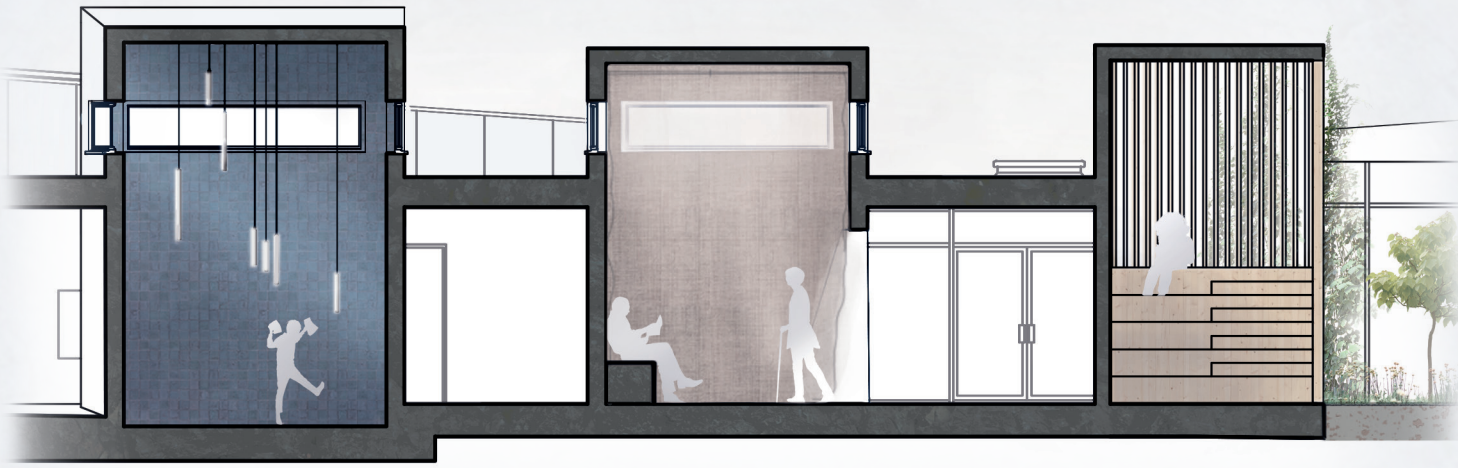
Connect with music

A music therapy centre



Åsa Martinsson

Chalmers School of Architecture
Architecture and Civil Engineering
Examiner : Cristiana Caira
Supervisor: Lin Tan

CHALMERS
UNIVERSITY OF TECHNOLOGY

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Åsa Martinsson
2020

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ABSTRACT

Music therapy has an underused potential in society. It combines music with healthcare in order to create a unique form of therapy. It can help a variety of people with their health in a non-intrusive way and help them create connections with others and to themselves. In Sweden it is mostly used in combination with other facilities, such as schools and medical buildings. The environment is therefore often not adapted for it. In this thesis I will investigate how architecture can enable users of music therapy to express themselves in relation to music therapy.

How can architecture adapt to and enhance the functions of music therapy in order to form a new typology for a music therapy centre? What elements in architecture can give users a way to express themselves in relation to music therapy?

Literature studies of relevant topics have been used as a base for understanding music therapy, its users and how architecture can work with creating healing environments. Acoustic qualities have been investigated by looking at music-focused references. The design was explored by sketching and making models in an iterative process focusing on sequences, functions and atmospheres.

This has resulted in a music therapy centre located near the centre of a small town in western Sweden. The architecture aims to promote well being for its target groups and strengthen the effects of the therapy. Different translations of music therapy into architecture has been made as a new way of approaching architecture for music therapy. Different acoustic spaces have been used to increase interest for music and to invite the people to use the building.

This thesis aspires to find a new form of typology for creating architecture for music therapy. It also aims to show the benefits of an increased presence of it in today's society.

Keywords: Music therapy, acoustics, music therapy centre

STUDENT BACKGROUND

Master 2018 - Current

Architecture and Urban Design - Chalmers University of Technology

- Fall 2019
Future visions for healthcare, housing and work 1: Residential healthcare - Housing for seniors

- Spring 2019
Future visions for healthcare, housing and work 2: Housing inventions

- Fall 2018
Future visions for healthcare, housing and work 3: Healthcare architecture

Experience

2017 - 2018
Internship - a och d arkitekter

Bachelor 2013 - 2016

Architecture - Chalmers University of Technology

Student background

I have practiced music since I was little and have been a part of many different forms of orchestras. My experiences have given me knowledge about music spaces and different forms of performances, as well as a basic understanding of how different acoustical spaces can be experienced. I believe music allows for a way of communication with others and with oneself that can be of value in life.

TABLE OF CONTENT

INTRODUCTION

Purpose & exploration
Music can express feelings when words can't and is a way of communicating with others without the use of speech. One area of music is music therapy, which combines benefits with both music and healthcare. Who uses music therapy and what their goals are varies greatly. Most of the sessions tries to help the clients to express themselves in different ways. Today, music therapy is a field that is combined with various other functions in society and it often uses the spaces that are available for the treatment. I will investigate what the potential for a building specifically designed for music therapy could be.

Theory
The program and design of the building is based on theory of music therapy and acoustics. The needs of potential clients to music therapy has been researched by literature studies and reading case examples about various music therapy sessions written by the Swedish Music Therapy Association [Swe: Förbundet för musikterapi i Sverige].

Other aspects relating to health and well-being, such as the importance of nature, has also been researched to be incorporated into the design.

Method
By analysing the literature for music therapy I have discovered that it generally can be divided in four main forms that have different methods and goals. Sessions can encompass more than one of these forms. They were used as a basis for how the program in a building specifically designed for music therapy can be explored. The frequent goals for the music therapy forms have also been used as a base for the design of the spaces in the building.

The design has been explored in an iterative process by sketching in plan and section, 3D-modeling, making bubble diagrams and making strategies based on the literature I have read.

Delimitations
I will not go into the acoustics on a technical level and measure the exact acoustical qualities in different spaces, but instead follow strategies for it and use existing musical spaces as references.

A future development could be to collaborate with music therapists in order to gain a direct perspective from those working with music therapy. The project is a translation of music therapy to architecture based on my own thoughts and knowledge I have acquired during this thesis.

This thesis is partly based on the municipality's future plans for the area that surrounds my site. I have taken some steps that deviates from their proposition, mainly that I'm not including housing in the project.

Reading instructions
The thesis starts with an introduction of what music therapy is, who is using it and what acoustical needs those spaces can have. It then goes into how I have worked with translating that into architecture, the context of the site and the design proposal.

RESEARCH QUESTIONS

This thesis aims to answer the following questions:

How can architecture adapt to and enhance the functions of music therapy in order to form a new typology for a music therapy centre?

What elements in architecture can give users a way to express themselves in relation to music therapy?

"Music functions as a separate channel of communication."

- Macdonald, (2013).

BACKGROUND

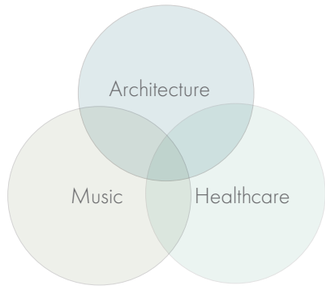
Even if you can't talk, expressing yourself through music is often a possible way to communicate with others and with yourself. One difference from speaking is that everyone can communicate at the same time. In that way music can be more inclusive than ordinary communication. Music can also be a step on the way to learn or relearn communication by speech, for example using the melodic intonation of music to help stroke-victims relearn how to talk.

Music therapy has been an established profession in Sweden since the 1970s, although music has been used for healing purposes in multiple ways throughout history. Music therapists today are mostly employed in fields with healthcare connections, such as various healthcare buildings, schools and elderly care (Sandel, Hammarlund, Kuuse & Johnels, 2017). They usually use the spaces that are available, which often aren't adapted to music therapy. The acoustical qualities in rooms where you practice music is important for the sound experience. Different parts of music therapy have different ideal acoustical qualities and it can therefore be beneficial to have access to many different acoustical spaces for music activities.

As seen by the different contexts music therapists work in, there is a wide range of clients with different needs and goals in music therapy. The age can vary, as can the reasons for going to it. A common goal across all types of sessions is to increase the quality of life for the client. Music therapy can also be used in a preventive way with a salutogenic perspective.

There are other groups in society that would would benefit from more musical and cultural experiences, mainly children and elderly. There also exists a market for facilities for practicing and performing music that potentially could be combined with the program of a music therapy centre. By letting other groups use the building as well it can create a better understanding of what it is as well as making the building more utilized.

What could a building dedicated to music therapy bring for new qualities? Instead of using a leftover room, could music therapy instead move throughout a building?



Music Therapy

Music therapy is a wide and interdisciplinary field. It is performed in combination with the client/ clients and the music therapist. The sessions can be both individual or in groups. The therapy form is always adapted to the client's needs and the sessions can therefore differ between what forms and methods of music therapy that are used (Sandel, Hammarlund, Kuuse & Johnels, 2017).

Music therapy is usually defined into the four following categories:

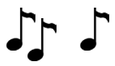
Receptive

Listening

Re-creative

Playing/ Singing

Improvisational



Playing/ Singing

Compositional

Talking

Listening

Performing

Receptive

Receptive music therapy is a passive form of music therapy. The aim is to draw out an emotional response from the client by making him or her listen to music. The music preference of the client is important as it determines what reactions that will come from listening to it. There exists a lot of different types of variations for this method. Most of them have in common that they strive to get the patient into a calm and relaxed state. The therapy is usually, but not always, individual. Goals can be to relax or stimulate the person, or to make someone remember and reflect on their memories (Brusica, 2013).

Re-creative

In re-creative music therapy the client learns or repeats a predetermined musical piece or form. One category of re-creative music therapy is MIT, Melodic Intonation Therapy, where the use of a melody helps people who have lost their ability to speak express themselves again. Other parts of re-creative therapy can include learning an instrument or participating in music related games with predetermined rules. It can be done with or without an audience. Some goals for this can be to develop sensorimotor skills or to experience and release feelings in a safe environment (Brusica, 2013).

Improvisational

In improvisational music therapy sessions the client or clients creates an original musical piece by singing or playing an instrument. The musical piece doesn't have to be a song, it can be a rhythm or a melody as well. The type of instrument used as well as the number of participants can vary. Common goals for this type of therapy are to establish non-verbal communication and develop cognitive and perceptual skills (Brusica, 2013).

Compositional

Compositional music therapy consists of writing an original musical composition. It can involve only part of a composition as well, for example only writing the lyrics or the melody. The created piece is then often listened to. The clients don't need to have any previous experience of composing. The music therapist evaluates what the clients are able to do and fills in the gaps to create the piece. The therapy form can both be used for individual and group therapy. The goals for compositional music therapy can vary from client to client. Some common goals are to enhance self/esteem, provide choices for decision-making and externalise thoughts and feelings (Brusica, 2013).

USER GROUP

Overview

Today music therapy is used in multiple areas in society. Some of them are rehabilitation, healthcare, psychiatry and palliative care. Music therapy is a non-intrusive treatment form and therefore has very few negative effects. The clients do not need to be knowledgeable or talented in music in order to benefit from music therapy as musical achievements never are the primary goal for music therapy. Goals instead depend on the client's need and situation. (Seribert, 2016)

Different types of clients

Clients are introduced to music therapy either by referral or by seeking it out themselves. There is a wide variety of clients that can experience beneficial results with this treatment form. Below are some of the more common reasons for going to music therapy:

- Developmental disability
This can include various conditions that are both physical and mental. Music therapy creates a safe environment where they can develop at their own pace.

- Autism
A calm environment can help to better understand oneself and the surroundings.

- Psychological
It can improve the clients' mood and help them process events and traumatic experiences.

- Dementia
Music therapy can be used to create moments of happiness or to remember memories.

- Aphasia
People who have lost the ability to speak can use certain forms of music therapy to try to regain it.

The different user groups have a wide range of needs. A child with autism might for example need a calm, predictable environment with no distractions, while an elderly with dementia need accessibility and familiarity.

Individual & group sessions

There are also different numbers of clients in different music therapy sessions. While learning an instrument often is individual, larger group sizes can sometimes be more beneficial for the therapy form or for the client's needs. Improvisation is a method where you communicate and follow others to create different shapes of music. It is therefore often beneficial to perform it in group. Another method that commonly is used in group settings is song-writing, where the clients learn to listen to each other and communicate in a group (Baker, Wigram, Stott & McFerran, 2008).

Music therapy sessions

All sessions differ depending on the client. Usually they meet regularly under a longer period of time in order to make progress with what they need help with. It can take time for the client to feel safe in a new environment and to trust the therapist. Clients usually have family or friends with them when going to individual therapy, as many would have difficulties in getting to the building on their own. Some of the clients are children with developmental disabilities who are taken there by their parents.

Sound

Sound consists of vibrations through a medium, often air, and can be described as sound waves. They behave differently depending on their frequency, which is the speed of the vibration and determines the pitch of the sound. Instruments have different ranges of frequencies and their sounds therefore interacts with their surroundings in different ways.

One unwanted acoustical effect that can appear is when the sound waves are reflected back and forth between two parallel walls, which creates a flutter echo. Flutter echoes makes you perceive the sound over and over again, as the sound waves reflect back towards you, thus distorting the acoustical experience. A strategy to avoid this can be to avoid parallel surfaces in the rooms.

Reverberation time

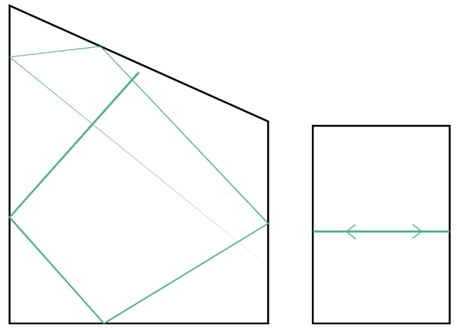
Reverberation time is the time that is takes for a sound to decay to a certain point in a specific space. How long the reverberation time is in a room depends on the volume of the space, the materials on the surfaces and its construction. Spaces can for example change their reverberation time by changing either the volume of the space or the materials in it. An absorbing material decreases the reverberation time while a reflecting material increases it, as it lets the sound waves continue to bounce in the room. (Everest and Pohlmann, 2014)

In some spaces you want a higher reverberation time and in others you want a low reverberation time. When there is a need to clearly hear pronounced speech, there needs to be a low reverberation time. The acoustics suited for practicing and listening to music also differs from the acoustics needed to clearly hear speech, where you want each sound be clearly heard. As music therapy depends on both talking and playing there needs to be a wide range of acoustical spaces to best accommodate the needs of the therapy sessions. Many of the clients are also sensitive to high noise levels which makes it important to create calm spaces in the building.

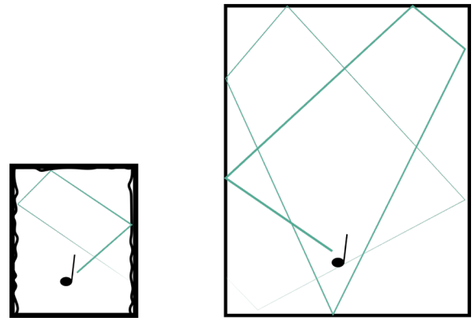
Rhythm

Rhythm is a music term that can be applied to various other areas as well. Other components of music are melody, tempo, dynamics and words. A large portion of musical therapy is built upon the rhythmic sense in our bodies. MIT uses the continuous rhythm of tapping of the hand to encourage speech. Musical therapy in physical rehabilitation use rhythm to let people move more freely. Treatment of tremors can be calmed down with the rhythm of music.

Sound can be shown as sound waves.



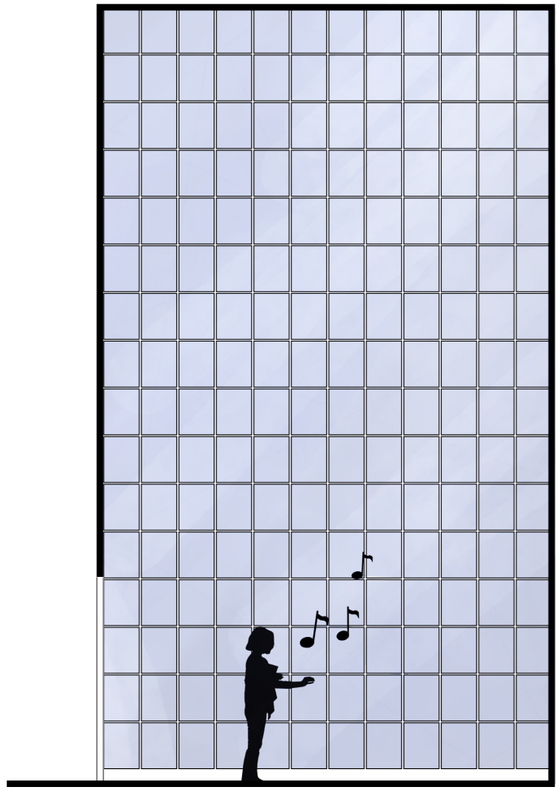
Angled surfaces scatters the sound waves and avoids flutter echoes that distorts the soundscape.



A smaller volume and absorbing materials decreases the reverberation time, while larger volumes and reflective materials increases it.

"Musicing requires an understanding of silence."

- Kenneth, (2005).



CONCEPT

Needs translated to architecture

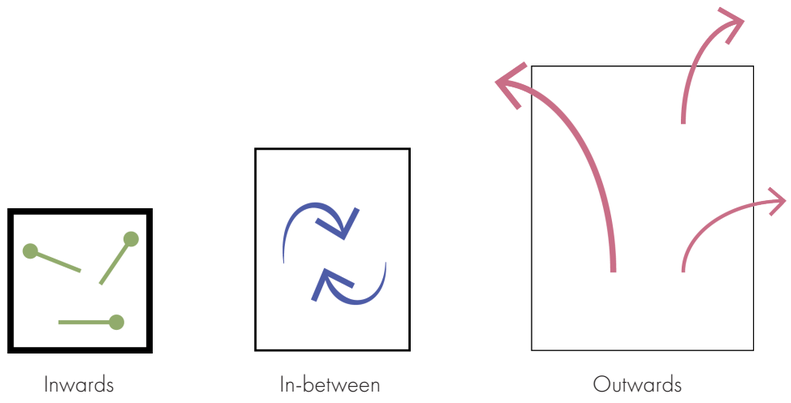
Overarching Concept

Many of the clients need a safe and calm environment in order to be comfortable to express themselves. The reason why clients partakes in music therapy varies, which gives the group different backgrounds and needs. Even though a very safe and calm environment would help them in the moment, other parts of the society are not always designed that way. In order to help the clients the design will therefore have a transition between an introverted calm part and a more extroverted expressive part. The building is therefore divided into the following three parts with different levels of exposure:

Inwards: Focuses in the individual with few distractions.

In-between: Focuses on the group and internal connections.

Outwards: Focuses on expressing oneself and performing for others.



Protected ⟷ Exposed

Inwards

Includes individual music therapy rooms and calmer environments.

In-between

Includes group music therapy rooms and a café with small internal performances.

Outwards

Includes a small concert hall. Interacts more with the outside.

RECEPTIVE MUSIC THERAPY

De-stress

Where the focus on the therapy form is:

Inwards

Keyword: De-stress

For the receptive music therapy spaces the aim will be to create a calming, de-stressing environment, as most of the methods involves relaxing the client.

Strategies

In order to create a calming environment for the receptive music therapy the design will connect to nature. To avoid creating to much exposure to the surroundings the therapy will be placed in connection to an atrium with greenery. Places where the clients can take refuge will be placed along this introverted atrium.

In order for the clients to not feel cornered there will be a circulative movement in the building to avoid dead-ends. The client will therefore have the opportunity to themselves chose what level of interaction they want to have with others.

There will also be opportunities for listening to performances from a more protected space.

Frequent goals: Relax or stimulate the person, or make someone remember and reflect on their memories.

Frequent users: Psychotherapy, clients with ability to react to music, people with dementia

Potential other use: Study space, other music therapy forms

RE-CREATIVE MUSIC THERAPY

Protect

Where the focus on the therapy form is:

Inwards In-between Outwards

Keyword: Protect

For the re-creative music therapy spaces the aim is to create a protective environment where you don't feel exposed.

Strategies

In order to create a protected environment the focus will be on avoiding unnecessary exposure for the clients. Other people in the building shouldn't have to use spaces connected to re-creative music therapy for communication.

In order to give clients who want to perform for others a way to do that without the pressure that comes with being on stage, there will be protected places where the client can perform without being seen by the audience.

Warm materials will be used in the interior in order to create a more welcoming atmosphere for the clients and to give a feeling of protecting them from the outside.

Frequent goals: Improve attention, improve interaction and group skills

Frequent users: Clients who need structure, aphasia

Potential other use: Rentable rehearsal rooms

COMPOSITIONAL MUSIC THERAPY

Listen

Where the focus on the therapy form is:

In-between Outwards

Keyword: Listen

The compositional spaces will focus on silence and listening, as that is an important part in letting the clients be heard.

Strategies

The spaces for compositional music therapy should allow for gatherings and seating arrangements where the entire group can communicate in an equal way. There will also be places where smaller groups can sit and discuss with each other in more informal ways.

The music therapy room should be adaptable for situations with different acoustical needs. This could be done with movable fabric that can frame parts of the room to allow for larger or smaller volumes in the space, which alters the reverberation time and experience of the room.

There will also be places where the groups can perform, or listen to others perform what they have created. They will therefore have access to a small concert hall.

Other ways to work with compositional music therapy is to try to create spaces where the client reacts to the environment by listening after something. This could be caused by an unexpected silence or a weak sound that makes them curious.

Frequent goals: Enhance self-esteem, provide choice for decision-making and externalise thoughts and feelings

Frequent users: Psychiatric care, developmental disabilities

Potential other use: Meetings, lectures for elderly

IMPROVISATIONAL MUSIC THERAPY

Explore

Where the focus on the therapy form is:

Inwards In-between

Keyword: Explore

For the improvisational music therapy spaces the aim will be to create an environment where the client is encouraged to be active.

Strategies

Unusual acoustics will be used in order to nudge the clients to explore their environments with sound. Architectural elements should to some degree be interactive and respond to the clients actions with for example sound.

The architecture will try to evoke a sense of mystery by creating changing views from different rooms and rooms where you don't see the entire space without exploring it.

In order to not make the spaces feel too exposed there will be places where the client can retreat to if he/ she feels the need to.

Frequent goals: Establish non-verbal communication and develop cognitive and perceptual skills.

Frequent users: Autism, psychiatric care, developmental disabilities

Potential other use: Rentable rehearsal spaces, music exploration for preschool classes

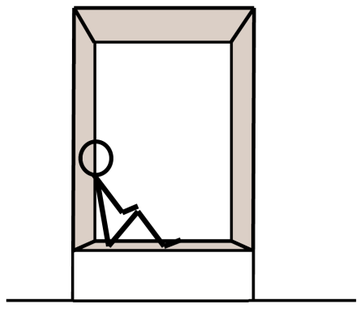
SILENCE

Strategies

Waiting in the client

Silence is an important part of both music and daily life. By creating architecture where a person stops and reflects on what is happening I hope to be able to create a small break for that person. The strategies are based on creating an unusual situation or a sudden transition that changes the experience of the space. It also includes creating spaces for refuge that gives the client a place to escape to.

According to a music therapist' story, many clients often get active only when there is a pause that gives them time to react (Sandell, Hammarlund, Kuuse & Johnels, 2017, p.236).



Places for refuge

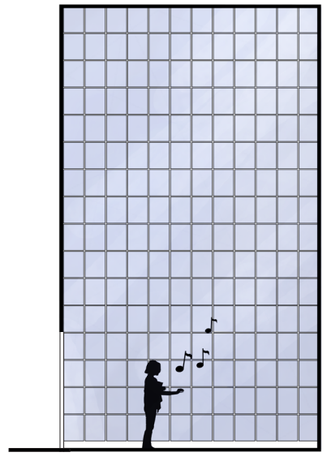
Visual & Aural contrast

EXPLORATION

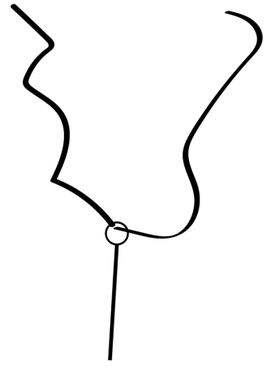
Strategies

Promoting initiative

These strategies are made in order to provide opportunities where the clients can explore the architecture and take initiative. Some goals in music therapy are to help the client make decisions and learn to interact with the environment.



Unusual acoustics



A choice of movement

"Music functions as a separate channel of communication."

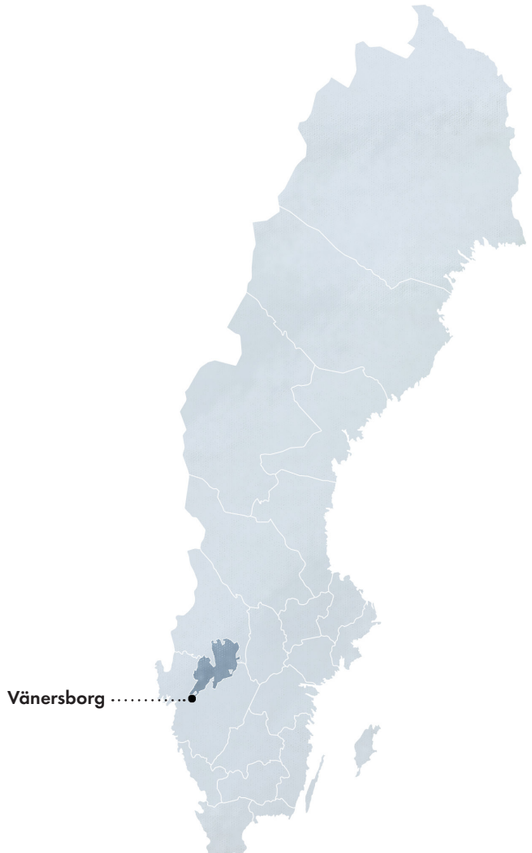
- Macdonald, (2013).

CONTEXT

Vänersborg

The project is based in Vänersborg, a small town located next to Vänern, the biggest lake in Sweden. The city centre is connected to the water but part of the water is blocking the connection between the city centre and the small island west of it. Vänersborg has decided to develop the island and to strengthen its connection to the city. The site is located in the future connection between the two with a view towards the city centre.

One reason that this site was chosen is that the municipality of Vänersborg has a music profile. In past years the investments in music has decreased. By placing a building with a focus on music in an important connection point in the city, it also functions as a statement of the importance of music.



The site

By choosing this site I make a statement that this piece of land should be used for the sake of a community, which differs from the plan vision from the municipality. The site has a visual connection to the water and is surrounded by old trees. Today it consists of a parking lot for the nearby Supermarket and a grass field. The supermarket is the biggest food store in the area and it therefore attracts a lot of people.

Qualities:

- Close to nature (water and trees)
- Close to public transport (300m)
- Has a historic context
- An important connection point in the future

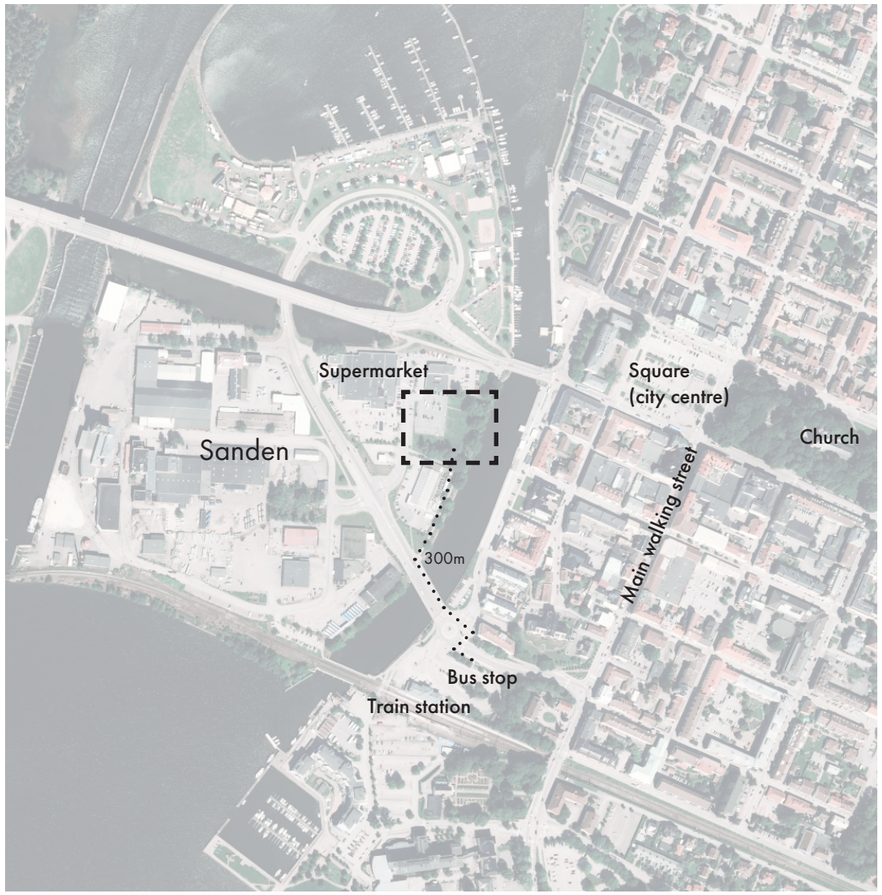


Figure 1. City centre of Vänersborg, today. (SLU, 2019) Adapted with permission.

HISTORIC CONTEXT

Surroundings

N

The island Sanden

Sanden, the island to the west of the city centre, is to a large part man-made and was filled up with land during the 19th century.

Sanden was eventually expanded with industrial functions and became a zone for traffic crossing with the addition of a bridge that spans across to the mainland to the west.

Figure 2. City center of Vänersborg, 1960. (SLU, 2019). Adapted with permission.

Strömsborg 1871-2007

Strömsborg is the name of a building that used to be on the site. It was built 1871 and shifted functions and expanded with the passing of time. The building used to be a meeting place for people of all ages who would go there to dance, eat and listen to music.

It was torn down in 2007 due to poor maintenance and the site was instead filled with parking for the nearby supermarket. The tower of the building has become a privately owned gazebo in the neighbourhood.

What I take with me from this context to the project is that the site once was an important part for the identity and community of Vänersborg. Its values could be reimagined as a new cultural space where people can connect with each other.

Figure 3. Strömsborg, Vänersborg (Vänersborgs museum, 2017). CC-BY.

FUTURE CONTEXT

Surroundings

N

Future development

The municipality has plans to develop Sanden. They want to create a closer connection from the island to the city centre by creating a new path with a bridge that passes through the site.

Future plans for the development of Sanden.

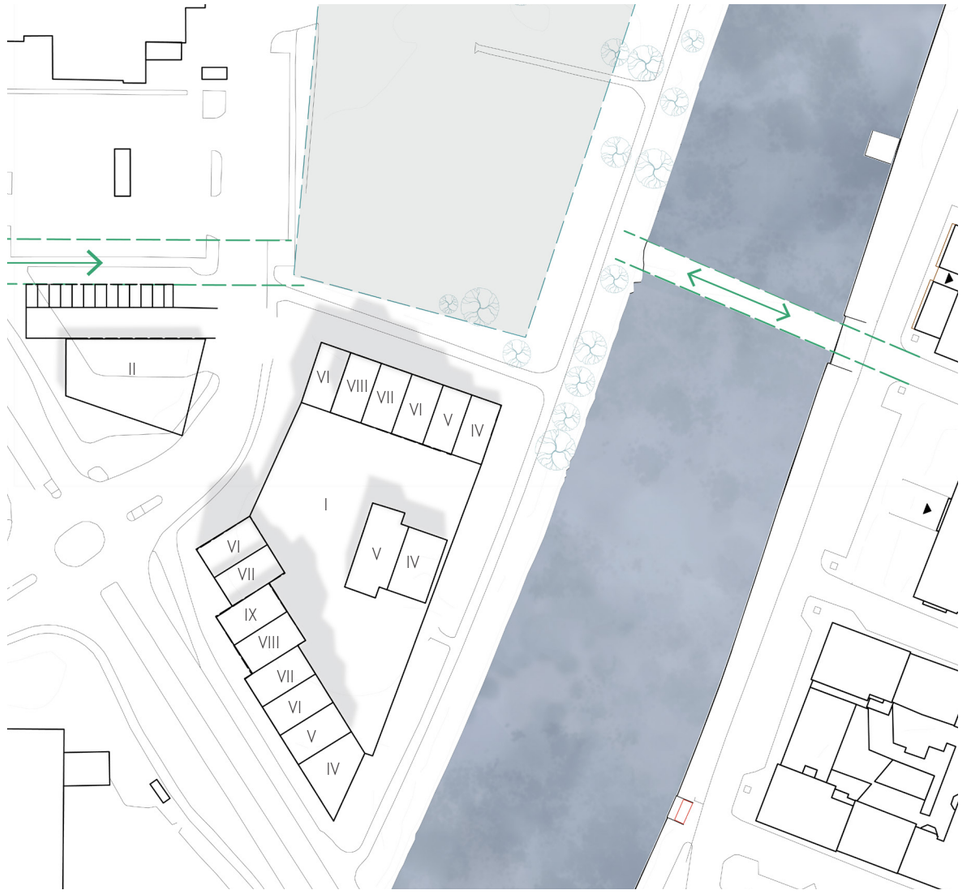
Pedestrian and bicycle paths

Car roads

N

New housing project

The municipality has planned for a new multifamily housing complex south of the site. The building is at the moment only an illustration from the municipality of how it can look. The highest point is nine stories. This will shade the south part of the site during mid day.



Proposed new housing project.

0m 50m

SITE

SWOT-analysis

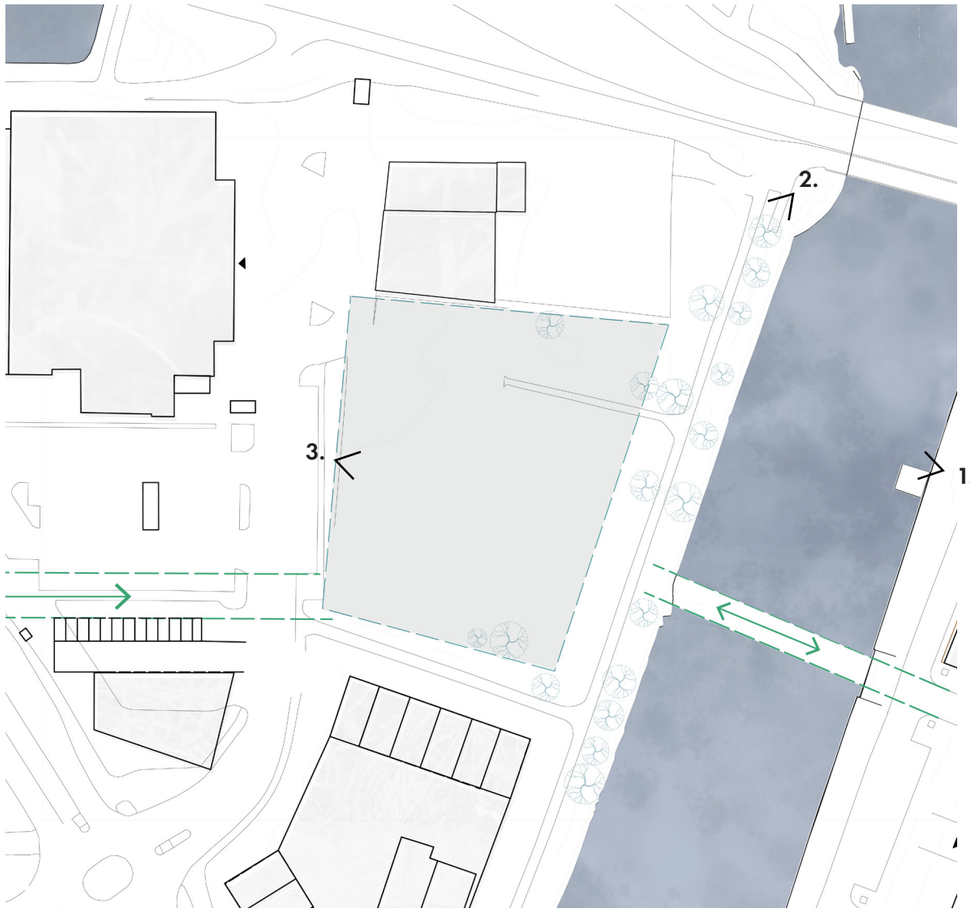
Site

Strengths
- Close connection to water
- Old trees close to the site
- Flat, easily made accessible
- Visual connection to the cite centre
- Close to train and bus stop (300m)

Weaknesses
- The cars generate noise
- People might pass by quickly

Opportunities
- Start of a new city part
- An important connection for the city in the future
- Expose the function to a larger part of society

Threats
- Might be a sensitive site because of its historic context
- At risk for flooding
- Might block views to city centre and supermarket



Site with surroundings including photograph markings

1. View towards the site from the other side of the water.

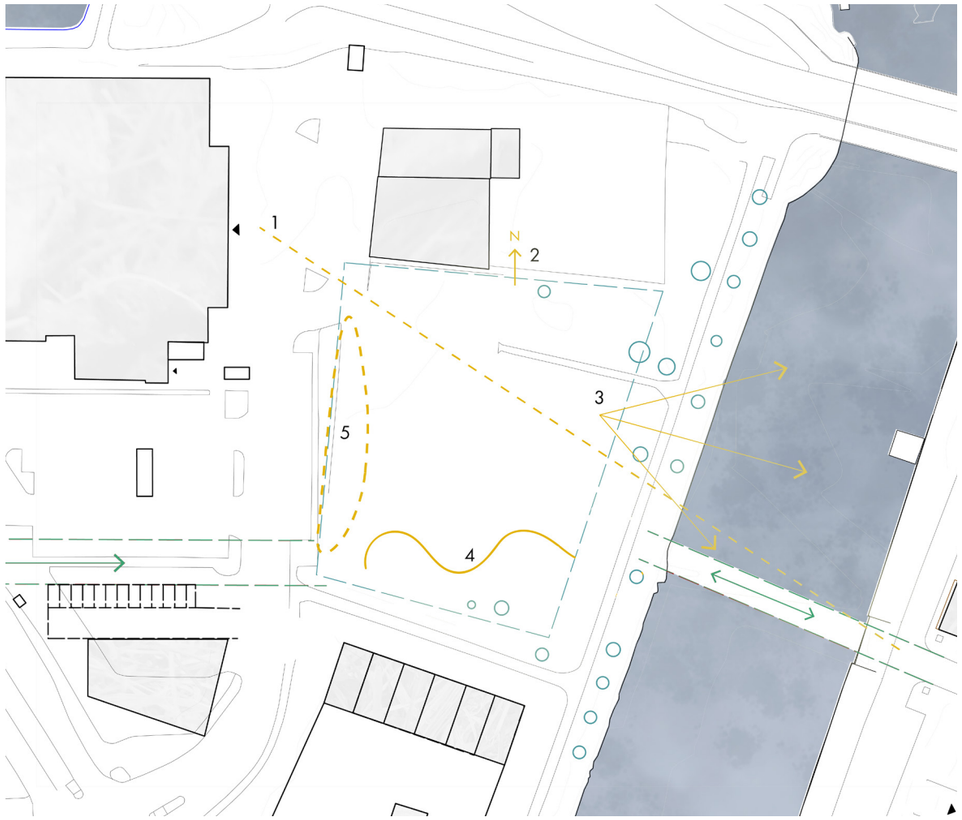
2. View from northeast.

3. The existing parking lot.

N

Analysis

Some important aspects from the site where used in order to connect the building with the surroundings and utilize it's qualities.



Site analysis of important aspects from the site and surroundings.

1. Keep a sight line from the city centre to the supermarket entrance.
2. Use the north light to create calm, non-distracting spaces.
3. Keep views towards the water and trees.
4. Integrate the path on the site with the building.
5. Place the entrance close to the car road

0m 50m

N

Placement on site

The entrance is close to the car road as most clients probably will come there by car or by bus. The new path to the south is seen as the most active part of the site in the future because of the new flow of people. Views toward the water will be important for all of them of the building parts. As the inwards part will have a calmer atmosphere it faces north where it can use the daylight without creating distracting sunlight conditions. The outwards part is directed to the city.

Analysis of the placement of the different parts of the building

Placement of the outwards part

Placement of the in-between part

Placement of the inwards part

Pedestrian path

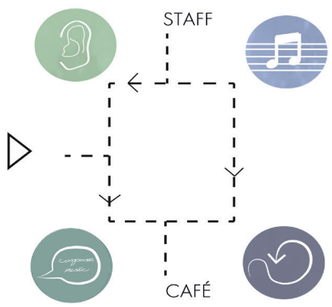
Main car road

0m 50m

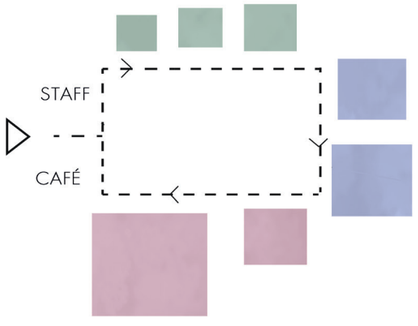
MOVEMENT

Internal layout

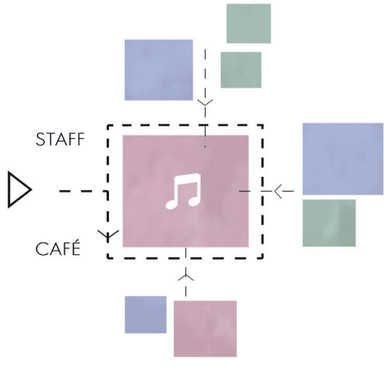
These are investigations of how the movement inside the building and overarching layout could look like based on the analysis of music therapy and the clients needs.



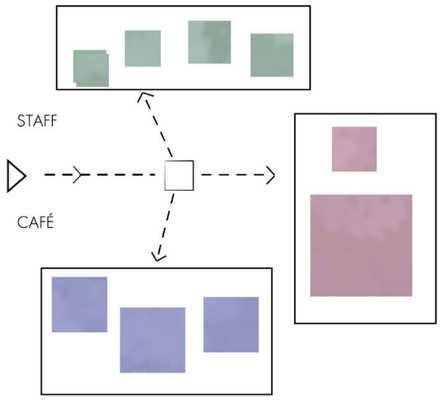
1. Music therapy rooms are divided according to type of music therapy. It doesn't work with the concept of a transition from calm to active.



2. The building is divided into a calm and an active part with a courtyard in the middle. It doesn't provide as many choices for how to move as other layouts do and many spaces would be used as corridors.

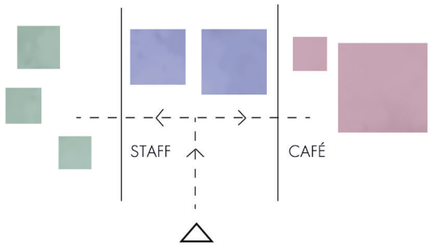


3. Differently themed parts of the building are connected with a multi-purpose performance hall in the middle. Would probably be stressful for some of the clients to meet a stage by the entrance.

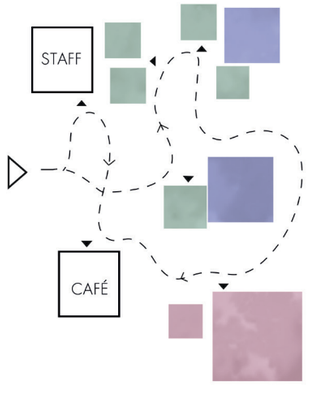


4. From a central point the client can chose which part of the building he/she wants to go to. The middle part is used to connect the different parts with each other.

Chosen as a base for the building's movement.



5. You can turn one way to get to a quiet part of the building and the other to get to the active part. Probably won't fit the site as well as other layouts because of its long shape.



6. The movement is in an open space with blocks for different parts/ functions of the building. Would probably take up more space than necessary.

PROGRAM

Functions & m^2

MUSIC SPACES

1 Mixed music therapy room (for clients who need predictability in their environments)
1 Receptive music therapy room
1 Individual improvisational room
3 Re-creative rooms
1 Group compositional room
1 Group improvisational room
1 Internal stage for small performances connected to the café
1 Small concert hall
Spaces for exploration with different acoustical qualities

GENERAL

Foyer (in connection to small concert hall)
1 Café (connected with small performance stage)
1 Kitchen (including waste room, storage, preparation area)
2 WC
1 HWC

STAFF

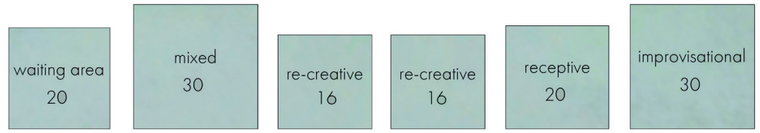
1 Reception
Staff offices (approximately 8 people)
1 Staff changing room
1 Staff HWC
1 Break room

TECH & STORAGE

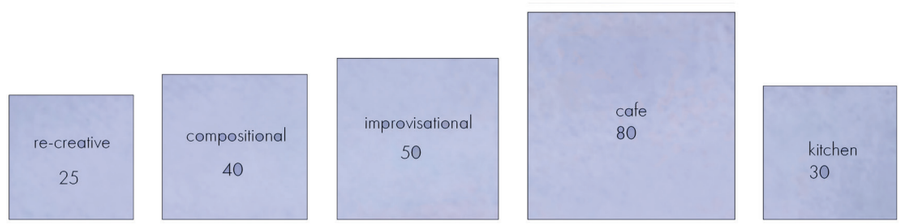
Instrument storage
Cleaning storage
Technical spaces

OUTSIDE

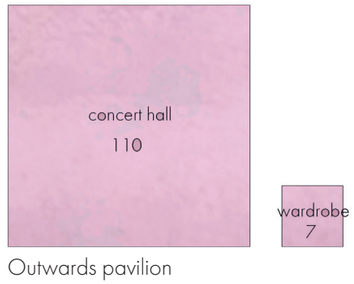
A waiting area by the entrance
Outdoor cafe area
Music themed playground



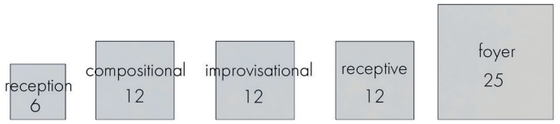
Inwards pavilion



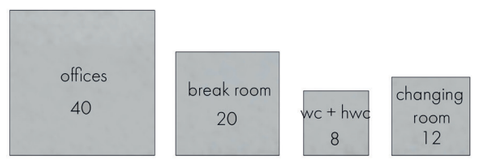
In-between pavilion



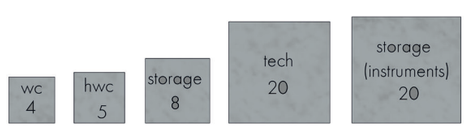
Outwards pavilion



Middle connection



Staff areas



Tech & Storage

EXTERNAL LAYOUT

Overall layout of building

N

Diagram of placement of pavilions and connection to the surroundings

Connections

The placement of the three different volumes is chosen because of the analysis of the site. The inwards pavilion is located towards the calmer side towards north with calmer lightning conditions. The in-between pavilion with it's café is directed toward the new pedestrian path through the area and the outwards pavilion is connected to the inner city and the water.

When entering the building you are met with a sight line towards the water and greenery. The lower part of the middle connection is angled to the water as well in order to create a protected outside café area that gives it's visitors a view of the water while protecting them from the noise from the car road.

INTERNAL LAYOUT

Overall layout of building

N

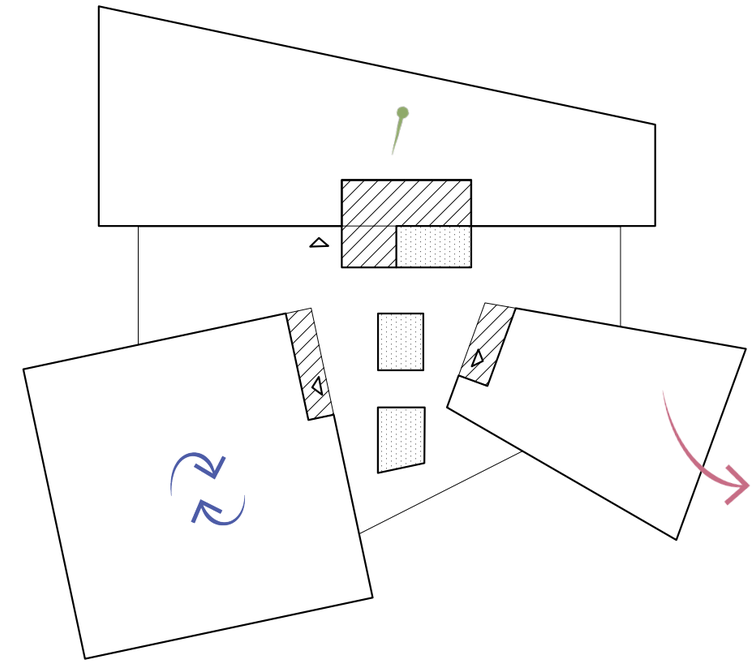


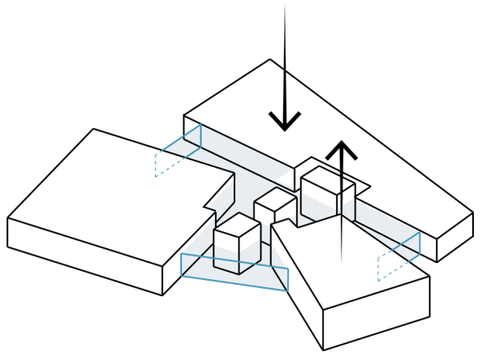
Diagram of internal layout

Internal logic

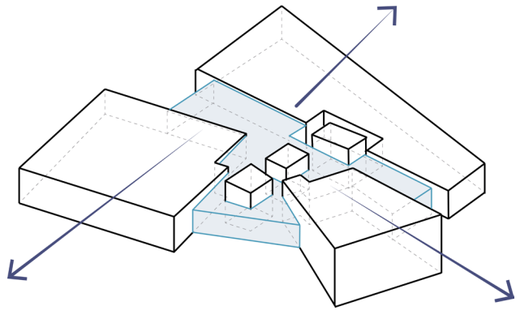
Cut-outs are made from the volumes in order to create clearer entrance situations to the pavilions and to create an internal atrium for the inwards pavilion. Boxes with a higher ceiling height and different acoustical and material qualities are placed in the middle connection in order to divide the volume in smaller spaces and therefore lower the sound levels in the middle part. The boxes invite the users to explore the open middle connection and make their own decisions of how to move.

COMPOSITION

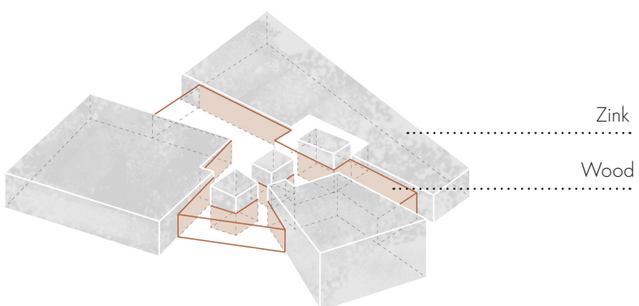
Volume & Context



1. Box heights



2. Roof shape



3. Materials

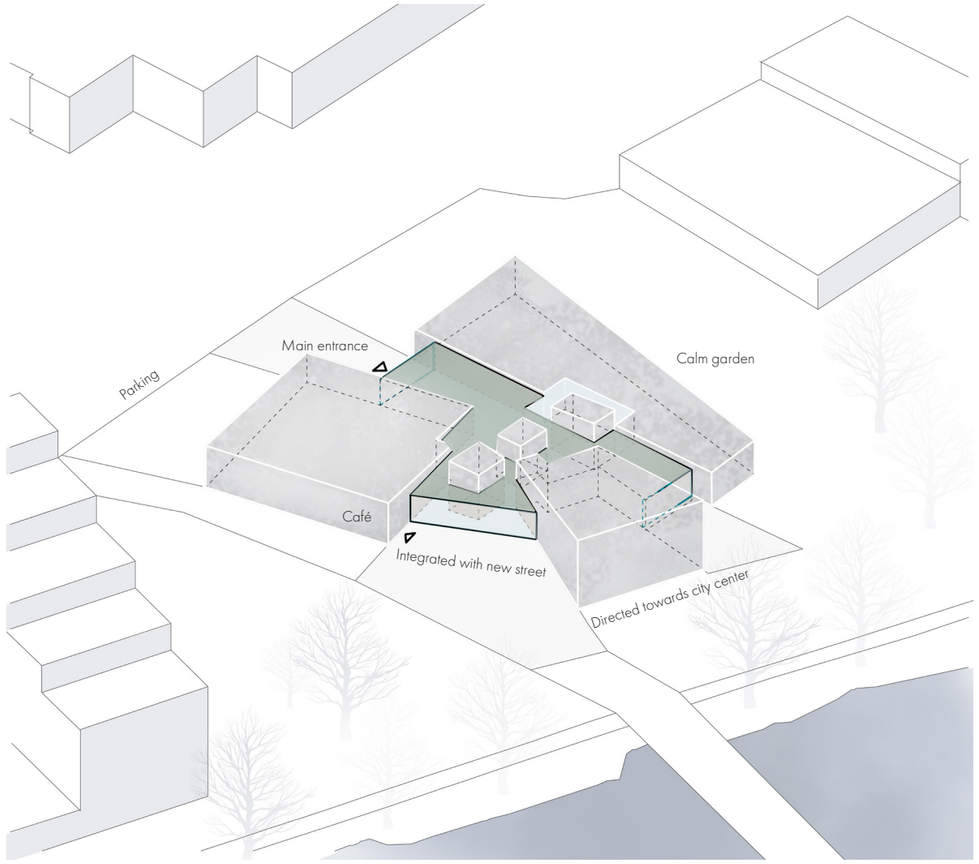


Diagram of building volume in relation to surroundings

1. The height of the different pavilions are pushed up or down depending on the sizes of the rooms and the atmospheres of the spaces inside.

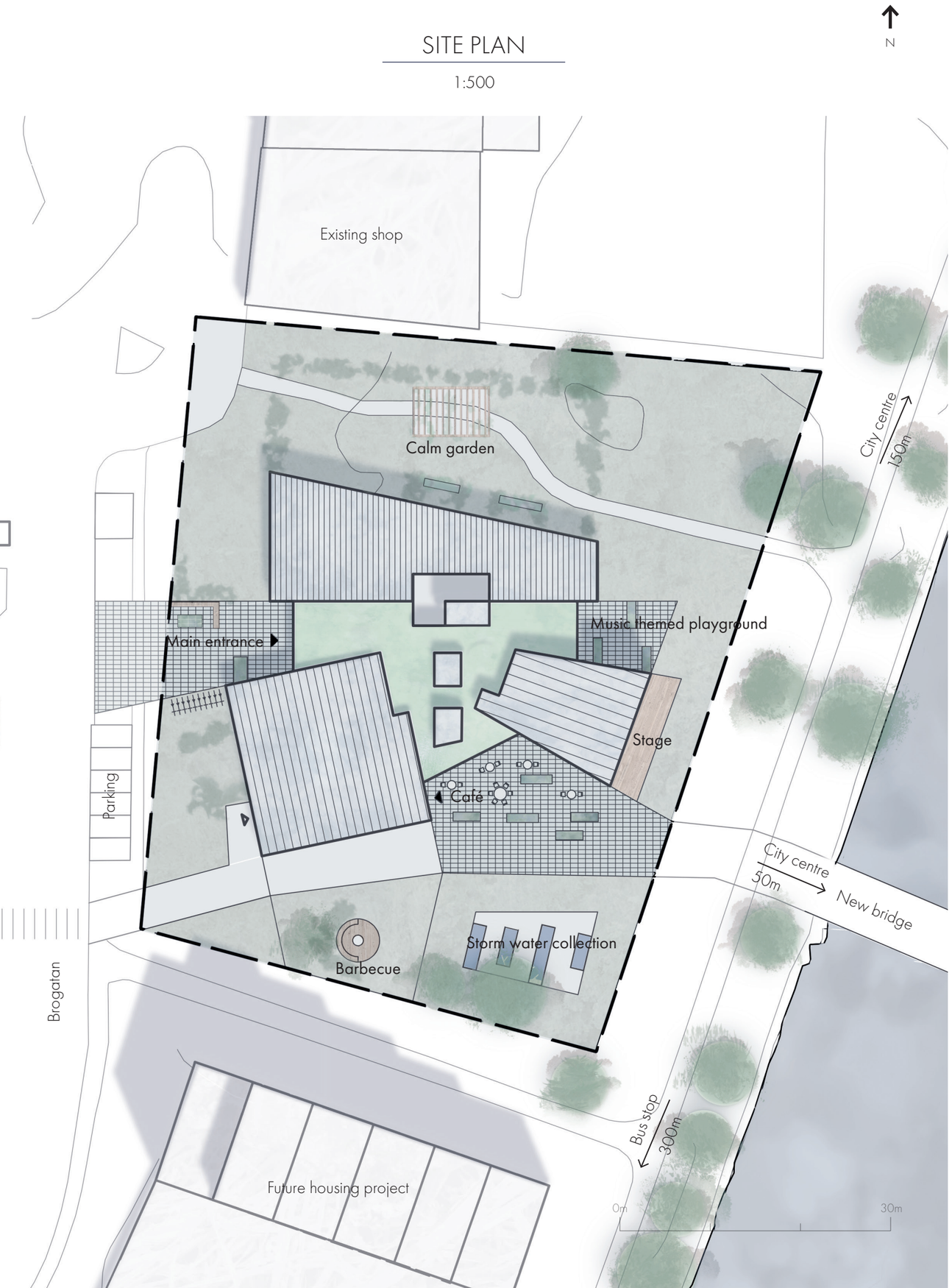
2. The roofs are then opening up toward the pedestrian path, the city centre and the garden.

3. The outside of the volumes are covered in metal, while the parts of the volume covered with the middle connection has a warmer feeling with more elements of wood.

DESIGN PROPOSAL

SITE PLAN

1:500



Site plan

Visitors can park their cars close to the main entrance, where there also will be bicycle parking for staff and visitors. There is space for buses to stop outside the entrance to allow bigger groups of people to access the building that might have trouble getting there on their own.

The new path that will connect the city centre to Sanden invites the people into the café. The outdoor café area is placed toward south with a view over the water. The building blocks the noise from the car road west of the site to create a calmer space.

A new playground is placed toward the water to encourage people passing by to interact with the building and to give outdoor spaces that can be explored by clients. Connected with the concert hall is a stage directed toward the water. During summer the hall can open up for both outdoor concerts and dancing events.

As there is some risk of flooding in the area, an open storm water collection is placed at the lowest part of the site.

The building keeps its distance from the trees to protect the existing nature.

PLAN OVERVIEW

1:200

N

Mixed therapy

Staff

Tech

Waiting area

Atrium

Seating

storage

Nature box

Reception

Main entrance

Storage

Absorbing box

Reflective box

Tech

Concert hall

Kitchen

Stage

Café

Receptive music therapy
Keyword: De-stress

Improvisational music therapy
Keyword: Explore

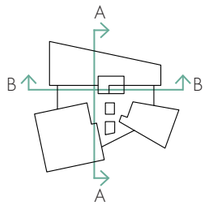
Compositional music therapy
Keyword: Listen

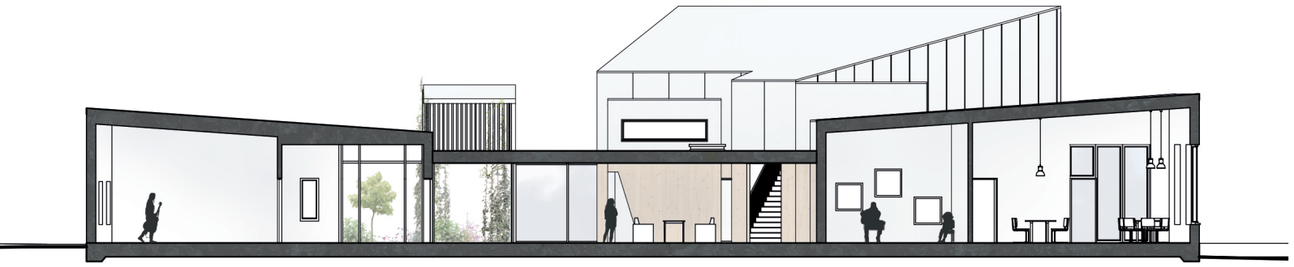
Re-creative music therapy
Keyword: Protect

0m 10m

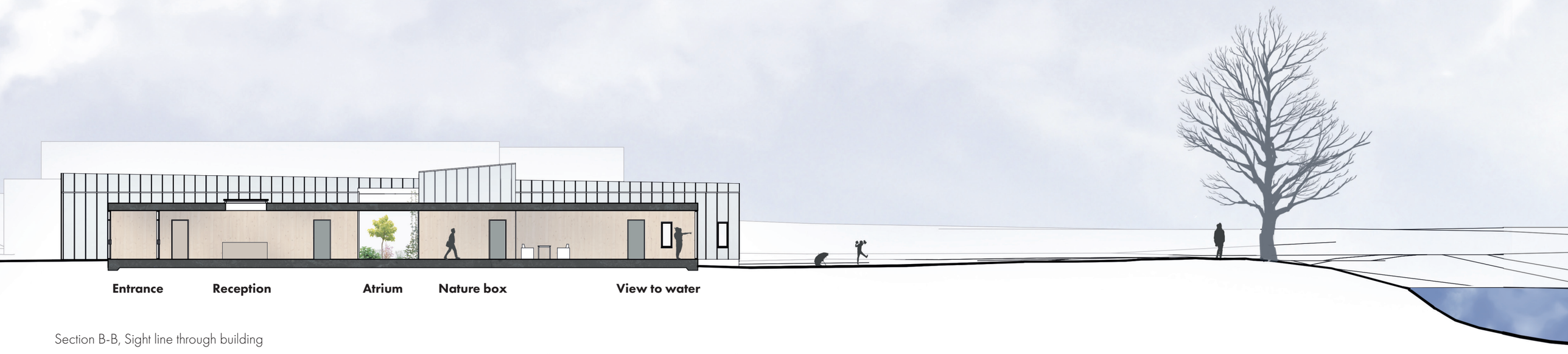
SECTIONS

1:200





Section A-A, Three volumes



Section B-B, Sight line through building

0m 10m

A view to the water can be seen when entering the building. The reception is directly to your left and can show you where to go. If you are going to the individual therapy the entrance is right next to it beside the atrium. Places for seating and exploration is distributed in the middle connection along the sight line.

The middle connection has a constant height except for the music boxes that provides an unexpected space for the people entering them. The inward pavilion has a pathway connected to the private atrium that ends with a small window to a music therapy room. It can give the client a way to know what to expect before entering the room. The café is directed toward the street and the nearby music therapy room have windows to the middle connection where you can get an understanding of the function of the pavilion.

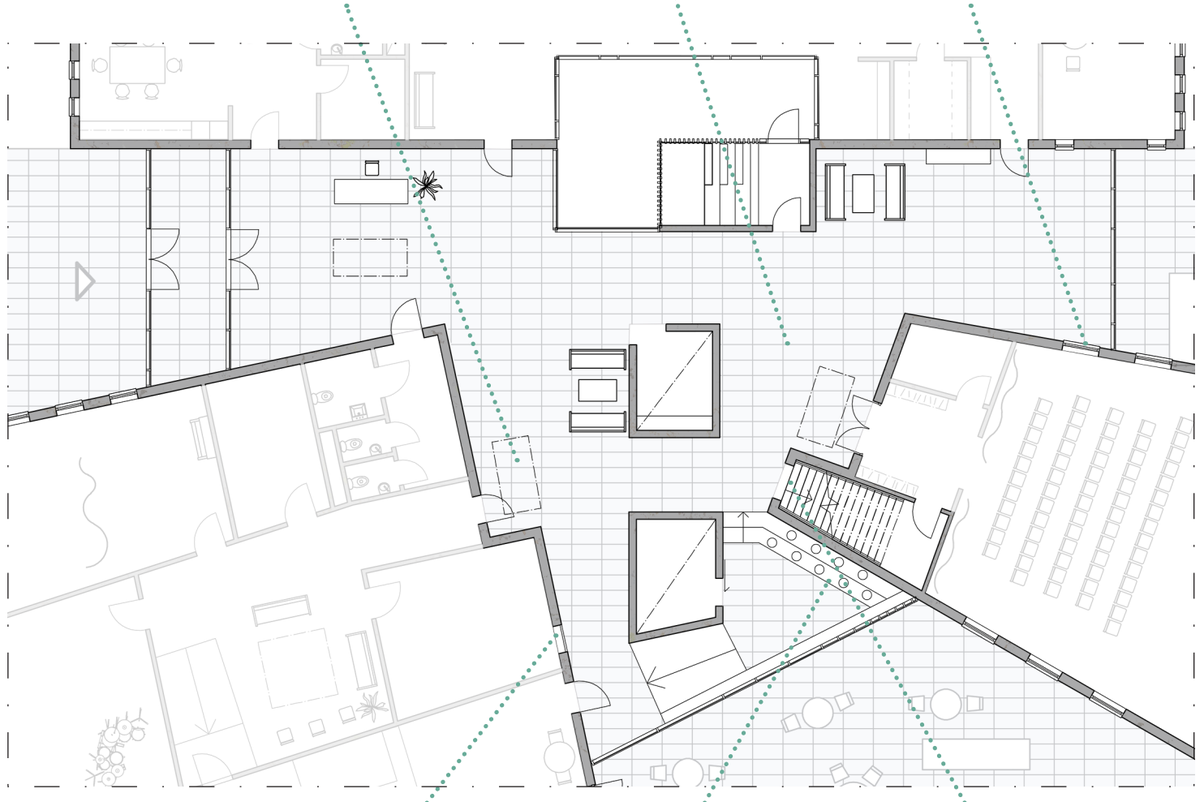
MIDDLE CONNECTION

1:200

A circulative layout gives the clients a way to control their level of interaction with others.

Ceiling windows in front of the pavilions' entrances distinguishes them from other entrances.

A window to the concert hall lets users see what's happening on the inside.



Exploration & Silence

A window to the therapy room gives an understanding of the pavilion from the outside.

Seating by the reflective cube can be used as a gathering space.

A staircase leads up to a second level in the concert hall.

0m 10m

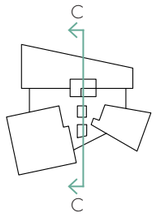
Perspective from the reception

Two of the music boxes are partly shown to invite clients to explore and test out the different acoustical spaces. The entrances to the pavilions and boxes give the users a choice of where they want to go. The middle connection is divided into many smaller parts in order to keep a lower sound level in the building.

The first entrance that can be seen is to the inward pavilion, in connection to the atrium and nature box. The clients who need a calmer experience can therefore enter this part of the building without being exposed to the more public parts.

SECTION

1:200



Section C-C

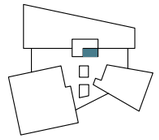
The music boxes have different acoustical and material qualities. Both the reflective box and the absorbing box give the user a transition into an unexpected larger space. The soft fabrics in the absorbing box decreases the reverberation time and gives it an unexpected quiet atmosphere, in spite of its volume. The reflective materials in the other box instead strengthens and prolongs the sounds in the space, inviting the client to test out their voice, instruments or the hanging wind chimes.

The nature box provides a space in connection with nature with an overview of the surroundings. Here the clients can listen to the rain on the metallic roof or pre-recorded calming music.

0m 10m

NATURE BOX

De-stress

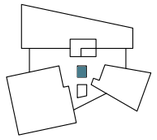


Nature box

The nature box's stairs invites to user to climb up to the greenery. From there you have an overview of the entrance while being protected from others observing you. An integrated sound system can play music for the user. Alternatively they can listen to sounds from the outside. The rain on the metallic roof can be heard from the stairs or the wind on summer days when the door to the atrium can be open. A high window directed to the city creates an undisturbed view of the sky.

ABSORBING BOX

Listen

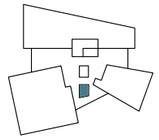


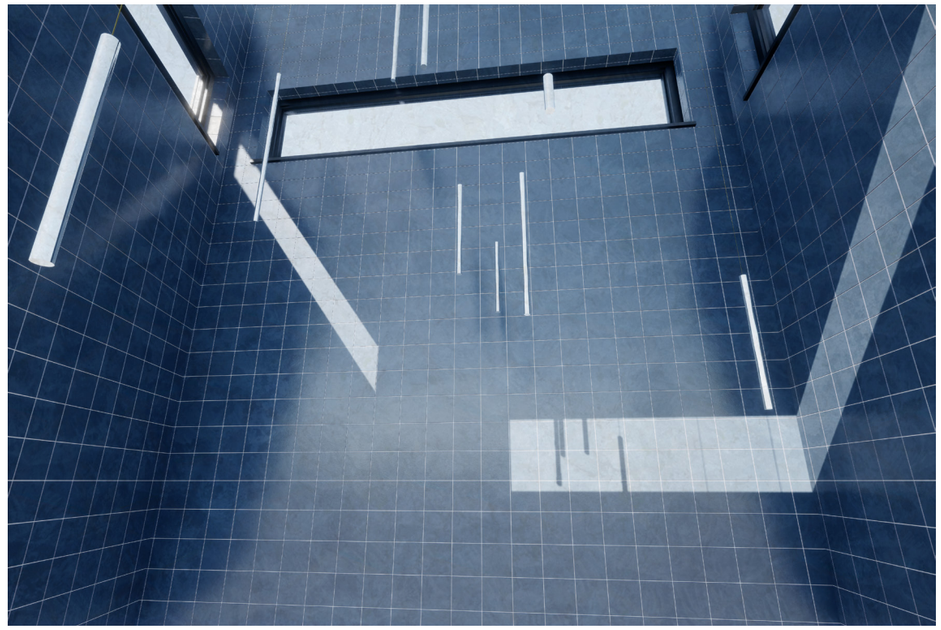
Absorbing box

The absorbing box has layers of fabric that absorbs the sound waves and creates a lower reverberation time. The large volume will therefore be unexpectedly quiet where any sounds quickly will disappear. This gives the space good acoustics for talking. A thin layer of fabric hangs form the ceiling and covers the windows to give the space a calm and diffuse light.

REFLECTIVE BOX

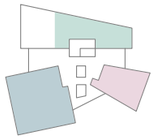
Explore





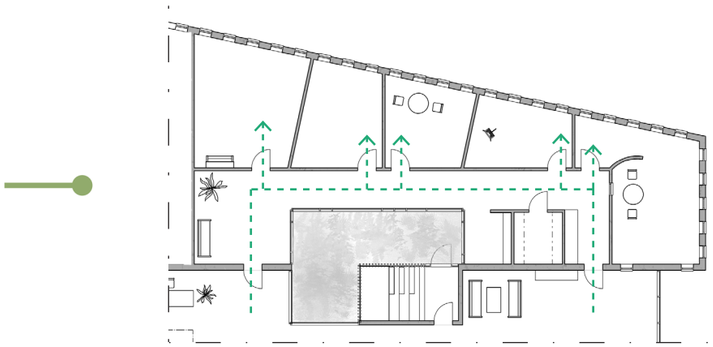
Reflective box

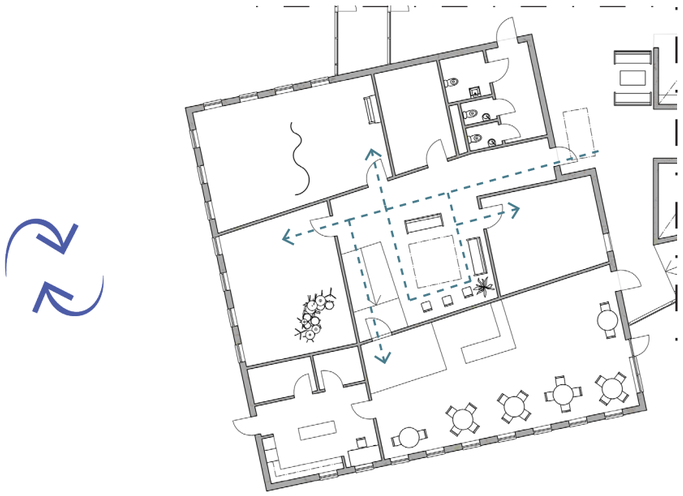
This box invites the user to explore sounds. The reflective tiles and the large volume creates a longer reverberation time than the surrounding spaces. Sounds will therefore stay in the space for a longer time and you can hear sounds you have created even after you have stopped making them. This space therefore invites the user to sing or play an instrument to create a new sound experience. Wind chimes hang from the ceiling in different heights to enable people to create sound with touch.

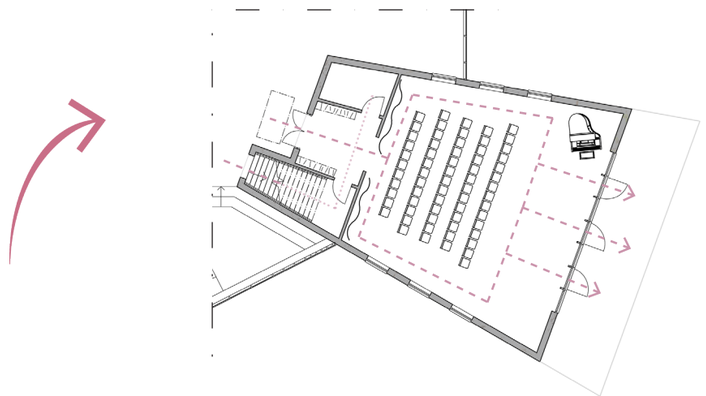


PAVILIONS

Movement







Inwards pavilion

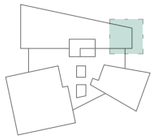
The northern pavilion is for individual music therapy where the client often needs a more protected environment. The movement is centred around an atrium to create a connection with nature without causing distractions or exposure to others. There are five music therapy rooms, specialized in different forms of music therapy. There are two separate waiting areas directed towards the atrium to create a choice for the client and give them someplace to be on their own.

In-between pavilion

The in-between pavilion focuses on the group with three bigger music therapy rooms. A gathering space is placed in the middle with a ceiling window above the seating area. A ramp from the common space leads up to a stage in the café, where small groups can perform for their family or café visitors. The compositional music therapy room can be divided with curtains in order to adapt the space for the group or shelter them from exposure to the outside. The therapy rooms could be rented out by other music groups in order to utilize the building more.

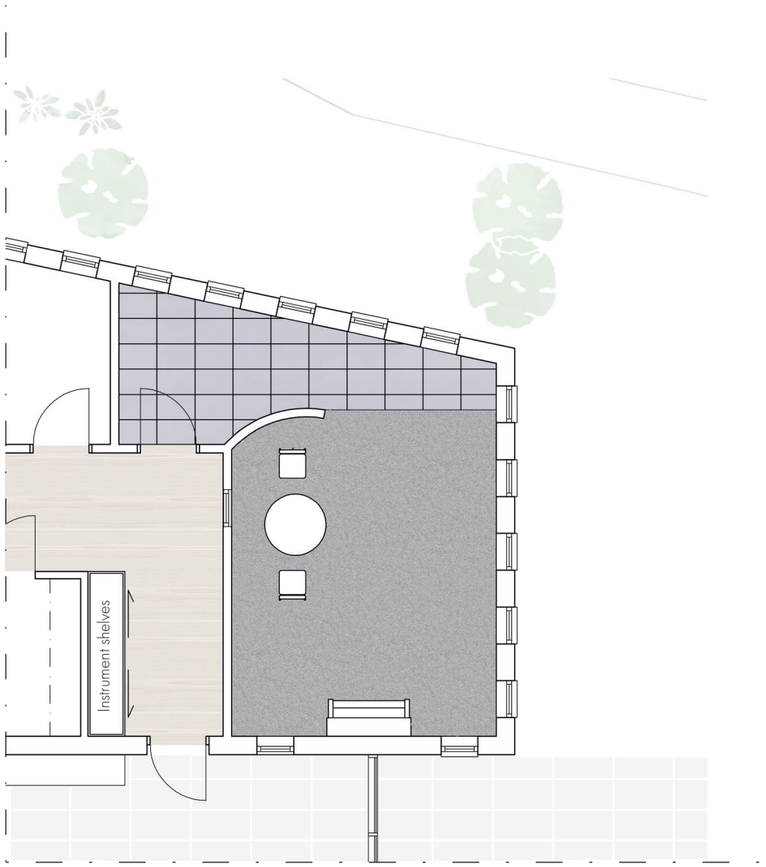
Outwards pavilion

This is the most exposed part of the building and functions as a step to expressing yourself in a situation that isn't as protected as the other pavilions. The concert hall is directed to the city centre with a possibility of opening up to the outside during the summer. It can also be rented out for small concerts or other purposes. A staircase leads up to the second floor and give the performers a way to play for others without being as exposed from the windows.



MUSIC THERAPY ROOM

1:100



Plan of an improvisational music therapy room

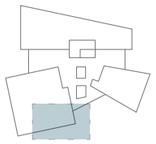
An improvisational music therapy room

Music therapy room

This room is specialised to improvisational music therapy. A window from the corridor gives the clients a chance to know what the room looks like before they enter and can explore the space. The floor by the entrance to the room has a hard surface to clearly announce if someone is walking there by making the footsteps louder. The flooring in the rest of the room is carpet to create a difference and softer sounds.

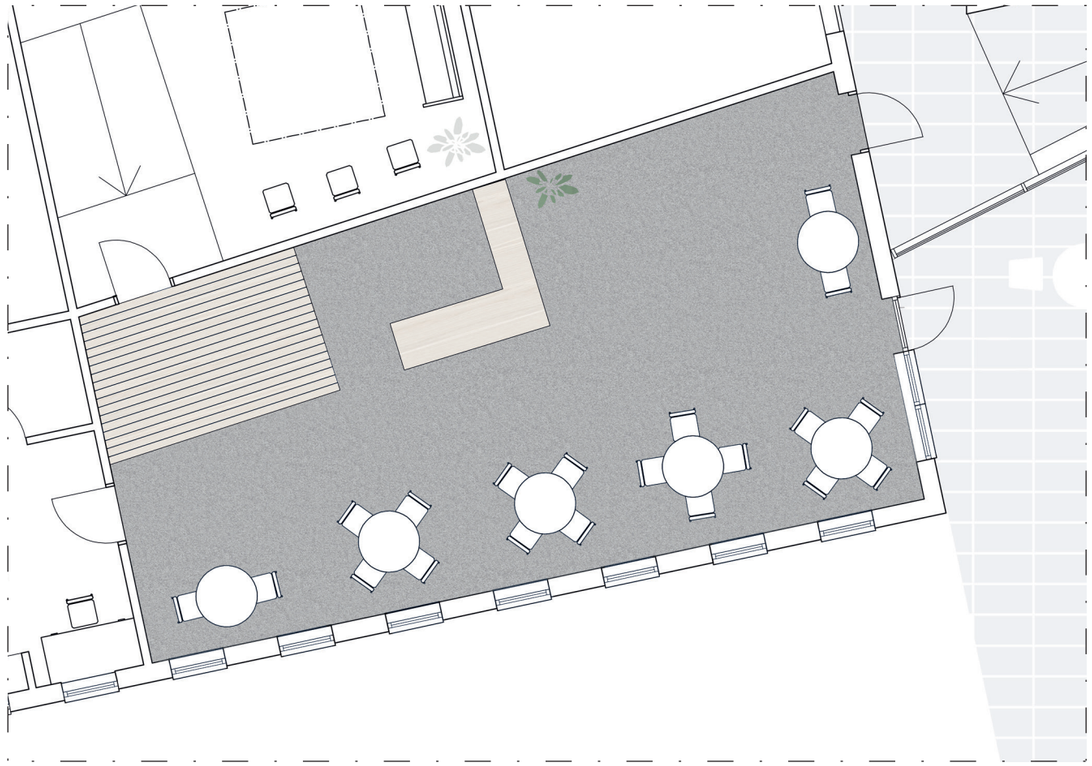
Windows to three directions gives the client a chance to discover different views while the wall at the same time gives him/ her the opportunity to hide and seek refuge.

0m 5m



CAFÉ

1:100



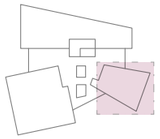
Plan of the café

Perspective from the stage in the café

Café

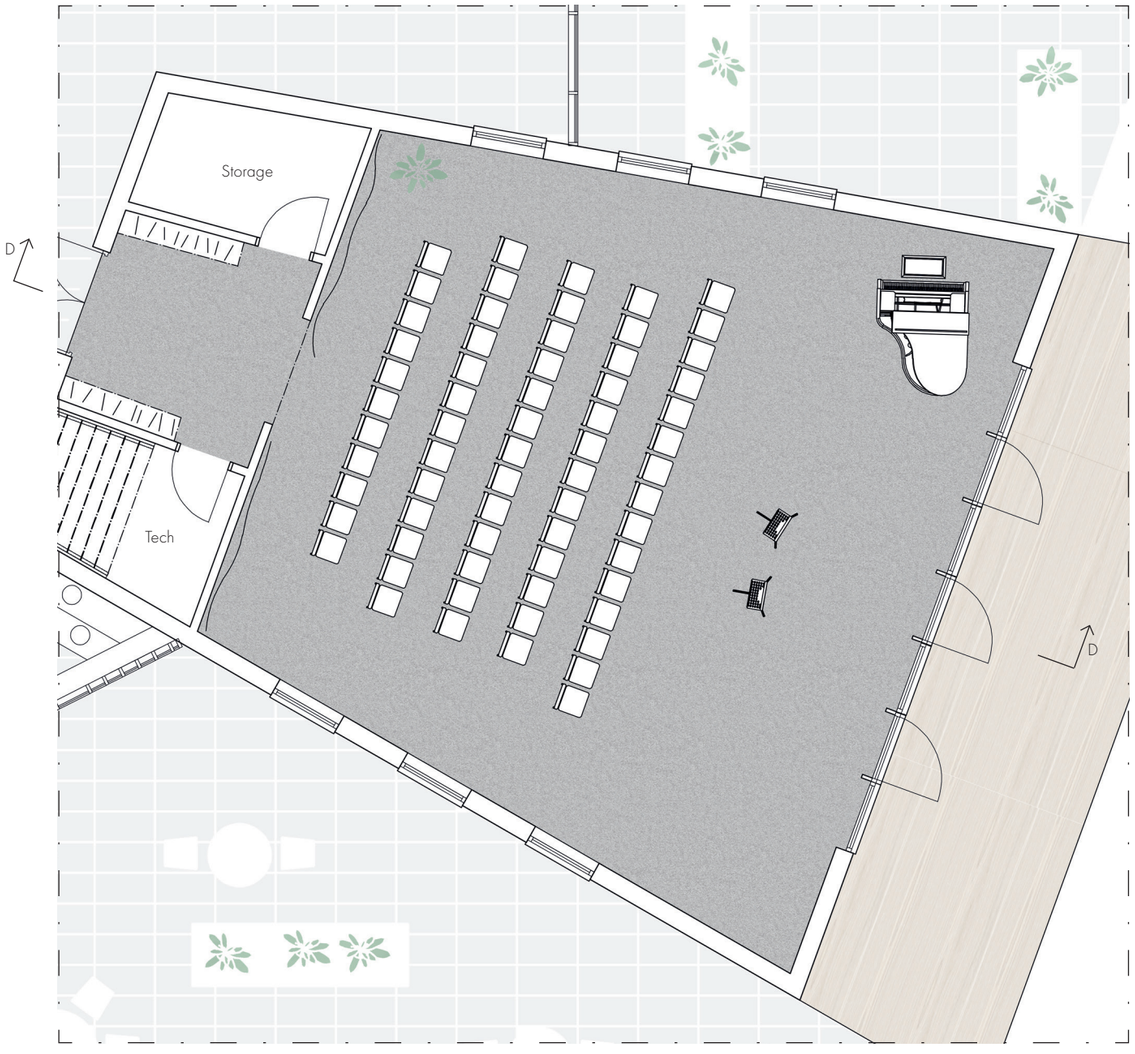
The wall opens up towards the outdoor café area to create a closer connection with it and announce the entrance from the outside. The café is connected to the rest of the building with both the middle connection and the music therapy rooms for group sessions. A ramp from the music therapy rooms lead to a small stage in the café where clients can play for family and friends. The floor material is carpet to decrease noise from footsteps and furniture moving.

0m 5m

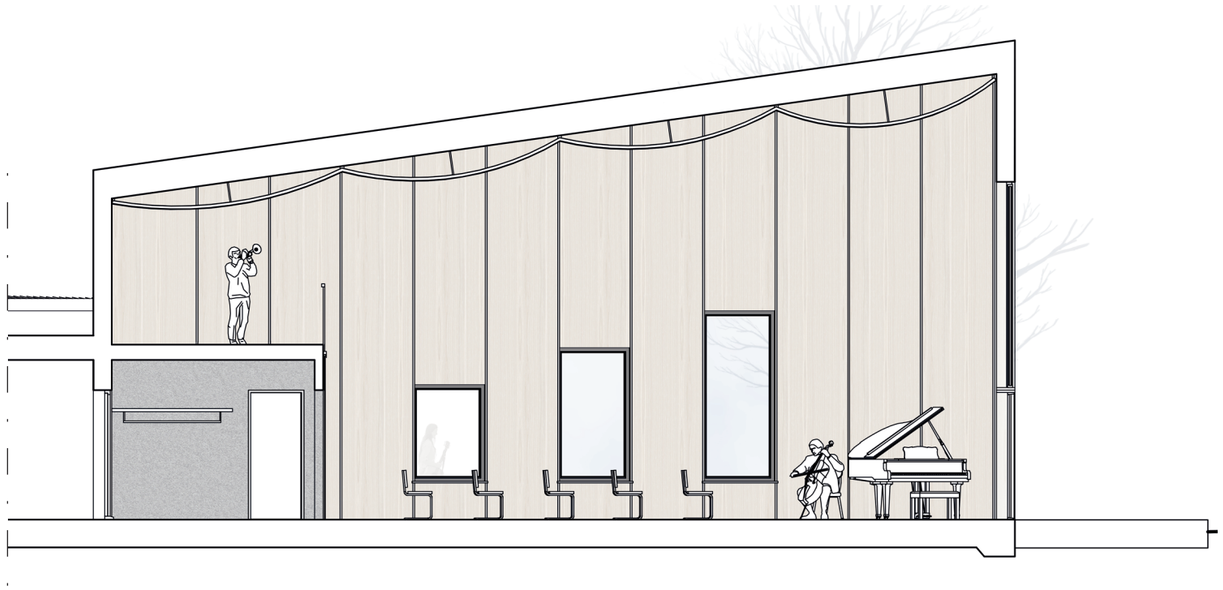


CONCERT HALL

1:100



Plan of the concert hall



Section D-D, Concert hall

Concert hall

A separated staircase leads up to a second level that is connected with the concert hall. It functions both as a place for performing without the usual pressure of standing on a stage and as an extra listening space. The upper area can also be used to perform from two places in the same performance or as an additional seating area for the concert hall. The ceiling elements reflect the sound back to the audience to create a better listening experience.

The furniture in the room is loose to enable a flexibility in how the room can be used. The space can be rented out to the public for musical events and concerts. It can also be used for dancing, a function that was appreciated from the previous building on the site.

0m 5m

0m 5m

PERSPECTIVE

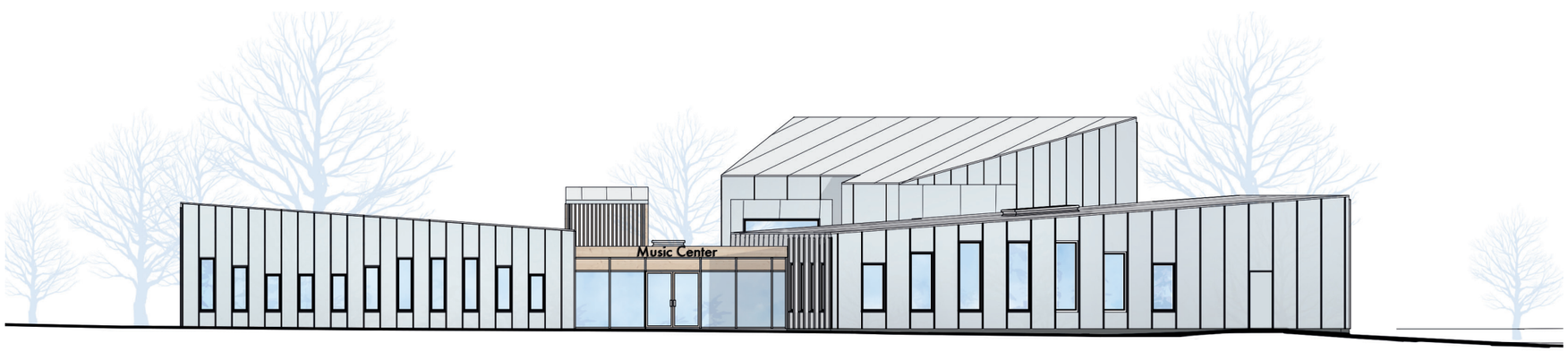
Concert hall

FACADES

1:200

The facades are divided into three grids in different sizes for the three pavilions. The windows follow the rhythm of the grid in a wave that travels along the facades. All of the pavilions are clad in zink panels, which also covers the roof.

The places where the middle connection is visible are clad in wood to give a more welcoming feeling for the entrances and to hint towards the interior material.



Facade toward west

Facade toward north

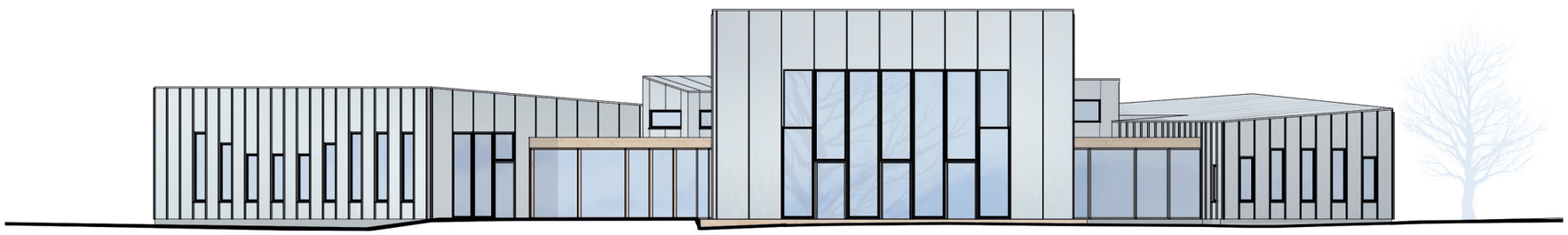
0m 10m

FACADES

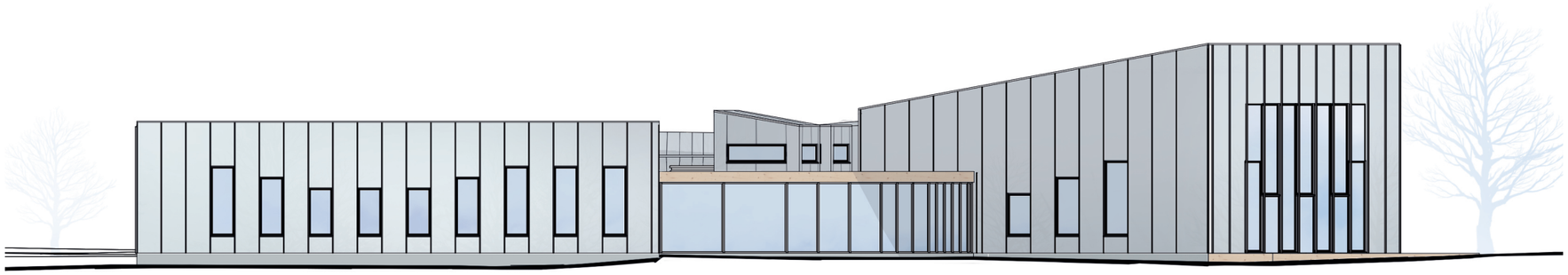
1:200

The exterior of the middle connection is glazed in order to connect the inside and outside more with each other while at the same time give a better understanding of the building from the outside.

The entrance to the café and the concert hall depart from the facade rhythm in order to clearer announce the entrance and function of the spaces and make them more public.



Facade toward east



Facade toward south

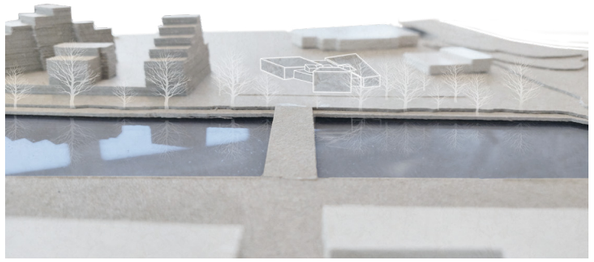
0m 10m

PERSPECTIVE

Exterior

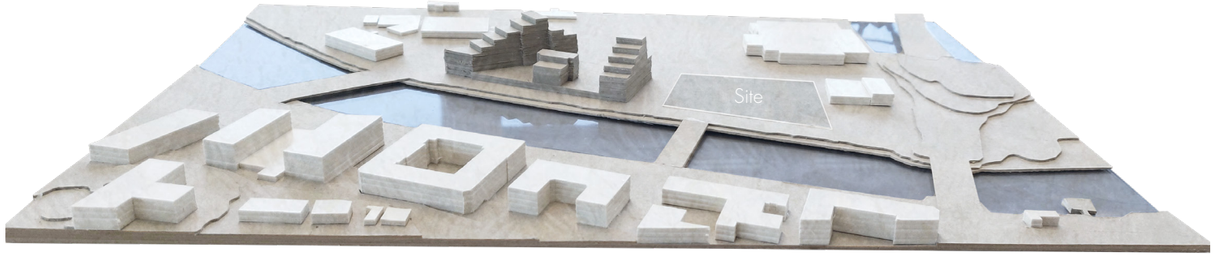
SITE MODEL

1:1000



Perspective from the new bridge

Perspective from the supermarket



Overview

DISCUSSION

Understanding music therapy and trying to find a new typology that would suit its functions and needs was a challenge. As this is something new there weren't any previous examples that I could look at in order to get an understanding a program. This resulted in an investigation based on my analysis of the subject. It can therefore be seen as a starting point for creating a music therapy centre in Sweden.

It was also challenging to design for such a broad user group that can have many different needs. In that aspect the project could be compared with other healthcare projects.

My second thesis question dealt with how architecture can help people express themselves. I think it is hard to know exactly what in architecture that helps people express themselves as that is an individual experience. I however believe architecture can provide opportunities in different ways for expressing yourself. In this case I focused on aspects that can be connected to music therapy goals, such as taking initiative and understanding yourself better in relation to the surroundings. I think a big part of that is to allow the clients to make their own choices on their own terms.

Another big part of the answer to that question is to make the client feel safe. By providing different levels of exposure the clients have a better opportunity of being in a comfortable level of exposure. By expressing yourself I also refer to being able to understand yourself better. Areas for contemplation and silence is important for dealing with your own thoughts and feelings. My answer to this question is therefore to provide both safe spaces and spaces to explore.

At the beginning I wanted the building to be more of a meeting place where different types of users could meet. I also imagined that it would be more open towards other parts of society in order to give them the benefits of exposure to music and increase the general interest for it. During the project it became more focused towards the clients of music therapy. The potential of integrating two different groups with each other and the contrast that meeting would bring would have been interesting to work with.

There were some aspects of the building that I didn't explore deeper. One was the specific acoustics of the spaces. The next step to take that further would be to collaborate with an acousitcan, which is beyond the scope of this thesis. In a real project these spaces and volumes would preferably be developed together with an acoustician. That would probably have lead to a different design in the building and it would be interesting to see those differences. The other topic is the construction. As many of the spaces demands silence and others generate a lot of sound the building would have to work a lot with sound-proofing.

CONCLUSION

In this thesis I have designed a centre for music therapy. This has been a test of how a topic, in this case music therapy, can be understood and translated into architecture. The project was shaped based on my understanding of music therapy and how architecture can work with that. I chose to work with the four categories of different music therapy forms and to aim for keywords in the architecture related to the goals of the therapy forms.

The understanding of the clients' needs were used as a base for creating different areas in the building with different levels of exposure to others and the surroundings. They can function as a transition between a very protected space, and a more exposed space that is more similar to other parts of society. The clients are therefore presented with different areas that can adapt to their needs.

Lastly the architecture can also be used as part of music therapy. Usually the therapy is limited to a specific room but there appear a lot of new possibilities when a whole building is dedicated to it. This is mainly made visible in the middle connection in the project that works as an area where the client is free to explore different spaces in order to progress in their treatment. Perhaps music therapy could be more efficient with the addition of those elements. There is however the risk that the environment can be too much for clients who need consistency and calm surroundings.

If this type of building should be explored further I think that it should be developed together with practicing music therapists in order to develop the program of the building. Another aspect that can be taken further in the project is the acoustics and the construction in relation to the sound proofing needed in the building.

This project can be seen as the first step in creating a centre for music therapy.

REFERENCES

Text

Baker, F., Wigram, T., Stott, D., & McFerran, K. (2008). Therapeutic songwriting in music therapy: Part 1. Who are the therapists, who are the clients, and why issongwriting used? Nordic Journal of Music Therapy, 17(2), 105–123. Retrieved from https://doi.org/10.1080/08098130802496373

Blesser, B., Salter, L. (2006) *Spaces speak, are you listening? Experiencing Aural Architecture*. Cambridge, MA: The MIT Press.

Browning, W., Ryan, C. & Clancy, J. (2014). 14 Patters of Biophilic Design: Improving health & well-being in the built environment. *Terrapin Bright Green LLC* Retrieved from https://www.terrapinbrightgreen.com/wp-content/uploads/2014/09/14-Patterns-of-Biophilic-Design-Terrapin-2014p.pdf

Bruscia, K. E. (2013) Defining Music Therapy. Barcelona.

City of New York (2010), ActiveDesign Guidelines: Promoting Physical Activity & Health in Design.Retrieved from https://centerforactivedesign.org/dl/guidelines.pdf

Everest, F. A., Pohlmann, K. (2014) *Master Handbook of Acoustics, Sixth Edition.* New York: McGraw-Hill Education.

Heylighen, A., Van der Linden, V. & Van Steenwinkel, I. (2017), Ten Questions Concerning Inclusive Design of the Built Environment in Building and Environment. Volume 114, pp. 507-517, Elsevier

Macdonald, R. (2013). Music, health, and well-being: *A review. International journal of qualitative studies on health and well-being.* 8. 20635. Retrieved from https://www.tandfonline.com

Sandel, A., Hammarlund, I., Kuuse, A., & Johnels, L. (2017) *Möten Musik Mångfald: Perspektiv på musikterapi.* Göteborg: Kompendiet.

TED. (2012, 2 October.) *Robert Gupta:* Between music and medicine. Retrieved from https://www.youtube.com/watch?v=C2DtOWrJ7lM#

TED. (2016, 11 January.) Erin Seribert: Why I want to change the world with music therapy. Retrieved from https://www.youtube.com/watch?v=47-90fPyQa8

Ulrich, R. S., Zimring, C., Zhu, X.M., DuBosé, J., Seo, H. B., Choi Y. S., Quan, X. B., Joseph, A. (2008). A Review of the Research literature on Evidence-Based Healthcare Design. Herd Vol. 1 No. 3, Spring 2008, Health Environments Research & Design Journal, pp. 101-165.

Zumthor, P. (2006) *Atmospheres: Architectural environments; surrounding objects.* Basel: Birkhäuser.

REFERENCES

Images

Figure 1. Lantmäteriet (2019) City center of Vänersborg. Retrieved from https://zeus.slu.se

Figure 2. Lantmäteriet (2019) City center of Vänersborg, 1960. Retrieved from https://zeus.slu.se

Figure 3. Vänersborgs museum (2017) Strömsborg, Vänersborg [online image]. Retrieved from: https://digitaltmuseum.se/021017364294/vanersborg-stromsborg

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Åsa Martinsson
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Chalmers School of Architecture
Department of Architecture and Civil Engineering