



INTRODUCTION

ABOUT THE TASK

This project entails transforming and designing a new primary care center in Vadstena. The task includes a dental care centre (500m²), inpatient ward (500m²), and other primary healthcare facilities, totaling at **3500 m²**. The proposal also needs to consider the possibility of future proofing and sustainable development. The site has two existing buildings, one which has to be preserved and one that can be transformed or demolished.

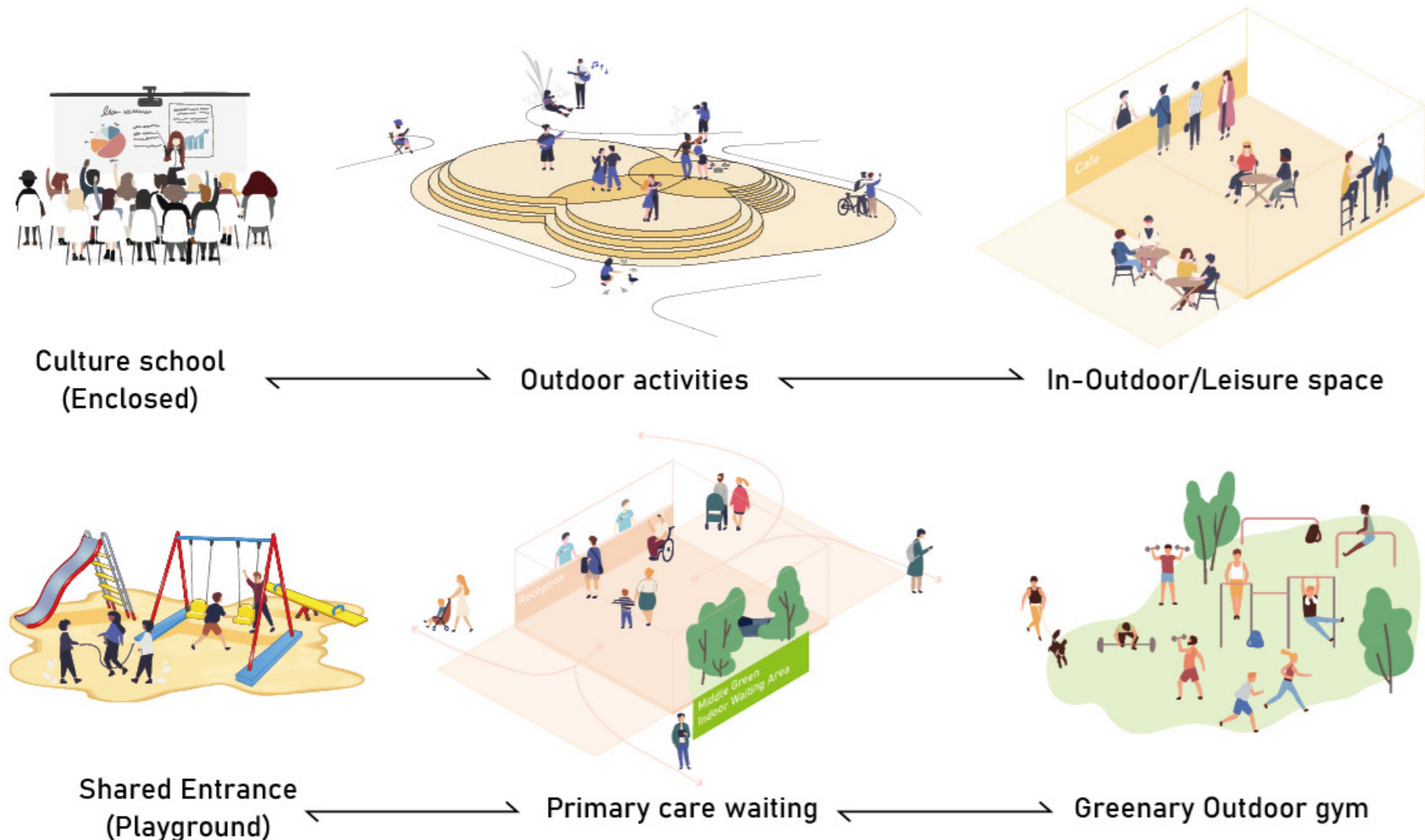
The site area is divided into two plots.

Plot 1: Largest building area **1000m²**/Maximum building height **11m**.

Plot 2: Largest building area **1750m²**/Maximum building height **8m**.

The connection with the site's surroundings also needs to be considered in our design.

SEQUENCE ACTIVITIES HAPPEN



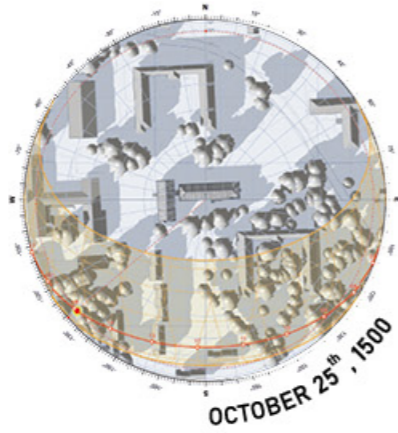
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SITE ANALYSIS

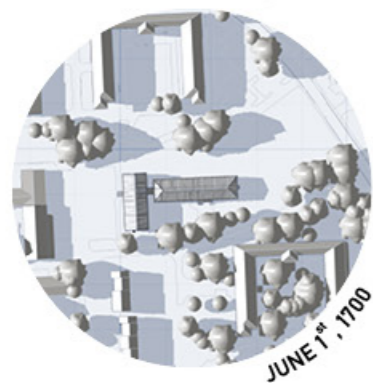
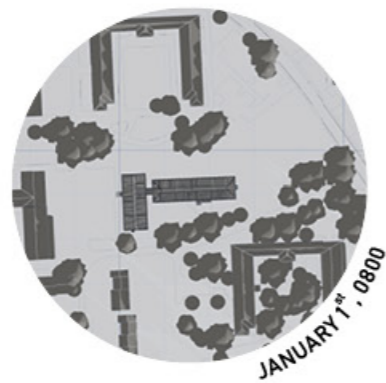
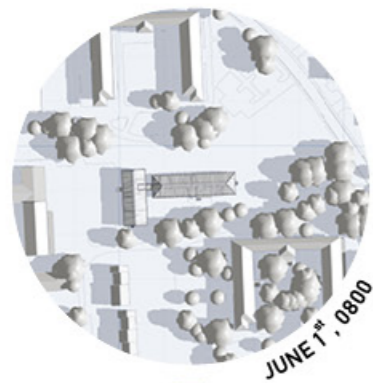
SUN ANALYSIS

The southern facade of the building receives ample sunlight throughout the day in summer, and from 0900-1600 in the winter. Surrounding buildings and trees do not obstruct sunlight too much, with the exception of winter mornings and evenings.



SUMMER

WINTER



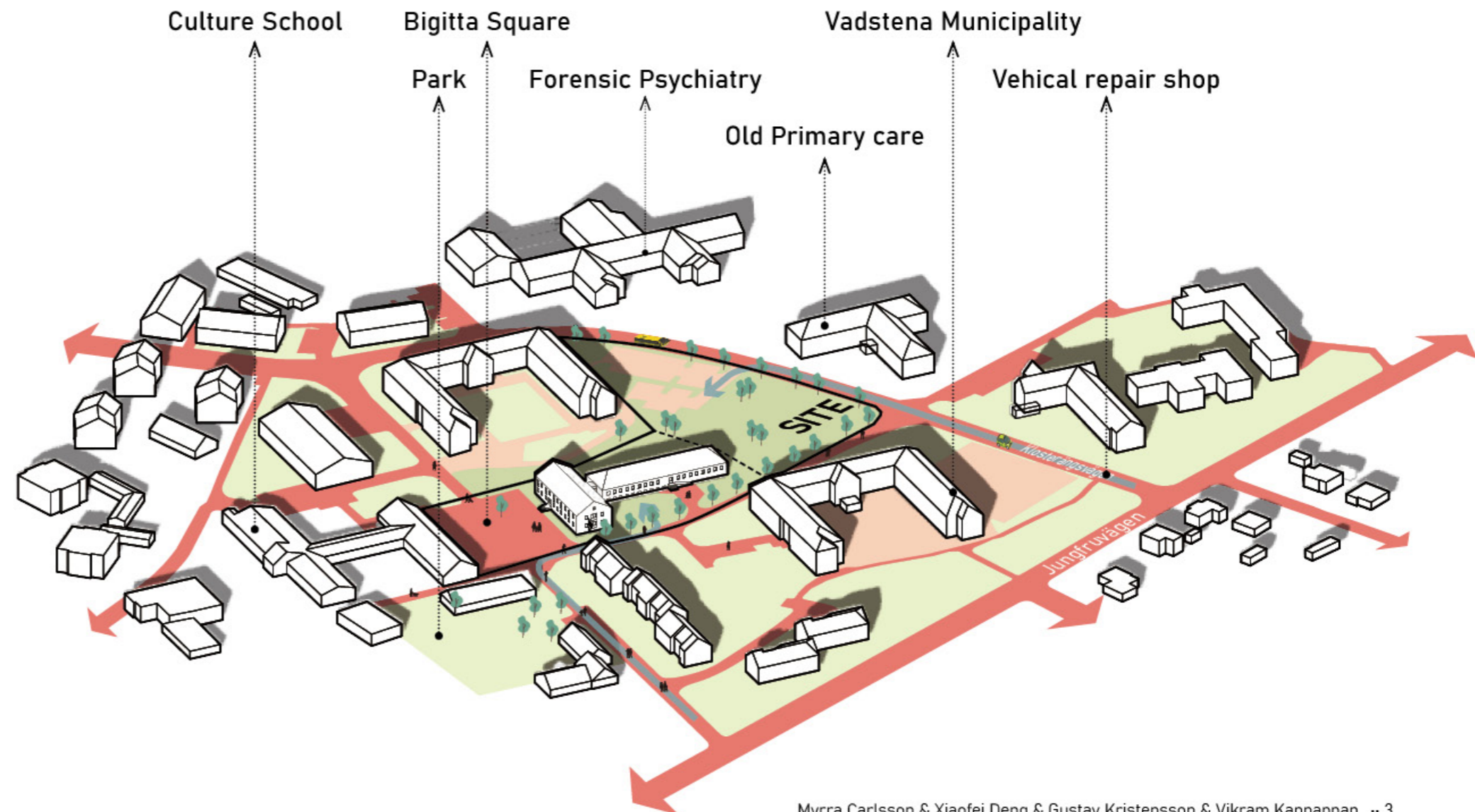
DESIGN CHALLENGE

Nature & History

The site is located in a small city in south-western Sweden, next to the second largest lake in Sweden, with excellent natural conditions and a long history. How to respect the city's history while making full use of its ecological and natural values and feeding back into the urban space is the focus in the design.

Site Restrictions

The buildings in the city are all within 3 floors and the site is divided into two plots, Buildings on the left site can't be higher than 11 metres and no larger than 1,000m², and on the right side can't be higher than 8 metres and no larger than 1,750m². How to meet the functional requirements of the buildings and integrate them with the surrounding environment, forming a chain linking the various functions is a difficult point in the design.

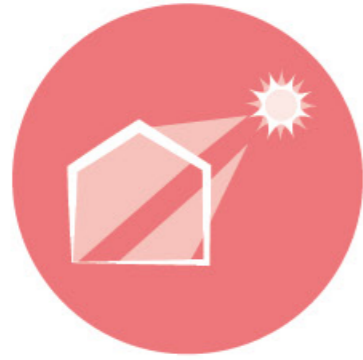


DESIGN STRATEGIES



Nature

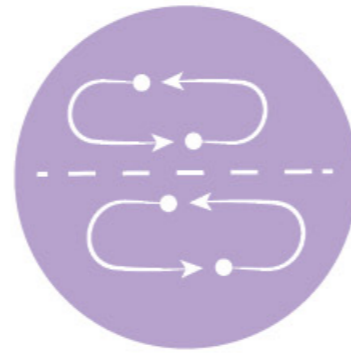
Promote connections to nature through biophilic design and outdoor activities and spaces.



Maximize sunlight

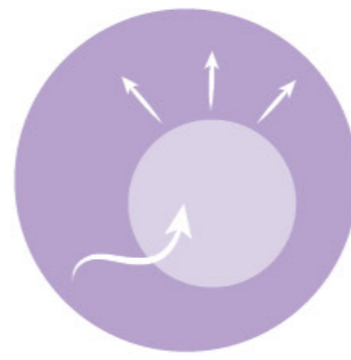
Bring more natural light in to the building, especially in waitingrooms, staff restrooms and offices.

EBD & HEALTH PROMOTION



Separated flows

Separated Dental and Primary care due to low collaboration. As well as separated administration work from patient-related work.



Easy wayfinding

Focus on patients navigation abilities to reduce confusion and stress. Through one waiting room, short corridors and colors.



Digitilized processes

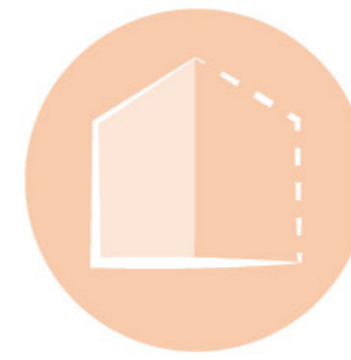
Digitalisation can streamline operational processes. It could reduce manpower, waiting times and increase efficiency.

BRIEF & LOGISTICS



Entrance

Car and pedestrian flows meet up at a common entrance area.



Traditional and modern

A similar brick facade need to be adopted because of historical. Inner and middle part will be modernised to easy way finding.



Community anchor

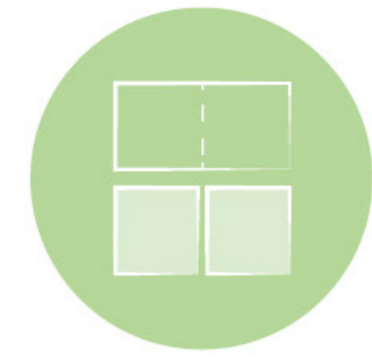
Promoting community and make the Birgitta square become a communal space at the centre of activities in the neighbourhood.

SITE AND CONTEXT



Reuse

Reuse of the old building's materials.



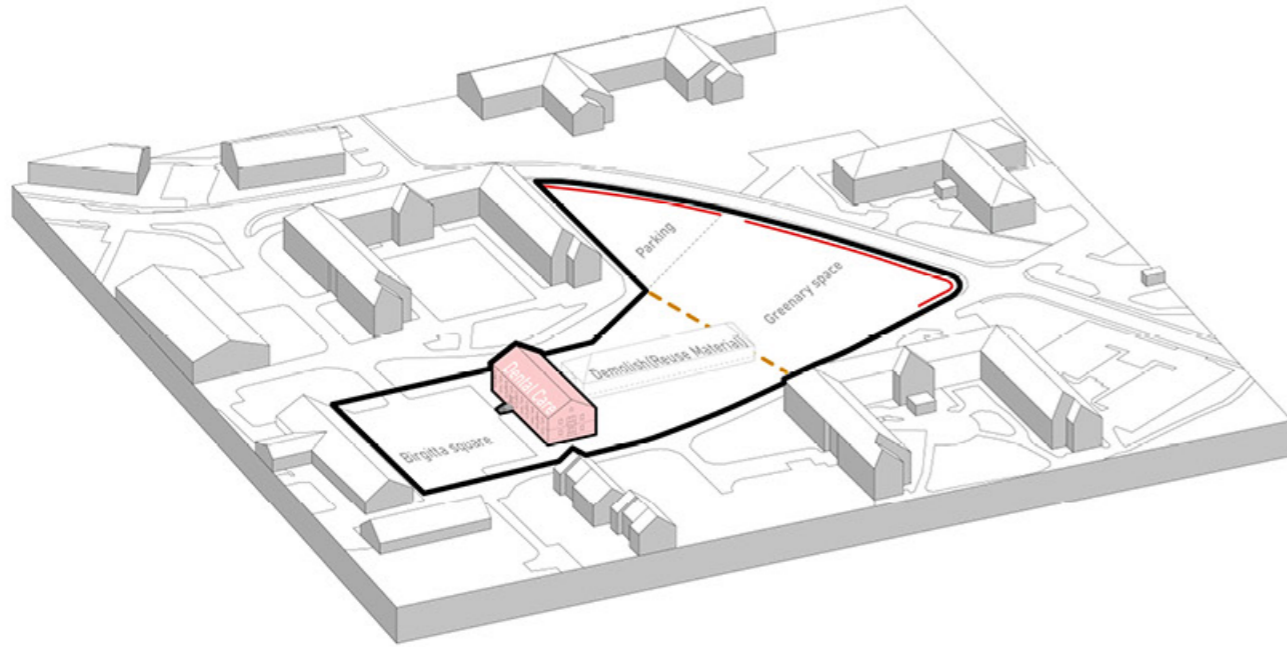
Flexible spaces

By having standard sized rooms and possibilities for separations, the utility of the rooms can change over time.

SUSTAINABILITY & FUTURE PROOFING

DESIGN CONCEPT

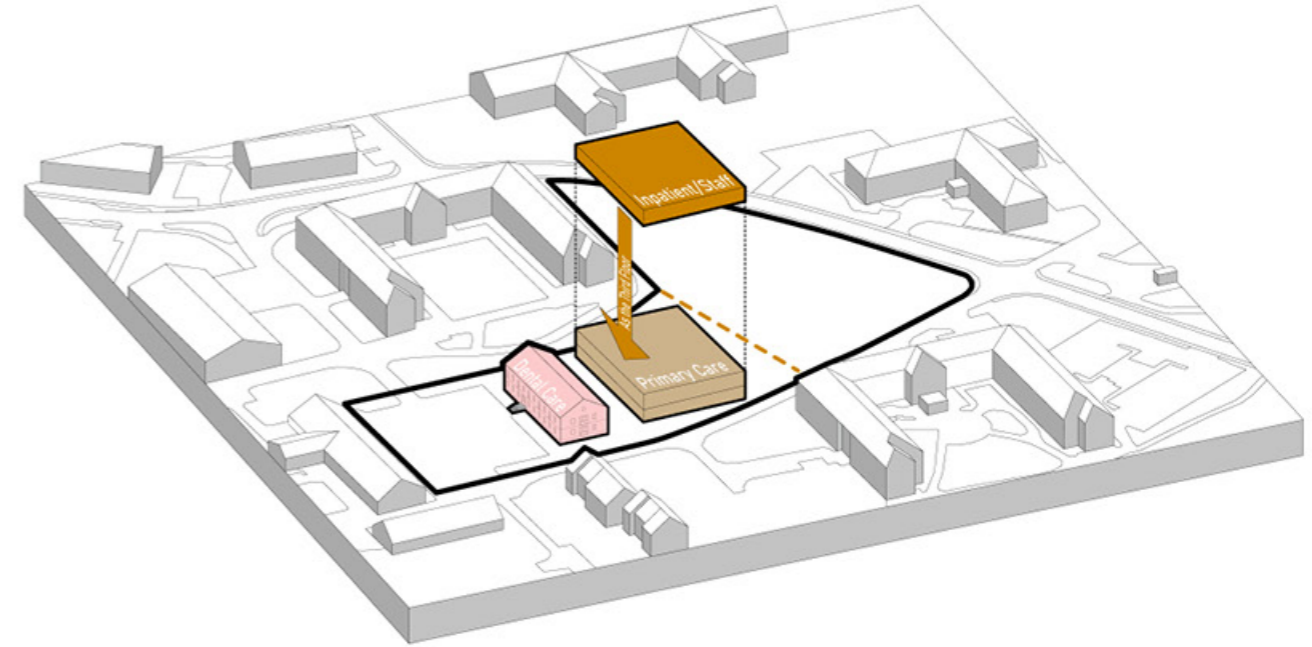
Architecture concept



Step 1

The Site

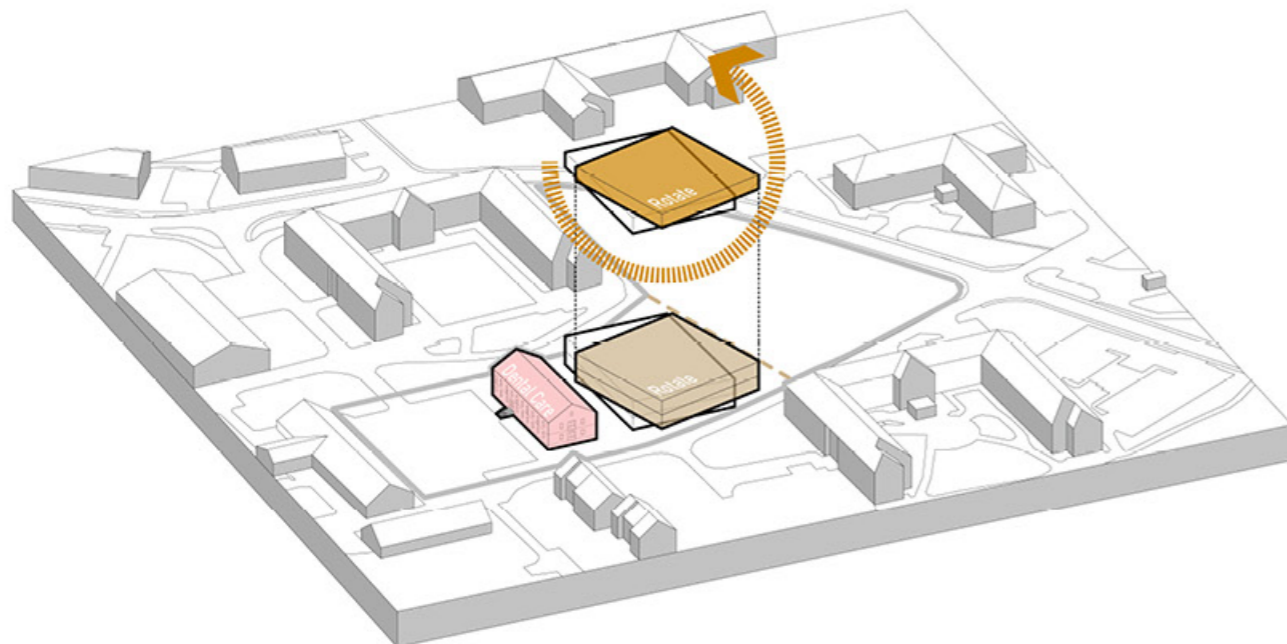
Extending to Birgitta square, demolishing one building for a larger Primary care, retaining one building and renewing it for the Dental care.



Step 2

New primary care

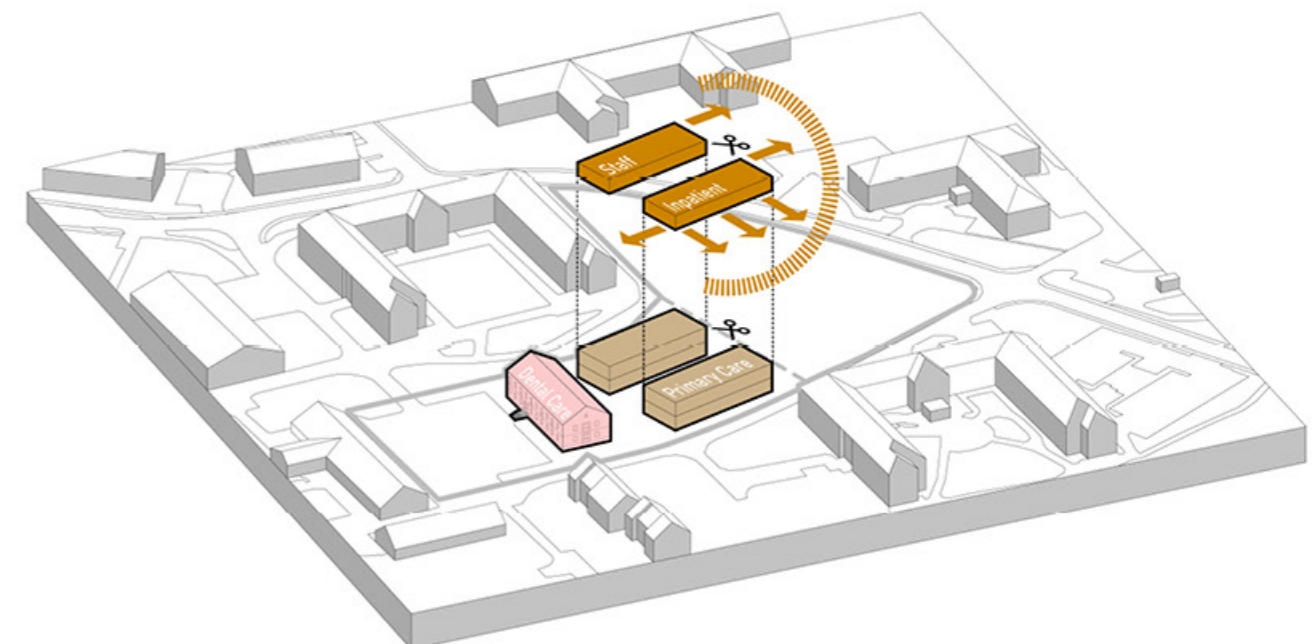
The primary care and inpatient ward need 3,000 sq. Patient flows are only on the ground and first floor, while the inpatient and staff areas will be on the third floor for ease of management.



Step 3

Rotate new building

The new building is rotated and aligned to the road. The rotation better integrates the building into the the shape of the site, and creates a larger shared entrance square that is more open to the pedestrian flows from the south.



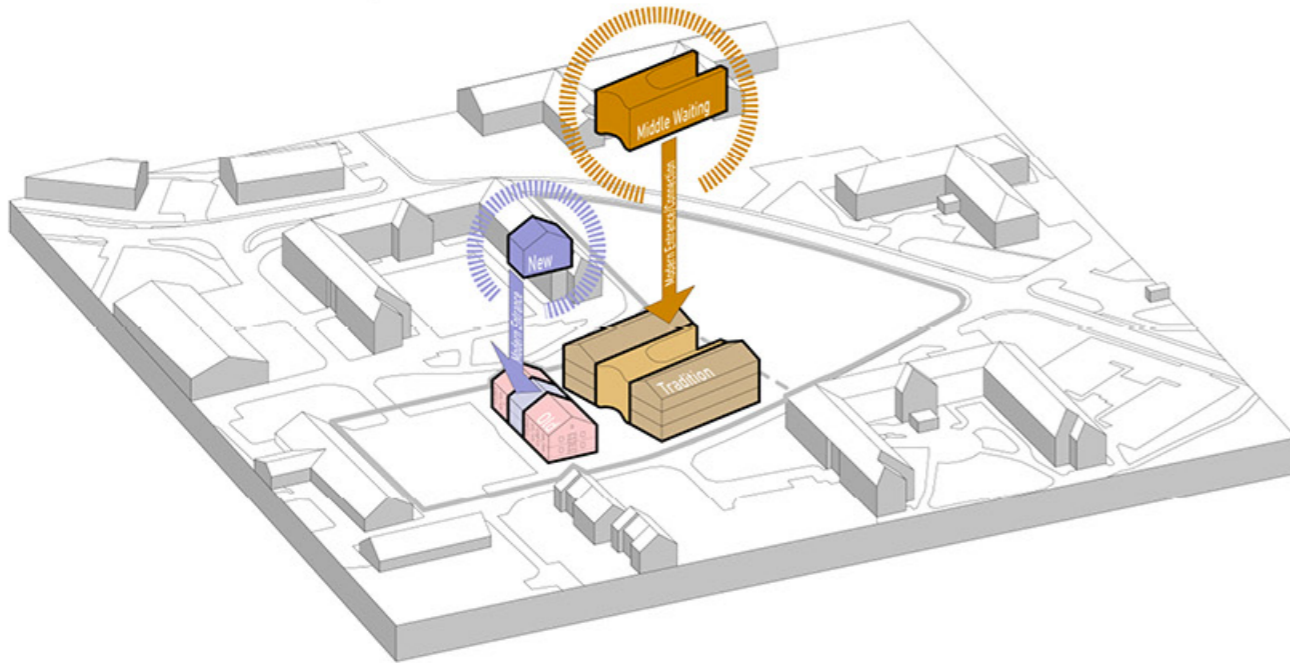
Step 4

Culture and History

Dividing a large volume into two smaller volumes according to the historic architectural topography of the city. The different parts of the primary care will be clearly placed on each side.

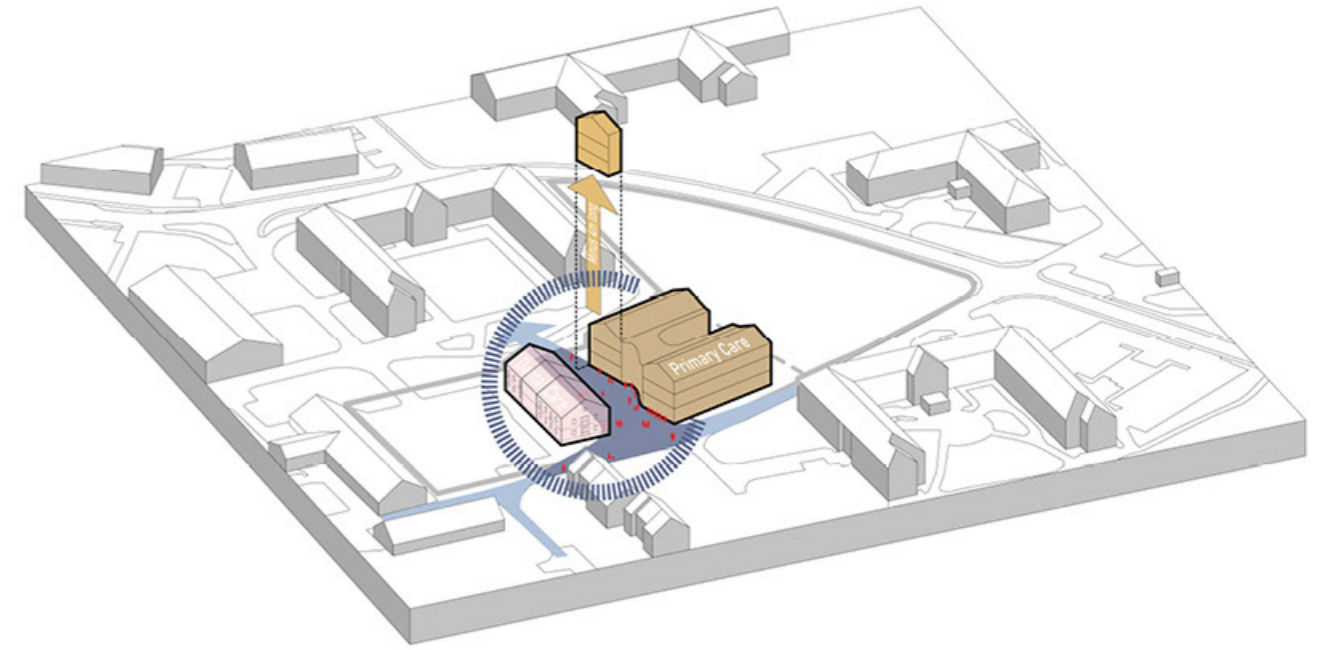
DESIGN CONCEPT

Architecture concept



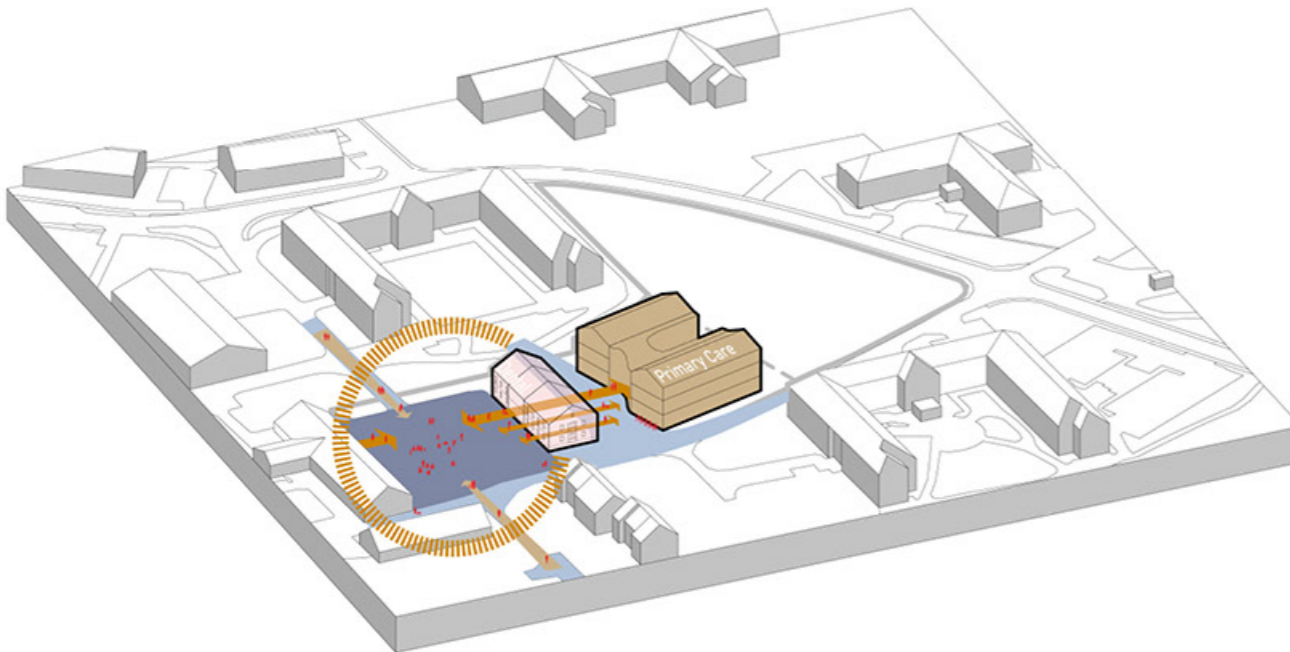
Step 5 *Traditional and Modern*

Incorporating more modern forms in between traditional facades allows the project to integrate well with the old buildings but still reap the benefits of contemporary design.



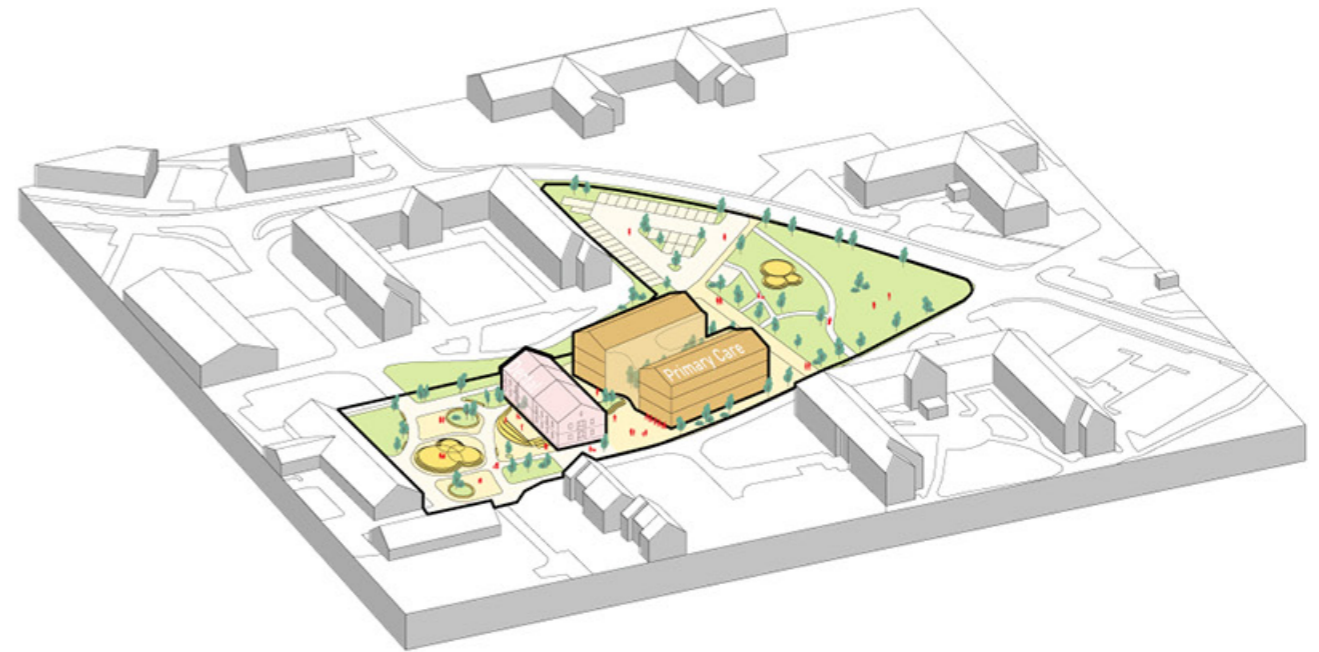
Step 6 *Shared Entrance Square*

The northern part of the new building will be made smaller to form a larger entrance square, giving the patient a more comfortable experience.



Step 7 *Community anchor*

Promoting community spirit and making the Birgitta square become a communal gathering space at the centre of activities in the neighbourhood.



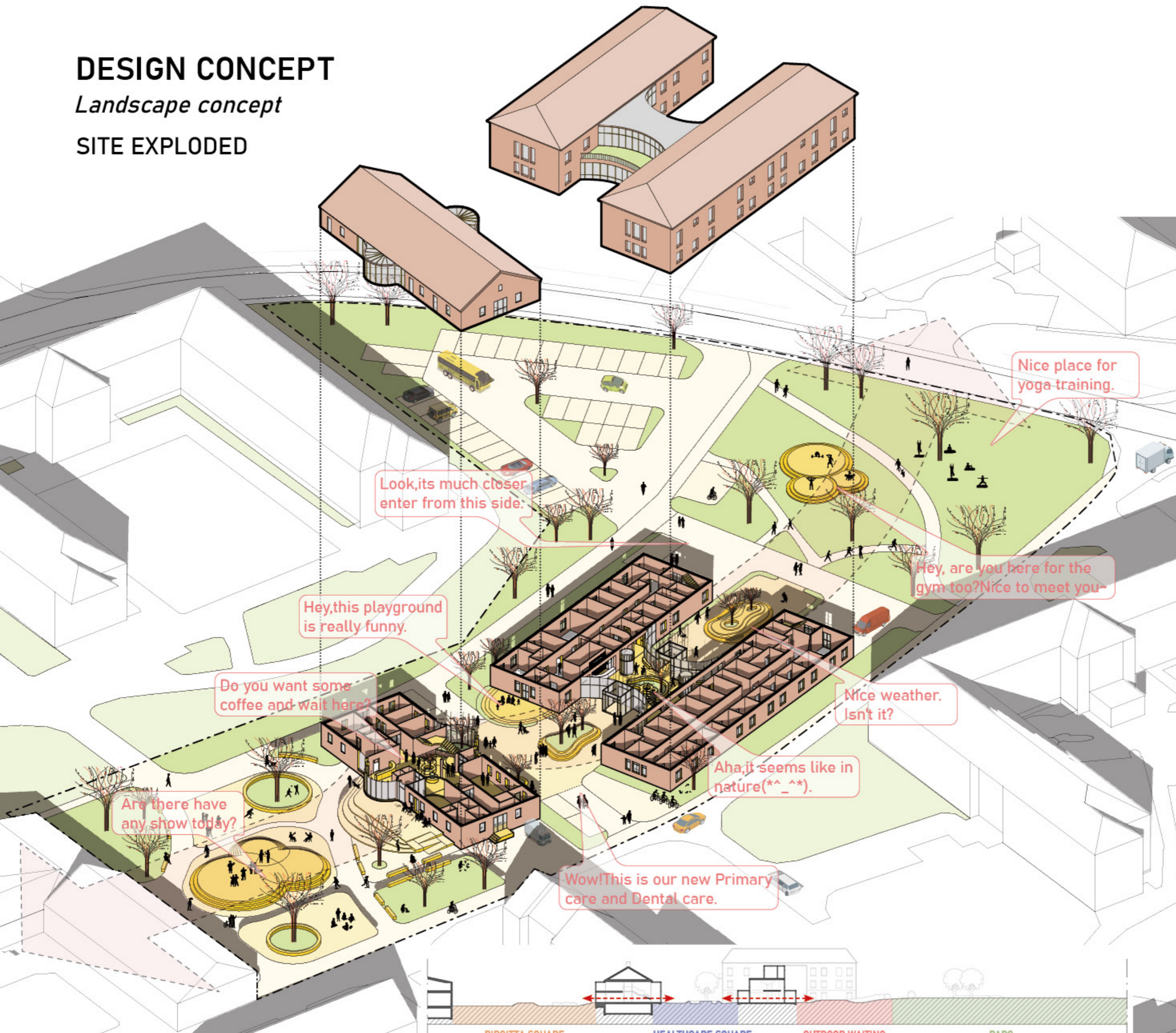
Step 8 *Green surroundings*

Promote connections to nature through biophilic design and outdoor activities and spaces.

DESIGN CONCEPT

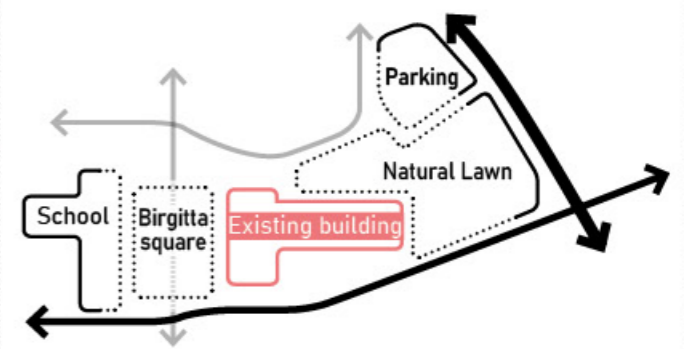
Landscape concept

SITE EXPLODED

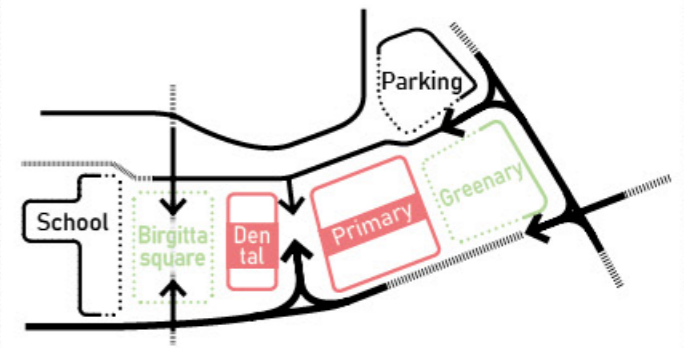


LANDSCAPE CONCEPT

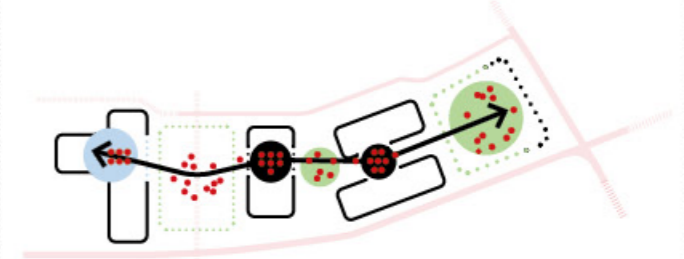
Step 1 : Existing blocks on the site.



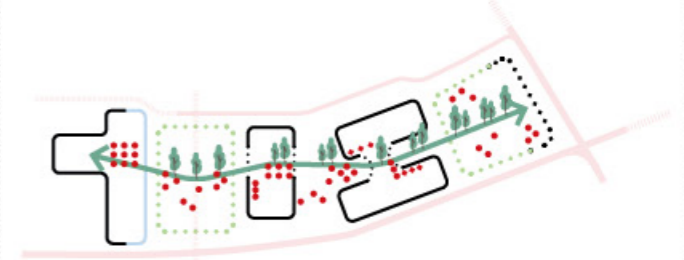
Step 2 : New blocks formed according to the layout of the surrounding.



Step 3 : New blocks link the whole area and form a active space.



Step 4 : Open up in the middle and nature penetrates the building.

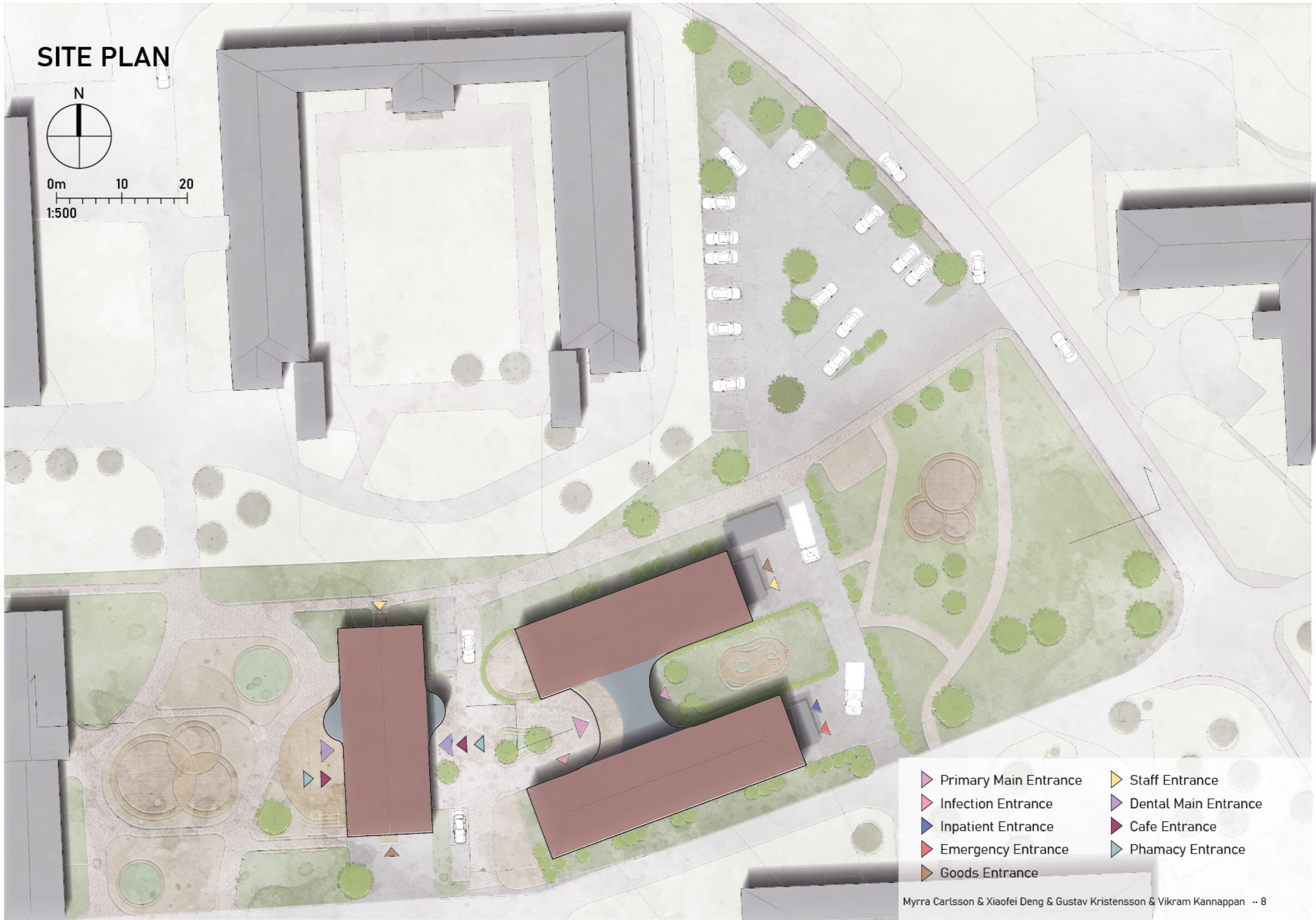


BIRGITTA SQUARE Cafe & Exhibition & Stage
HEALTHCARE SQUARE Share entrance & Playground
OUTDOOR WAITING Back garden
PARC Recreation & Future extensions

SITE PLAN



0m 10 20
1:500



- Primary Main Entrance
- Infection Entrance
- Inpatient Entrance
- Emergency Entrance
- Goods Entrance
- Staff Entrance
- Dental Main Entrance
- Cafe Entrance
- Pharmacy Entrance

CHALLENGE THE BRIEF

Added functions



Café

Connect to the Birgitta square. Contribute a Welcoming area.



Pharmacy

Good to cooperate with the dental care and the primary care.



Outdoor waiting

Promote physical activity in fresh air and rehabilitation.

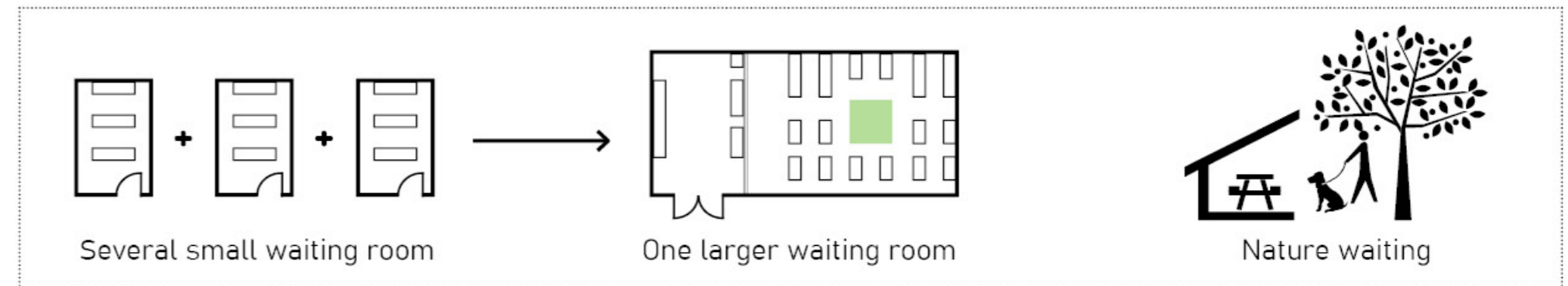
Changed functions

The waiting room

Studies show that people that are happy with their time in the waiting area tend to be more happy with their care overall (Vårdmiljöns betydelse by Wijk et al. 2014).

One waiting room will make it easier to find as well as generate more anonymous visits to the doctor.

Waiting in nature could create a more attractive place to wait. This will combine with a digital queuing mechanisms that helps patients know when it is their turn.

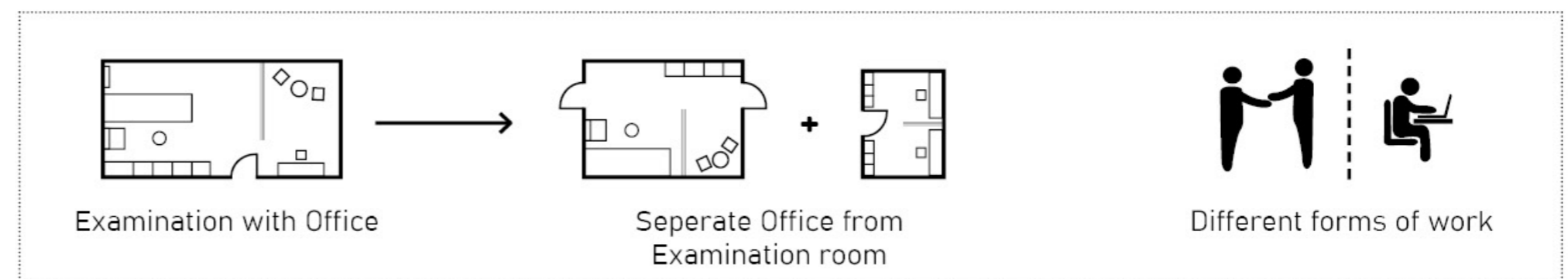


Separate offices and examination rooms

According to a study by Program för Teknisk Standard and Chalmers Centrum för Vårdens Arkitektur (Administrativa Vårdplatser, 2015), around 50% of the work doctors do is administrative.

Every staff will have their own office and keep the examination rooms clean and standardised.

Examination rooms without offices could be used by different members of the staff during the day. This will reduce the amount of empty rooms.

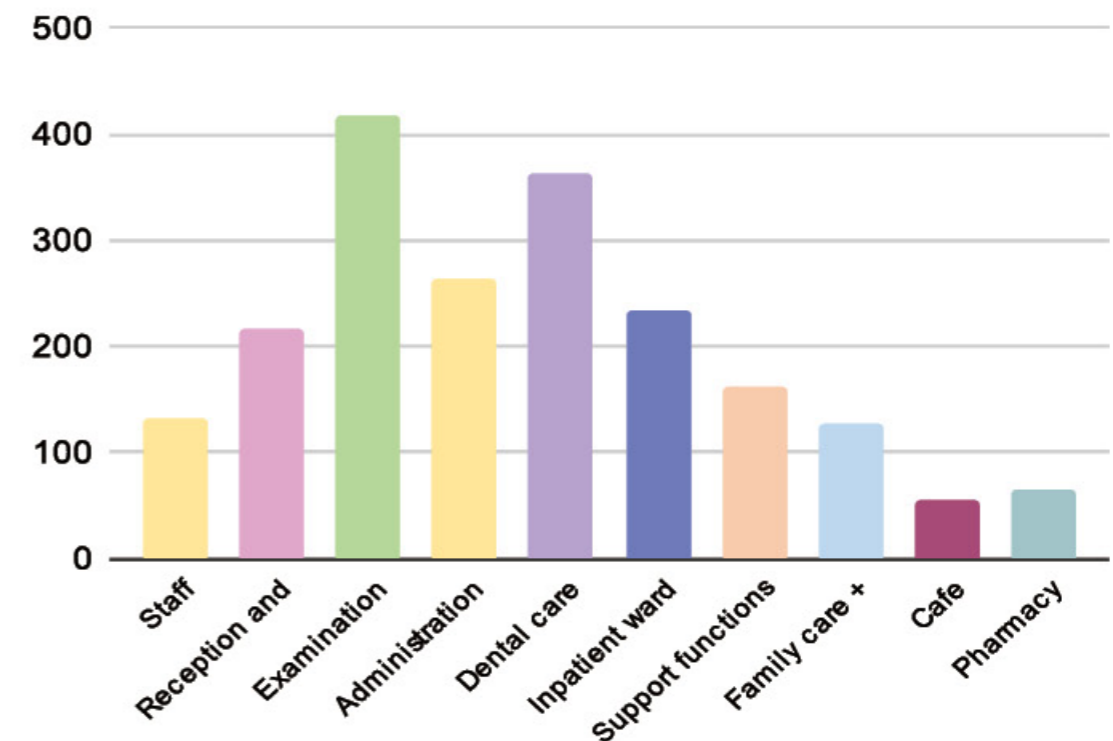
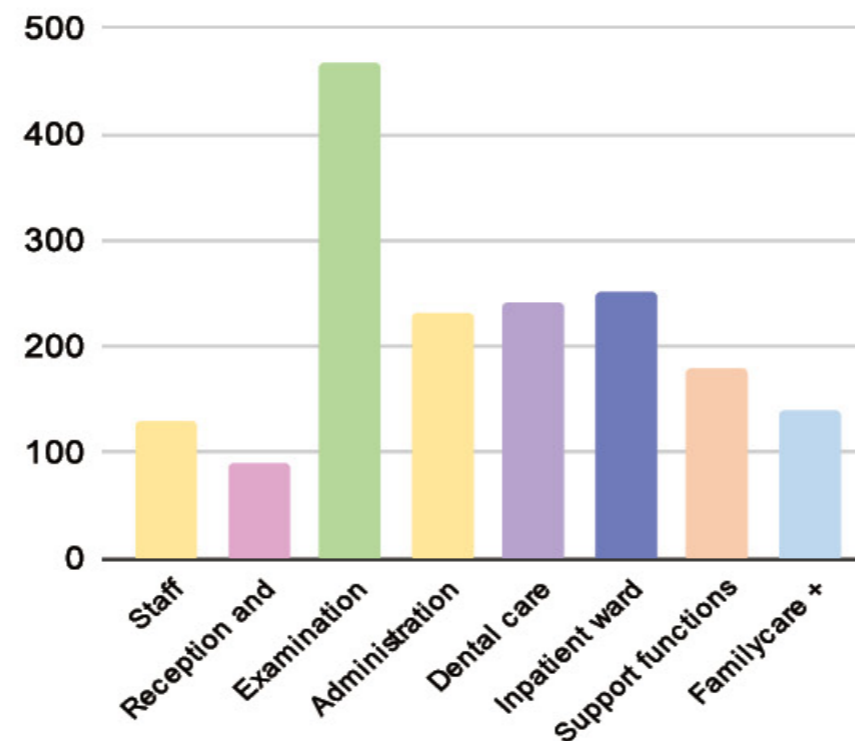


CHALLENGE THE BRIEF

Changes in the brief

- 48 workers in 2-person offices.
- 160 patients a day from 0800-1700. Visits are between 30-80 minutes.
- 9- 24 examination rooms needed all the time during the opening hours.
- 24 examination rooms instead of the brief's 30 examination rooms.
- The dental care gains some area as they will have their own staff areas, changing room, recycling, and unpacking room.
- More square metres have been designated for the waiting area and reception as it is the nucleus of patient flows in the primary care centre, it is one of the most important parts of the patients' experience. To make the primary care centre warmer and more inviting to patients, as opposed to the typical cold and sterile environments in hospitals, the waiting area includes an indoor garden and organically shaped furniture. These require more space, but are an essential part of the project, and will significantly enhance the patient experience.

Brief from client	m2	New Brief	m2	Differences	m2
Staff	130	Staff	133	Staff	3
Waiting & reception	89	Reception and waiting	217	Reception and waiting	128
Examination	466	Examination	418	Examrooms	-48
Administration	232	Administration	264	Administrative	32
Dental care	240	Dental care	362	Dental care	122
Inpatient ward	250	Inpatient ward	233	Inpatient ward	-17
Support functions	178	Support functions	161	Support functions	-17
Family&Child care	139	Family&Child care	128	Family&Child care	-11
		Cafe	55		
		Pharmacy	65		
Other	1750	Other	1797,4	Other	47,4
		Total (not cafe and phar)	3713,4	Total (not cafe and phar)	239,4
Total	3474	Total	3833,4	Total	359,4



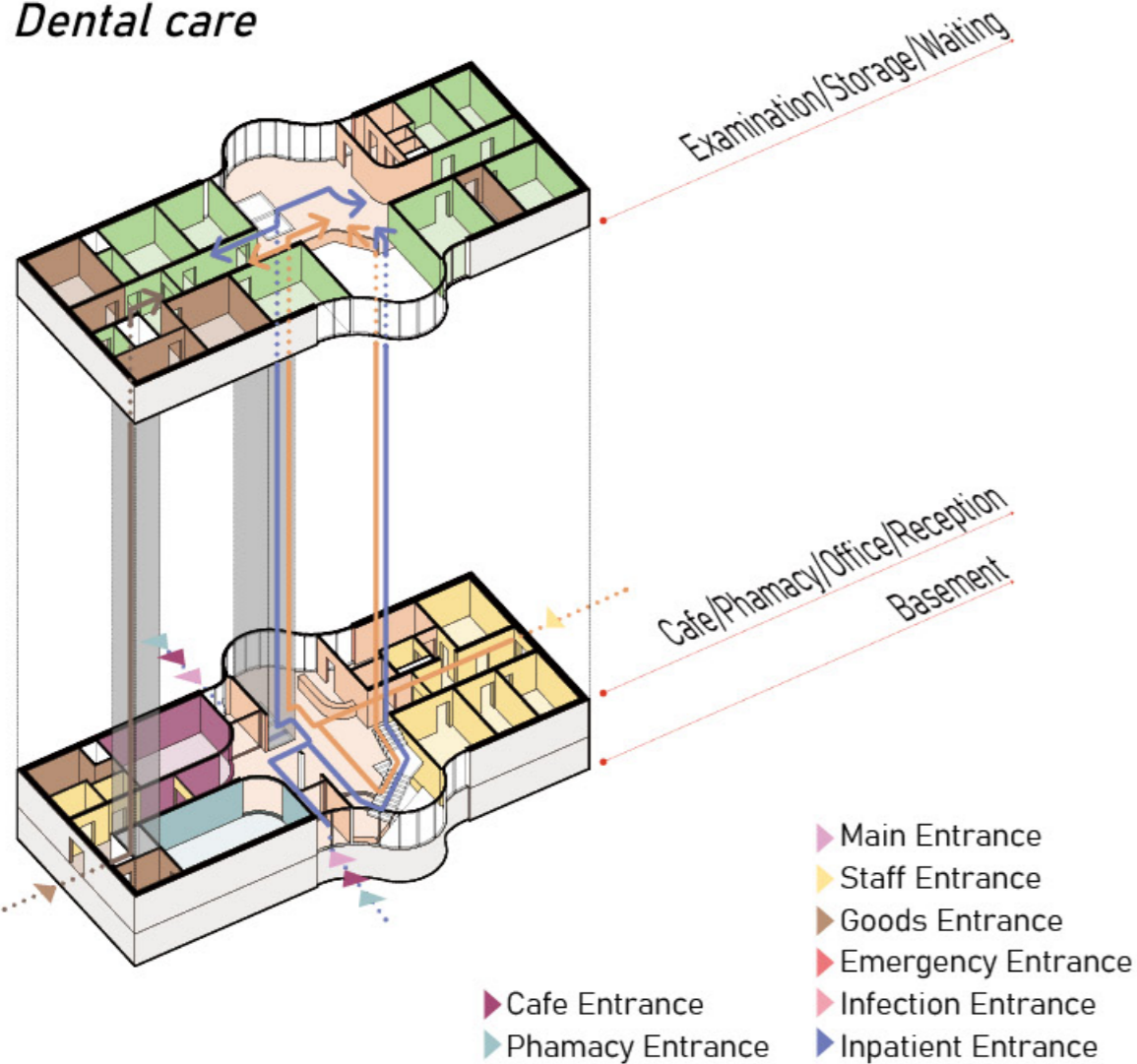
FLOOR PLANS

Floor plan in axonometric view

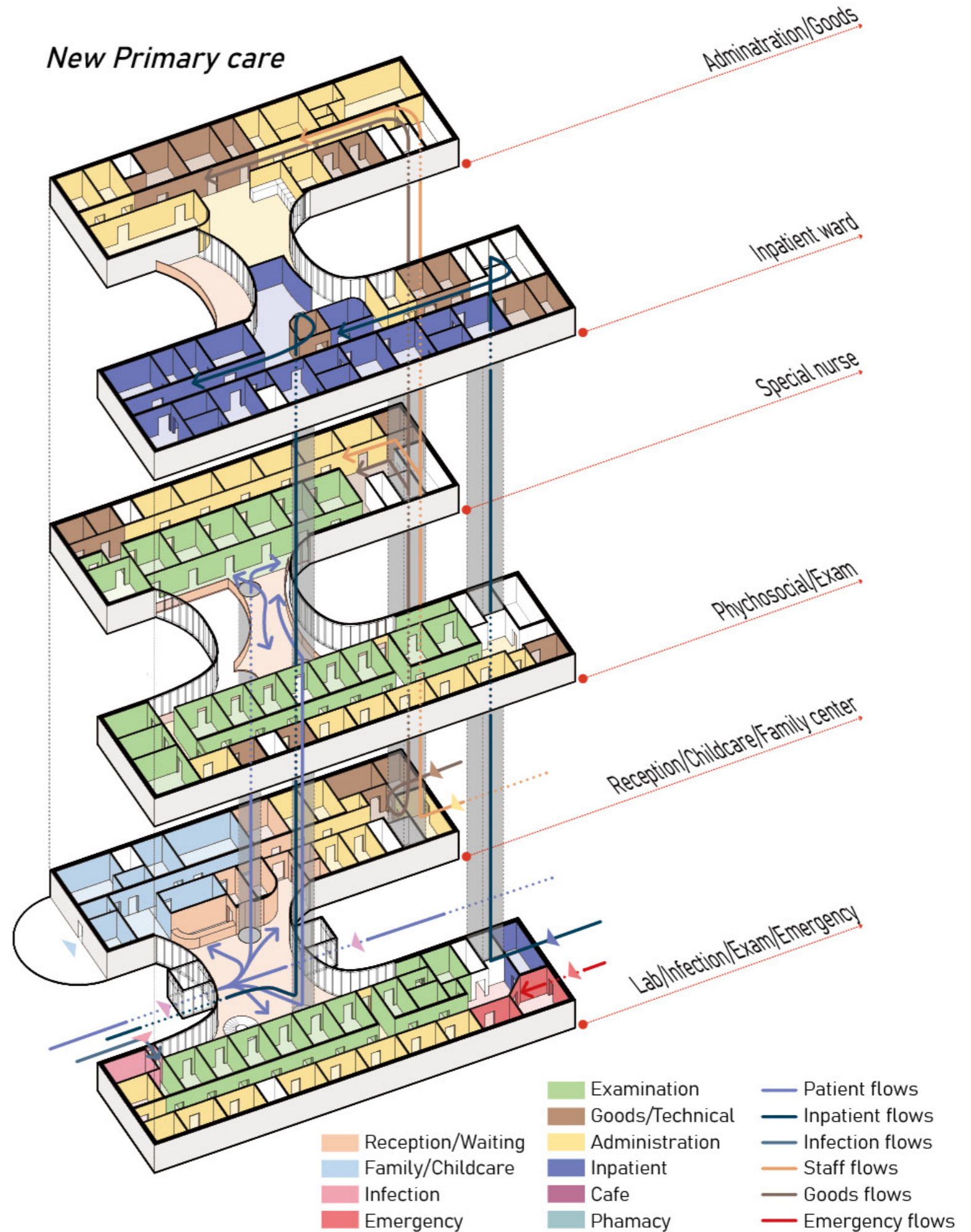
Dental care: Separate from Primary care and located in old building. Renew the middle part to create a waiting area with increased sunlight and nature. Add a cafe and pharmacy beside the central waiting area to create a cozy waiting and work space. The cafe bleeds into Birgitta square, integrating the building with its outdoor environment.

New Primary care: Add a modern middle part to connect two new traditional style buildings which also separates the different departments in the primary care. Patients only walk around the ground floor and first floor. The second floor is only used by inpatients and staff. The Family Centre and Childcare are located on the ground floor next to an outdoor playground.

Dental care



New Primary care



FLOOR PLANS

Ground Floor



0m 5 10
1:250



Dental care

- | | | |
|---------------------------|--------------------|----------------------|
| 1. Waiting-Reception area | 5. Office | 9. Cafe |
| 2. Back Office-printing | 6. Lunch room | 10. Storage-Cafe |
| 3. Toilet-Patient | 7. Conference room | 11. Pharmacy |
| 4. Toilet-Staff | 8. Changing room | 12. Storage-Pharmacy |

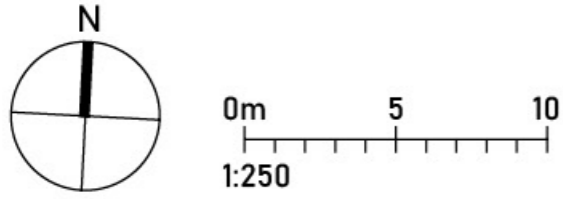
Primary care

1. Waiting-Reception area
2. Back Office
3. Self check
4. Toilet-Patient
5. Toilet-Staff

- | | |
|---------------------------|------------------------|
| 6. Office | 15. Communication room |
| 7. Examination room | 16. Activity-Water |
| 8. Infection-Waiting | 17. Activity-Kitchen |
| 9. Infection Examination | 18. Copy and Storage |
| 10. Emergency Examination | 19. Medicine |
| 11. Lab | 20. Recycling |
| 12. Lab-Sampling | 21. Unpacking |
| 13. Lab-Storage | |
| 14. Storage | |

FLOOR PLANS

First Floor

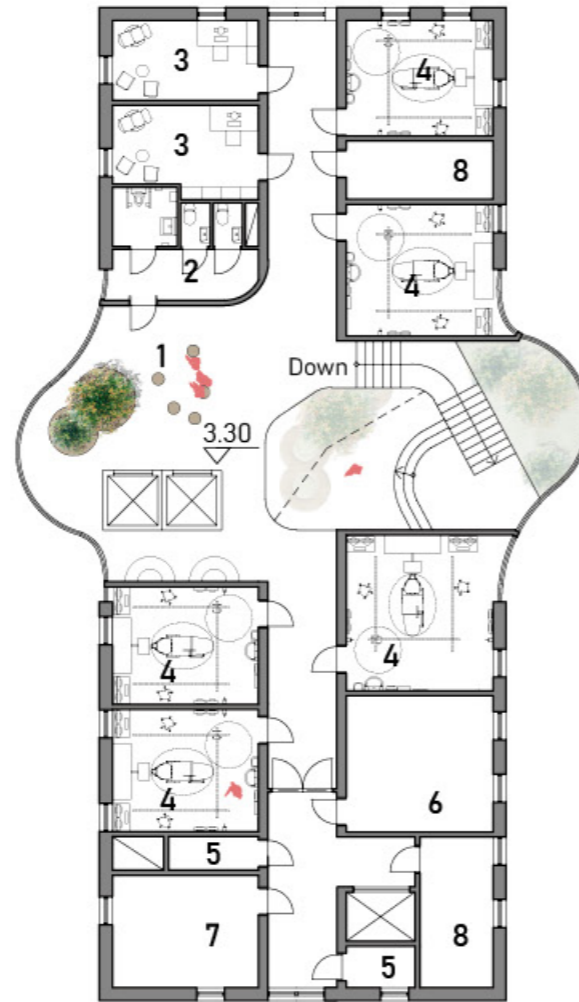


To effectively separate staff and patient flows, we have implemented two corridors in each building, one facing the central waiting area for the patients, and one sandwiched between the examination rooms and offices for the staff.

By adopting this strategy, we have reduced the distance staff and patients have to walk, while allowing patients to get a glimpse of the examination rooms on the first floor while standing in the waiting area on the ground floor, improving wayfinding.

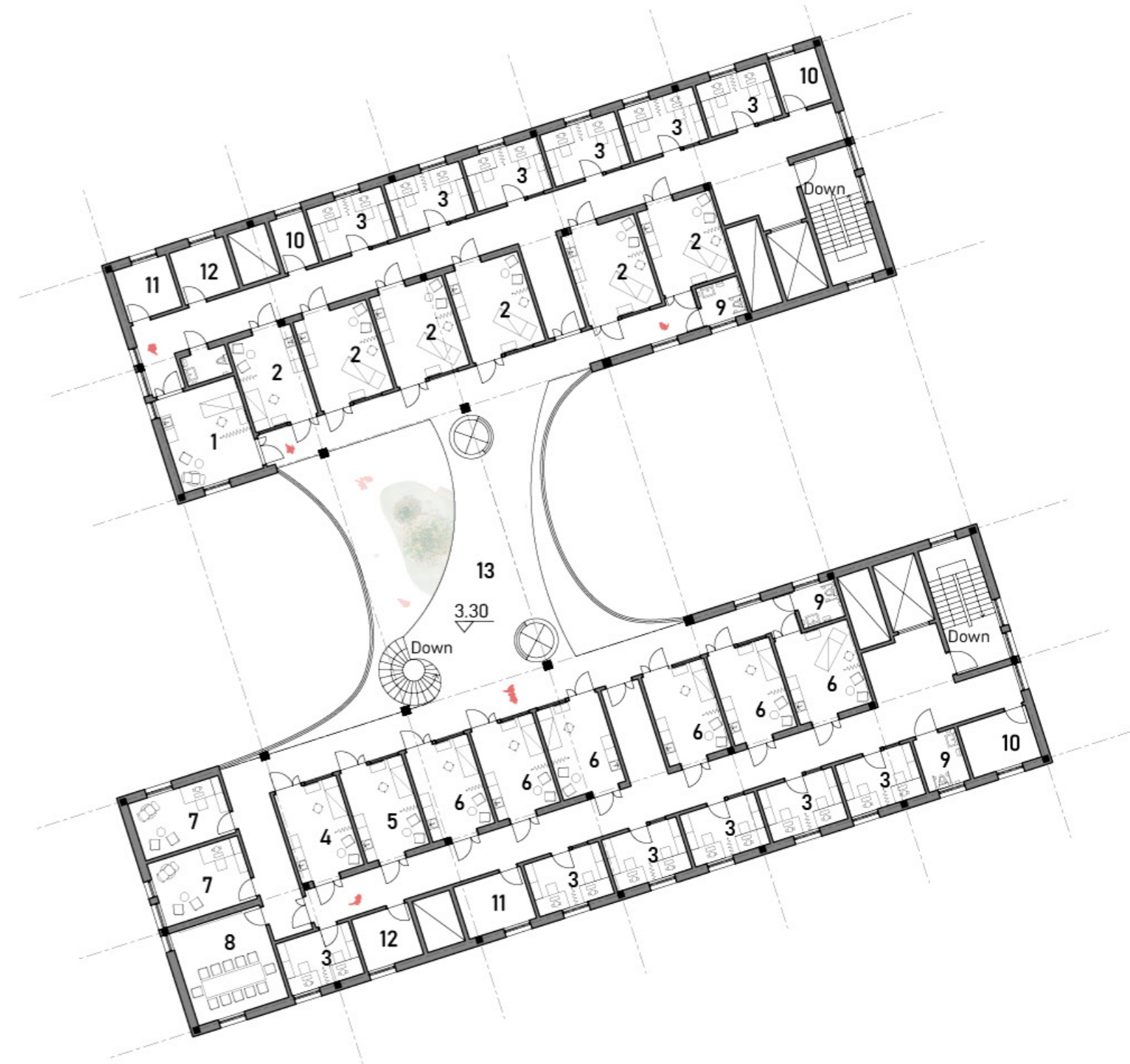
This waiting area is an extension of the central waiting area below, and also serves as a common meeting space where staff and patient flows may intersect.

The examination rooms have also been grouped by type, so that staff with certain specialisations can have offices and examination rooms nearer to each other, while patients can find the rooms more easily.



Dental care

1. Waiting area
2. Toilet
3. Office/conversation room 1 per
4. Examination room
5. Technology room
6. Desinfection room
7. Main storage room
8. Supply

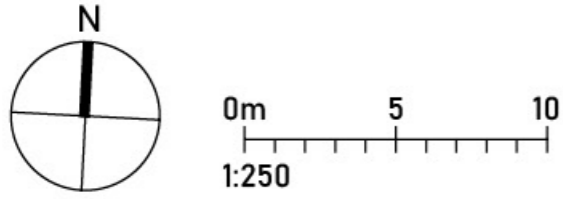


Primary care

- | | |
|-------------------------------|---------------------------------|
| 1. Examination(Gynaecology) | 7. Office/Meeting-Psychosocial |
| 2. Examination(Special Nurse) | 8. Conference room-Psychosocial |
| 3. Office | 9. Toilet |
| 4. Examination(Eyes & Ears) | 10. Storage |
| 5. Examination(Ears) | 11. Teledata |
| 6. Examination room | 12. Central-E |
| | 13. Bridge |

FLOOR PLANS

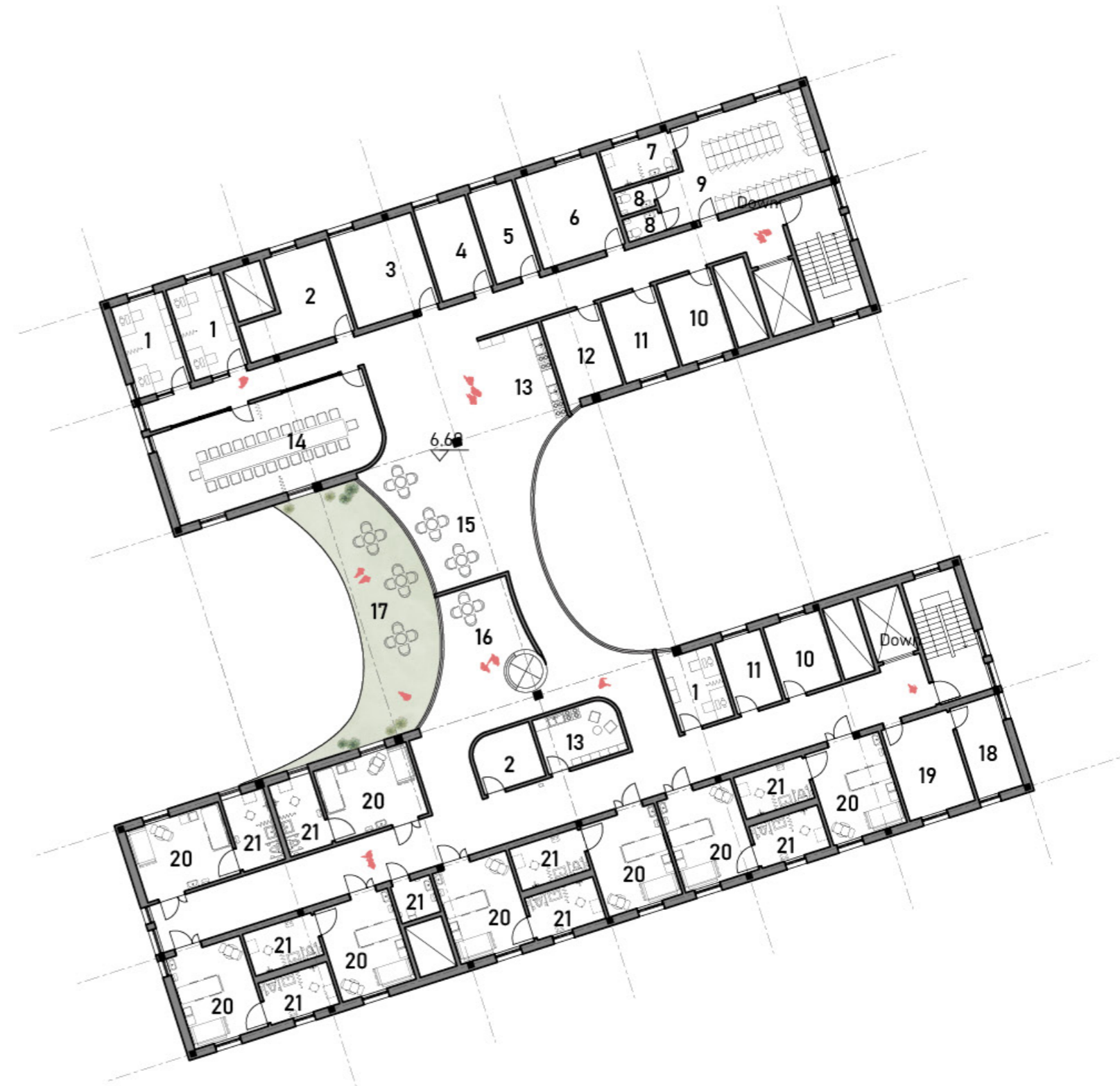
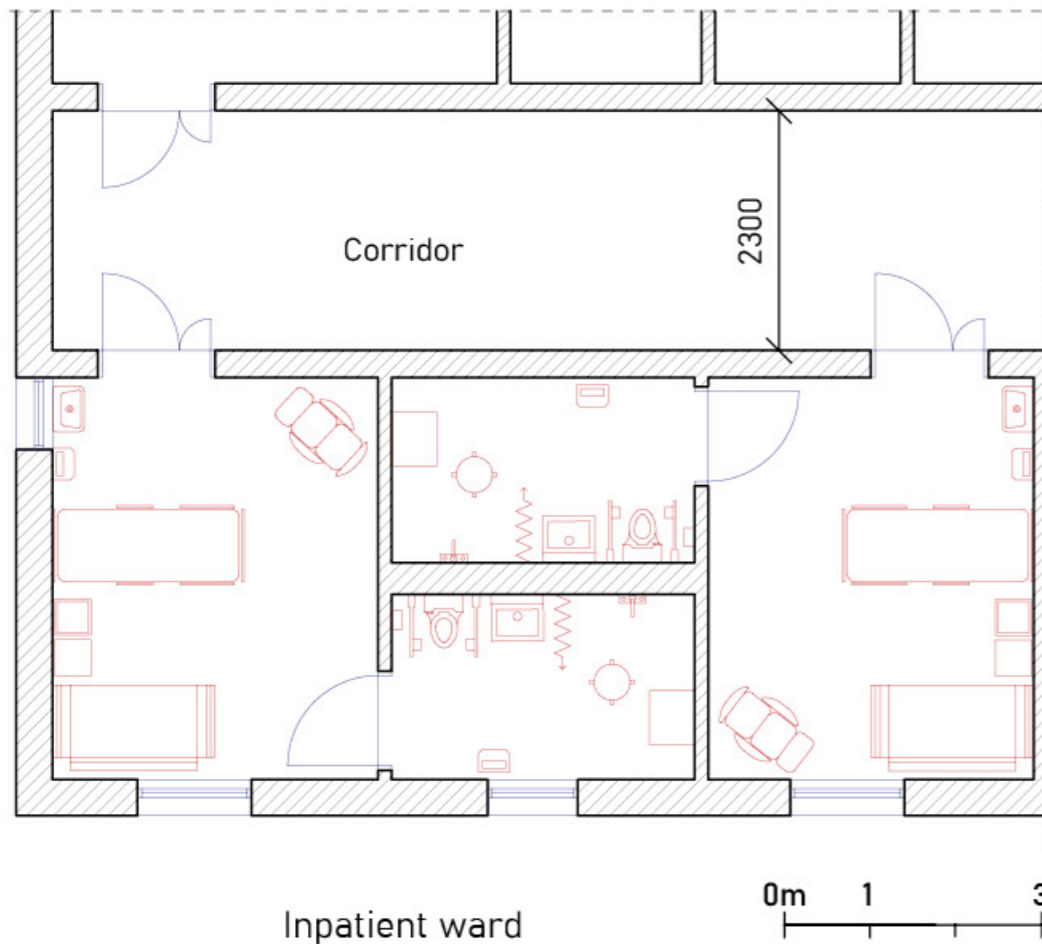
Second Floor



On the second floor are the staff work areas and the inpatient ward, which are clearly divided into a south and a north side.

The staff area to the north and inpatient ward to the south, providing as much light as possible for the patients.

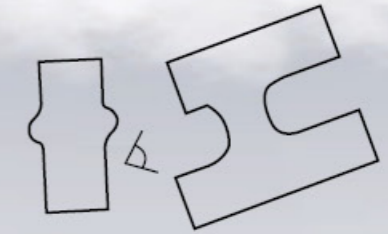
As on the Ground and first floors a modern material space is formed in the middle linking the two functions and provide a large green balcony, giving sufficient sunlight and designing a natural environment for staff dining and patient relaxation.



Primary care

- | | | |
|-----------------------|---------------------|----------------------|
| 1. Office | 8. Toilet | 15. Staff lounge |
| 2. Supply | 9. Changing room | 16. Inpatient lounge |
| 3. Main storage room | 10. Heating | 17. Outdoor area |
| 4. Technology room | 11. Electricity | 18. Laundry |
| 5. Medicine | 12. Reating | 19. Linnen |
| 6. Cleaning | 13. Kitchen | 20. Inpatient room |
| 7. Toilet with shower | 14. Conference room | 21. Inpatient toilet |

SECTIONS AND ELEVATION

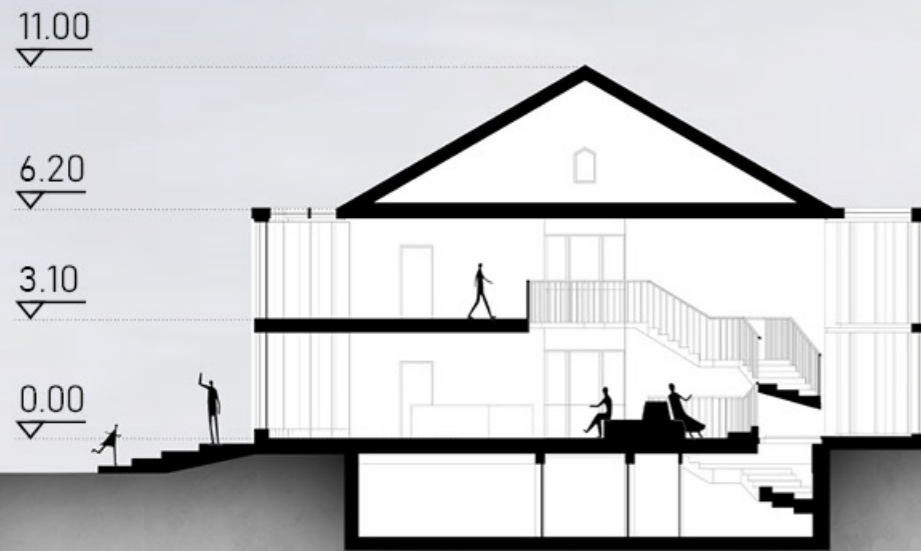
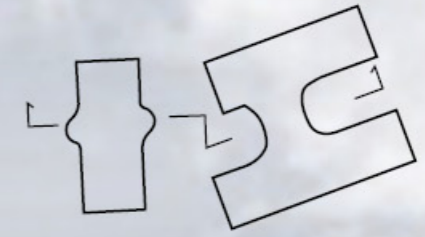


Elevation A Scale 1:200

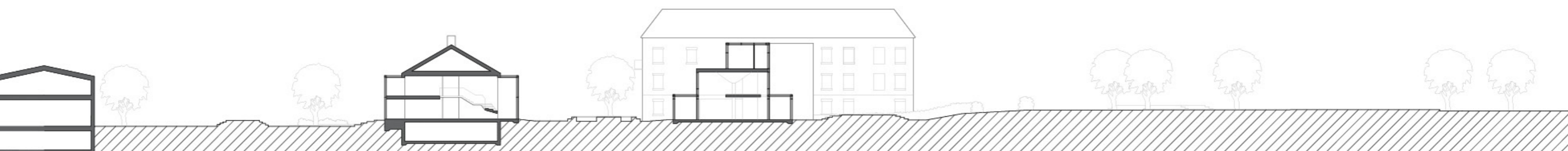


Section A-A Scale 1:200

SECTIONS AND ELEVATION



Section B-B Scale 1:200



Section C-C Scale 1:500

SECTIONS AND ELEVATION

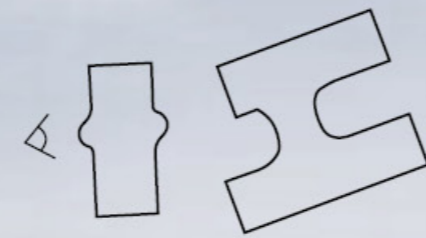
As seen in the sections and elevations, the project is a complex blend of the traditional architecture native to Vadstena and modern building methods, resulting in a seemingly traditional structure that blends in with its environment, with modern in-between spaces.

As pedestrians approach the primary care, they will see a traditional building that conforms to the norms of other buildings on site, as in Elevation C. However, as they get closer to the entrance, the building's more modern features expose themselves, as seen in elevation A.

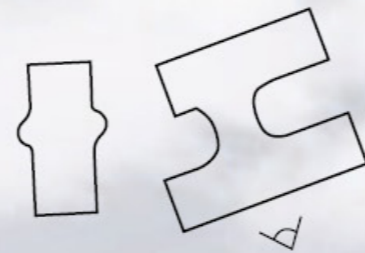
This concealment of the modern from the main roads allows the building to blend in with its environment while reaping the benefits of modern construction.

Capitalising on the possibilities of modern construction, these in-between spaces are made to be large double-volume waiting areas encapsulated by glass curtain walls, flooded with sunlight, and populated with indoor flora, which are especially evident in Section A-A. As seen in Section B-B, the positioning of our buildings creates a new common entrance square to both the dental care and primary care, resulting in a series of squares and parks chained together by the modern in-between waiting areas in both buildings.

The modern extension in the primary care also retains a certain degree of symmetry and uniform rhythm, as seen in Elevation A, which are paramount to the traditional style of the buildings in Vadstena.



Elevation B Scale 1:200



Elevation C Scale 1:200

FACADE

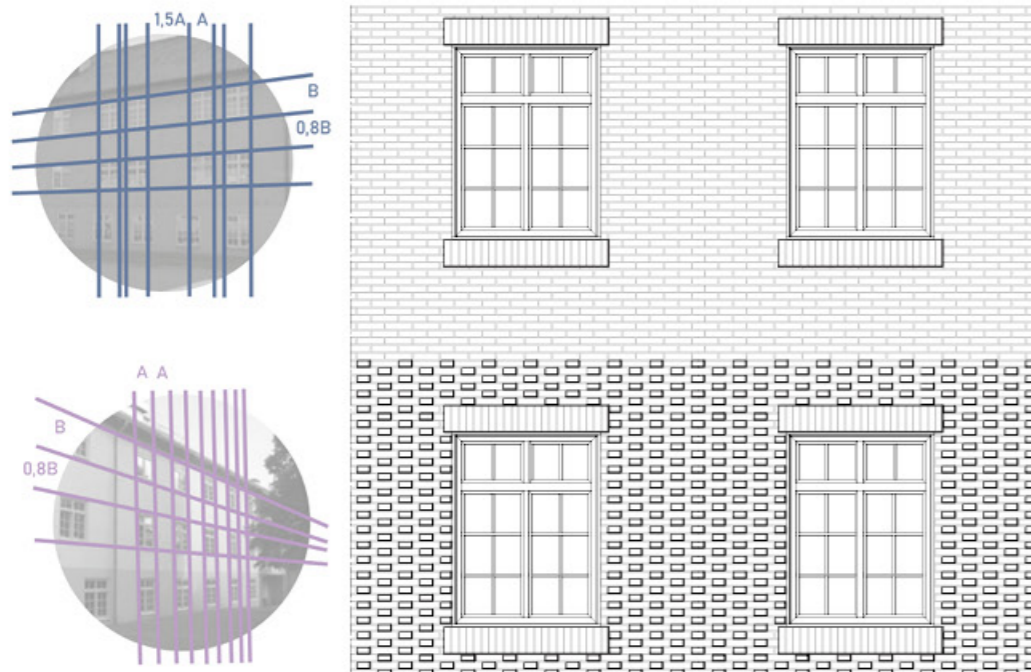
Concept of facade modules

The facade consists of the **Traditional pattern** and the **Modern pattern**.

We try to respect the local history as much as possible while creating a space to bring a new experience. When we stand for a distance, it looks as the same as surroundings but is new and amazing when you get closer.

Traditional pattern facade:

Existing elevation: Normally the windows are symmetrical two by two or one by one with normal size. Nearly all exterior facade are built by bricks.

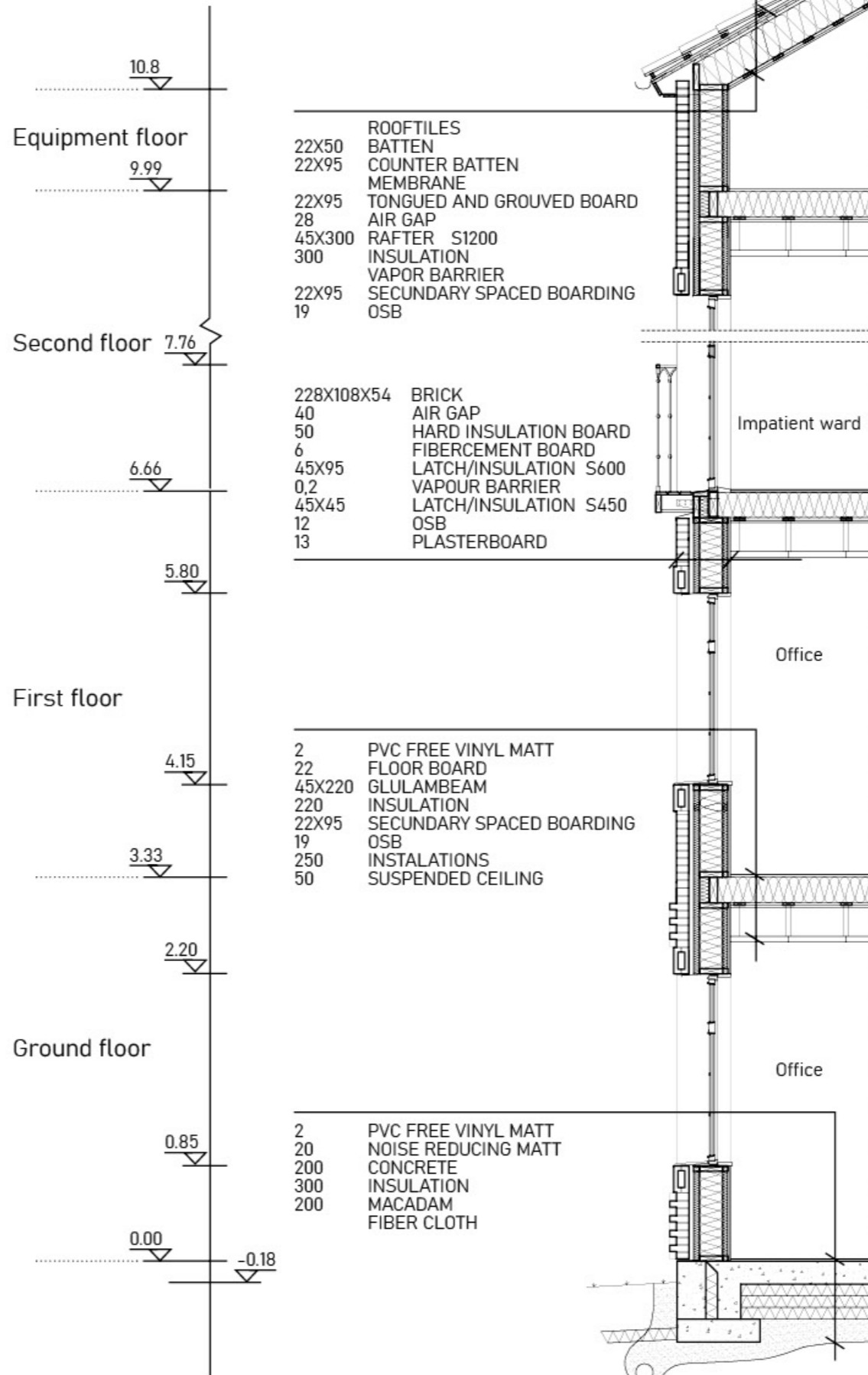


Existing roof: Red roof tiles. Gable roof or Hipped gable roof.



DETAILS

Traditional Facade 1:50



FACADE

Concept of facade modules

Modern pattern facade:

The modern part will act as a link between the different functions of the traditional form of the building.

The 'in-between' space of the traditional buildings is embedded with a modern glass atrium, that will work as a waiting area for patients.

In the dental care building, a middle segment is also hollowed out to create a modern glass waiting area.

Materials:



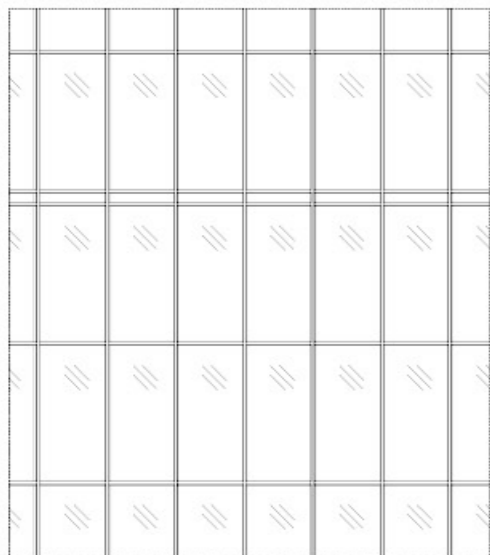
Wooden Frame



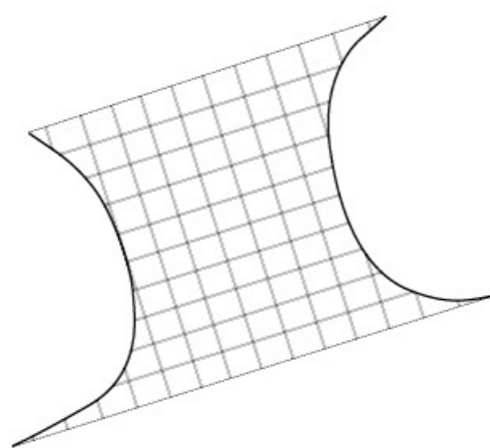
Wooden Structure



Metal components



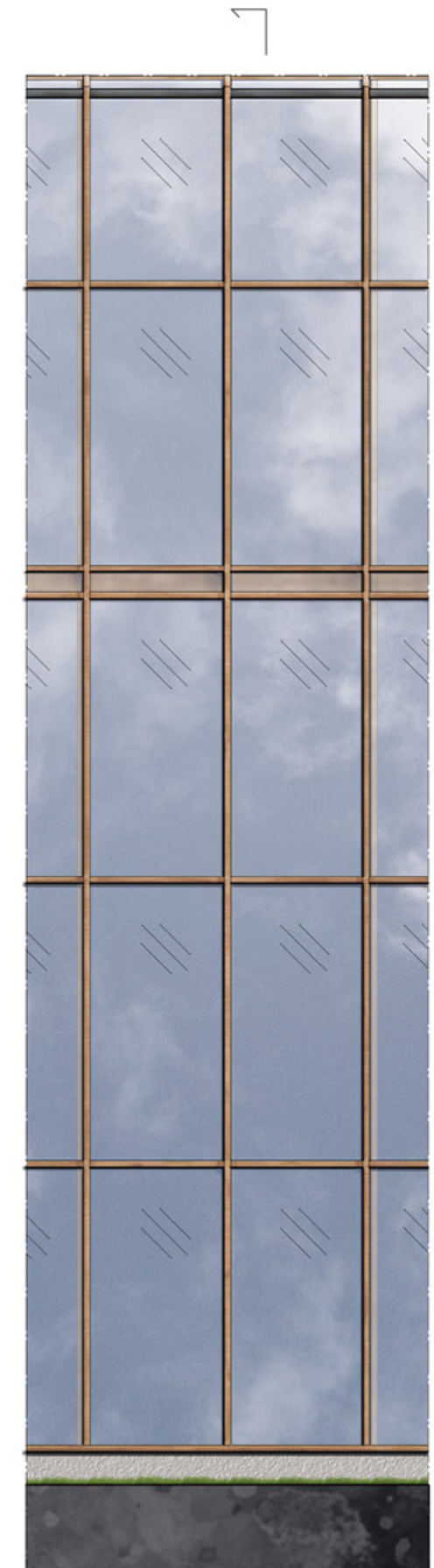
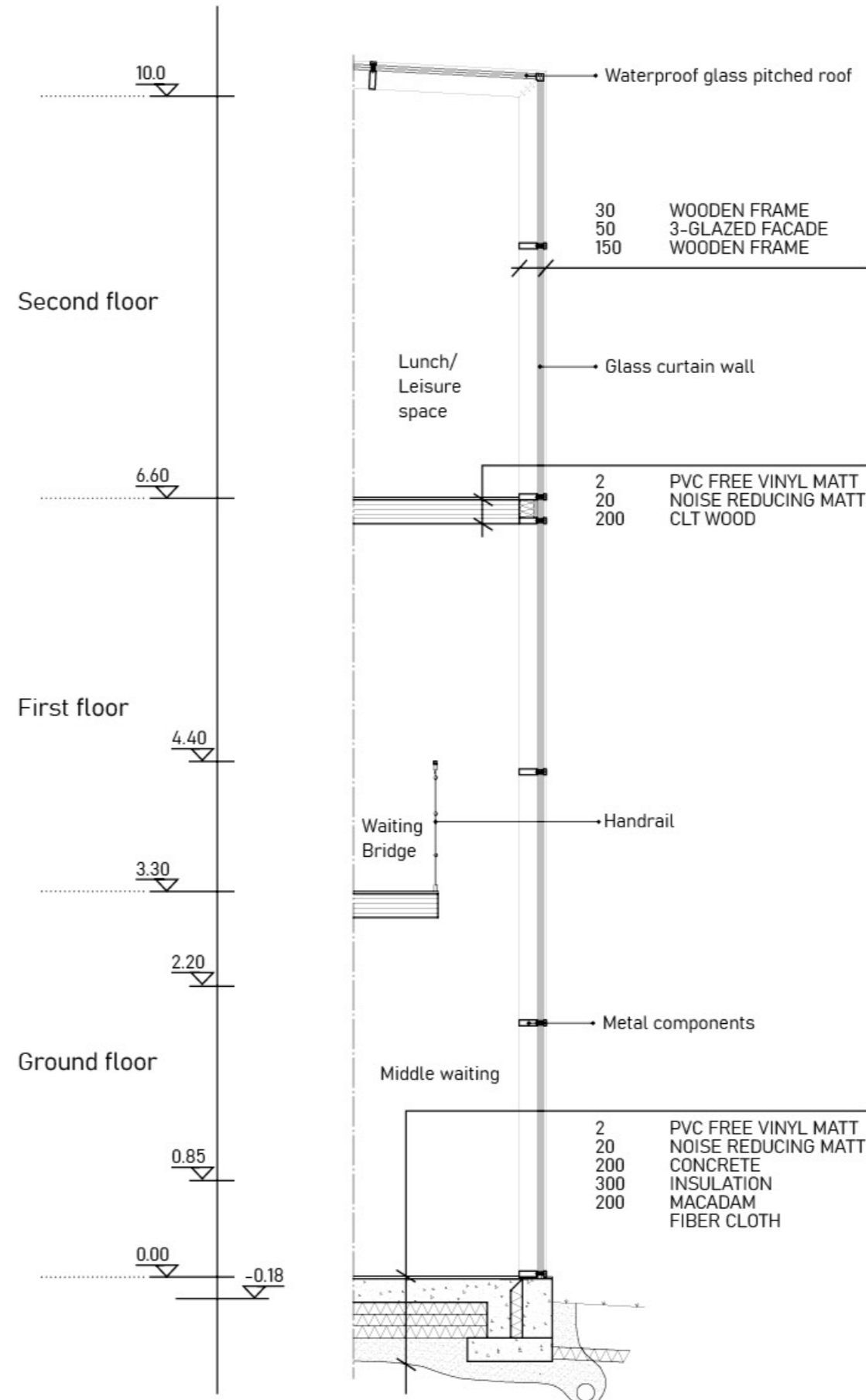
Glass curtain wall(Elevation)



Glass roof plan

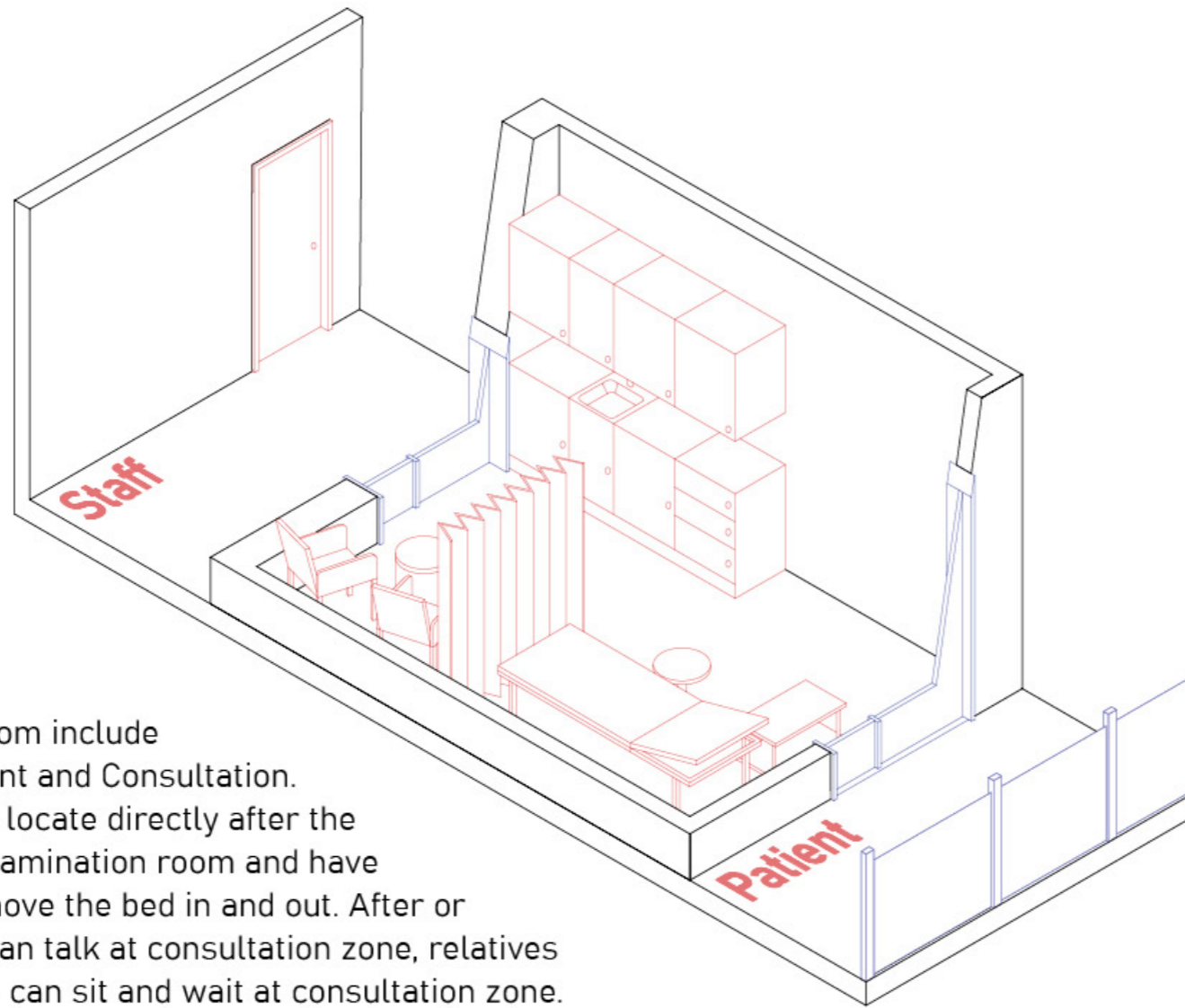
DETAILS

Modern Facade 1: 50

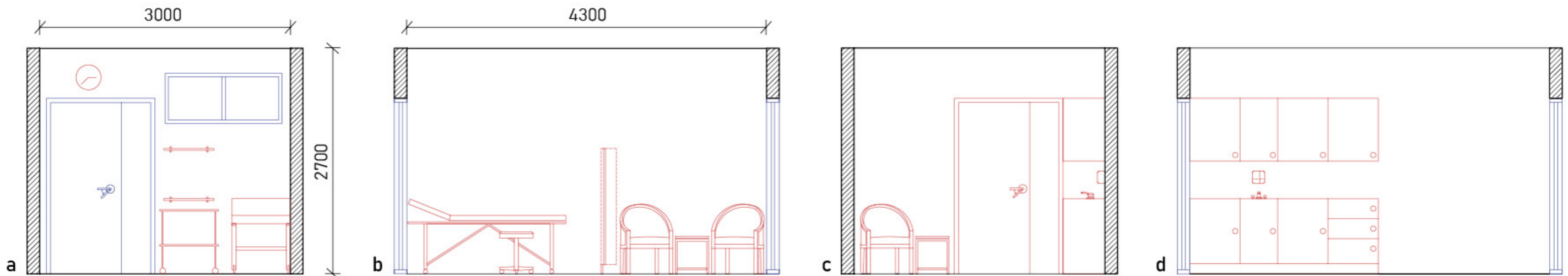
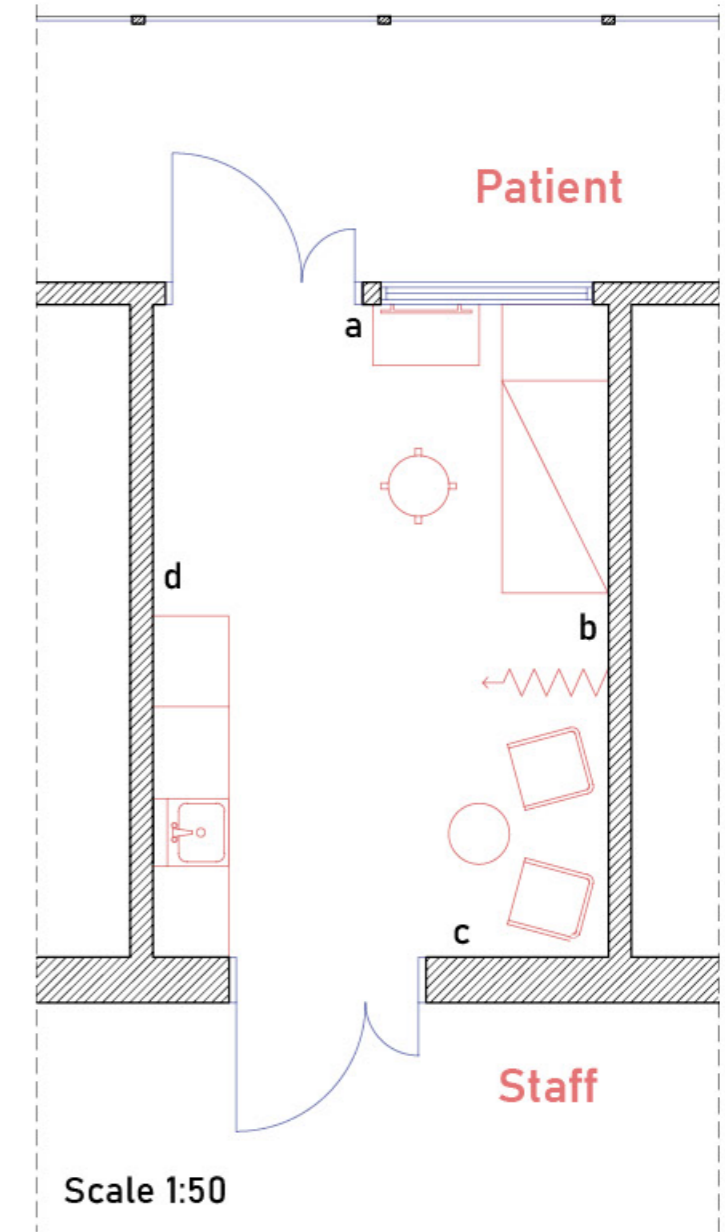


DETAILS

Treatment Room-Flexible space



The Examination room include two zones: Treatment and Consultation. The treatment zone locate directly after the patient enter the examination room and have enough space for move the bed in and out. After or before check they can talk at consultation zone, relatives go with patient also can sit and wait at consultation zone.

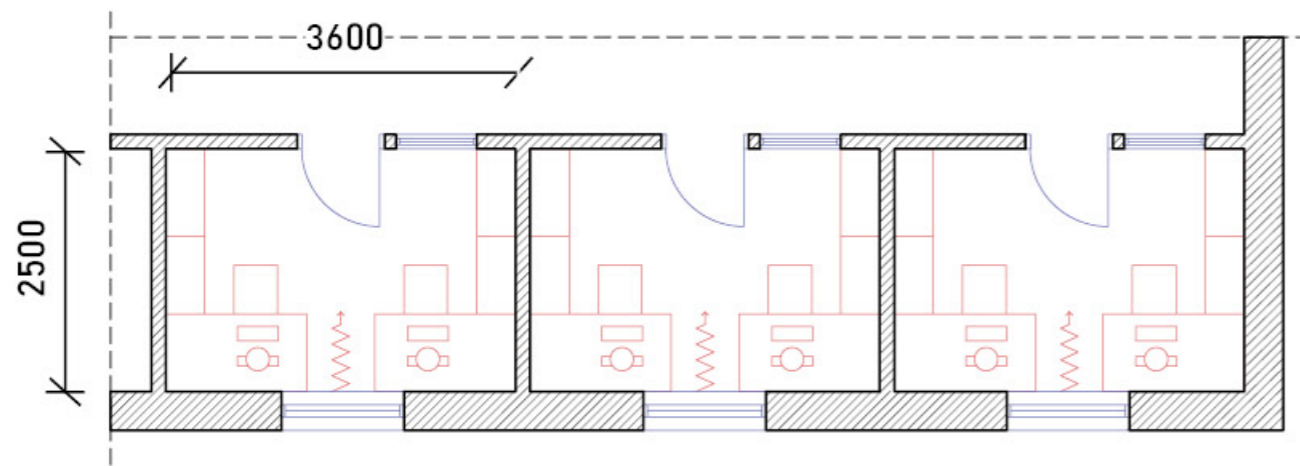


FLEXIBLE SPACE

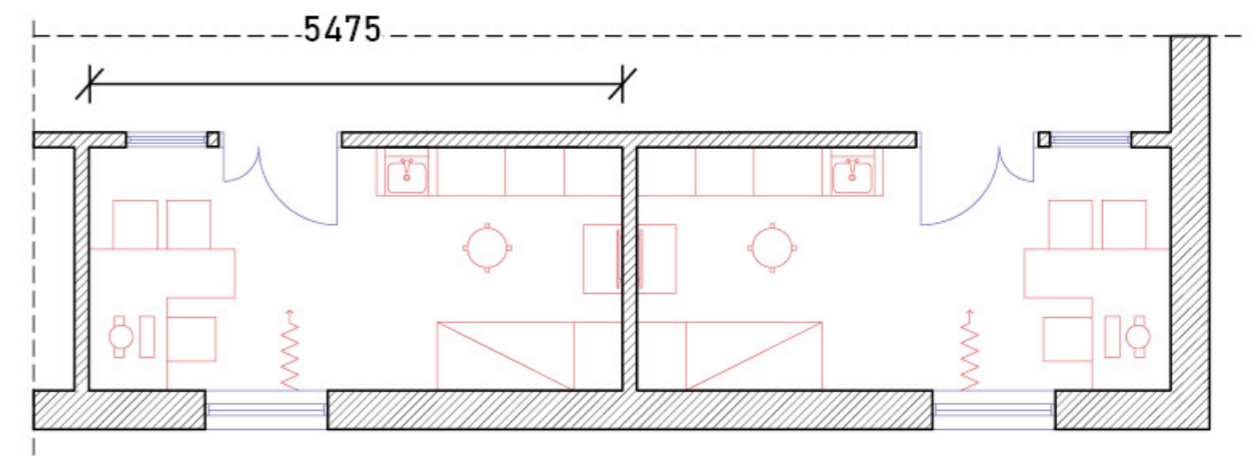
Flexible Space: All offices will be designed in a same size, more flexible for future proofing.

Primary care center are functional buildings that are constantly changing, the design needs to take the changing needs of the future development into account .

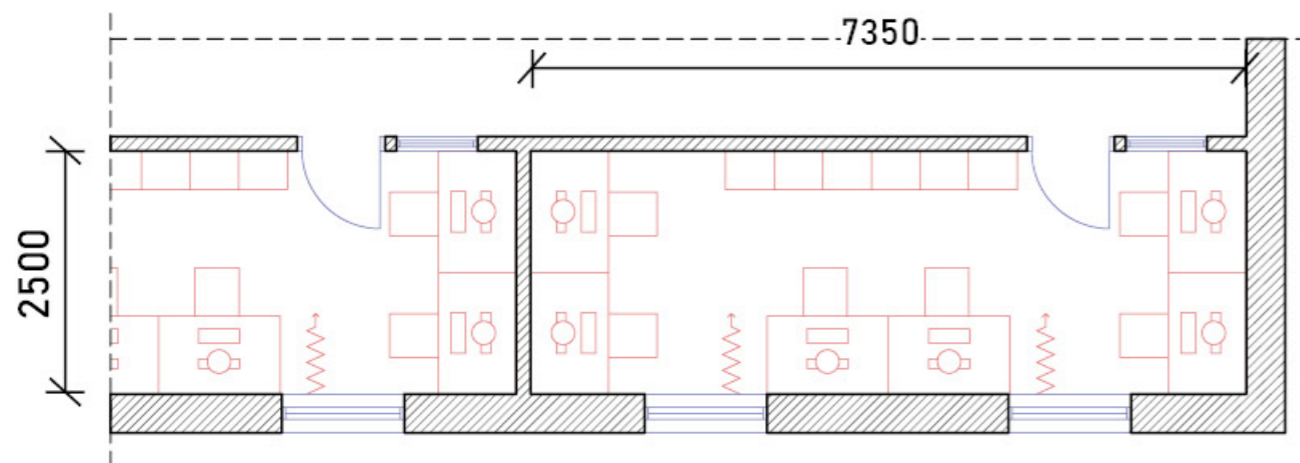
As you can see, we provided individual office space for each staff (2 person office), which also exceeds the needs of the client. However, we have designed each office to be of a uniform size to allow for future changes in its functional use.



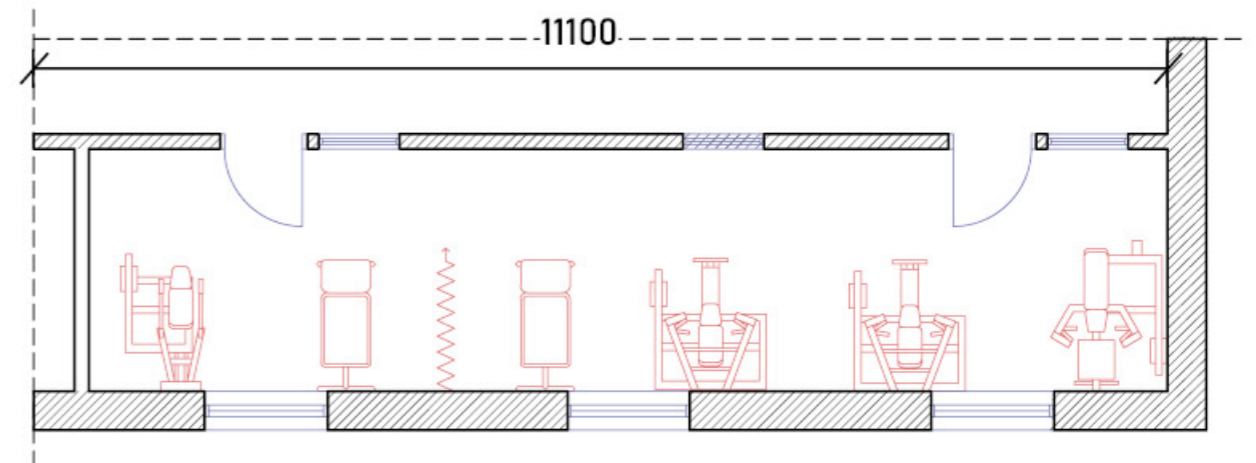
2-person Office



Three 2-per Office ▷ Two Exam room



Two 2-per Office ▷ One 6-per Office



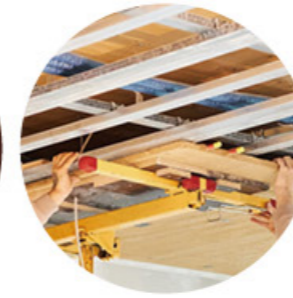
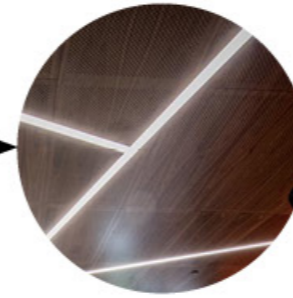
Three 2-per Office ▷ One Gym

INDOOR DESIGN CONCEPT

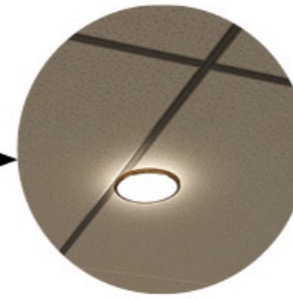
Material/Colors/Paintings...



Ceiling material and design—Wood structure, White paint, Wood/Brick decoration.

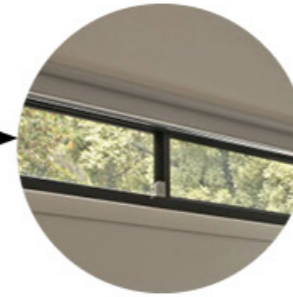


In the modern parts, wooden panels are arranged to form the false ceiling, concealing the building's ventilation and heating. Strip lights are placed along circular wooden installations, acting as complementary light in the evenings and in winter.



The ceilings in the traditional style building (Examination areas) are fitted with standard white plaster ceiling panels to distinguish the waiting and examination areas. The ceiling lights are designed for daily lighting.

Wall material and design—Wood structure/decoration, Colors paint, Text.

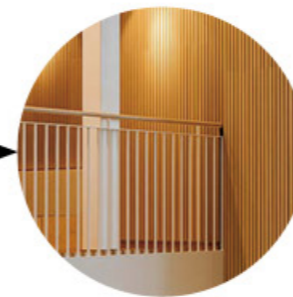


High windows are added in examination rooms facing the well lit central waiting area to protect the privacy of patients while maximising sunlight into the examination rooms.



Different materials/colours are used to distinguish different types of doors. Some text and logos clearly identify the different rooms.

Others



Round wooden handrail uniform colours and a warm feeling.



Single sofas placed randomly in the atrium bridge for patients. It can be moved by the patient depending on the sunlight, view etc.

RENDERS



Interior perspective—New primary care

RENDERS



Interior perspective—Inpatient ward

RENDERS



Interior perspective—Dental care

RENDERS



Exterior perspective — — New primary care

RENDERS



Exterior perspective—From the north road

PHYSICAL MODEL

