A Healthcare Center intergrated with Community and Nature

GROUP 6B

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GROUP 6B

INTRODUCTION

Concept
Our concept is that we want to build a a Healthcare Center intergrated with Community and Nature .

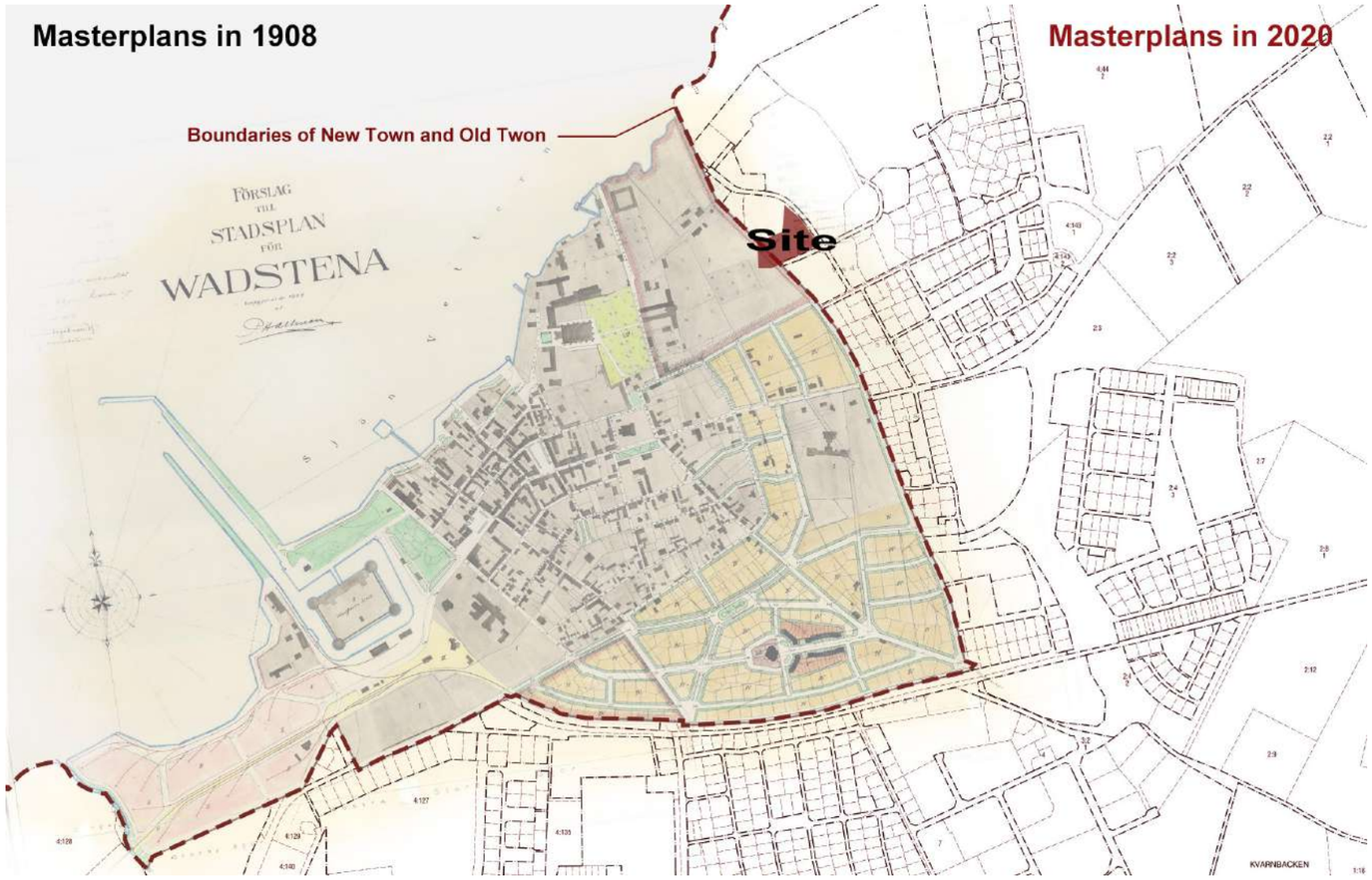
Boundary
Our site is located at the boundaries of the new town and the old town .The old town ends here, but the new town is not fully established. Our buildings should be some kind of link between the old and new cities.

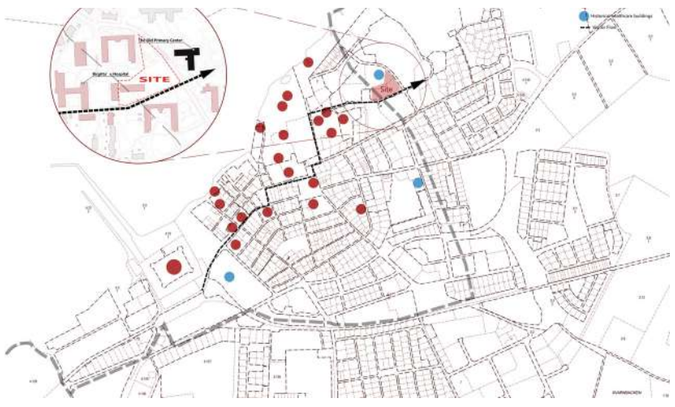
Heritage
Vadstena is a city with cultural heritage and beautiful scenery. Many people will come there in their spare time and even move for retirement.Our architecture is in this sequence. In future construction, our buildings should become part of this sequence of heritage and help it grows.

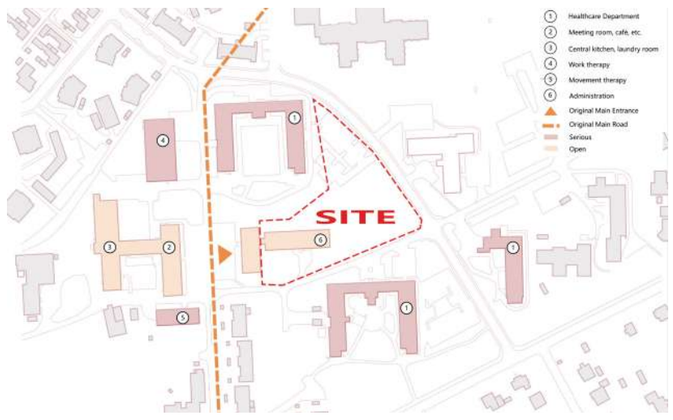
Comunity
The location of our site was used to be a healthcare community. In some way ,it was more like a open healthcare community than a closed hospital.Our design aims to build a new healthcare center as a small open community towards the whole town.

Nature and Sustainability
We want this new healthcare center to be sustainable. We maximize the use of building space and sustainable materials. At the same time, solar energy, wind energy, rainwater recycling and other technologies are used to build a green building with low energy consumption.

Content







SITE ANALYSIS

Boundary

The first diagram shows the masterplans of Vadstena compare in 1908 and 2020. The rad line is the Boundaries of the New Town and Old Town. Our site is right on the boundary between the old town and the new town. The old town ends here, but the new town is not fully established. Considering of this meaningful location, we decided that our buildings should be some kind of link between the old and new cities.

Heritage

Vadstena is a city with cultural heritage and beautiful scenery. Many people will come there in their spare time and even move for retirement. The red dots of the second diagram shows the location of the historical building while the blue one is the historical healthcare buildings. Our architecture is in this sequence. In future construction, our buildings should become part of this sequence of heritage and help it grows.

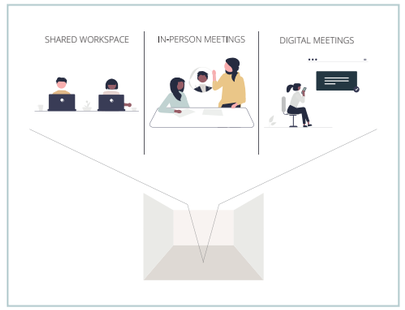
Birgitta's Hospital

The site is located in Vadstena with two exiting buildings and one of them is required to be reserved. Our building used to be adminitration which belonged to Birgitta's Hospital. The two middle buildings with square surrounded by workplace were more public compared to others. The orange line is the original main road of our site, and get through the square. We can imagine that this hospital used to have a great community atmosphere.

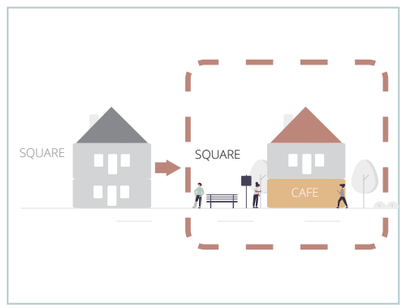
DESIGN STRATEGY

BRIEF & LOGISTICS

SEPARATED FLOWS
We intend to work with the current flow of people to the by vehicles and walking/biking and to strengthen these by restricting the flow of cars to the north and east and keep the paths in the south and west restricted to pedestrians/cyclists. We also want to work with flows on different levels of the landscape.



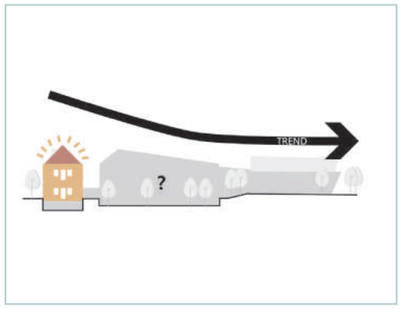
CO-EXPLOITATION OF SPACES
Merging shared spaces and waiting rooms between the different departments and creating multipurpose areas which can help to use the space more efficiently and make the space more open.To make the flows in the primary care center more efficient and to maximize the use of the spaces.



OPTIMIZED USE OF EXISTING BUILDING
With a placement along one of the edges of the Birgitta square, we intend to fit the existing building with public functions to invite people in to the square and allow for the functions to spill out onto the square. E.g. through the use of the square as part as an outdoor serving area for temporary stage for the children to perform during the summer.

SITE & CONTEXT

LANDMARK
On the border between the old and new town, our site connects the two characteristically different areas. In order to strengthen the connection between the two and welcome people we intend for the healthcare center to become a new landmark in the city. Additionally, there is a crossection of flows that pass by the site which we want to gather.

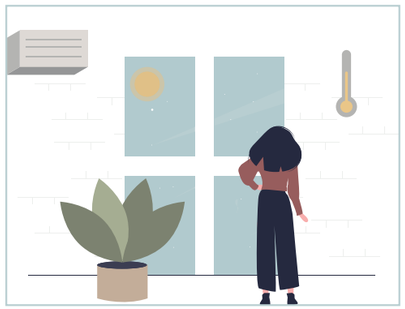


RESPECT FOR HISTORIC BUILDINGS
We intend to keep the trend of varied building heights in the area and to make sure that the existing building toward birgitta square is visible. We also intend to implement sloped roof like the historical buildings around the site and a placement of them on a 3 degree angle from north.

GREEN & OPEN COMMUNITY
By connecting the pedestrian flow outside and adding gardens of different scales, in- and outside of the building, we want to work with the healthcare center to become more like an open, flexible community rather than a closed box.

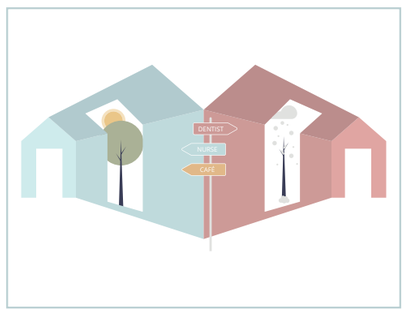
DESIGN STRATEGY

HEALTH PROMOTION

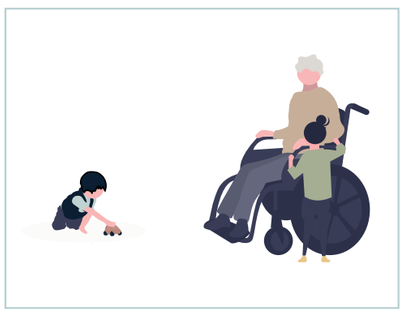


HEALTHY INDOOR CLIMATE
We plan to design a space that provides a good flow of air to prevent the spread of diseases, regulation of temperature, and increase the longevity of the building. In addition to good access to daylight,views to the outside and access to greenery

CONNECTION TO NATURE
We plan to have a strong connection to nature in- and outside of our building. Nature helps in recovery and we want the site to become an overall health-promotive site in the community through the connection to nature.The connection should be both physcial and visual.Rainwater collection as part of a sensory garden.

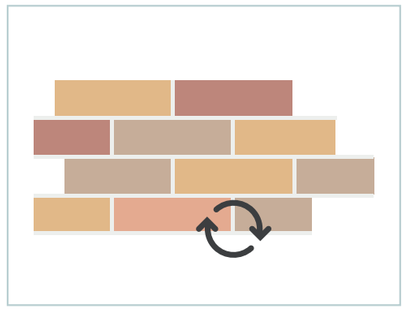


EASY-NAVIGATION
We intend to work with daylight and color to emphasize the public paths and simplify the navigation of the building. The spaces will be easily navigated using different scales of gardens and artwork in addition to views of the outdoors as a way to separate spaces.

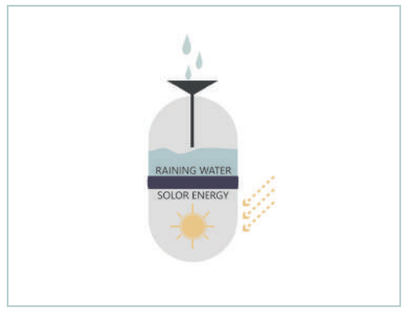


INTERGENERATIONAL MEETINGS
on the physical and psychological benefits of activities between children and the elderly. We want to encourage intergenerational meetings by the use of spaces that are aimed for both the elderly and the young. Which we believe will improve the health of, among other, our elders.

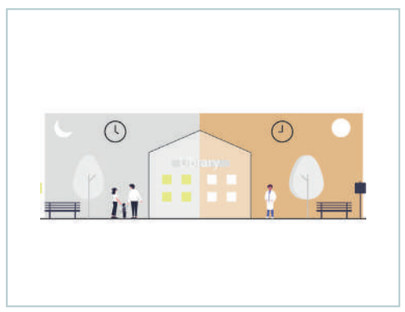
SUSTAINABILITY



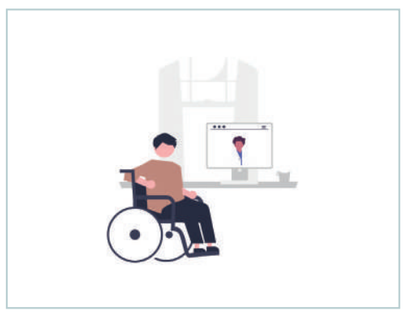
SUSTAINABLE BUILDING MATERIALS
Through the reuse of bricks and careful selection of materials based on their emissions we intend to make more sustainable choices in relation to their carbon emissions etc. We also plan on recycling parts of the existing building we plan to tear down.



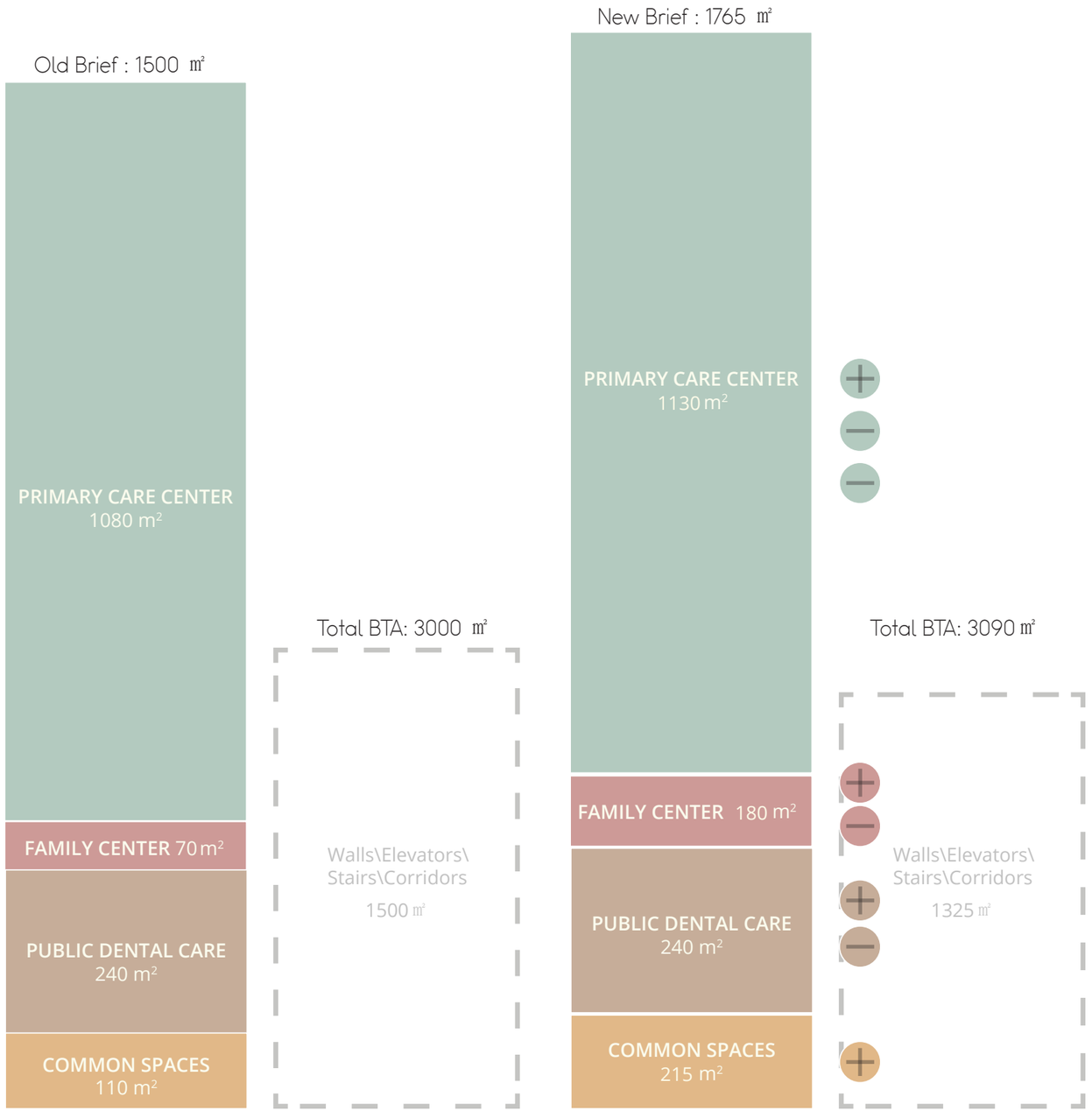
UTILISATION OF NATURE
By collecting the rain-water for use inside of the buildings (toilet flushing) and for positive and calming sensory experiences in and around the center . We also want to work with solar panels to decrease the centers need for other fuel sources.We also want to work with some green roofs as a way to collect and utilise the rainwater.



MULTIFUNCTIONAL & FLEXIBLE SPACES
Except for organising a clinic that can be open afterhours for the residents of Vadstena, we have more ways of utilising the spaces more efficiently and throughout more times of the day.



DIGITALISATION & E-HEALTH
Make the digitalization and future proofing part of the design using general room design and a load bearing structure that enables flexibility.



Activity Area

We combine the child center and family center together hoping it can be closely connected to the community. Besides, we combine the two activity rooms of the family center, thus making the peolpe have a good communication with each other. This

Waiting Area

We combine the waiting area to become a wide open spaces, hoping it can help the patients more easily to navigate the direction inside the building. Planting with many plants and flowers, it become more like a garden rather than waiting area and it will

Co-working

In order to improve staff efficiency and to increased flexibility for future functional changes, we combine the offices into a bigger one.

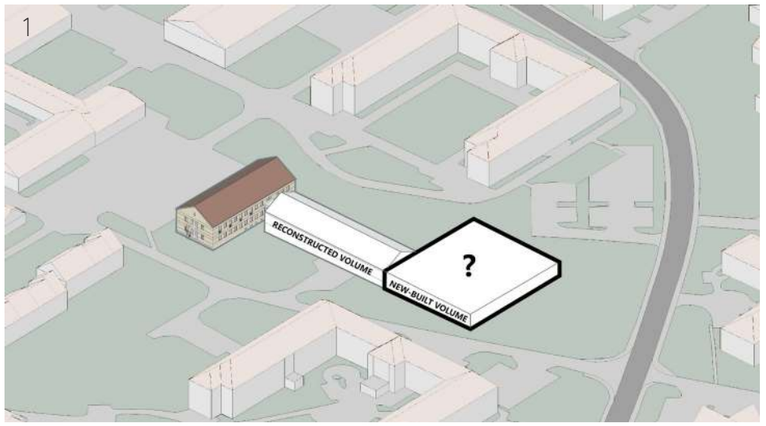
Space Utilisation

In order to improve the space utilisation, we combine the emergency services and the dental center into a after-hour clinic. Besides, we also put most of the activity area in the transformation building. It can also be used by the community after the closure of

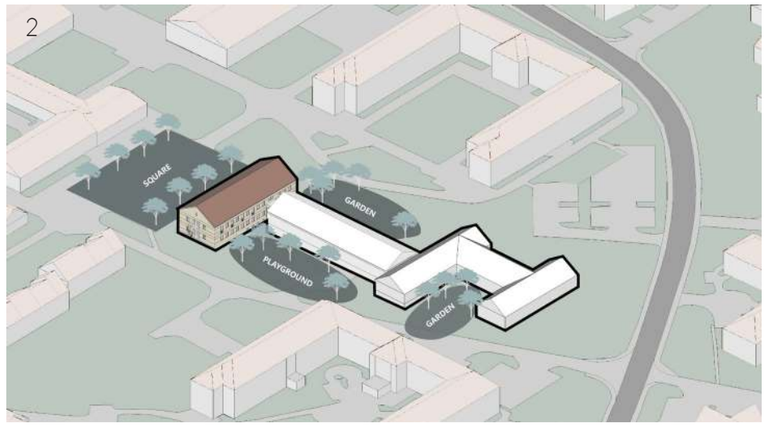
Rainwater Recycling and Solar Systems

In our project, we use the solar panels to collect the solar power for generating electricity and heating water. Besides, we collect the rainwater and recycle it to irrigated plants, cool solar panels and flush the toilet. Therefore, we increase the common space for placing the equipment associated with them.

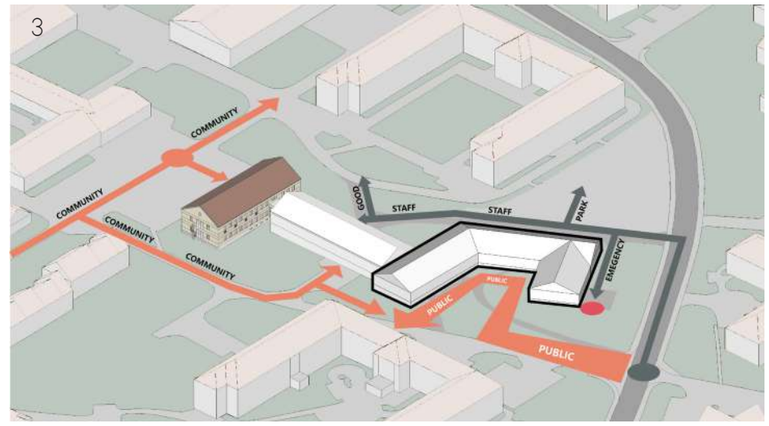
CONCEPT DESIGN



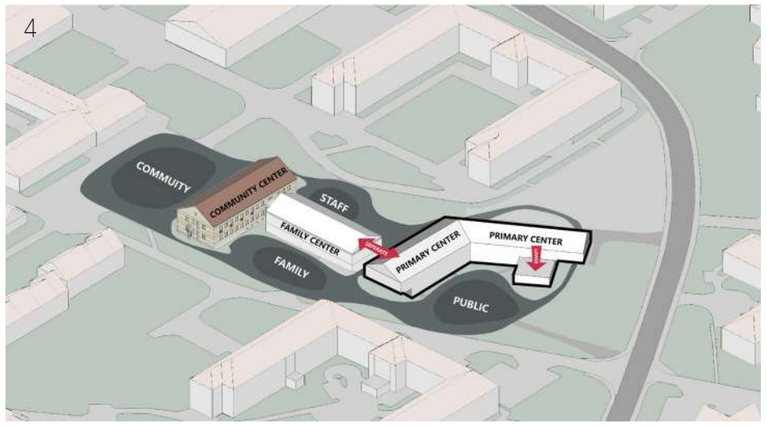
We won't use the existing building but we have a proposal for it to be a part of community center in the future.We want to reconstructed anotherexisting building.We will build a totally new volume connected to the reconstructed volume as a new primary healthcare center.



The existing building and the new volume will work togerther and shape the public space ,by which we get several public spaces with different scales and characters outsides.



We give an angle to the new volume ,slightly towards to the crossroad,making this volume more public ,more visible and more acessible. We use the new volume to divide the different flows and entrances.We can get the best sunlight by giving the new volume an angle.

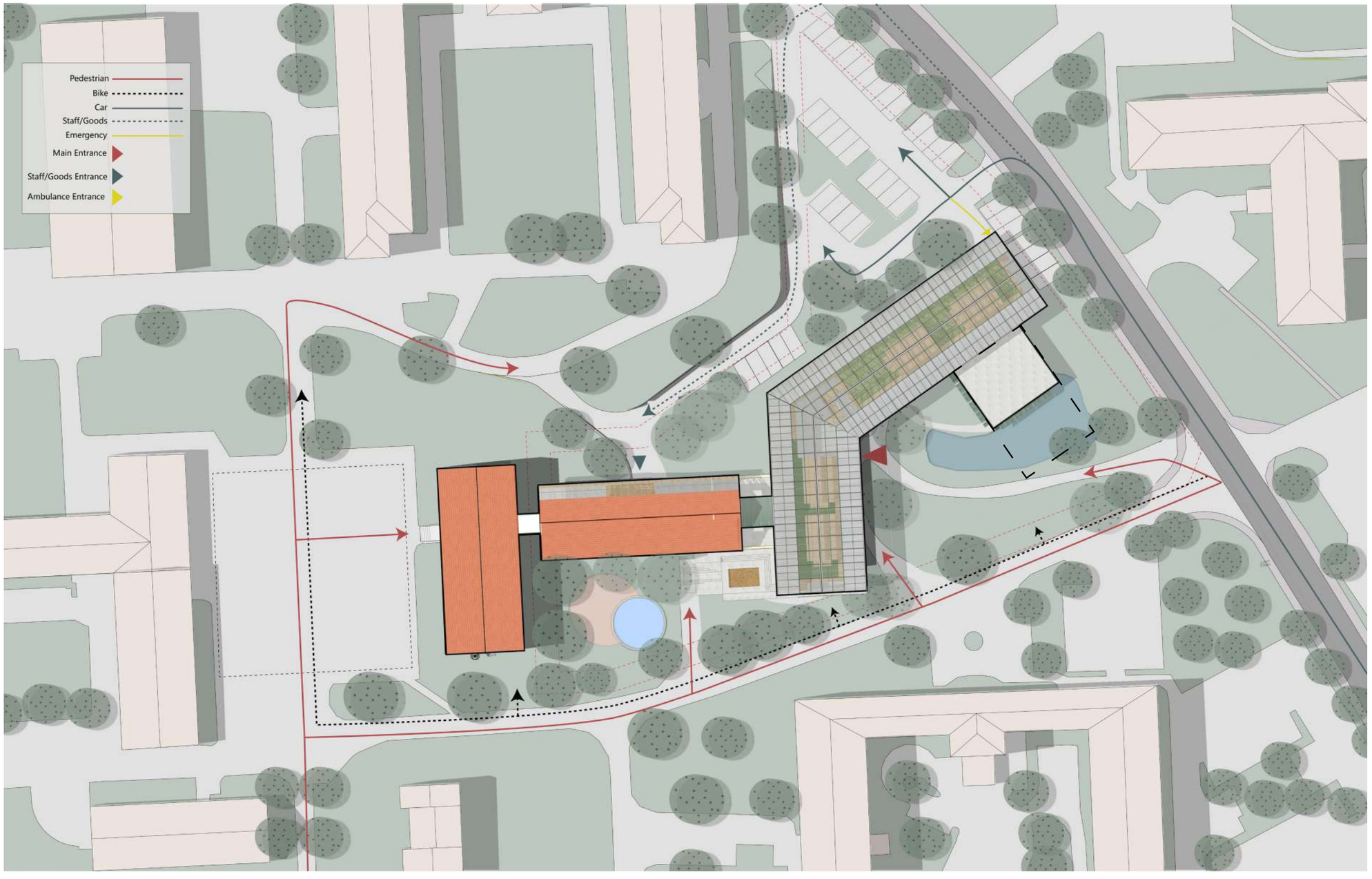


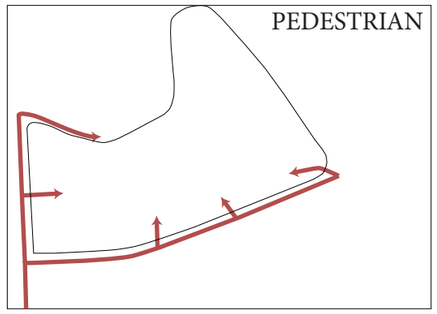
We designed several different public Spaces outsides according to different functions and different heights of lanscape.Each public space outside has strong connechtion with insidesspace and all the public spaces are connected with each others in some ways.

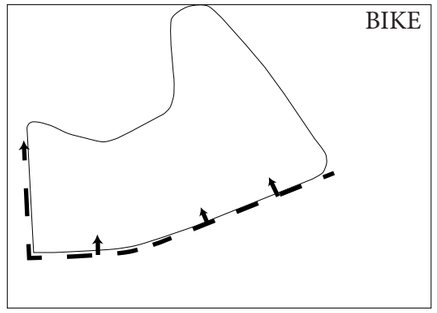
We wanted to maximize the use of the roof space as a sustainable public space for the community. Combining solar, wind and water recycling to achieve the goal of low energy buildings.

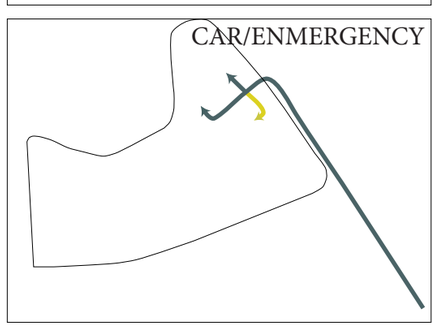
By inserting a new wooden structure into the old building, a new family center is created as an organic combination of the old and new buildings of diffrent functions.

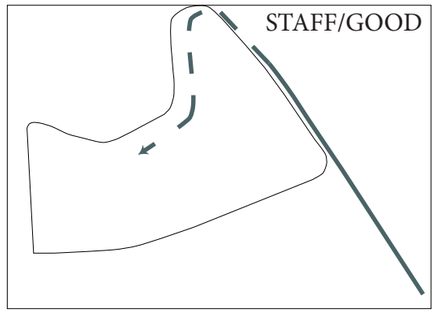
SITE PLAN


Pedestrian
Bike
Car
Staff/Goods
Emergency
Main Entrance
Staff/Goods Entrance
Ambulance Entrance


PEDESTRIAN

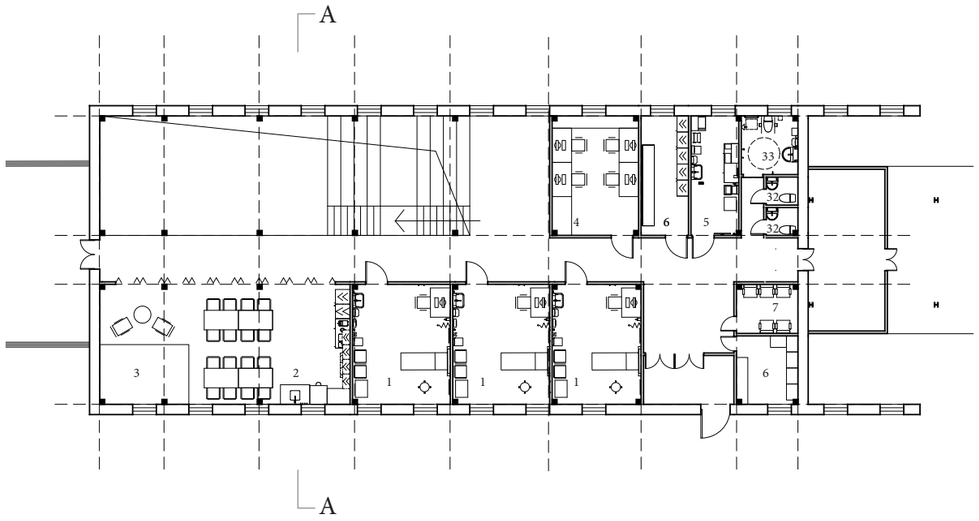

BIKE


CAR/ENMERGENCY


STAFF/GOOD

FLOOR PLANS

First floor

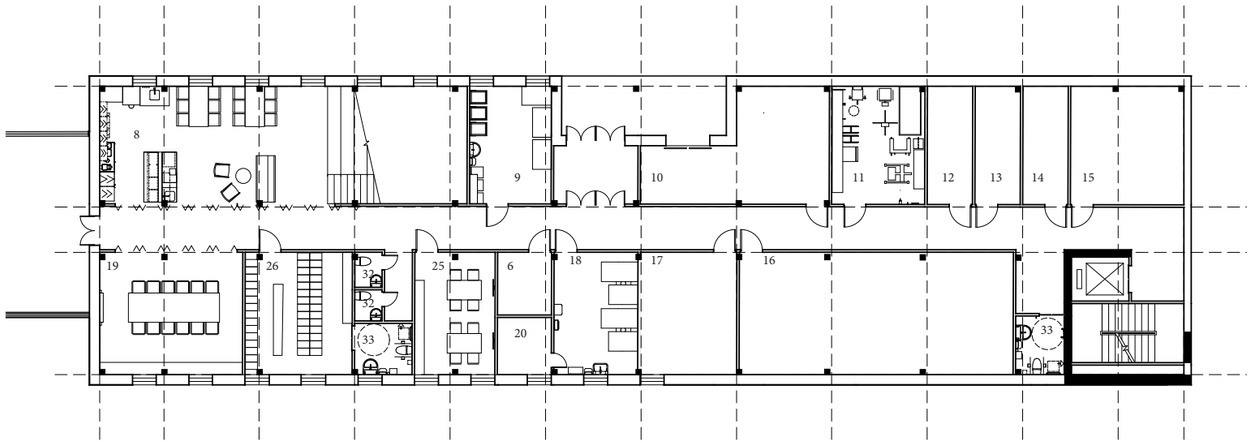


1.Examination room
2.Activity room
3.Playarea
4.Office
5.Medicine room
6.Supply
7.Stroller room
32.Toilet
33.RWC

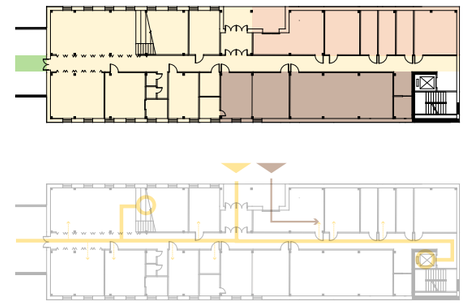
Family Care Center | Staff
Family Care Center | Share
Family Care Center | Patient
Primary Care Center | Patient
Staff Flow
Patient Flow
Family Care Center Entrance

Located between the community centre and the primary healthcare center, the family care center plays an important connecting role, which serves for not only the patients but residents living nearby.

Ground floor



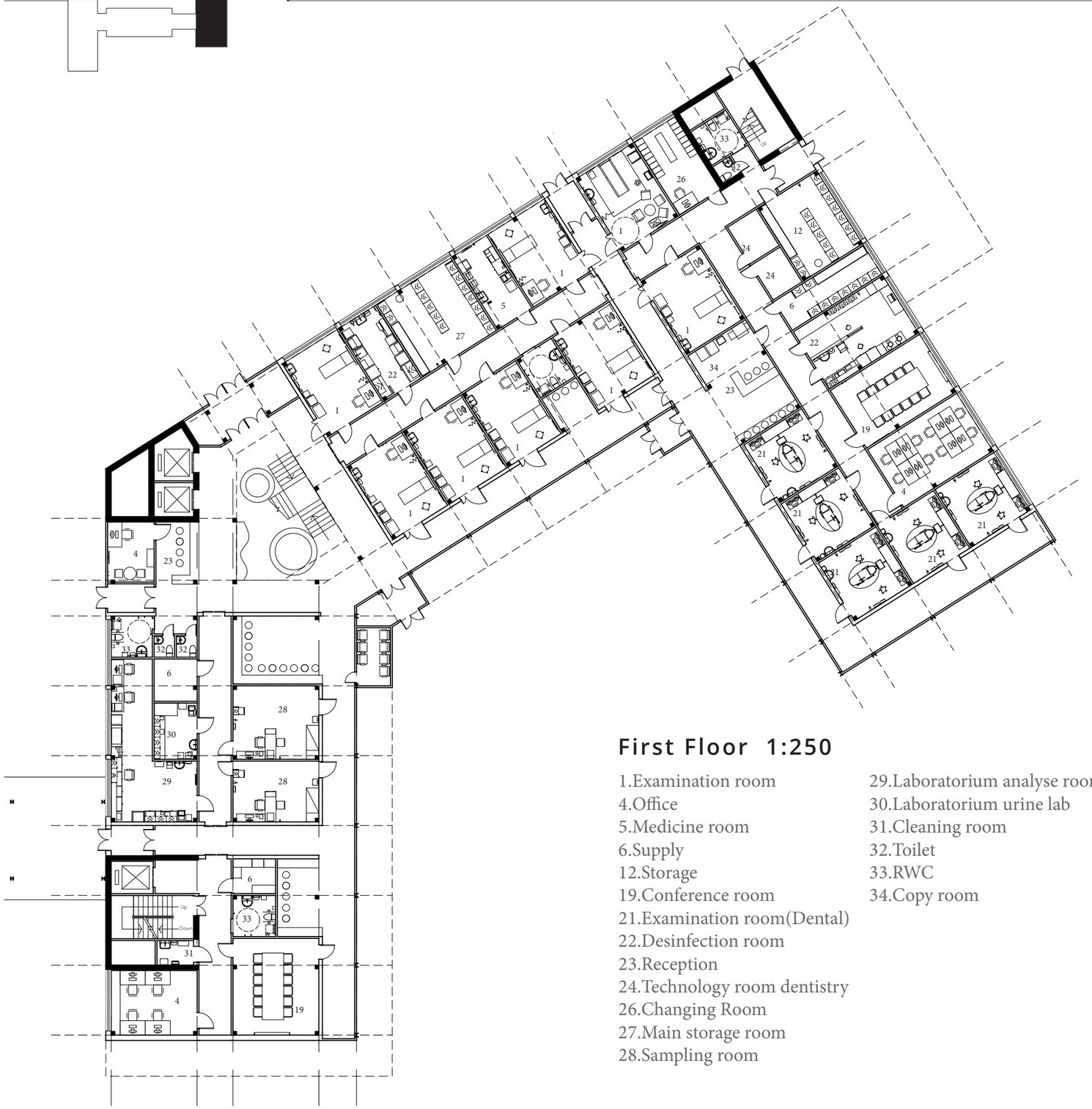
8.Staff room
9.Recycle room
10.Unpacking room
11.Supply (appliances)
12.Storage
13.Security system
14.IT
15.Electricity rooms
16. Facilities room
17.Water/heating room
18.Cleaning room
19.Conference room
20.Storage linen
25.Rest room
26.Changing Room
32.Toilet
33.RWC



Common Spaces
Staff Area
Services
Staff Flow
Goods Flow
Staff Entrance
Goods Entrance

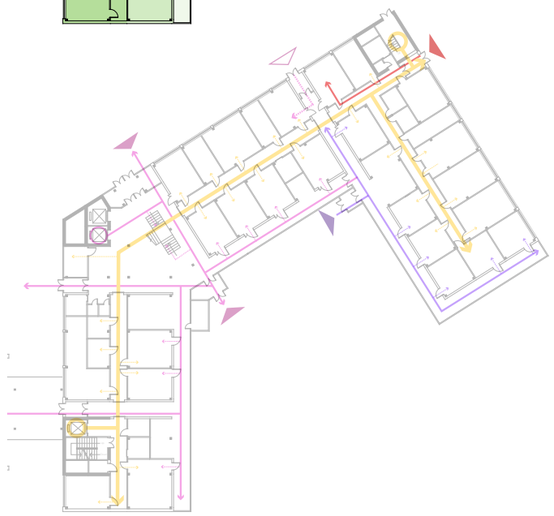
By using the middiem volume as a staff activity centre, we hope that the staff can have a good communication with paticents, besides, they can easily go to the community centre reading some books or drinking coffee to have a good rest.

FLOOR PLANS



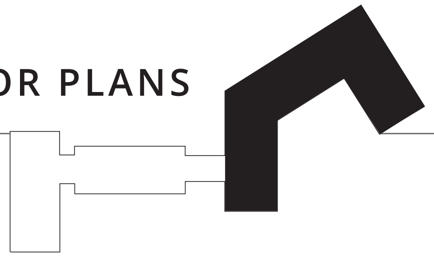
First Floor 1:250

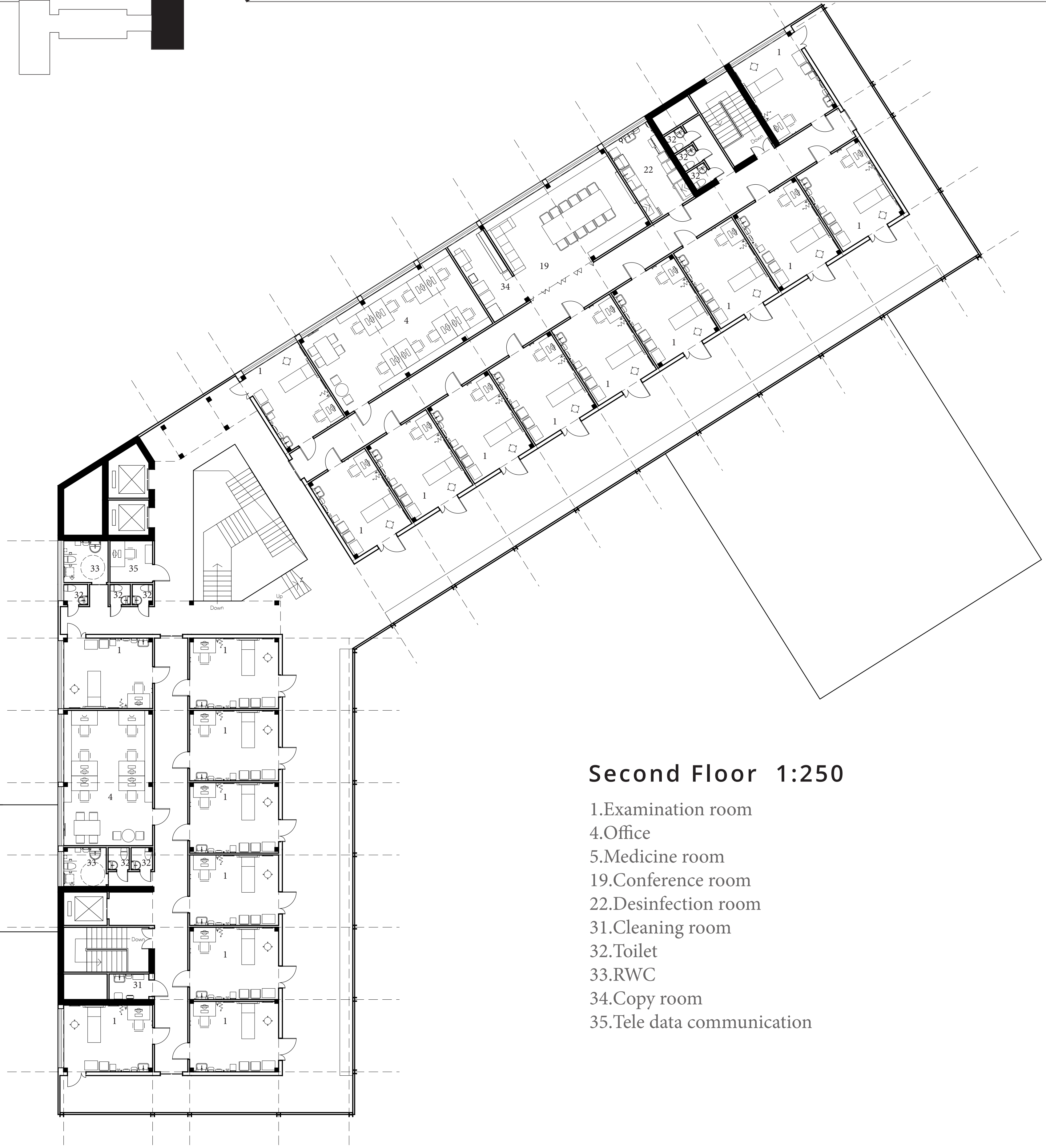
1.Examination room
4.Office
5.Medicine room
6.Supply
12.Storage
19.Conference room
21.Examination room(Dental)
22.Desinfection room
23.Reception
24.Technology room dentistry
26.Changing Room
27.Main storage room
28.Sampling room
29.Laboratorium analyse room
30.Laboratorium urine lab
31.Cleaning room
32.Toilet
33.RWC
34.Copy room



- Dental Care Center | Staff
- Dental Care Center | Share
- Dental Care Center | Patient
- Primary Care Center | Staff
- Primary Care Center | Share
- Primary Care Center | Patient
- Acute
- Staff Flow
- Acute Flow
- Dental Flow
- Patient Flow
- Infection Flow

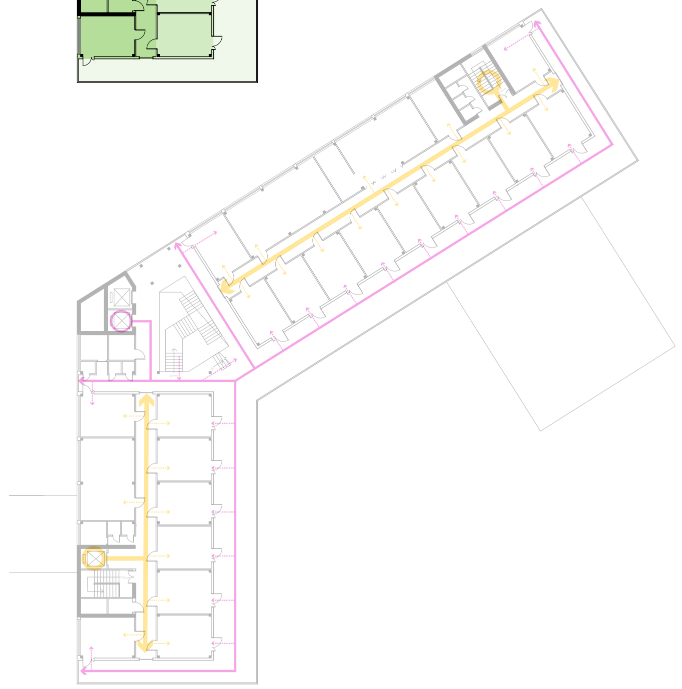
Using the dubble corridor system, visitors, patiences and staffs will not be dis-sterbed with each other. However, they can meet in the lobby which combines with courtyard and has some spaces for relaxation. Dental care center combi-ned with acute is placed in the east near the road will open after hours as an af-ter-hours clinic.





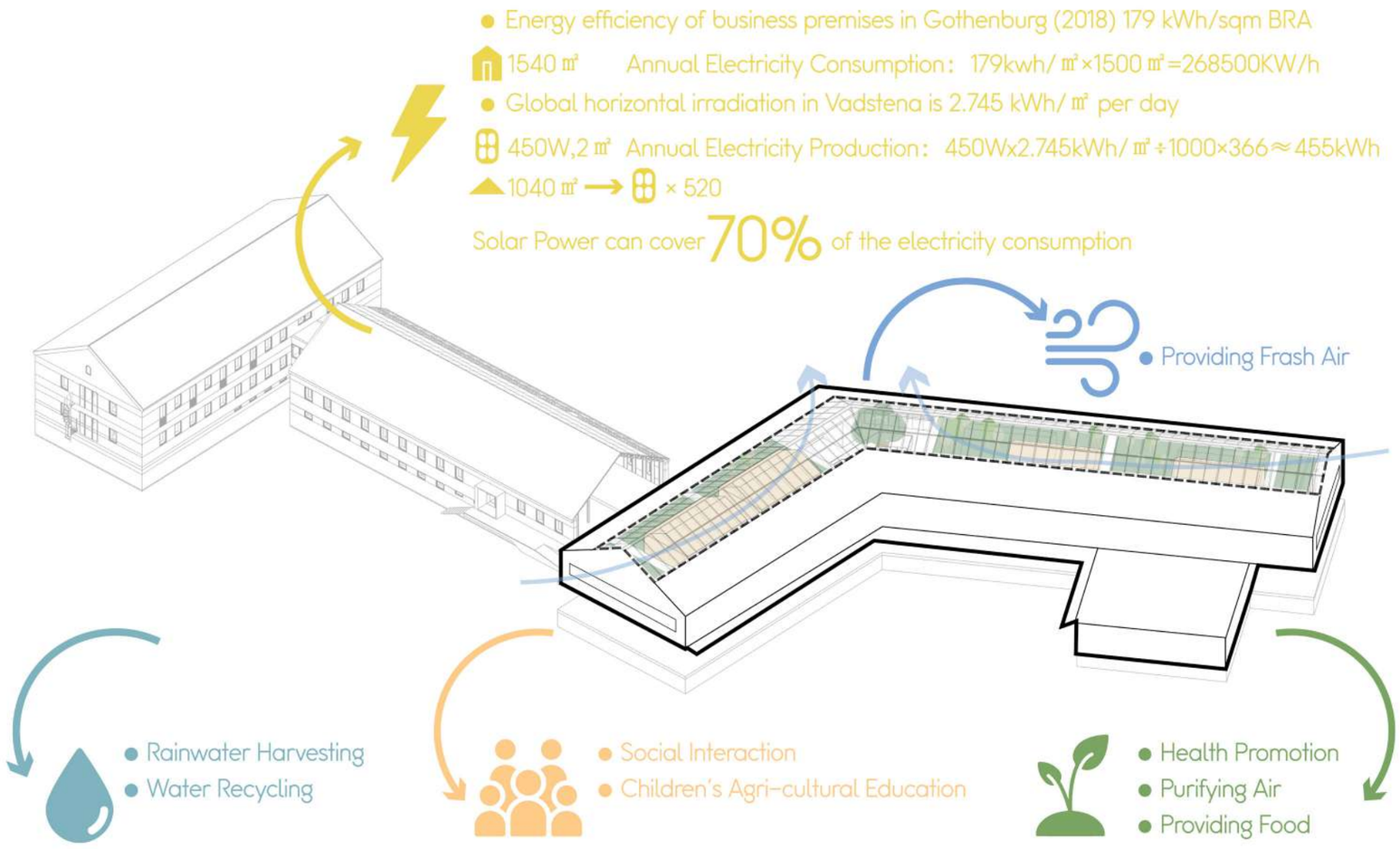
Second Floor 1:250

1.Examination room
4.Office
5.Medicine room
19.Conference room
22.Desinfection room
31.Cleaning room
32.Toilet
33.RWC
34.Copy room
35.Tele data communication



Primary Care Center | Staff
Primary Care Center | Share
Primary Care Center | Patient
Staff Flow
Patient Flow

Green House



In our project, we cover the building with a glass skin, activate the roof area using as a farm which can purify the air interior and provide food to not only the staff but the people living around.

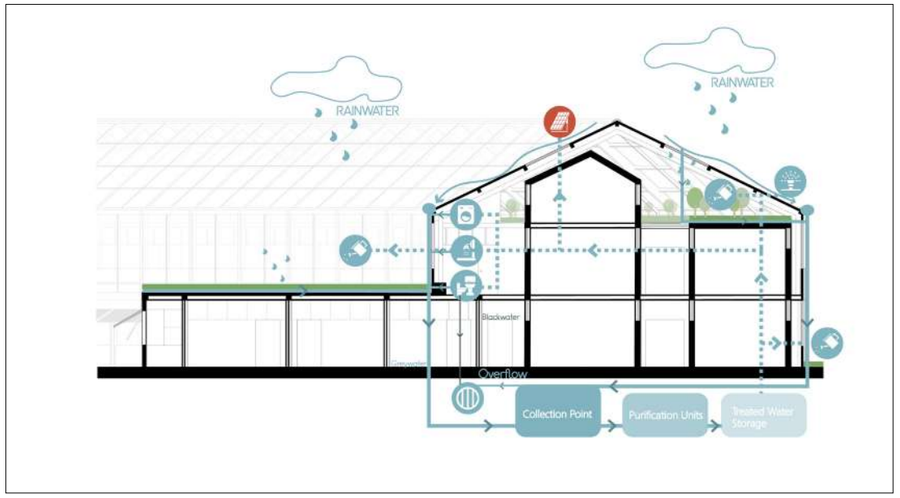
People can plant some flowers here which also strengthen their body. Equiping with the solar panels in the roof helps the building 70% reduction in electrivity consumption.

We also consider using the through height atrium to provide frash air and reduce the heat in summer.

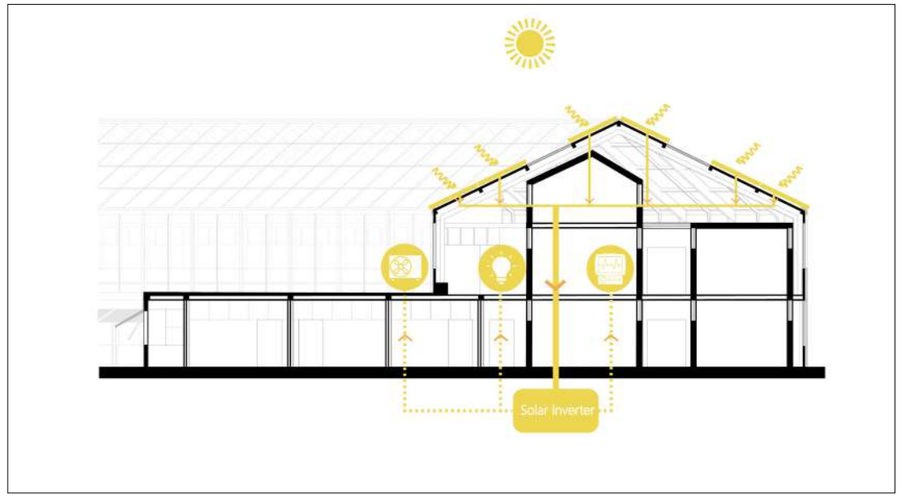
The rainwater will be harvested and recycled to Irrigate plants or flush the toilet and so on.

Rainwater Recycling System & Ventilation System & Solar System & Thermal Storage System

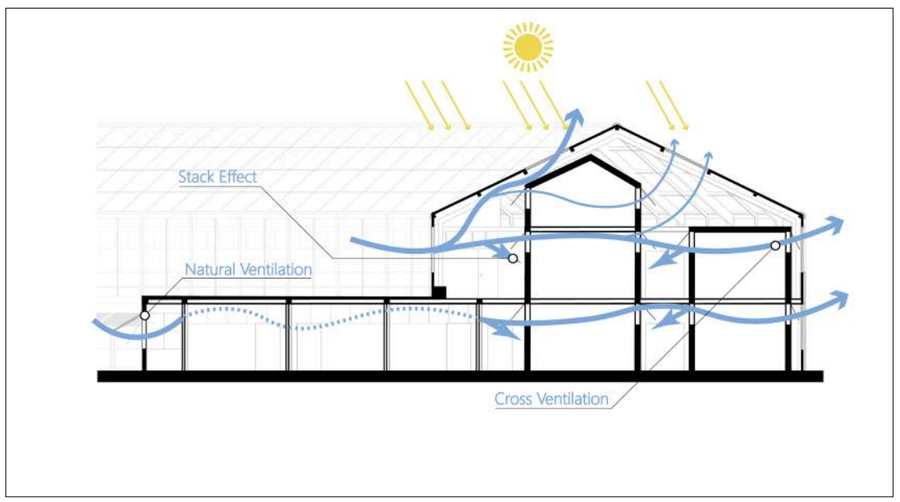
Rainwater Recycling System



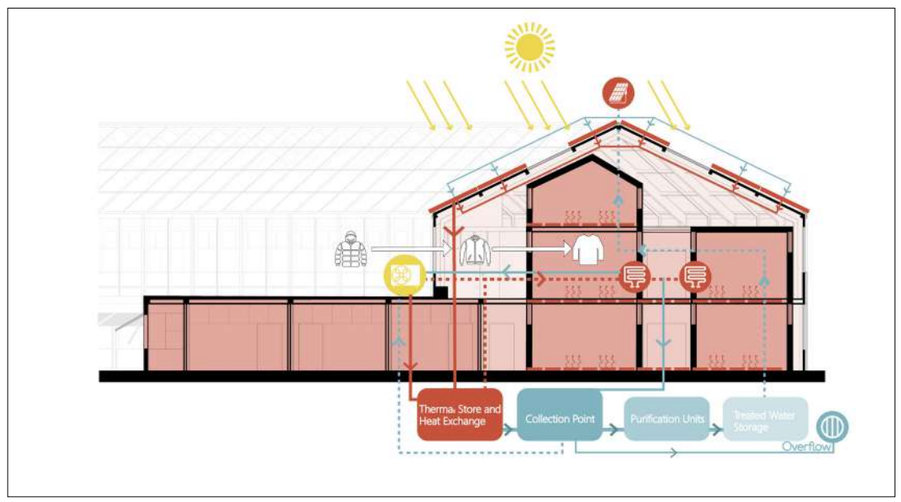
Solar System



Ventilation System



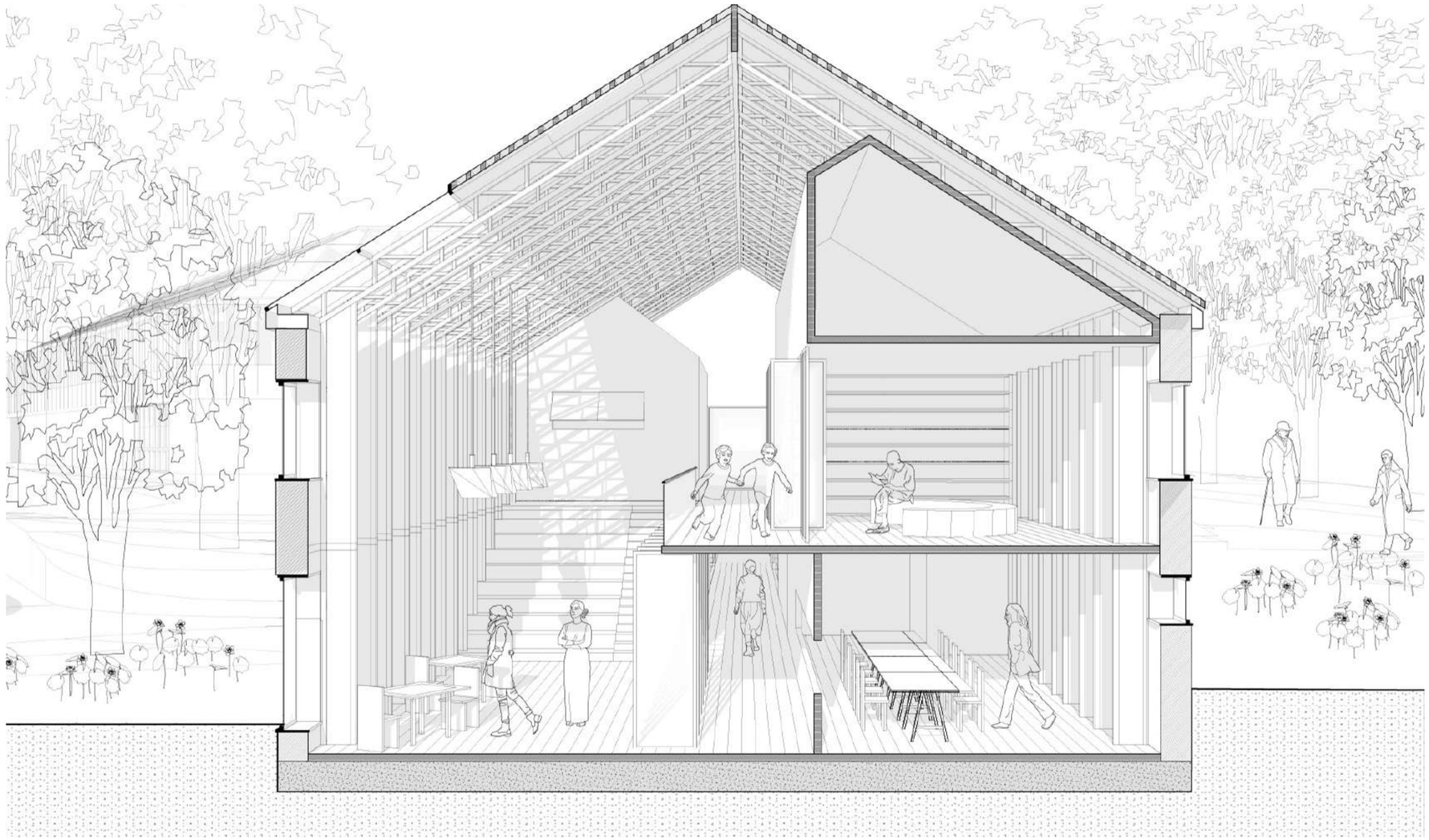
Thermal Storage System

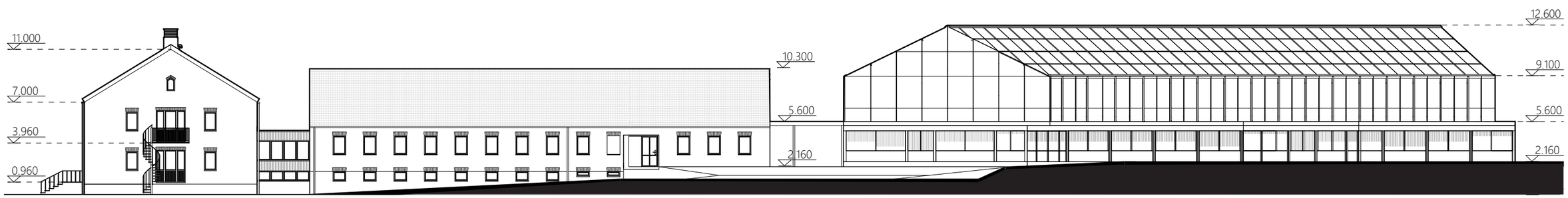


We place the volume into the glass box creating three different temperatures of the event space. In winter, only the main activity spaces will be heated by the solar heating system, the other spaces will be warmed by solar radiation. In summer,skylights and windows in the rooms will be opened and the chimney effect and through-air will cool the room.

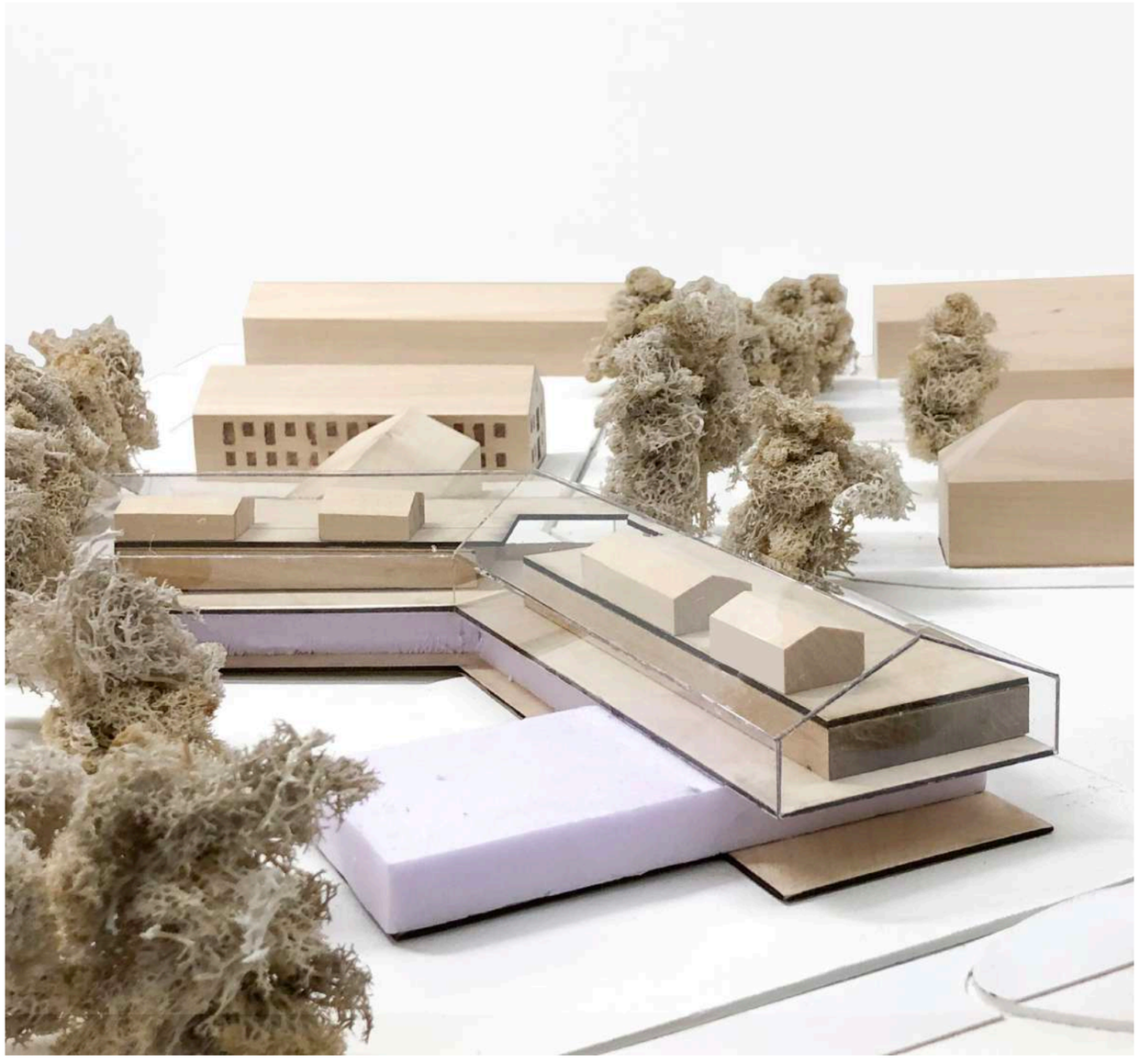
The rainwater will be collected by the catch basins into the collecting point, then be purified by water purification units. Purified water will go back to be used in irrigating plants, flushing toilets, cooling solar panels, being heated by solar or air source heat pumps and then heating.

Section & Elevations





MODEL PHOTOS



VISUALIZATIONS

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