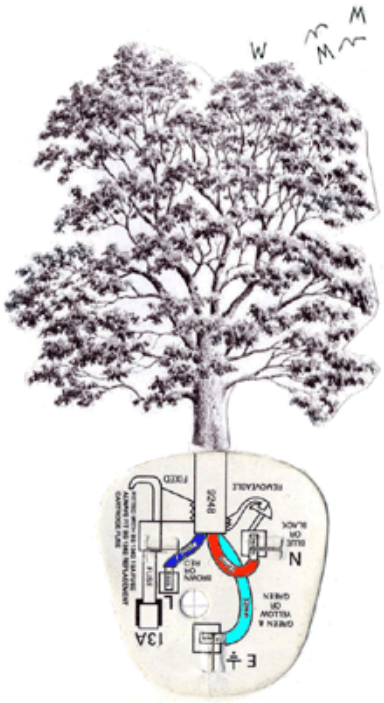
Organic Waste

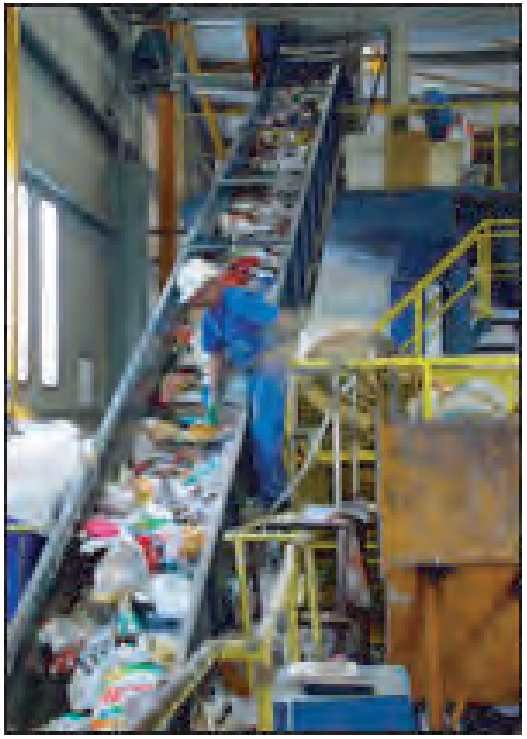
Tons of bio-degradable waste ends up in landfills where it cannot break down because of excess moisture. Composting is an easy and useful solution. Organic waste including paper, food and even human waste can be turned into fertile soil. Residents with an interest in keeping a garden could have personal compost bins or communal compost bins could be placed in accessible public areas for tourists. The soil from these bins could be used to fertilize public green spaces or donated for agricultural use.

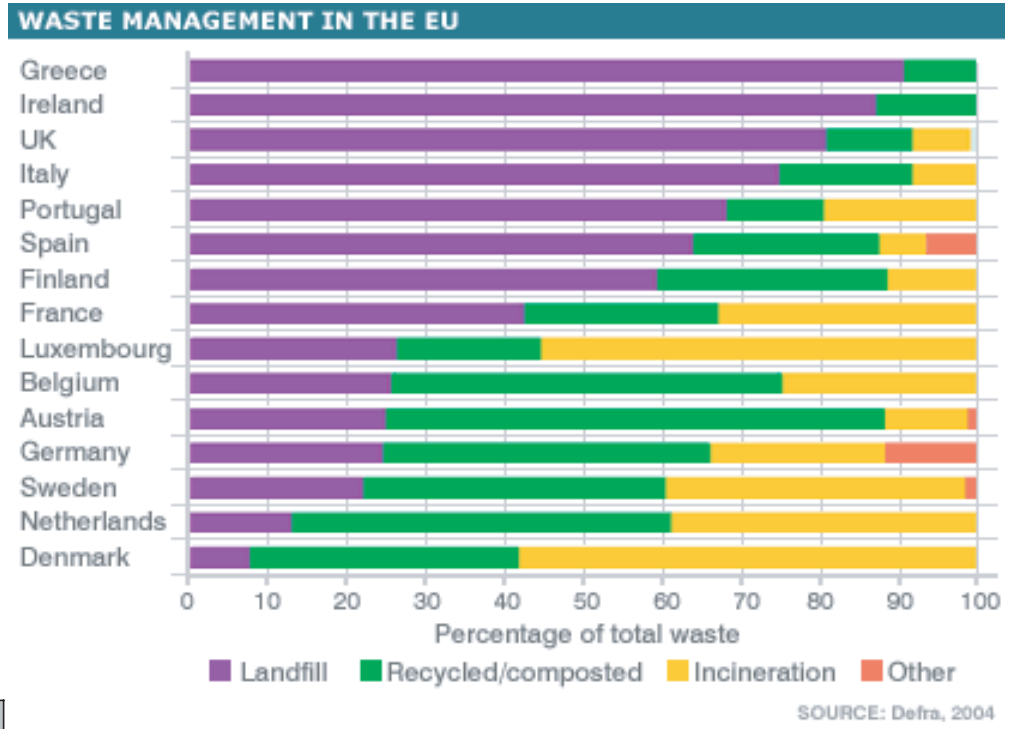
Artisan Re-use

"One person's trash is another person's treasure." Many artists today create beautiful work from what would otherwise be thrown away. Farsa could be a desirable place for artists t o live and work. Recycled art made from waste or other natural elements found in the village would not only reduce trash, but be an appropriate and interesting product to sell to tourists as souvenirs.

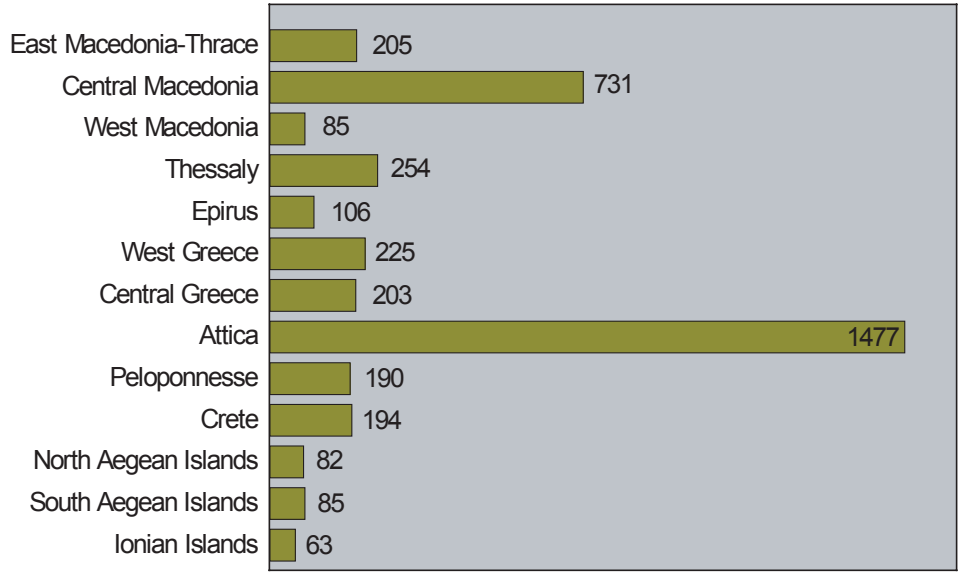

KEEP
QUEENS
CLEAN!







AVERAGE HOUSEHOLD WASTE PRODUCTION/REGION/YEAR 1997

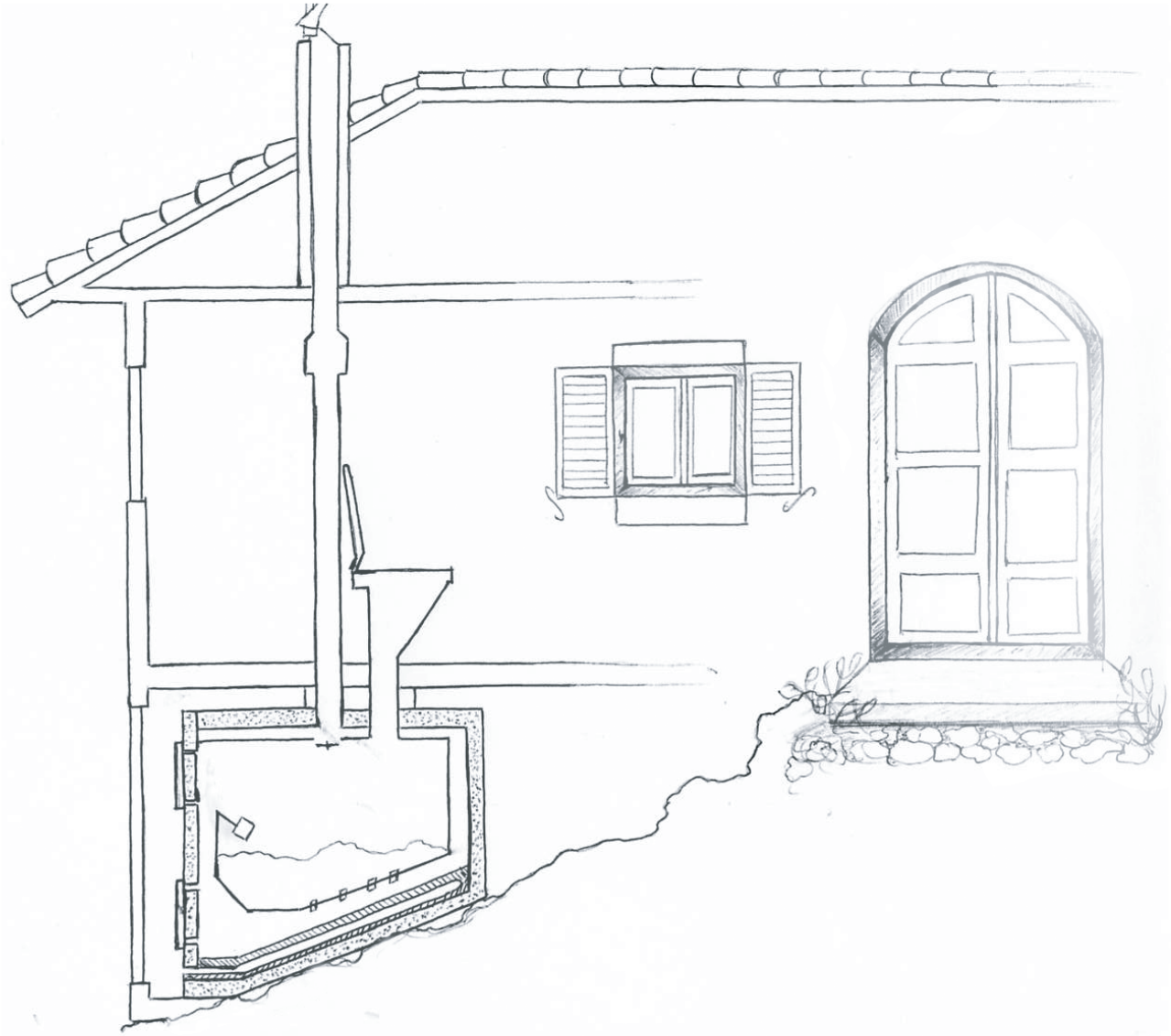


Toilets and Waste Water

Composting Toilets
A composting toilet is a waterless toilet that breaks down bodily waste and turns it in to a reusable soil. Human waste is first composted in a self-contained toilet; through proper air circulation the break down process emits no odors. As waste de-composes it slides down a built in slope or falls into a container where after a short time it is harvested. What is produced is a fertile soil that can be used in landscaping. Liquids settle to the bottom and are drained either into a leach field or can also be used as fertilizer. Composting toilets would be a good solution in Farsa because they need little or no water which is scarce and they produce fertile soil, a useful supplement to the naturally rocky soil in the area. Little energy is needed for removal since all by-products can be used on site.

Septic Systems
A septic system is an alternative to composting toilets. Septic systems are water intensive exterior treatment tanks. Waste is flushed into the tank where solids and liquids break down and separate. Solids stay in the tank and are removed every few years, to be taken to a bio hazard site for further treatment. Liquids are drained into either a drain field, reed bed or trickle tank, where it is naturally filtered into back into the ground. This system is more energy and water intensive, but it is familiar because it is currently in use in many areas in Kefalonia.

Grey Water
Sink and shower water does not need to be as thoroughly treated as liquids from toilets. Therefore waste water from sources other than a toilet, can be drained, filtered, and reused in gardens, septic toilets, and for non-consumption purposes. Also, encouraging the use of biodegradable and nontoxic products in Farsa allows grey water to be more easily treated and reused on-site because the water would contain fewer harmful chemicals. If composting toilets are implemented, all water could be reused or disposed of on-site so it would be unnecessary to have any plumbing out of the village.



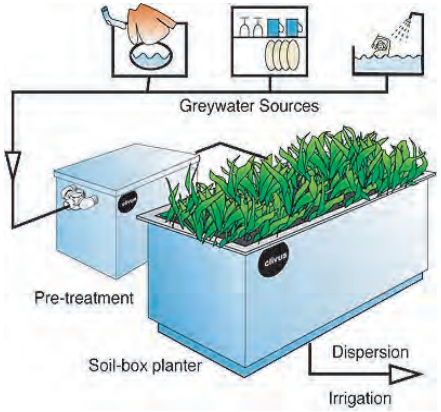


Diagram of Grey water Re-use

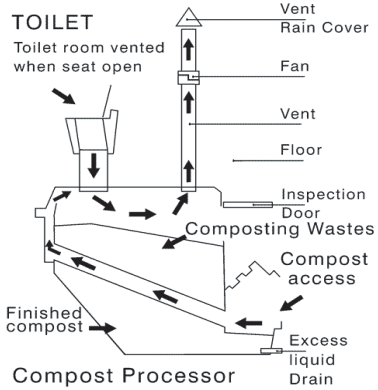


Diagram of composting toile

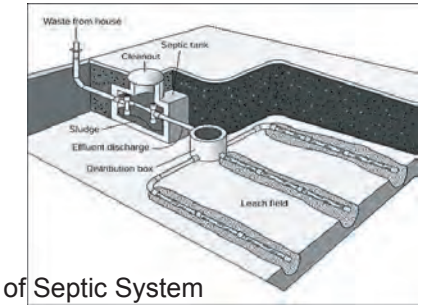
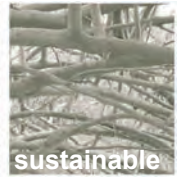


Diagram of Septic System

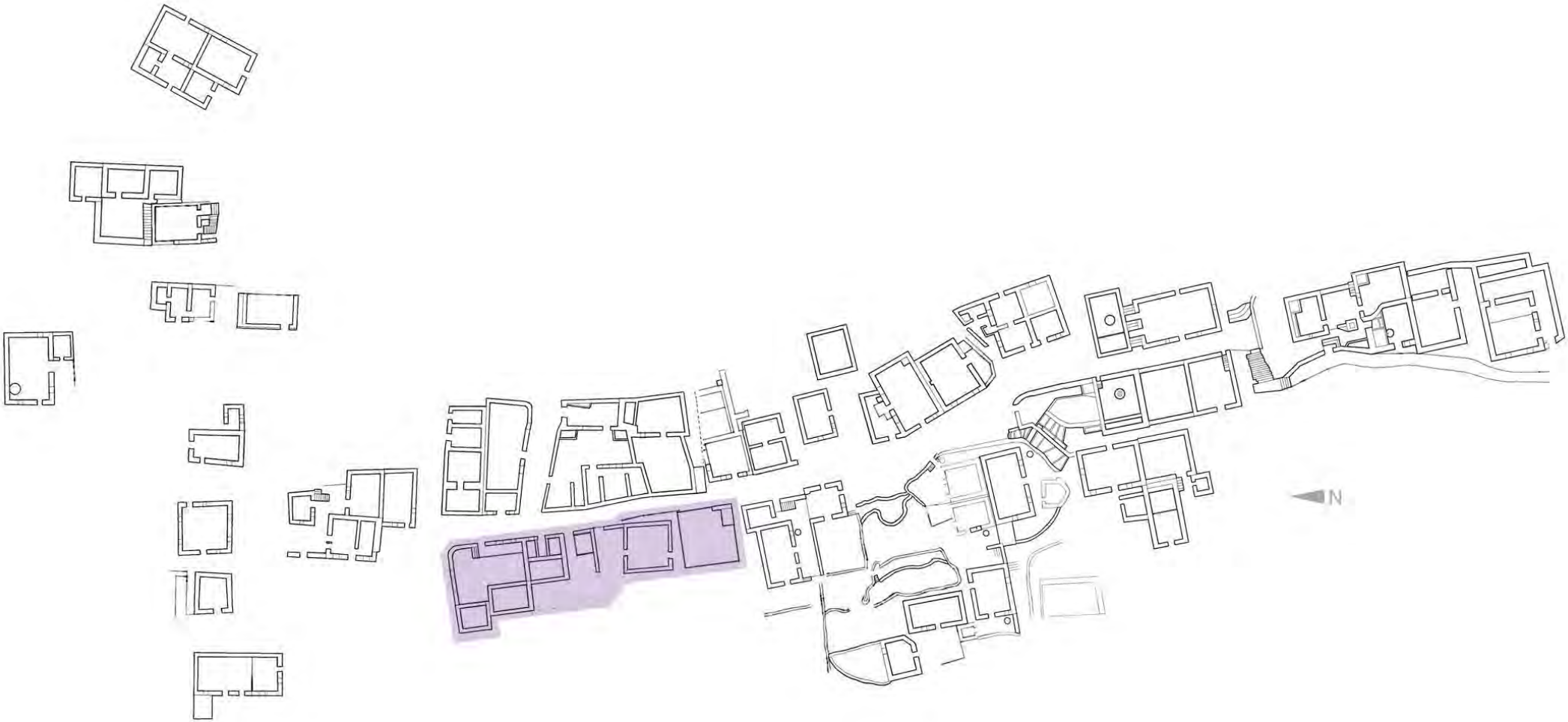
neighborhoods

neighborhoods

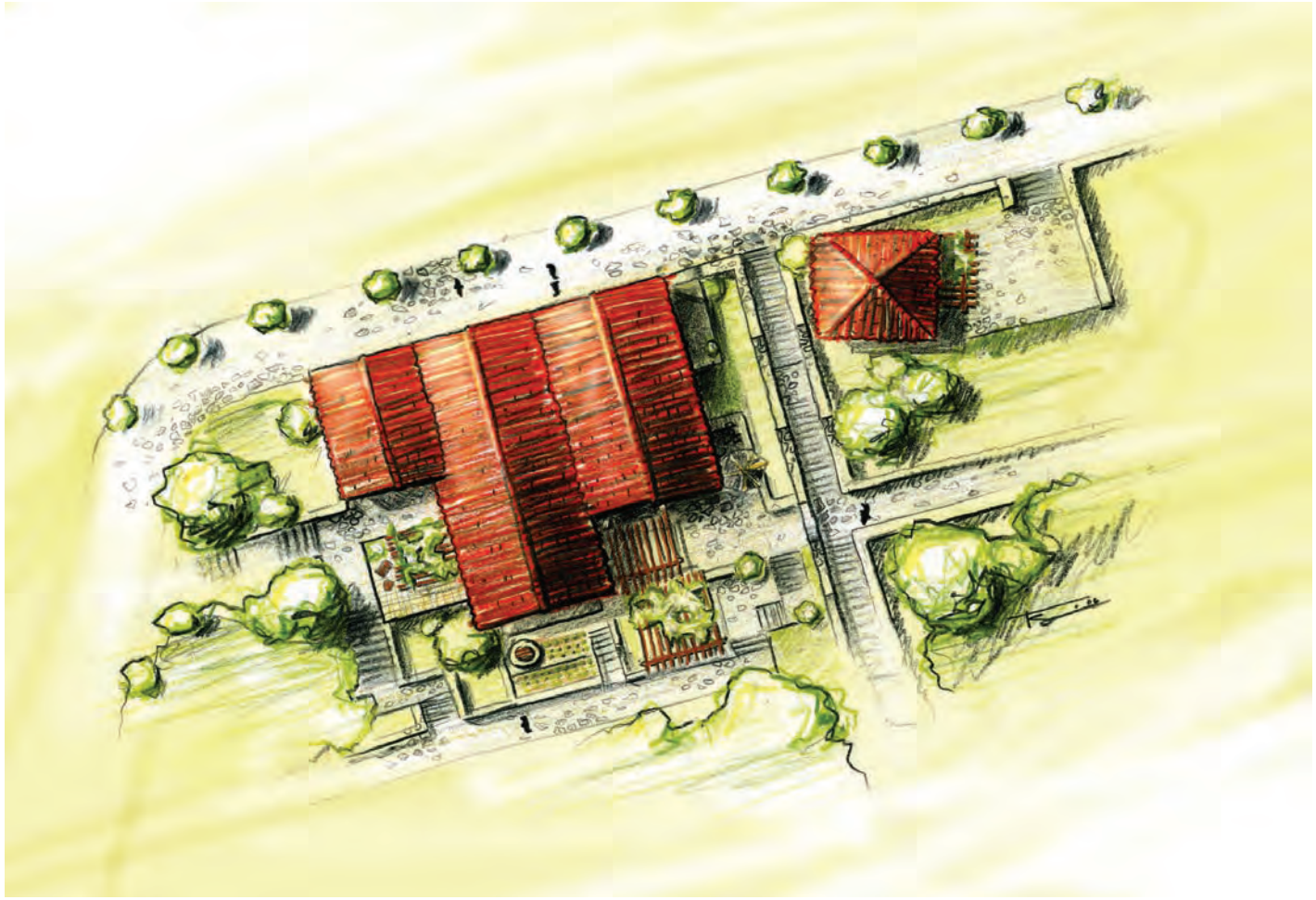




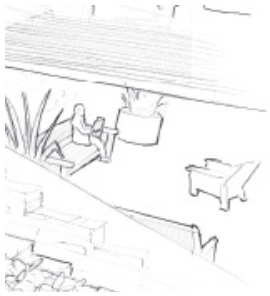


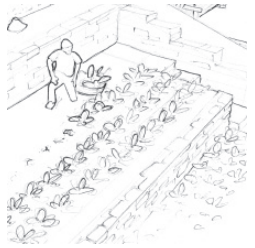

N

School Neighborhood



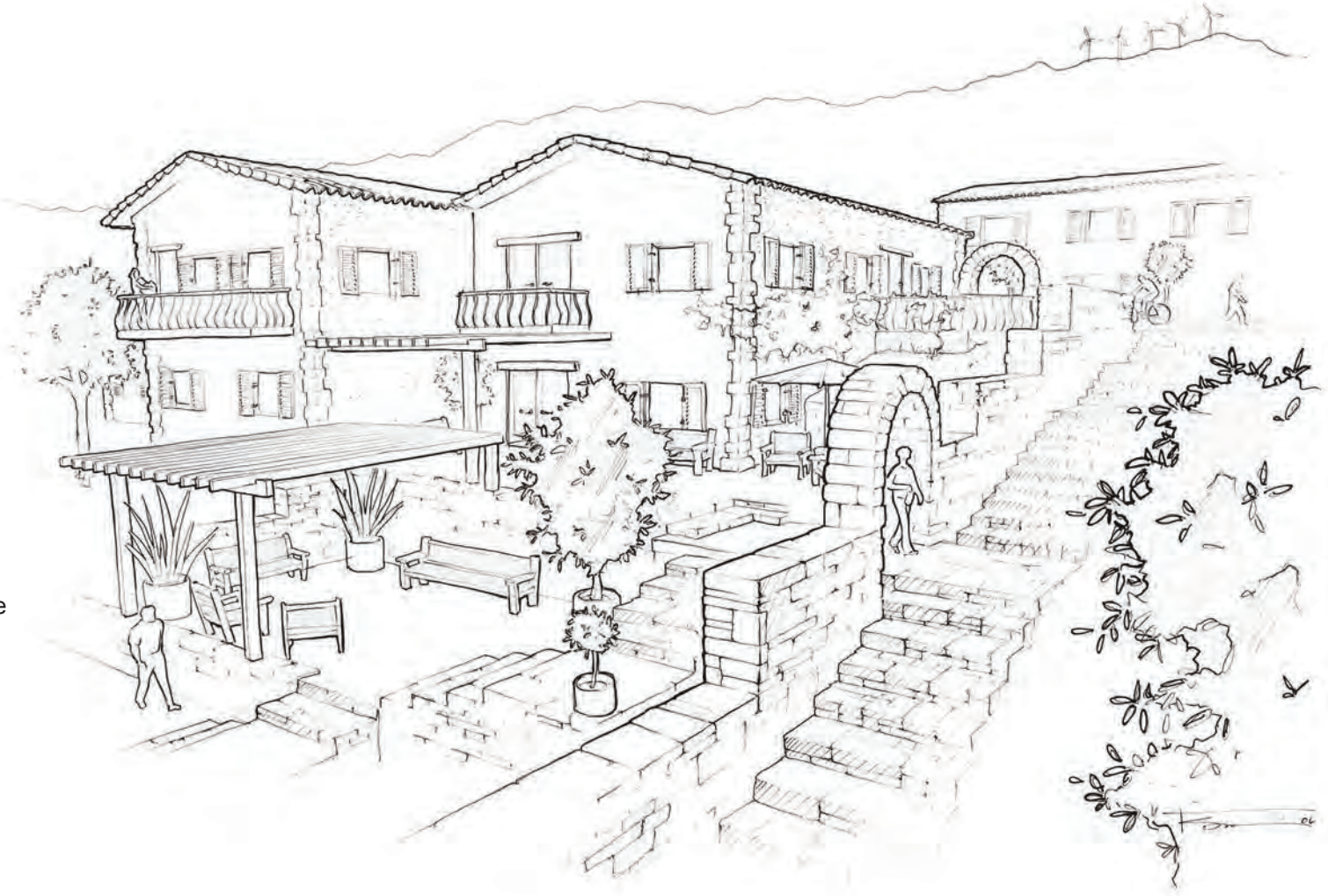
The school group includes two residences and a building that was previously used as a school. We focused on the development of the school building, wanting to continue it's traditional use as an educational space. We propose it be used as a community center where visitors and residents will go to be educated about sustainable technologies, including those in the village of Farsa. The school area includes a small residence next to a small plateia. Also, there is a large residence owned by a series of priests where many of the villages' gatherings were held, such as weddings and parties.





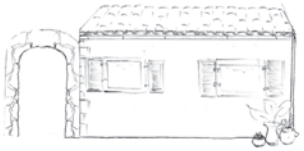
This is an example of a large, multi-family dwelling with outdoor seating on a roof terrace. We also see a garden for the family's use placed in the back of the house.

Here is a sketch showing possible future uses for the school building. The building is meant to be a multi-purpose facility. It could hold educational displays for tourists and school groups, as well as serving as a community space for local residents. The building is placed at the intersection of the main street and a cross path in order to support random social meetings of both residents and tourists.



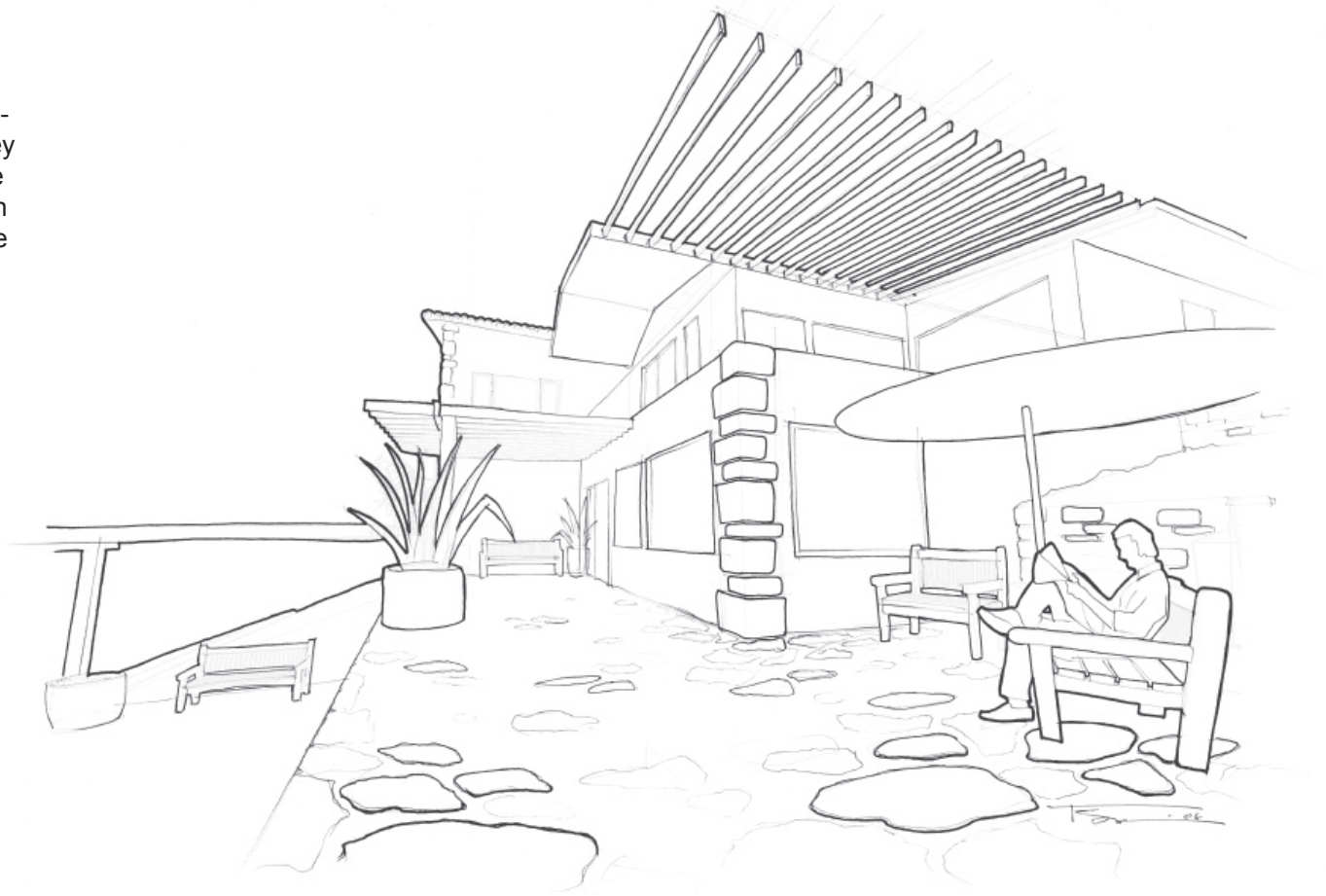
east

These drawings show side views of the neighborhood buildings. They are dug into the hillside which helps to maintain temperatures within the building.



west

north

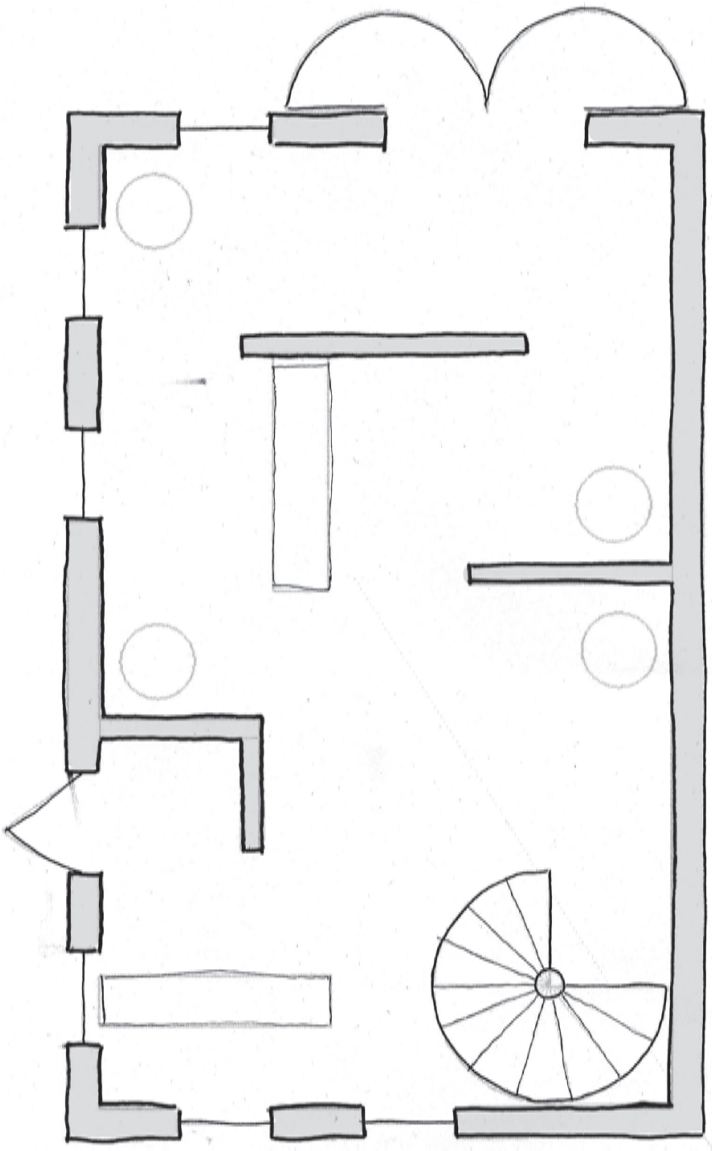


This is an example of how modern home design and technology could be implemented and incorporated in Old Farsa.

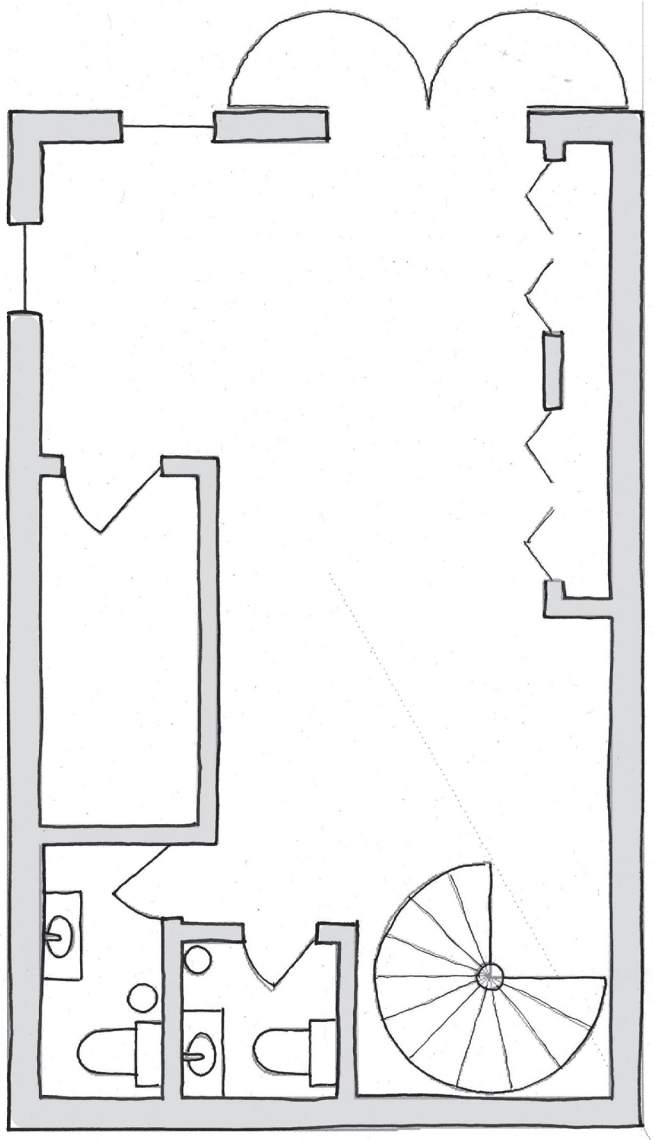
Floor Plans

Top Floor:
This floor is open for multiple uses. It has SW facing windows for maximum solar radiation and French doors to allow for maximum natural lighting.

Bottom Floor:
This floor will have open space that will be available for community use, storage space, supplies and bathrooms.



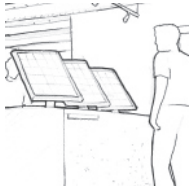
Top Floor



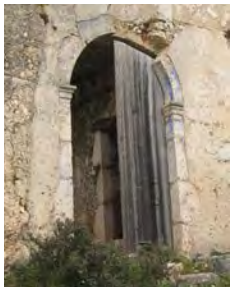
Bottom Floor

N

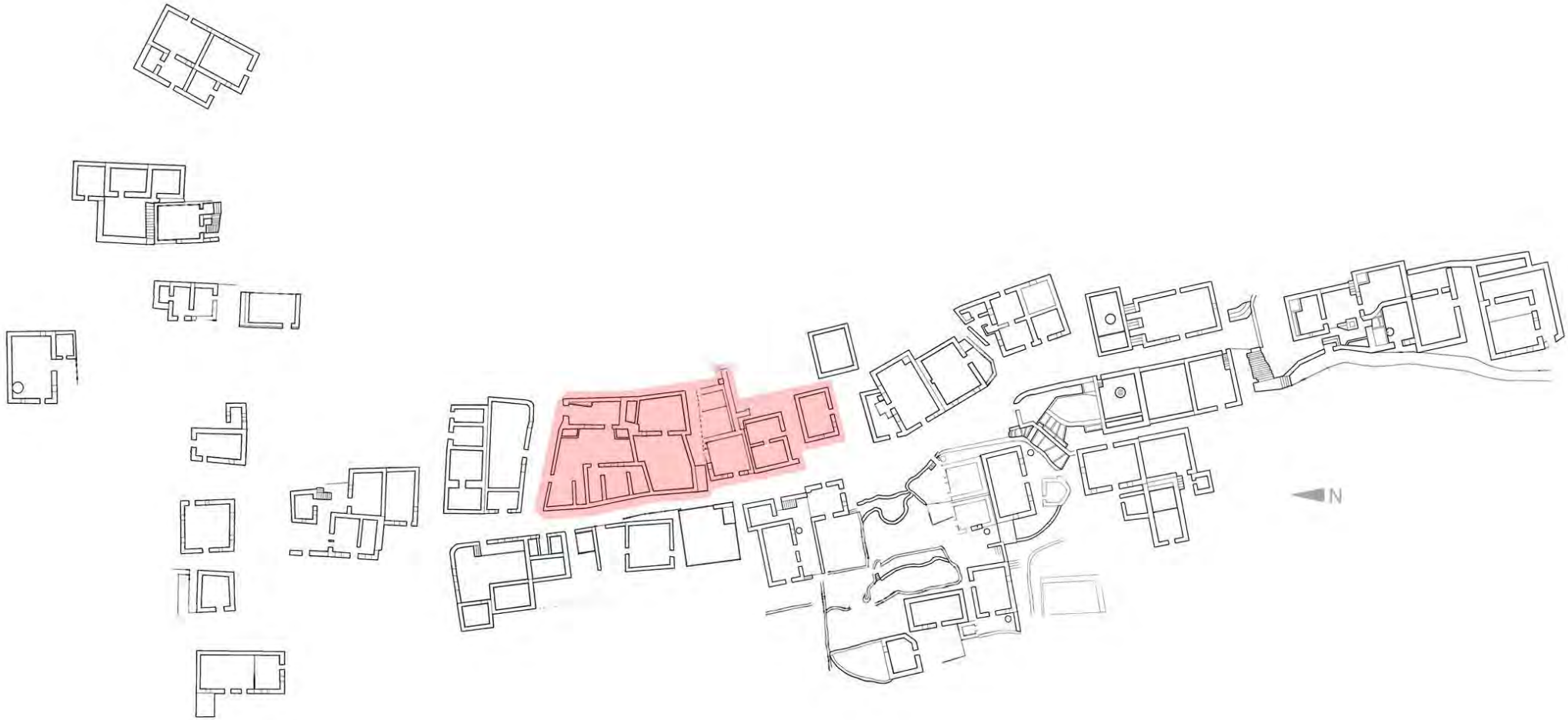
Here are a few ideas for exhibits and educational displays inside the school building. We imagine hands-on displays that show sustainable design and technology.



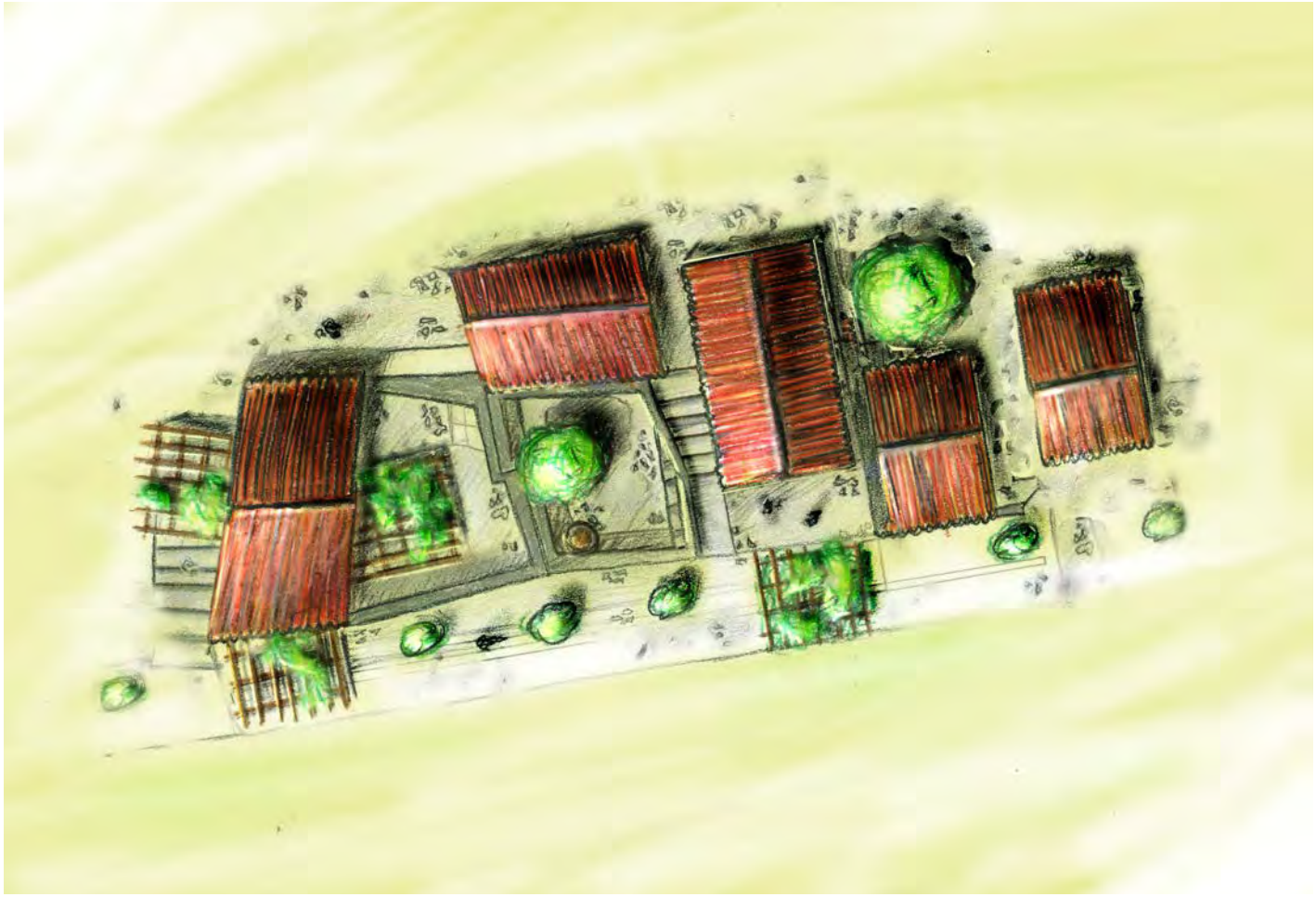
preliminary sketches







N

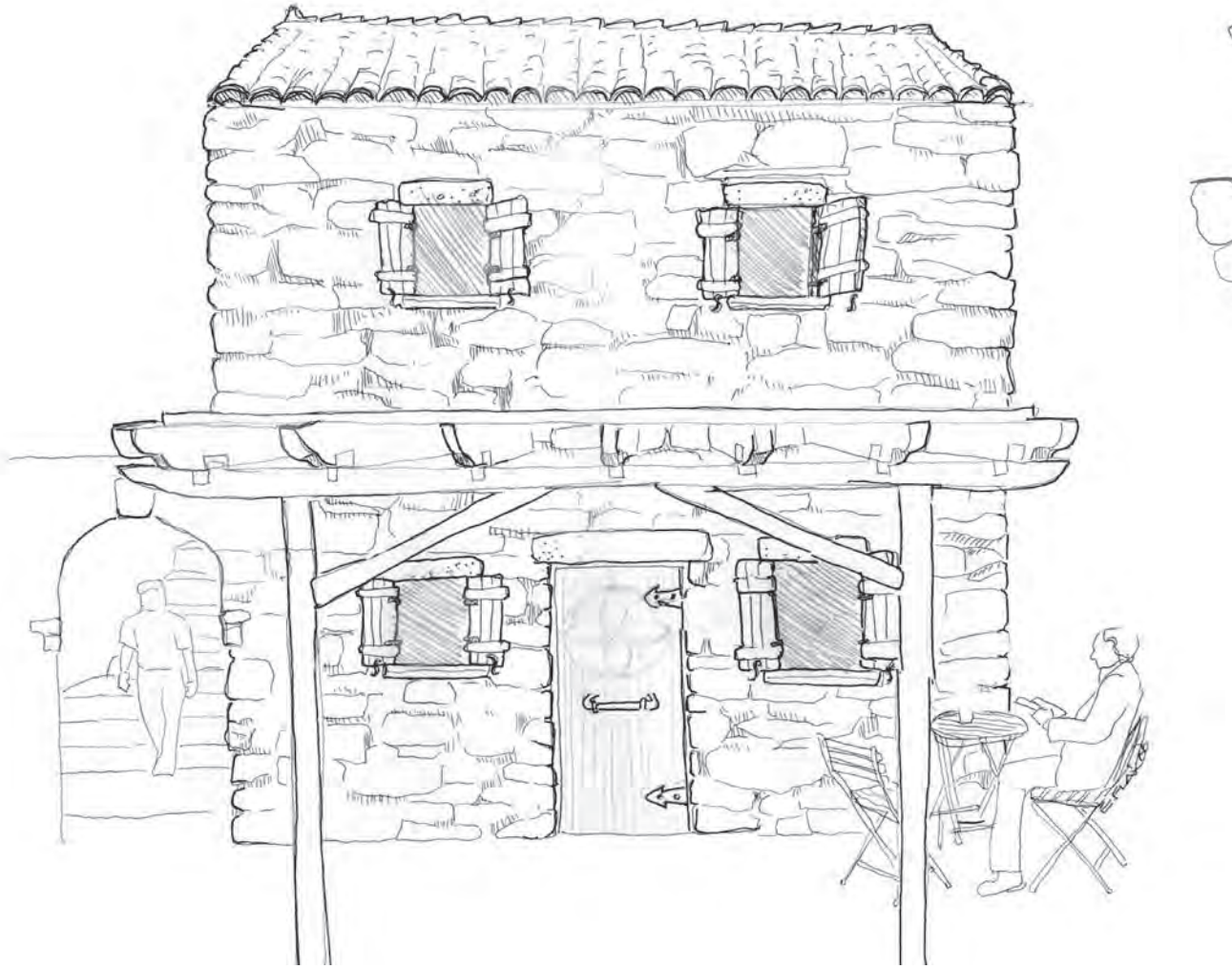
Kafenio Neighborhood



This is an aerial view of the Kafenio neightborhood. The buildings are all on the East side of the main street on a steep slope. The building on the far left was traditionally a wine press on the first floor and residence on the second floor. The next building is a residence on the bottom floor and a shared roof garden on top with a trellis. The next structrue is a wall surrounding a courtyard with a cistern and tree. Behind there is another 2-story residence. After the courtyard, there is a set of stairs going up the hill and providing access to the second story of the next building, the kafenio. A kafenio is a traditional Greek cafe which used to be primarily for men to gather and dicuss politics over coffee. The location of our recreated kafenio is in the same location as the main kafenio in historic Farsa, but will function slightly differently (women will be allowed in, too). The bottom flloor is the kafenio and the top floor is a hotel room with amenities for two people. The next building is another residence, and finally, the last building (on the far right) is yet another residence.

This is a more conceptual drawing of the overall view of the kafenio neighborhood. The design and colors were influenced from our feelings visitng old Farsa. We would like these impressions to be embraced and replicated in reconstructed Farsa.

side elevation



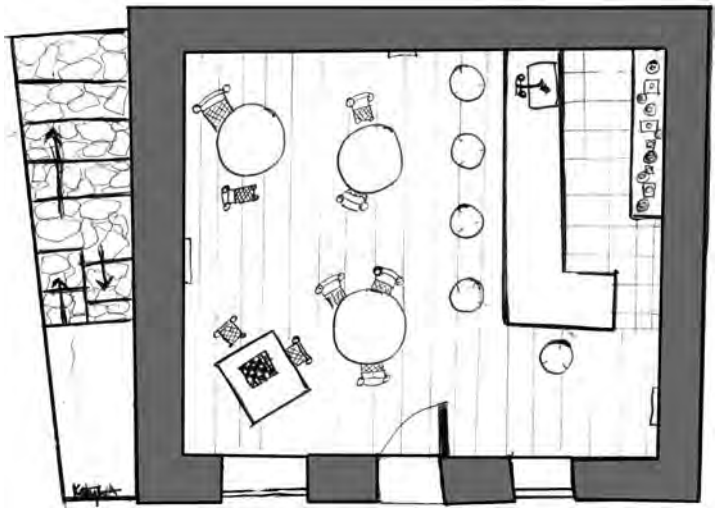
front view

On the rignt is the front view of the kafenio. We tried to keep the old stone as a reminder of how Farsa used to look. The trellis provdies shade for customers sitting outside. The shutters, windows and doors are similar to traditional designs we've seen around the island of Kefalonia. The side elevation of the kafenio is pictured above. The top floor of the kafenio building is accessed from the outside and the staircase is made of stones from old Farsan ruins.

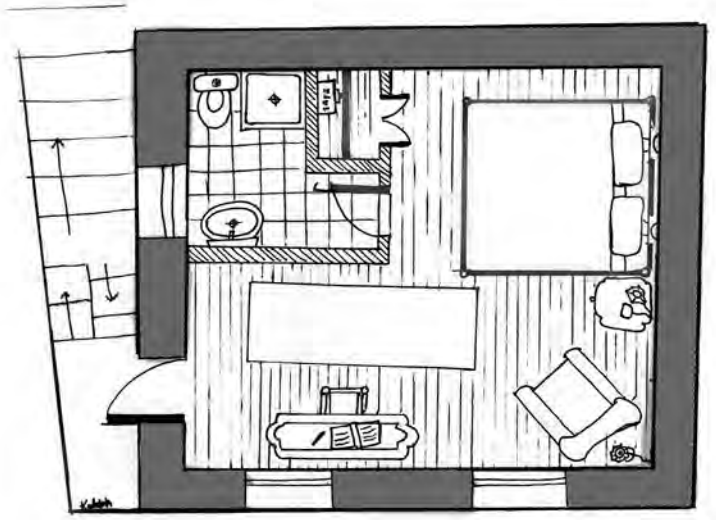
Chapter 2

NEIGHBORHOODS: Kafenio Neighborhood

This is a photograph of the kafenio in Old Farsa Village as it stands now.



This is the bottom floor of the kafenio.

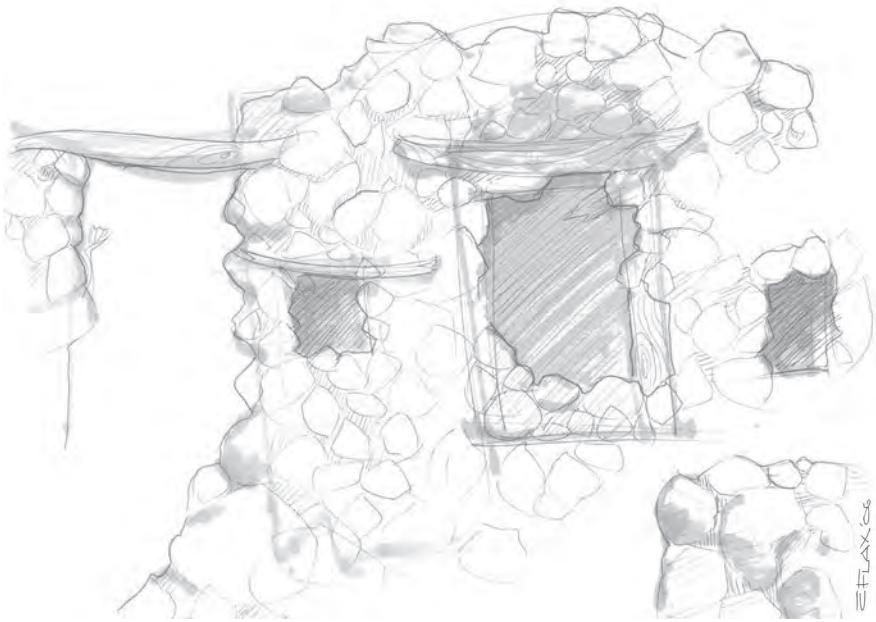


This is the top floor of the kafenio.

N ⟶

Kafneio Interior

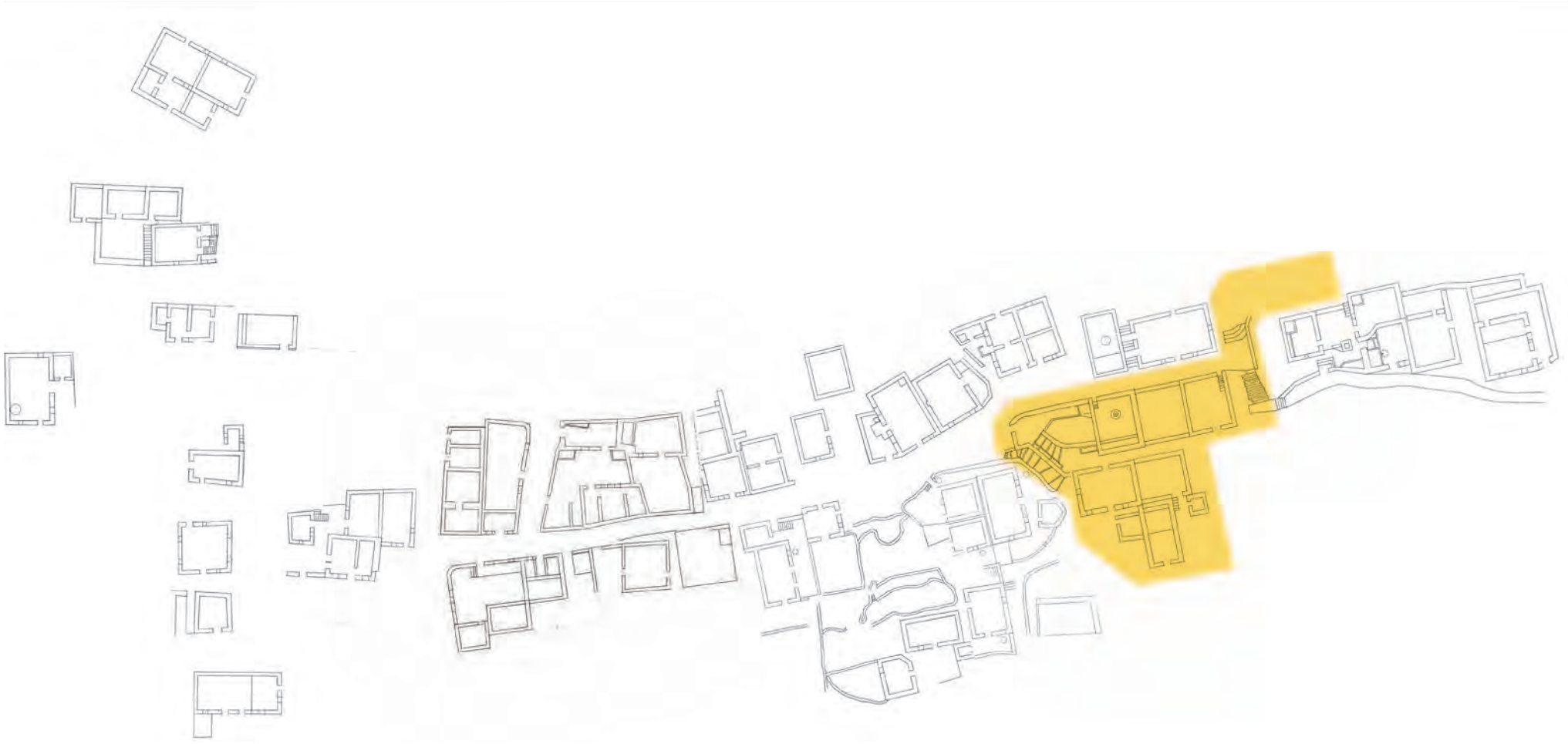
Inside the kafenio, there are several simple tables and chairs and a beverage bar. We tried to design the kafenio so it would look like a traditional, Greek kafenio, with wood panel flooring and wooden chairs and tables. The six-petal flower design on the walls is similar to the traditional wallpaper in the old kafenio



These are some preliminary sketches from our initial visits to the old Farsan ruins. We included the sketches to give an idea as to the inital impressions and feelings the village of Farsa gave us. The remains of old Farsa give priceless insight into the essence of the village, which is vital to a sensitive, accurate redesign of the village.





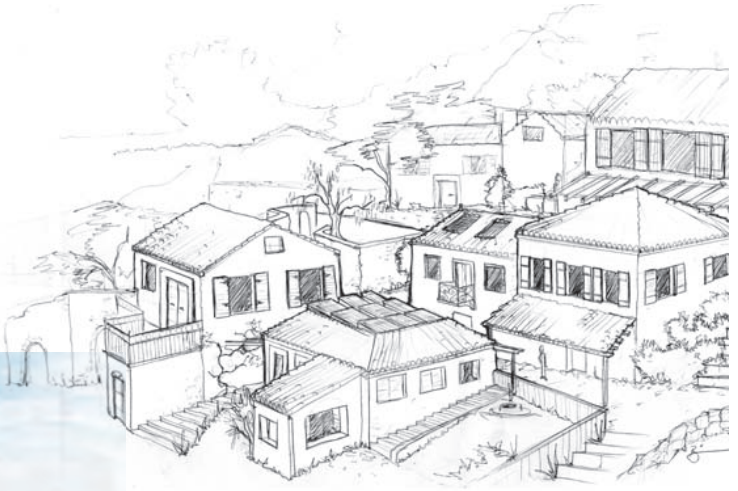


Residential Neighborhood

In redesigning this area our group focused on accommodating current needs and future use while highlighting and preserving the traditional beauty. The buildings redeveloped in this section were originally part of the Toumazata/Limberata neighborhood and will be visible to visitors arriving by car and hikers up from New Farsa. This section consists of the large platiea, five houses, a garden, and a public cistern.

Using local materials and traditional architecture styles we worked to incorporate new technologies for a form of “historic innovation.” Instead of hiding infrastructure, transparency of village operations will show people from around the world that Farsa is an innovative village rebuilt for future generations.

This section focuses on residential needs. We suggest rebuilding four homes for residential use. These homes can be permanent residences or rented to tourists. We will focus on the details of one residence. All of the drawings presented in this section are suggestions and are in no way requirements. We suggest that future redevelopment of this area realize that personal tastes on private property will be varied and that diversity of taste is good and healthy for any community.

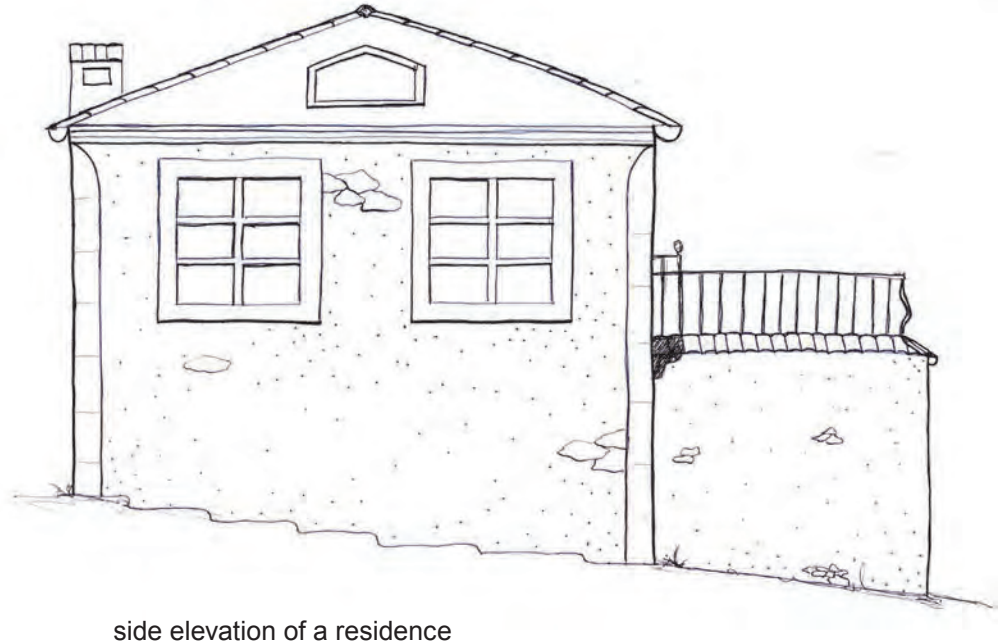


The architecture of the buildings begins with Venetian architecture styles and is then adapted for modern-day use by fusing modern technologies with the traditional aesthetics. Evidence of sustainable technologies like solar panels and wind mills actually being used make Farsa a visual example for other communities.

Starting from this base we then modified and adapted the buildings for a more contemporary look and style of life. Our goal is not to rebuild exactly what was there, but to instead build upon what was there. Inspiration for the current look of Farsa was derived from trips around the island looking at new homes and buildings, conversations with residents about what they would like to see, and our own personal tastes.

The element of design was always present as we worked to incorporate modern technologies into the architecture and character of the location.

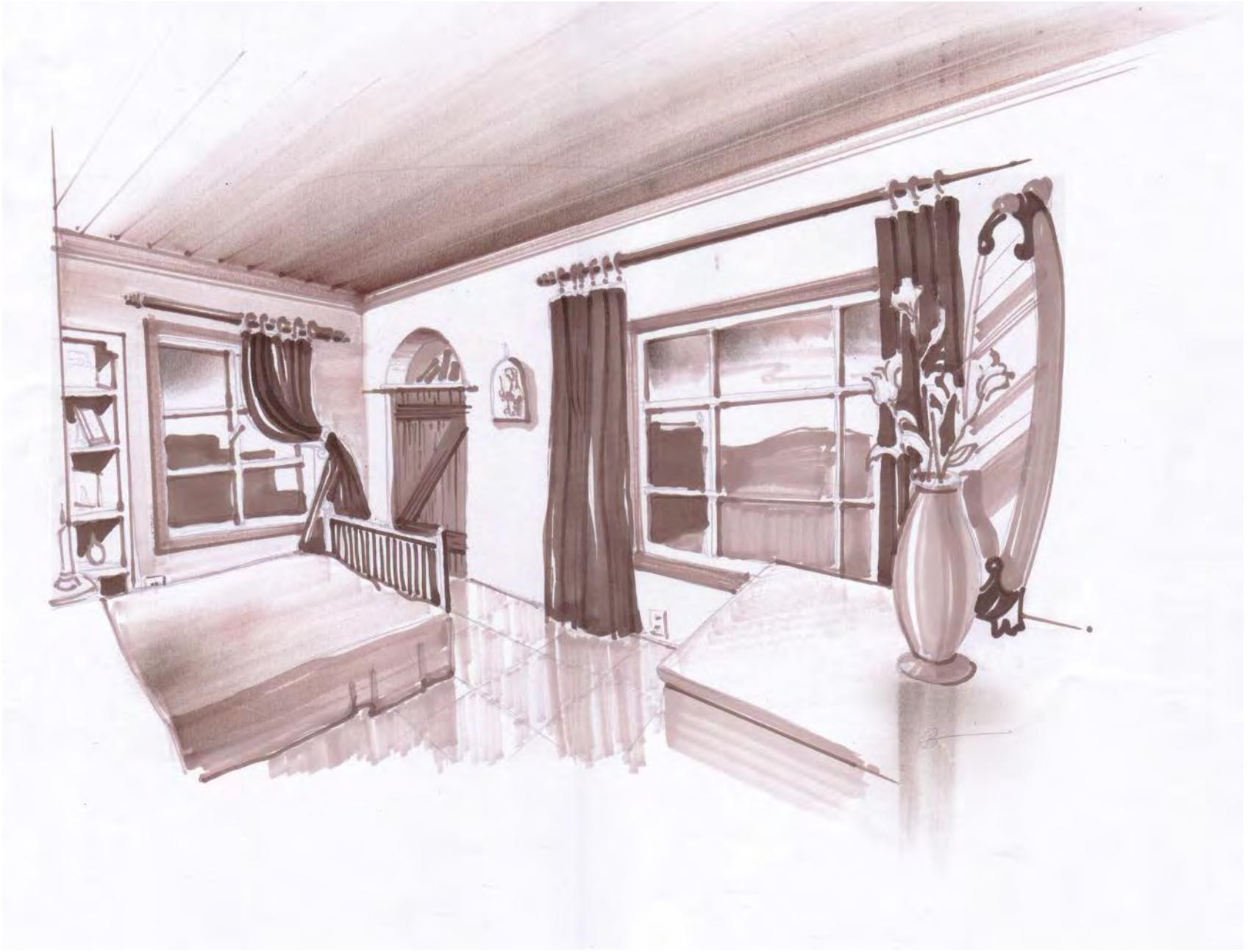
How residences are used has changed over the past sixty years and some minor changes in the physical layout of buildings is necessary for rebuilt Farsa. However, residences can be rebuilt very close to their traditional lot foot prints. Where buildings have been considered too small for reconstruction by modern standards they have been incorporated into the footprint of their neighboring building.



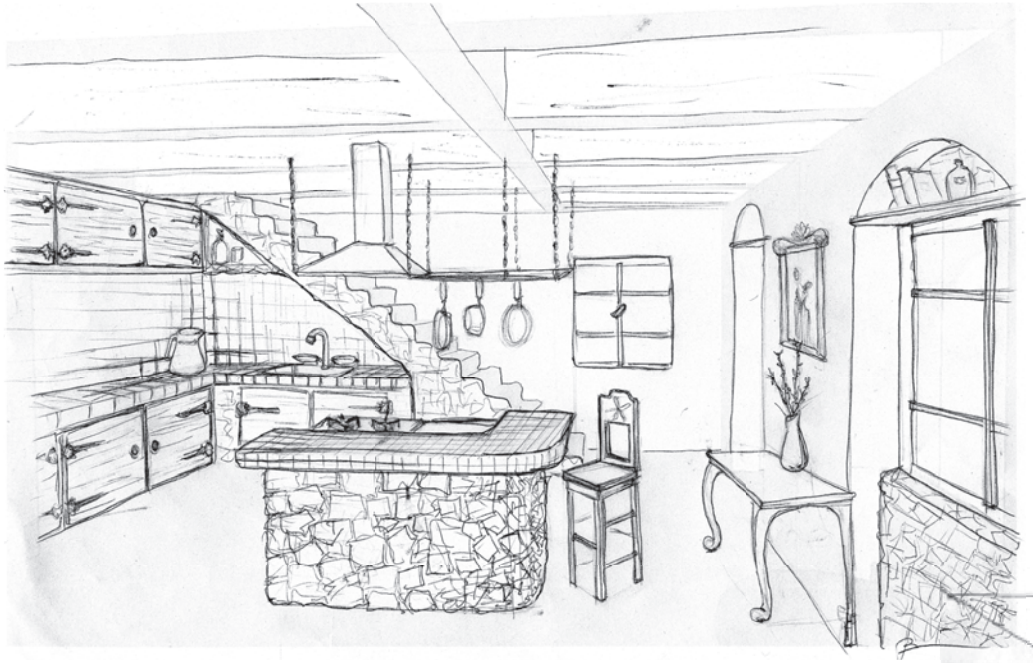
side elevation of a residence

front elevation

Originally this residence was two separate buildings lived in by two brothers in Farsa. What we depict as the front entryway to the new building was the smaller home. We joined the two together to create a more usable space. Using existing clues from the ruined building, the exterior has incorporated many of the homes' original architectural features. Transparency of electricity production is visible with the installation of solar panels on the rooftop. Green energy can be a great source of revenue for the community and home owners. Roofs have traditionally provided a collection source for drinking water, with modern technology they can now also serve as a collection source for electricity and income.



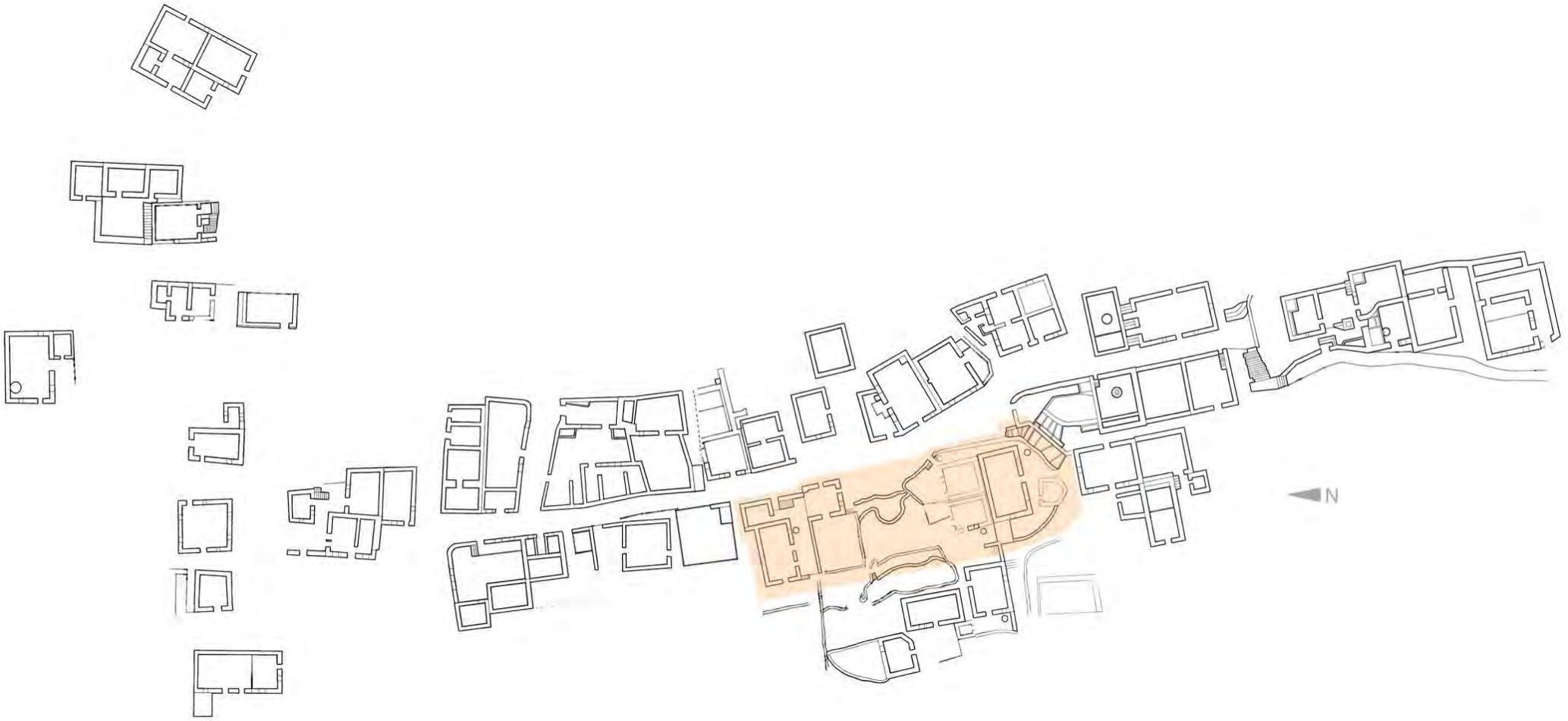
The interiors of buildings can be adapted and changed to a greater extent than the exteriors. Personal taste will also play a greater role in decorating the various interiors. These three images are samples of what an interior residence could look like. The kitchens have been modernized and take advantage of new kitchen tools and different lifestyles. The rest of the interiors will be outfitted with personal objects. Attention is given to allowing the penetration of natural light into the rooms. Windows are large and can provide warmth and light for the house.



Farsan kitchen

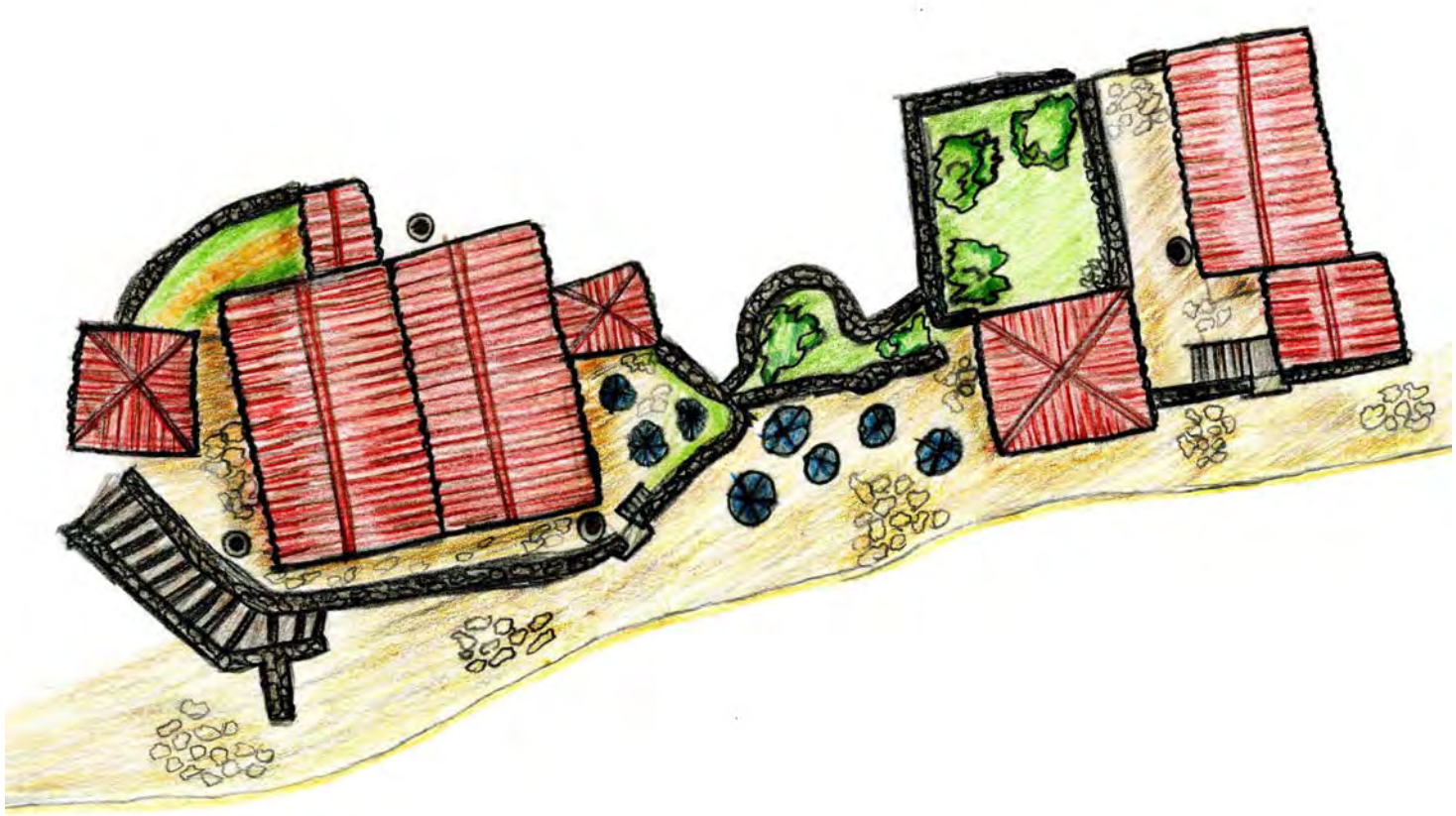
Farsan living room and dining room





N

Taverna Neighborhood

This area is a short way down the main street after one comes up the main stairs to the village. It includes three residential houses, a taverna, a store/kafeneio and a small plateia. All of these could be kept as they were and used for their original purposes.

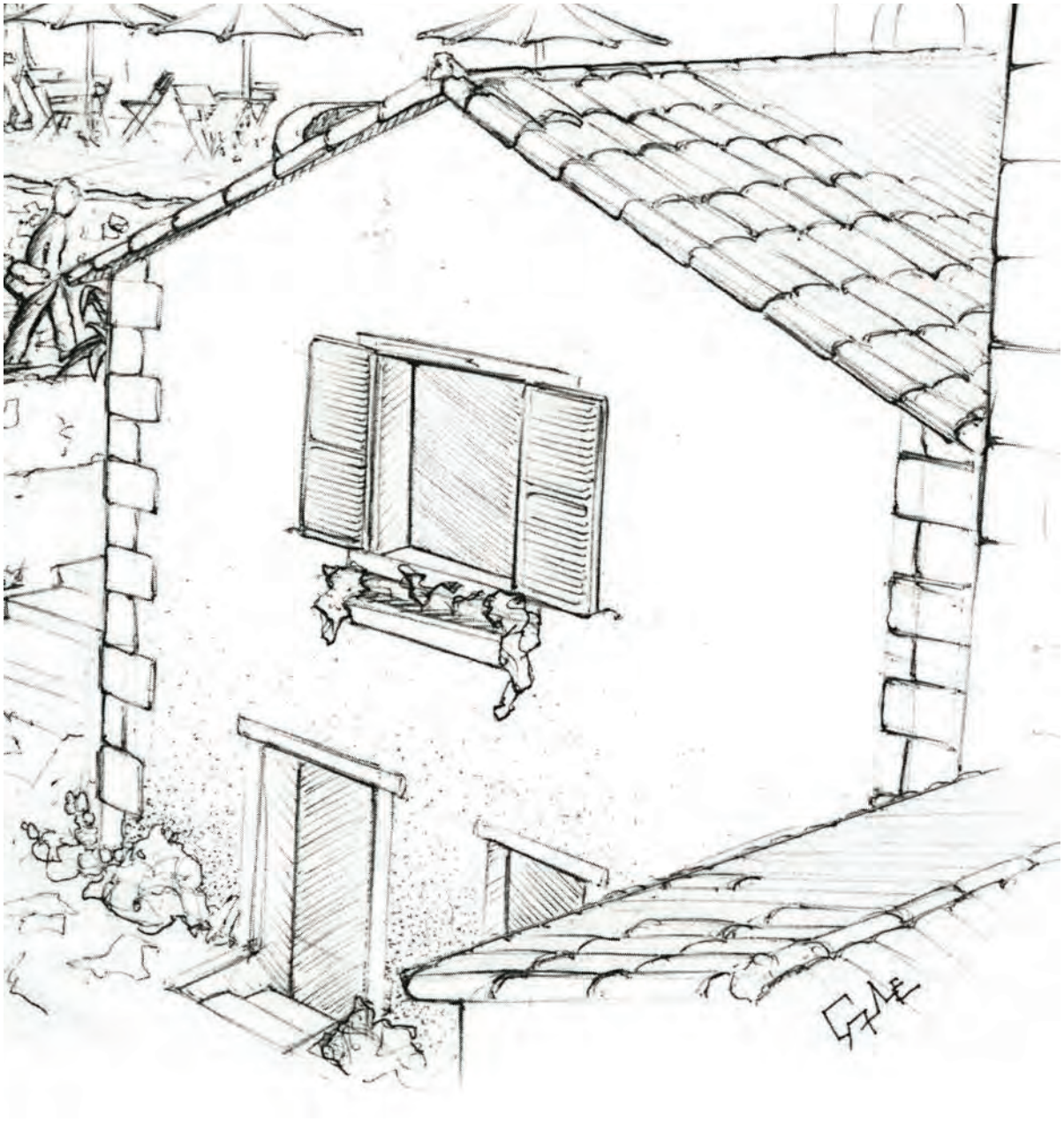


Up the stairs onto the main street and past the two-story residential building is a smaller, one story building that was used as a taverna. The stone wall continues past and wraps around the back of the taverna on the north side ending at another residential property. The taverna is also below the main street level and only the roof can be seen from the street. The entrance is an arched doorway through the stone wall. Once behind the wall, a staircase leads down into an outside seating area located on the north side of the taverna which provides for a peaceful and cool place to relax. The stone wall which wraps around this space completely hides the area from the street view therefore creating a very private, concealed atmosphere.

Because of this enclosed, comfortable atmosphere, the building is ideal to keep as a taverna. Some landscaping can be done outside of it and tables can be put in the courtyard. Bathrooms can be placed next to its east side wall in the walkway between the stone and the taverna walls. These would be small toilet rooms put partly underground to conceal them from the main street view, so that the taverna roof would still be the only thing seen above the stone wall from the street.

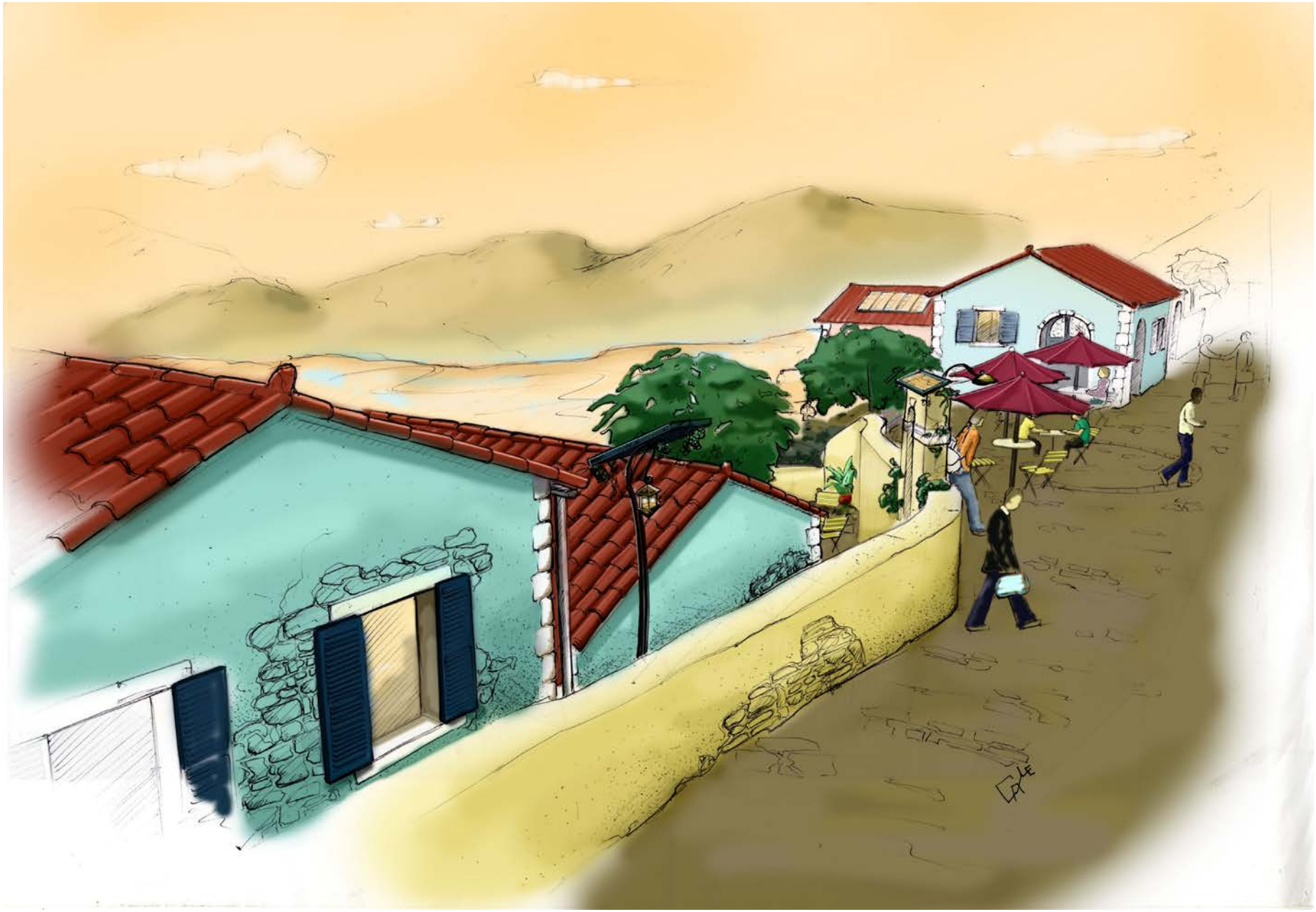
A large, two-story residence can be seen on the left. It stands behind a stone wall below the main street level. Only its second floor windows can be seen above the wall from the street. The entrance into the courtyard located on the building's south side is to the left of the street and short distance down the stairs. The house has two entrances, both on the south side in the main courtyard: one on the bottom floor and one on the second floor. Once in the courtyard, a small unattached building that was once used as a kitchen can be seen. When rebuilt, this could be kept as a kitchen or possible used for storage space. If removed, its remains could be used as building material and the area for green space. In the back of the house, the west side, there is a small attached toilet room. The waste was collected into buckets and carried out by the ya-ya of the home to the fields up the hill and used as fertilizer. If the detached toilet room will be kept as a bathroom, compost toilet could be built in place of the bucket system. However, this could become a storage space and a compost toilet could be built inside the house as is commonly the practice these days. This building had a flat room which could be modified into a slanted roof with clay tiles so it could serve a rainwater catchment surface.

Behind the taverna, and sharing its west wall, stands a small one-story residential building. The main entrance into the house was on the north side. Right next to the doorway was an attached kitchen with an outside entrance. This could be modified so that the kitchen can be accessed from inside the house. Behind the house is a courtyard. There is a doorway from the courtyard to a low-ceiling basement or cellar underneath the house. This space could be kept as it was, or could be replaced with more living space.



Past the taverna, the main street leads into a small plateia which was used for dancing and gathering. From the plateia's west edge, stairs lead down into a terraced garden belonging to the house further down the hill. On the north side of the plateia is a building that used to be a general store and kafenio with an entrance on the main street. Below and behind the store, there was a cellar/storage area. Next to the store, on the south side of the building are stairs leading into an open space located alongside the terraced garden. It could be rebuilt to be an outside seating area belonging to the store/kafenio.

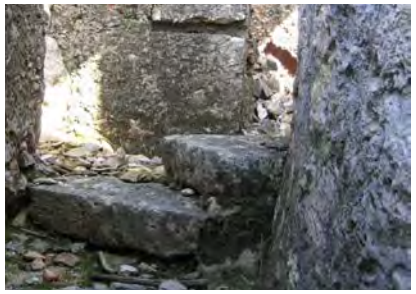
,

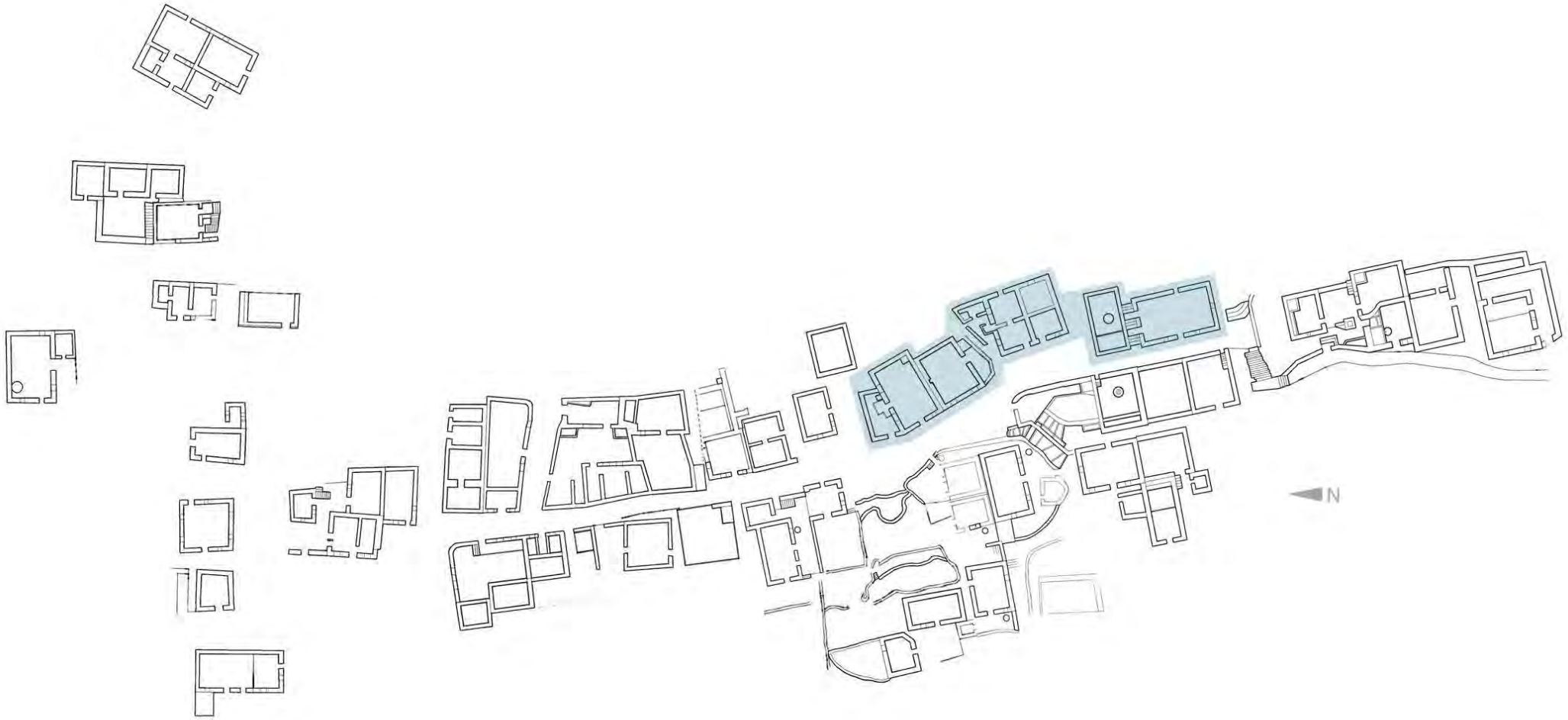


Another arched doorway past the store/kafeneio leads into this residential property. Once inside the courtyard, on the right is what used to be a kitchen. It has a slanted roof that provides for a loft type space above the main floor. This could be kept as a kitchen or it could become a bedroom with a loft. The kitchen shares its west side wall with a small room that may have been used as a bedroom. It could either be kept as a bedroom or be rebuilt as part of the hotel complex mentioned in the hotel section of the book.

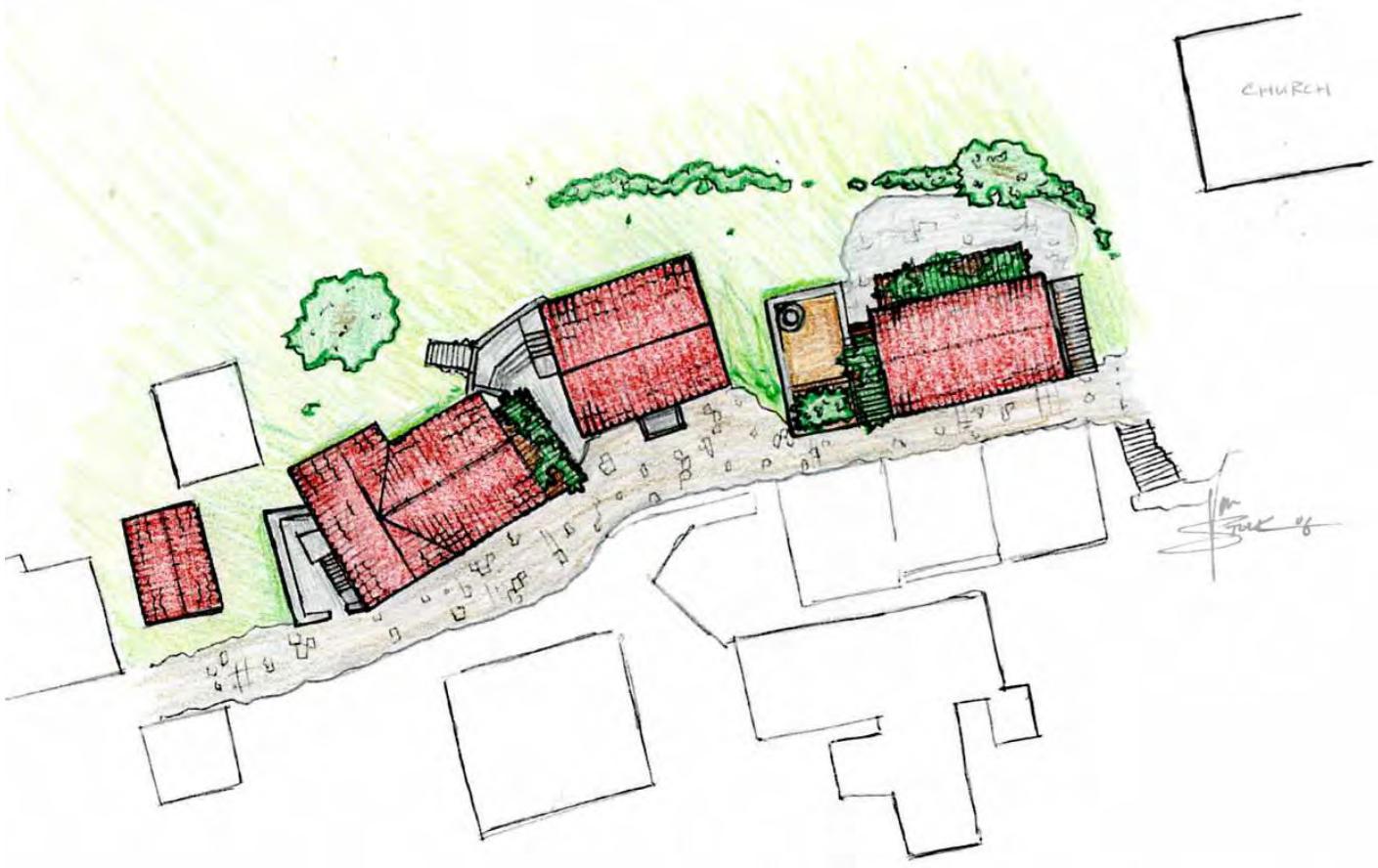
If it is to become part of the hotel, the room could be a single or double with two beds and a bathroom. A cellar underneath the building could be converted into another story.







N

Hotel Neighborhood

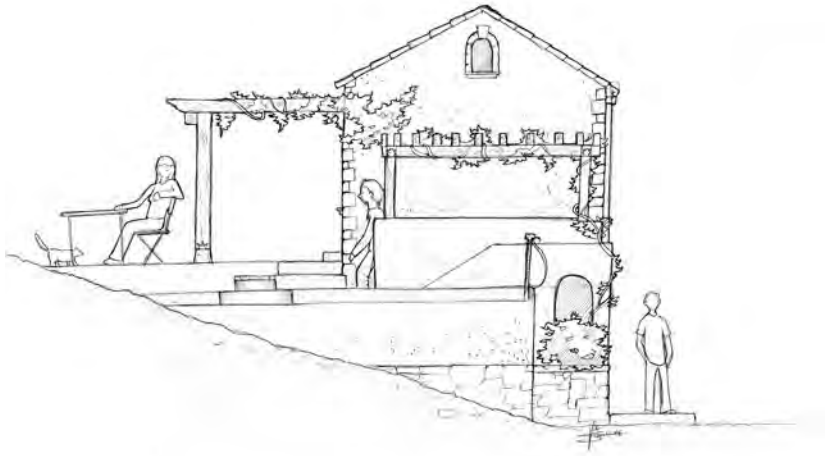


The hotel neighborhood is situated near the church and begins directly on the corner of the platia. The hotel reception and cafe is the first building up the stairs into the heart of Farsa Village. Down the pedestrian walkway on the right, there is more of the hotel neighborhood. These buildings include a bakery, bookstore, and one of twenty hotel rooms scattered throughout Farsa.

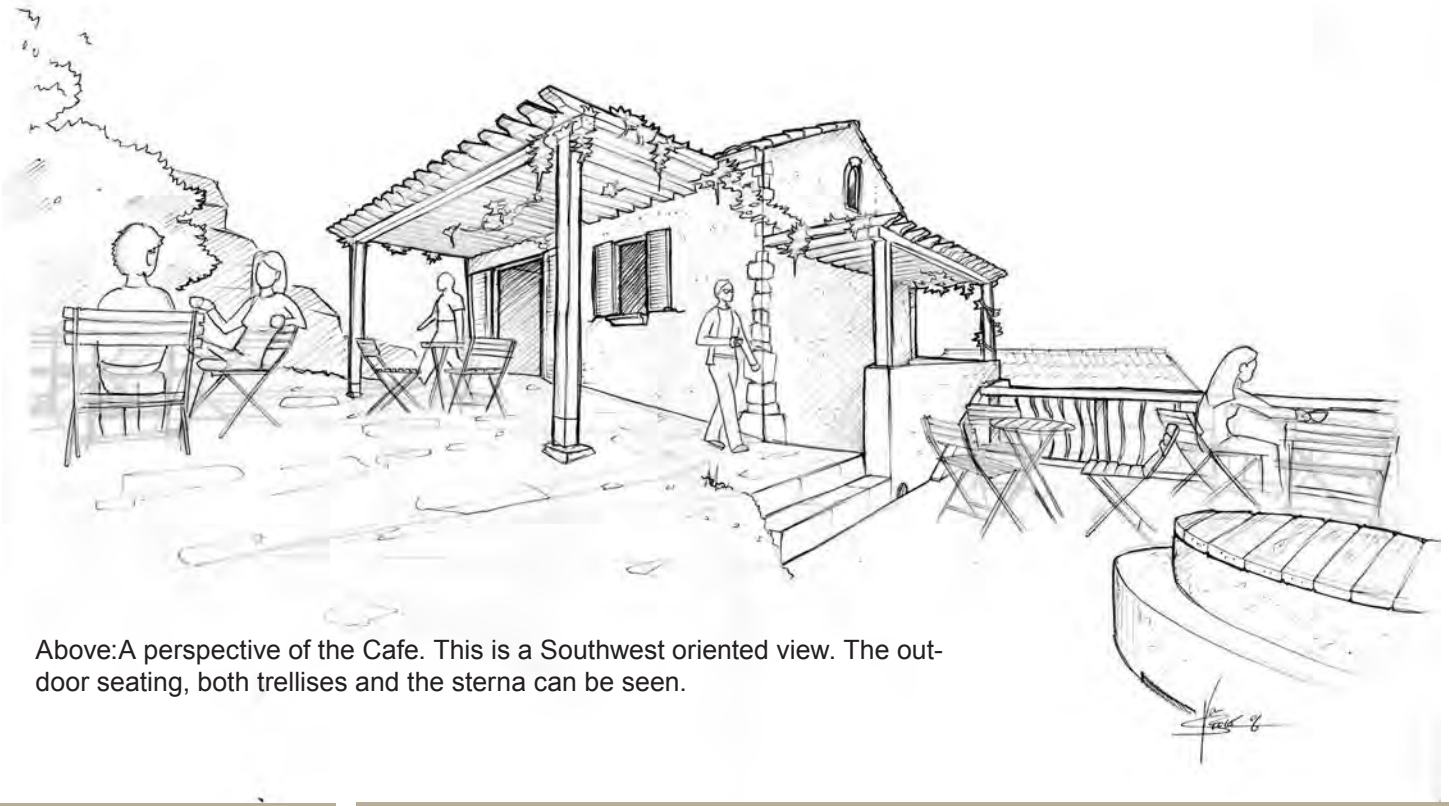
Upstairs from reception into the cafe, there is a terraced platform full of inviting outdoor seating underneath a trellis entangled in fruitful grape vines. An indoor dining area full of windows procides natural lighting and a pleasant atmosphere for drinking a cup of Greek coffee or snacking on a slice of bougatsa.

The hotel cafe offers baked goods, such as pastries and light deserts. One has a choice of soft drinks, coffee products, teas, and a few select local wines. After coffee one can sit inside or take a seat outside and enjoy the magnificent view that Farsa has to offer.

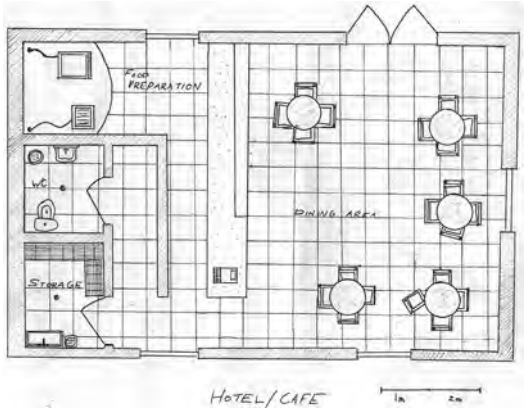
The cafe is very clean, and one is informed by the staff that they use locally produced organic cleaning products, purchased in bulk to reduce packaging waste and be more economically efficient.



Above: An elevation of the north side of the cafe building. Trellises and the sterna can be seen from this view.



Above:A perspective of the Cafe. This is a Southwest oriented view. The outdoor seating, both trellises and the sterna can be seen.



Above: Floor plan of the cafe.

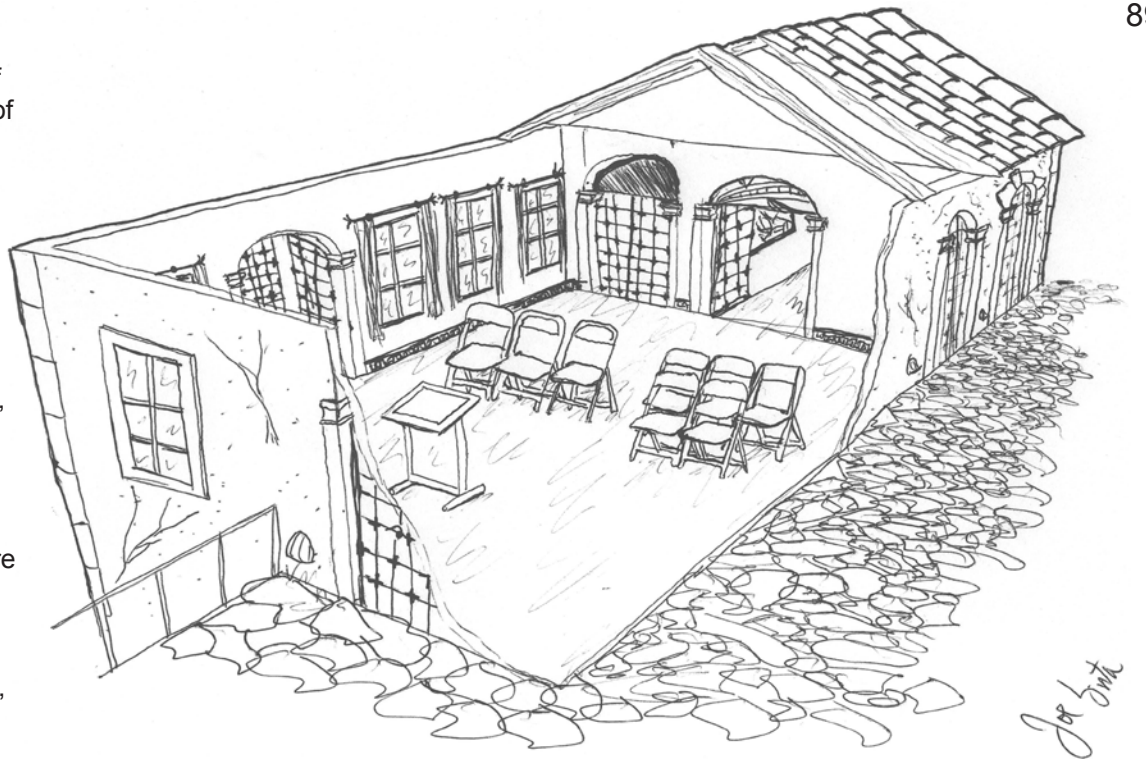
The conference center is located on the first story of the restaurant. One will wind their way up a stone path that wraps around the back of the restaurant to the conference center. Upon reaching the entrance of the conference center one can go into the lobby or use the restrooms that are conveniently located near the entrance.

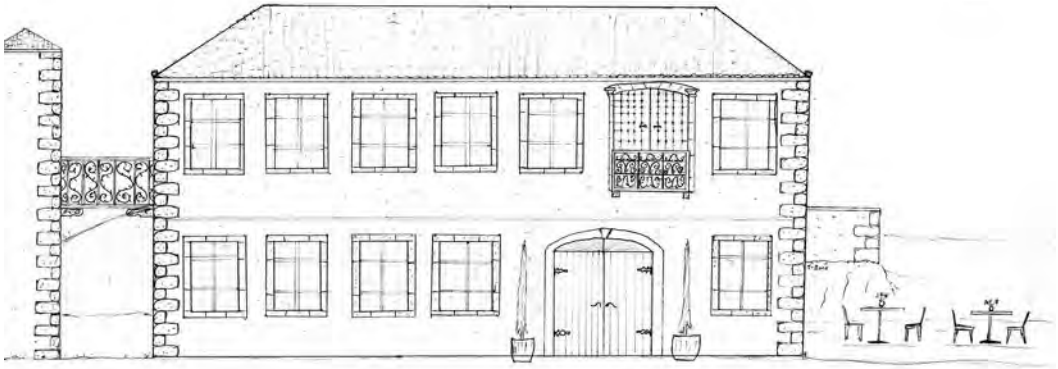
This conference center also accomodates those who are disabled or have trouble walkingby providing an elevator. This elevator is housed in a traditional style building that connects to the lobby via a small walkway.

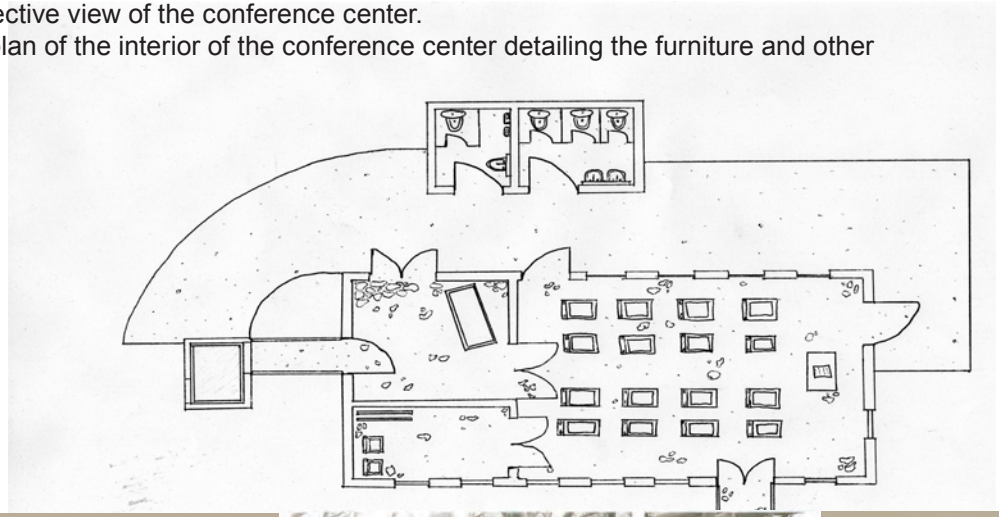
Inside the lobby one will be greeted and given documents, name tags, and any other information they might need. Through the lobby is the conference room itself. This is a spacious area which can hold up to 40 people, comfortably, at one time.

There is a store room in the back of the conference room that will store the tables, chairs, podium, projector, and other supplies.

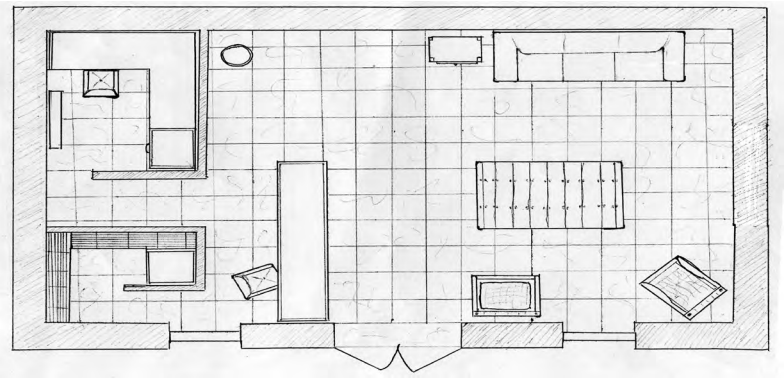
This room will hold conferences, town meetings, art shows, cultural events, and local gatherings. Business men, Farsans, school children, and tourists might be just a few of the people who walk in and out of this center.







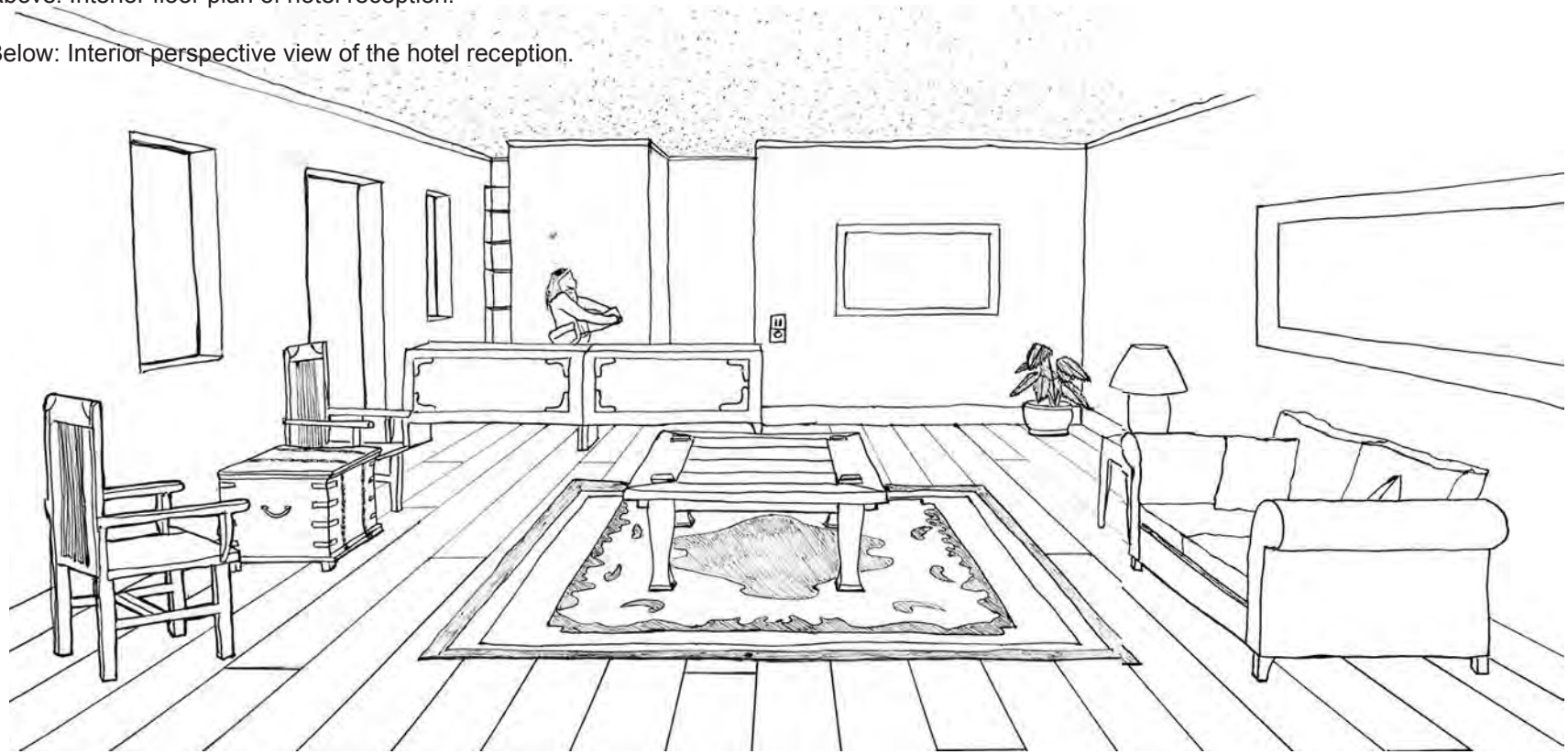
Left: Exterior elevation view of the restaurant and conference center.
Above: Perspective view of the conference center.
Below: Floor plan of the interior of the conference center detailing the furniture and other objects inside.



When one walks into the reception they will be welcomed into the Mulberry Inn by a staff that is friendly and eager to make their guests comfortable. Guests will be given a room that is within 10 minutes walking distance from the reception. When rooms are being cleaned or prepared, guests can rest in the comfortable sitting area in the main room of the reception. For guests who want to grab a quick bite or a cup of coffee there is always the cafe on the first floor of the reception.

Above: Interior floor plan of hotel reception.

Below: Interior perspective view of the hotel reception.

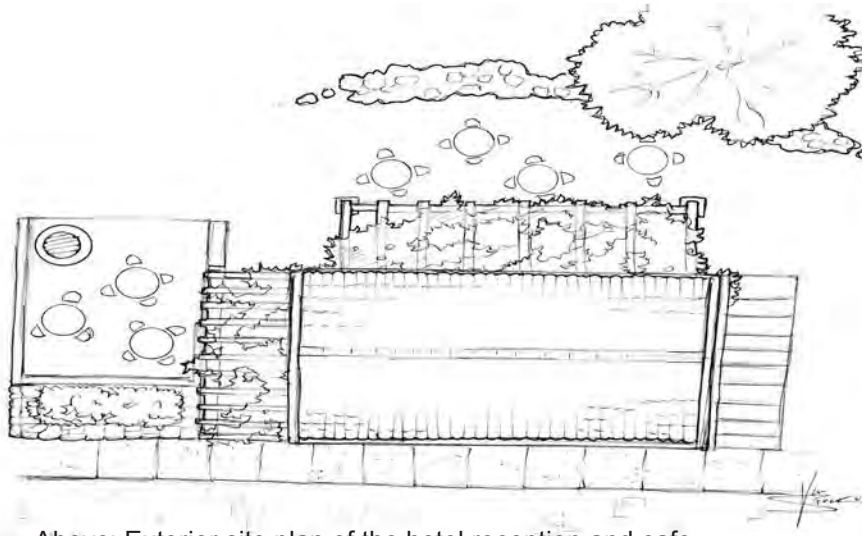


As one winds their way up the steps to Farsa Village, they find themselves in a plateia on the main pedestrian walkway (pezothromos). Located on the corner of the plateia is the reception and cafe of the Mulberry Inn. When one walks inside they are greeted by a friendly and well-educated staff.

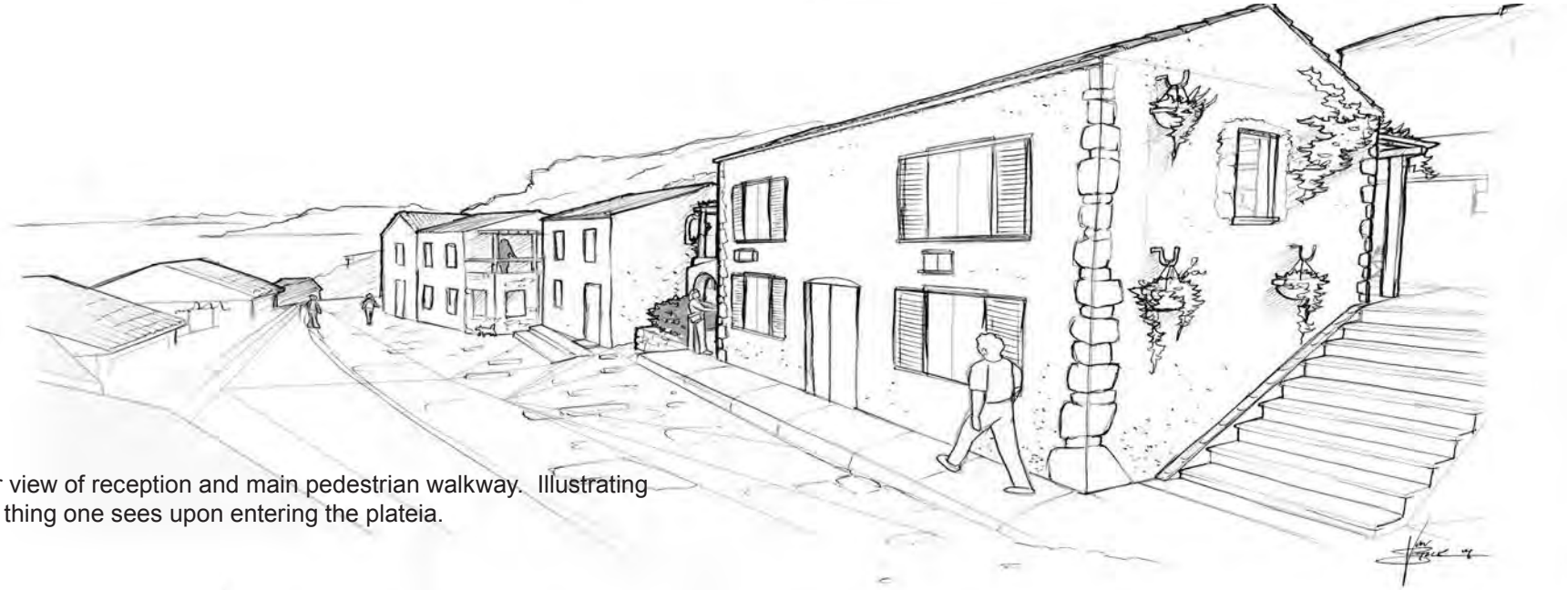
The Mulberry Inn (or Mouria Inn, in Greek), one is told, prides itself on its location and sustainability. It is a four star hotel boasting a cafe, restaurant, conference center, and an array of unique and traditionally styled rooms.

In the reception area there are brochures and fliers on sustainability, local culture and events, dining, entertainment, and general information.

The brochures on the sustainability of the hotel inform one of the sheet and towel reuse program. Also included in the brochure is information on preservation of original building materials and new eco-friendly materials used in the construction of the hotel.



Above: Exterior site plan of the hotel reception and cafe. Illustrating seating for the cafe which wraps around the back.

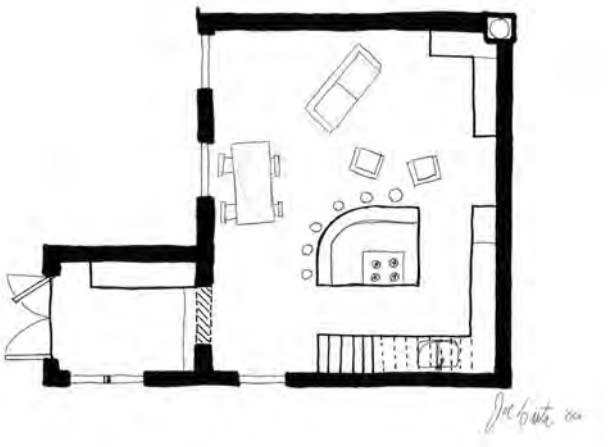


Exterior view of reception and main pedestrian walkway. Illustrating the first thing one sees upon entering the plateia.

An exciting way to experience Farsa would be to stay in one of the many different hotel rooms located around the village. The Mulberry Inn will consist of 20 rooms, all of which will be unique. The rooms will range from two full bedrooms with a shared bathroom to a single bed with its own bathroom. A typical room will be placed along the main street nestled in between and on top of shops, houses, and cafes.

The rooms will give guests a better feel of what Farsa life is really like, since they are placed directly into the community. As a guest, one might have to go into a bakery and take the back stairs up to their room, or find their room on the top floor of a Kafeneio. Each experience will be different and characteristic of that specific room.

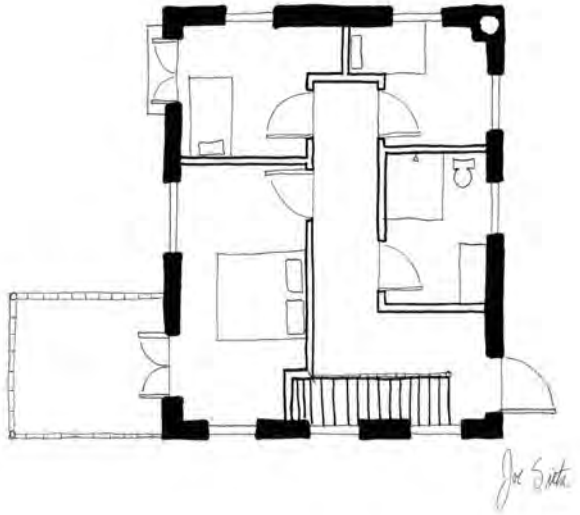
Rooms will be comfortable, and even cozy. No room will be exactly the same as another. With this in mind, guests should be prepared for a cultural experience that immerses them into a new way of life and gives them new memories and experiences.



Above: Interior floor plan of hotel room.

Left: Interior perspective rendering of a single room.

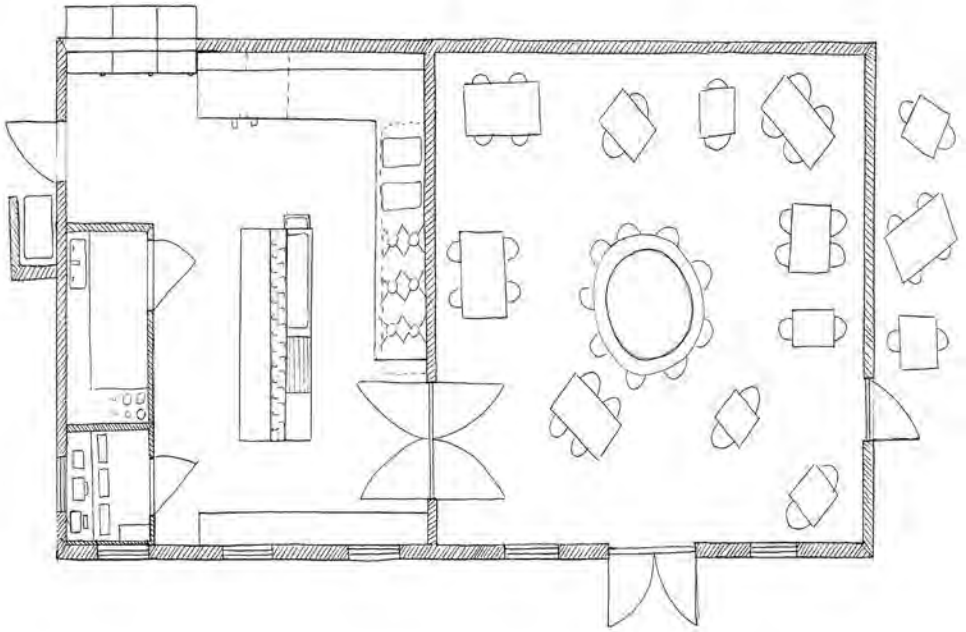
Below: Interior floor plan of another room.



Along the old road leading to the church, one comes across the largest standing building in Farsa. This building is placed right along the side of the main road. The main entrance is a doorway framed by two old olive presses, inviting guests into a classic restaurant with the old grinding stone of the olive press in the center.

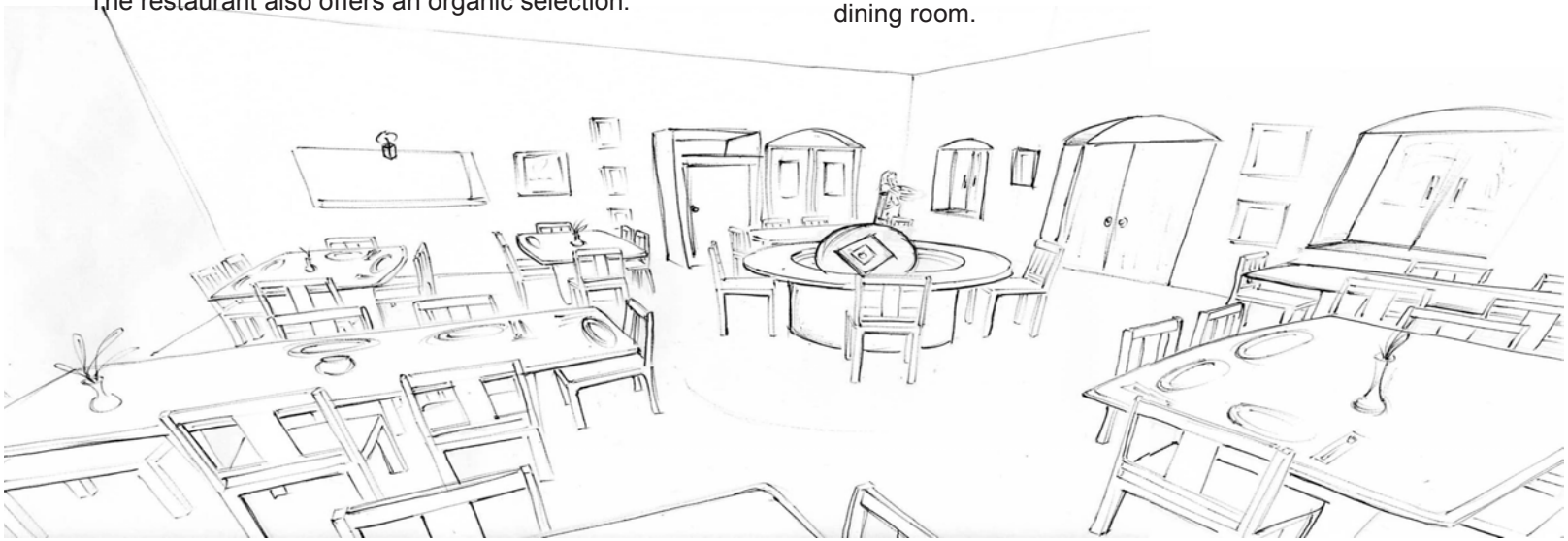
While standing in the doorway a waiter comes up to ask patrons if they would like indoor or outdoor seating. If one chooses to sit inside they will remain in a timeless place with an amazing atmosphere. The pictures on the wall of old Farsa keep ones attention captivated as the wait staff are busy serving fresh food. If one chooses to dine outside, they exit through the right of the building onto a platform filled with cafe tables out in the sunshine. Those sitting outside notice the breathtaking view out across the water.

Whether inside or out, there is a pleasant atmosphere and great food. Most of the food served at this restaurant is local Kefalonian produce. The olive oil is from local olive orchards, and local wine is the only kind that is served. The restaurant also offers an organic selection.



Above: Interior floor plan of restaurant.

Below: An interior perspective of the seating arrangement inside the restaurant. The interior of the restaurant is very unique for the fact that an old olive press is the centerpiece of the dining room.



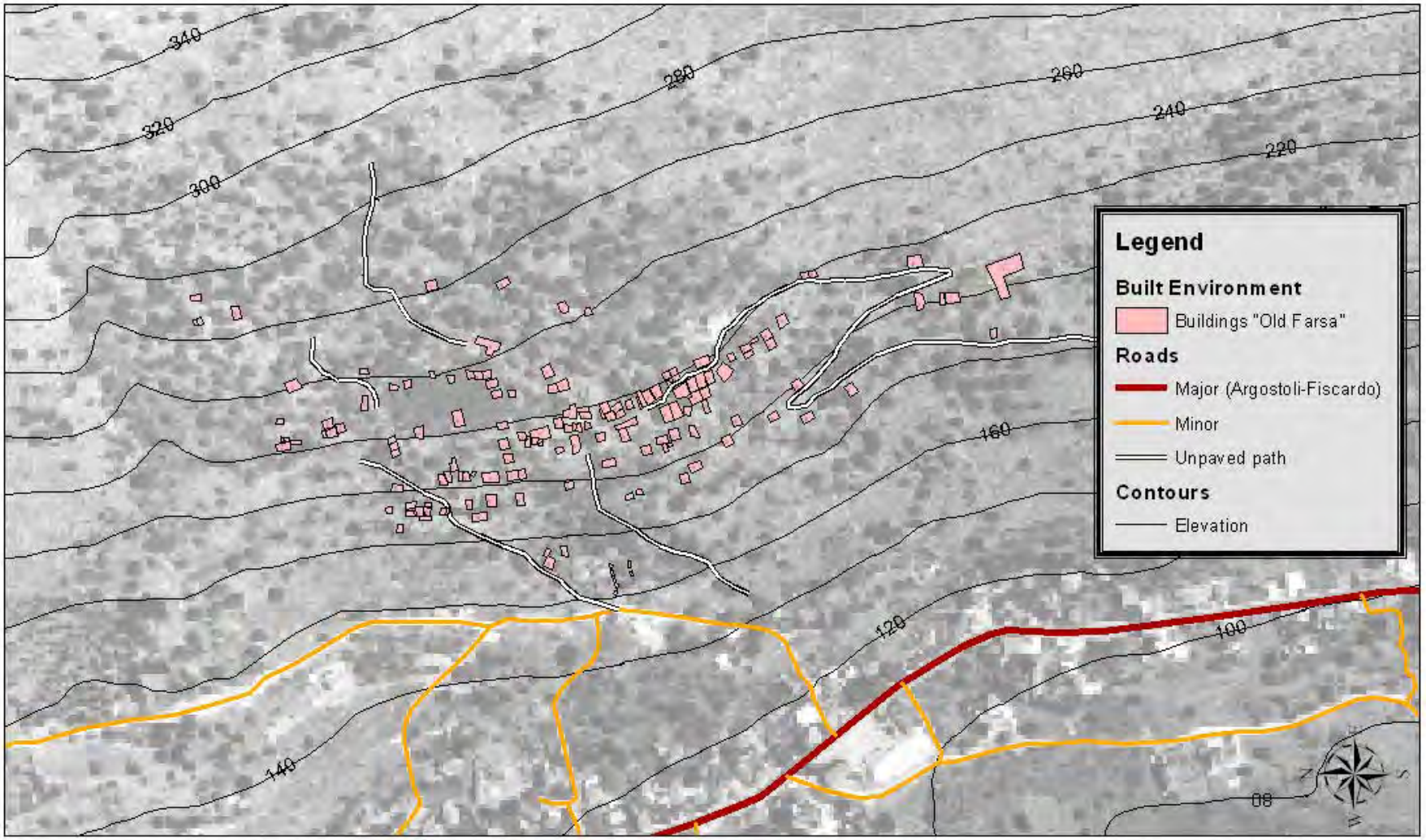
details

GIS IMAGES

The following maps are satellite images of present day Farsa containing over-layed data, displaying current and proposed infrastructure plans

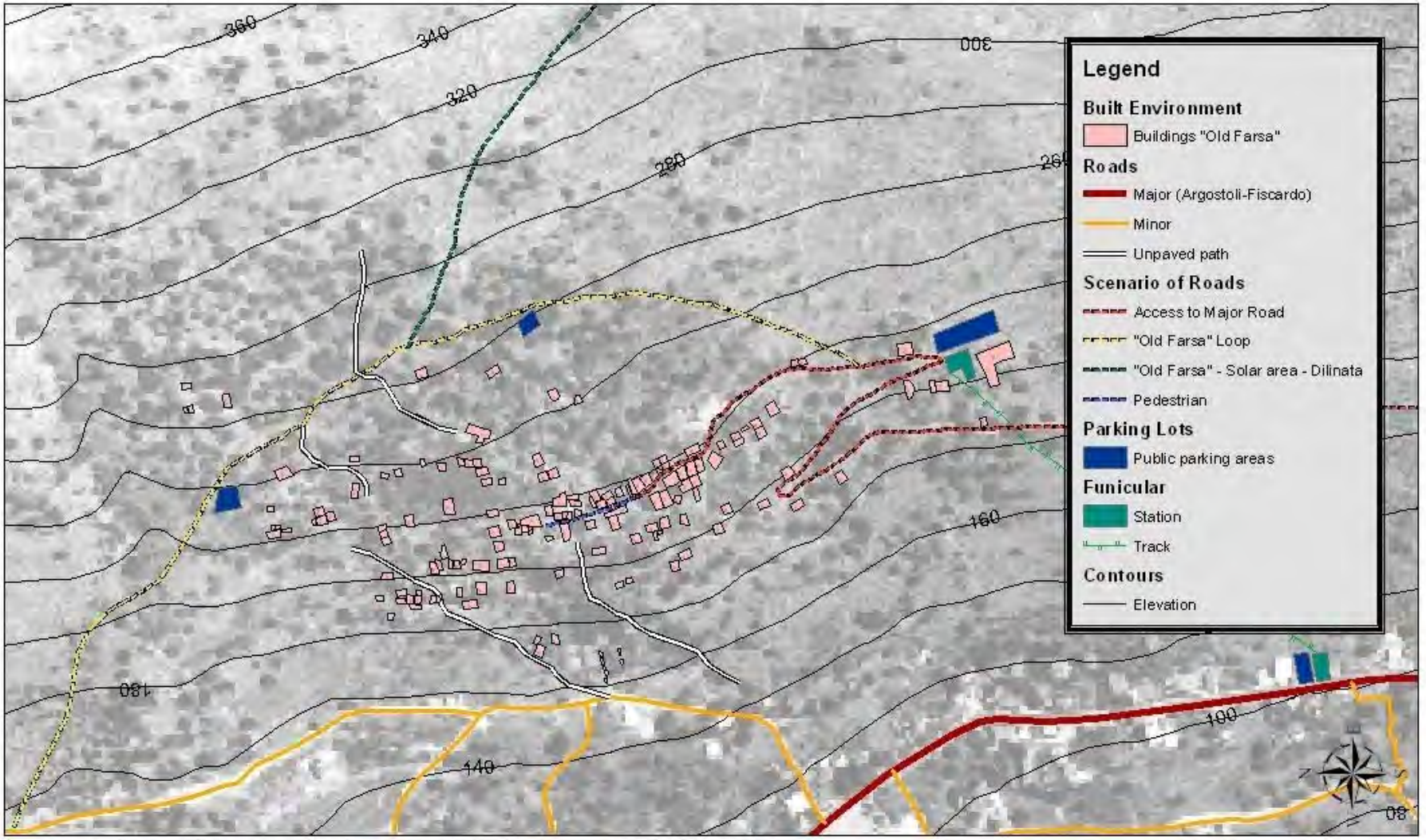
Aerial view of present-day Farsa

Existing Roads



Data Source: Western Washington University, UTM 34 N WSG 84; Background: Air-picture 1992
Kefalonia Program in Sustainable Community Development - Fall 2006, Huxley College of the Environment,
Western Washington University in cooperation with AHA International, University of Oregon,
and the Northwest Consortia of Study Abroad Universities (NCSA). Cartographer: Alexandros Molphetas

Proposed Roads

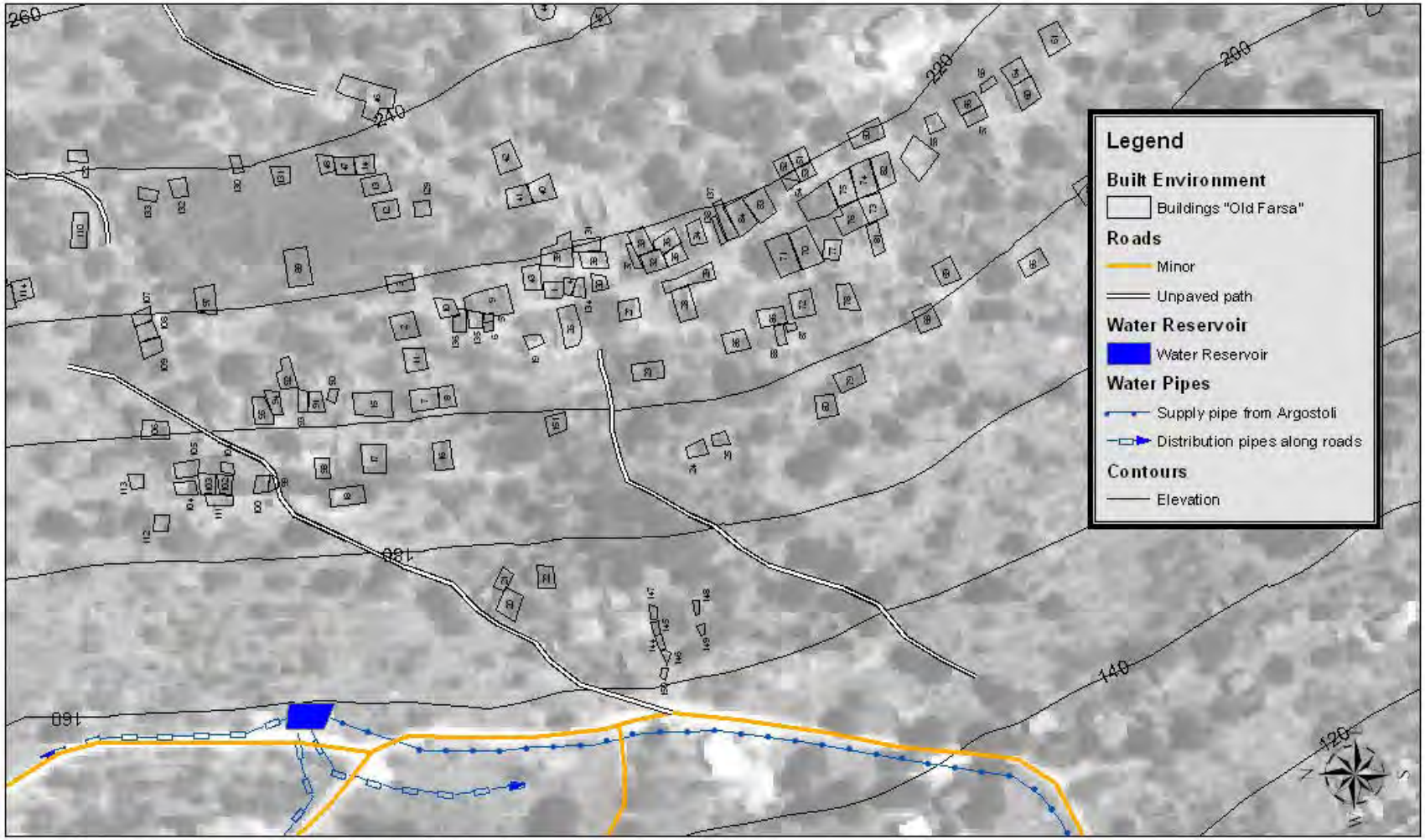


Data Source: Western Washington University, UTM 34 N WSG 84; Background: Air-picture 1992
Kefalonia Program in Sustainable Community Development - Fall 2006, Huxley College of the Environment,
Western Washington University in cooperation with AHA International, University of Oregon,
and the Northwest Consortia of Study Abroad Universities (NCSA), Cartographer: Alexandros Molphetas

1:3.500

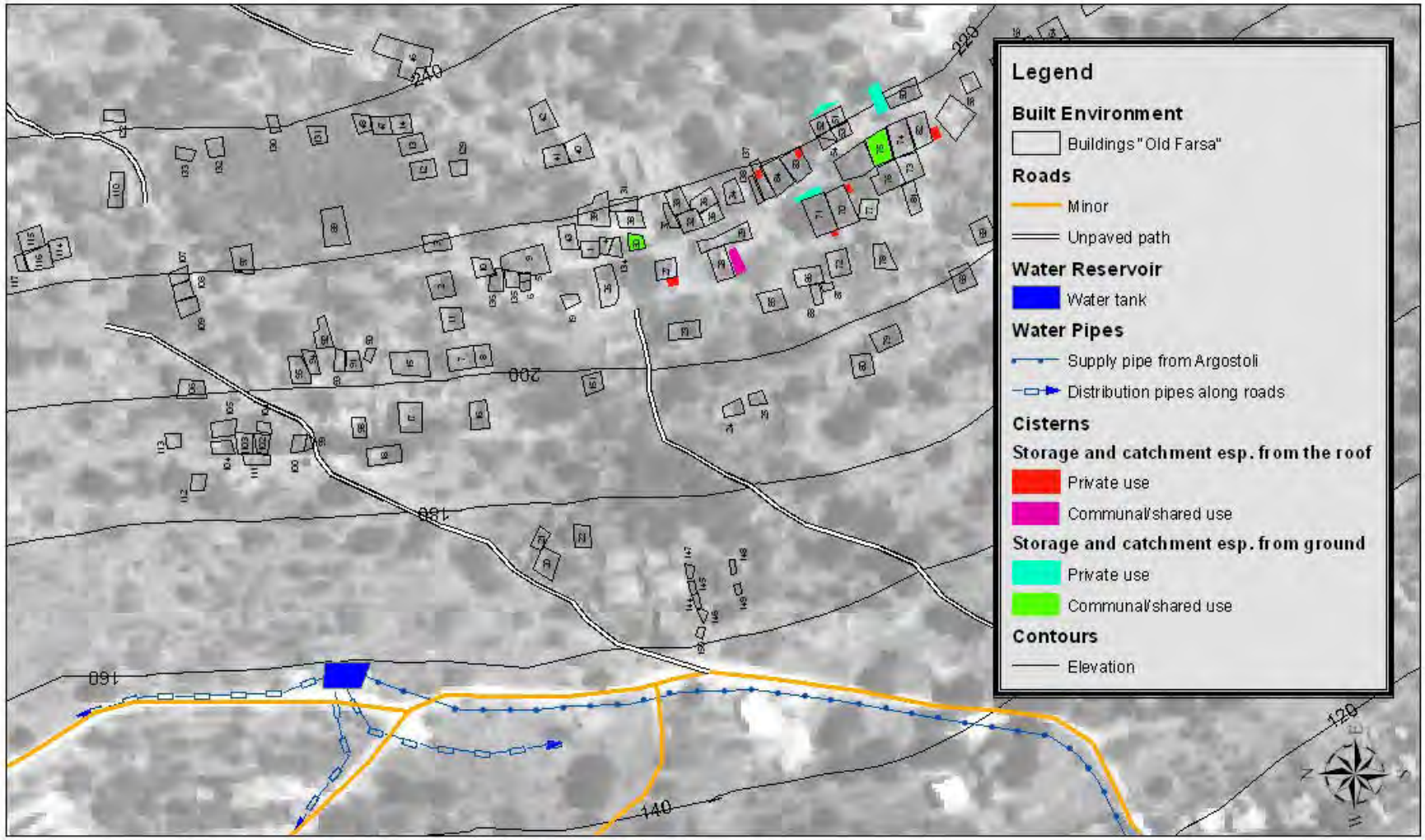
0 25 50 100 150 200 Meters

Existing water infrastructure



Data Source: Western Washington University, UTM 34 N WSG 84; Background: Air-picture 1992
Kefalonia Program in Sustainable Community Development - Fall 2005, Huxley College of the Environment,
Western Washington University in cooperation with AHA International, University of Oregon,
and the Northwest Consortia of Study Abroad Universities (NCSA); Cartographer: Alexandros Molphetas

Proposed water infrastructure

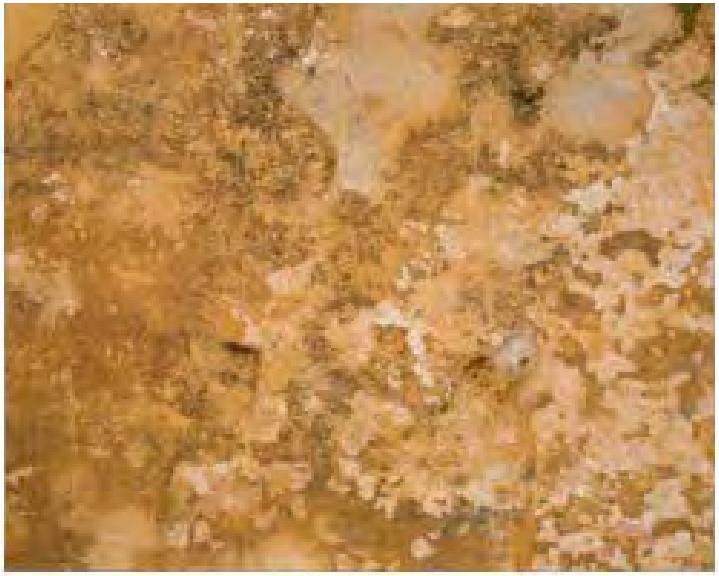


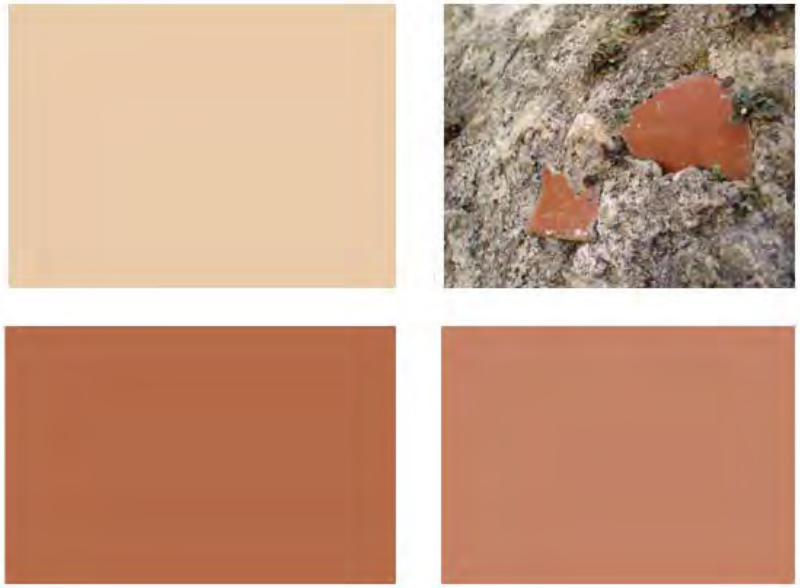
Data Source: Western Washington University, UTM 34 N WSG 84; Background: Air-picture 1992
Kefalonia Program in Sustainable Community Development - Fall 2006, Huxley College of the Environment,
Western Washington University in cooperation with AHA International, University of Oregon,
and the Northwest Consortia of Study Abroad Universities (NCSA). Cartographer: Alexandros Molphetas











Design Code

What is a Design Code?
A design code is a set of guidelines for the physical layout of a place or community. It is a tool used to facilitate the development of the built environment of a community to meet the aesthetic, social, and cultural needs of the stakeholders. Elements of an effective design code include specific recommendations for all architectural features and public spaces. In addition, a design code should include appropriate principals for general community design relating to buildings and streetscapes. The intent of a design code is to not only enhance the visual characteristics of the environment but create livable communities (Duany Plater-Zyberk and Company) .

Why a Design Code for Old Farsa?
The community board of Farsa expressed a desire for two elements to be implemented in the redevelopment of the old village: tradition and sustainability. Additionally, structural guidelines are critical because the area is prone to severe earthquakes. Both preservation and new construction must adhere to the most up-to-date building codes to mitigate the impacts of natural disasters. For these goals to be realized, some standards for redevelopment must be implemented. A good design code is not a rigid set of restrictions, but a means of preserving the character of a community and developing the most appropriate design elements. Residents should be involved in the development process of the code at every step to ensure that it is in accordance with their vision. Within Old Farsa, important community characteristics will include the sustainable features of buildings, the small-scale nature of the village, and the dependency on the local environment. Each of these aspects exemplifies the lifestyle of the former residents and are critical to protect. The basis of the proposed design code was formed through field research in old Farsa and other Ionian communities, interviews with residents of the old village, and research of current best practices. General community design recommendations have been adapted from the Smartcode for Community Design developed by Duany Plater-Zyberk and Company.

Assessment Terminology

Materials: Construction materials used to build the structures.
- a. Original construction materials used.
- b. New construction materials to be used.

Articulation: Specific attributes of features.
- a. Basic attributes.
- b. Detailed attributes.

Scale: Existing measurements of features. Measurements are not entirely accurate as many walls and architectural features are severely damaged. They reflect the range of measurements recorded during field research.

Design Recommendations: Providing graphic and theoretical descriptions of potential future building features and pubic paces.

Model Examples: Picture code of design recommendations.

- Walls
- Windows
- Doors
- Arches
- Roofs
- Balconies
- Courtyards
- Terraced areas
- Staircases
- Lighting
- Public Spaces
- Commercial Spaces

Walls

Materials

a. Exterior walls were originally constructed of local rock and mortar. Interior walls were constructed of either stone or wood, with plant matter as insulation. Both interior and exterior walls were often, but not always, covered in asvesti (lime plaster), and sometimes painted.

The current existing walls fall into three material categories:
- Rock rubble mixed with mortar, covered with lime plaster, and bordered by hand-chiseled corner stones.
- Rock rubble mixed with mortar and covered with lime plaster with no corner stones.
- Stacked rock walls with no mortar.

b. Exterior and load bearing walls should be constructed with modern materials meeting seismic zoning standards. Interior and non load bearing walls should be constructed with either concrete or wood, using sustainable energy efficient Insulation.

Articulation

a. Due to the natural slope of the land, many structures have one or more walls that are built into the hillside. Eastern facing walls are generally shorter than western facing walls because the mountain rises in elevation from west to east. Many walls also follow the natural curve of the hillside. Not only does this fulfill the purpose of holding back the earth from eventually collapsing the wall, it succeeds at giving these buildings a sense of place.

b. Farsa was very colorful, and walls were traditionally painted in shades of light or salmon pink, blue, and ochre.

Scale

Length: 2.3 meters - 15.2 meters Height: 1.5 meters – 7.84 meters

Design Recommendations

a. New walls should be constructed meeting current building standards, taking seismic building codes into account.
b. Existing walls should only be preserved in non structural settings or as non load bearing walls. Or, reinforcement methods should be used to preserve them around load-bearing walls.
c. Non-plastered, exposed rock walls were common in Farsa and are a recommendation to rebuilding.
d. Traditional colors should be used on new exterior walls.
e. Materials of the wall infrastructure are mortared rock rubble reinforced with steel, mortared brick reinforced with steel, and cement reinforced with steel.

Buildings and Streetscapes

Buildings and landscaping should contribute to the physical definition of thoroughfares as civic places. Building scale, facades and architectural features should be designed to be appropriate to the scale and historical elements of the village, taking into consideration traditional Venetian architecture. Native flora should be utilized in landscaping for bringing a sense of nature into the built environment, and provide shade provision.

Design of streets and buildings should reinforce safe environments, but not at the expense of accessibility. Streets should be redeveloped according to the original layout and scale. The main street and perpendicular streets within Farsa are to be pedestrian-use only, easing the need for sidewalks. The main access road to Farsa will bring vehicular traffic to a central location and extend to the road leading to the nearby village.

Buildings should provide inhabitants with a sense of place in relation to the physical geography of the surrounding region. Buildings should be designed for maximum environmental, social, and economical sustainability. Buildings should be required to meet a certain energy efficiency standard, these standards being higher for commercial buildings than residential.

Civic buildings should be distinctive in their outward and inward appearances. The church, the school, and the kafenios are the most important existing public buildings. They are located in the central core of the village on the main pedestrian walkway (pezothrowmo).

The traditions and culture of Old Farsa should be preserved in a manner which allows for growth and expansion in its modern society. Some historic preservation of still standing pre-earthquake walls should be implemented in as many public spaces as possible. These include, parks, green spaces, and public buildings if possible. Cohesive standardized planning and design codes should be implemented throughout Farsa. The built environment of old Farsa is deeply intertwined with the surrounding natural environment and agricultural lands. The redevelopment plan must be created with the utmost attention to preserving the ancient boundaries and connections between these areas, as well as the distinct character of the urban core.