THE ARTISTIC YOUTH CENTER

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TITLE PAGE

Aalborg University
Department of Architecture & Design
MSc04 ARC 2017

Title: Artistic Youth Center
Theme: Educational Spaces and Tectonic Design
Group: Ma4-ark15
Project period : February 6th 2017- Aug 21st 2017

Supervisor: Marie Frier Hvejsel
Technical supervisor: Dario Parigi

Pages:135
Appendix Pages: 27

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ABSTRACT

This master thesis embraces the design of The Artistic Youth Center, located in Miami. It is a solution, to the missing opportunities for the youth to seek and explore knowledge in the creative fields and a bridge connecting the artistic surrounding community with the educational aspect of artistic fields. The project has a focus on exploring how to provide educational spaces and how to attract the surrounding community through catalyst architecture. A tectonic approach has been used in connection with the integrated design process, having technical aspects influence the wished qualities. The project aims to provide the functions and settings for a community center and educational building. Combining these to create a vibrant and flexible environment, inspiring for interactions and collaborations.

READING GUIDE

The 2017 master thesis report will describe the project's processes and final product through narrative, diagrams and illustrations. The report is divided into various sections that will guide the reader through all aspects of the project. Starting with the introduction, where all background and formal information are applied. After the introduction comes the analyses, which focuses on the different areas within the project that are being explored for the best possible solutions. The analyses will then lead the reader to the design presentation, which will show illustrations of the final product. The design presentation will be followed by the design process, which will explain the manner in which the project was developed. The conclusion and reflection, followed by an appendix for additional information, will be the final sections laid out in the narrative. All citations will be referenced using American Psychological Association (APA) style and illustrations will be noted ill(number). The illustrations and references lists are in the back, before the appendix

TABLE OF CONTENTS

MOTIVATION

Given the opportunities to experience the American school systems up close and the financial struggles, this can give, has given me a tremendous awareness, on how fortunate we are in Demark to have so many unlimited educational opportunities. This together with witnessing countless people in my American network, succeed without any educational degree, referring to it as The American Dream, where everything is possible with hard work. My experiences abroad, allowed me to observe just as many struggling to reach their goal, not being fortunate enough to have the same opportunities to gain knowledge or experience. Many of the people struggling are those in the creative, artistic and entertainment fields. Becoming familiar with collaboration cross-fields, through AEC Global Teamwork at Stanford University in 2016, has changed my view on what abilities different fields should maintain. This realization, of how there are no limits if we have an understanding of each other's qualities and collaborate, pertains to any field of focus. So when looking at all the creative industries like: Music, Photography & video, Arts & graphic, Dance & Performance, Fashion & Design. These are all connected at some point in the business world.

If students, whom have finished high school and haven't started a university degree or in the process of pursuing a degree and interested in the above-mentioned fields, had a place to seek knowledge and experience while having the surroundings to collaborate, they would be set with qualities that aren't provided at any specific educational degree. Achieving something that would make this possible, would require a completely new way of thinking the traditional community and learning center. Creating a space which gathers the community and attracts the specific audience to learn from one another through the design of an educational environment for the local community. This by providing the tools needed for every specific field; as well as the settings needed to share knowledge among each other, the community and those passing by, all through the architectural design. With surroundings like these, artists could work on projects and learn on their own terms and time schedules, while still having options to participate in courses provided by local professional artists.

With my educational background in both the architectural and technical fields, I see the possibilities in being able to create the spaces required to change the way of gaining this specific knowledge and experience, through catalyst architecture. This by designing an Artistic Youth Center for the creative youth of Miami, which is specifically targeted to certain creative fields that are all connected to each other and the community.

ill. 1 *Art from Wynwood Buildings*

INTRODUCTION

The American Dream, for many, is seen as America being the land of opportunities, achieving the impossible, becoming something great, and accomplishing fame. If we look at James Adams definition of The American Dream, it is apparent that "the dream" goes much deeper than that. Adams was the first to define the meaning of giving everybody a chance, an opportunity and the right to be equal and happy. This can be achieved by doing exactly what you feel like doing as well as what you are meant to do without being limited because of your social status or financial situation. Most important of all, the opportunity does not necessarily lead to money and fame, but just a life that fulfills each individual's wishes.

When looking at the opportunities after high school, and the prices to attend an American post-secondary educational facility, it doesn't seem to be an option for everyone. If we take the fine arts and performing arts as an example, these are among some of the most expensive degrees to obtain in the United States (Catherine Rampell, The Washington Post). This is where the idea of the American Dream has driven many to succeed without a university/ college degree, as well as the many examples of those with educational degrees not "making it", a term used to describe those not fulfilling a successful lifestyle. Statistics show, that especially degrees in the music and arts industry are not only the most expensive degrees to obtain, but are also among the least valuable majors to obtain when it comes to employment ratings and earnings (Jenna Goudreau, Forbes).

Among all the fifty-two states in America, there are a few that are more attractive to artists, than others. Florida is the fourth most popular state for people in the music, film, art and entertainment industry. These individuals tend to live near the opportunities and work fields (National Assembly of State Art Agencies). With the many creative districts in Miami like; The Art District, Design District and Entertainment, it is no surprise that Miami is so attractive to the striving artists and musicians. The creative areas are all expanding and slowly merging together, giving an abundance of opportunities for the youth to gain experience in the Miami region (Arts + Entertainment District).

All of the characteristics listed above are perfect suits for the intentions of The Artistic Youth Center, where all these facts are beneficial to the users by bringing them right into the center of where all the 'excitement' is happening. The Artistic Youth Center will aim to be a solution to the American Dream, in which Adams describes that there are no limitations because of the equal opportunities given to every single person. By creating a space which will close the gap in the educational system, giving the creative fields a place to gain knowledge, experience, and connections in which will lead them to aim for The American Dream.

The possibility to create a catalyst architectural solution will be expressed within the project. Maybe a new typology is needed, to fulfill the needs and aims of this building? Through a center which creates a new way of bringing people together when learning and gaining experience in their own vocation, as well as have countless of options for artists to expose their art, through the entire building, in a setting and environments that already lives off of art-walks and artistic attractions.

Most importantly, the project will also create a connection between the community and the learning center, for interested as well as uninterested audiences or those passing by, through the architectural approaches. Technical expressions in the architecture will drag and guide people in and around the building, as well as provide connections between the community and The Artistic Youth Center. The architectural articulations will transform the structural decisions into something which will not only have aesthetically pleasing expressions but also a direct correlation to functionality and technical conditions suiting each field and function. All of these characteristics will strive to be a part in luring the community and artist together for collaboration, as well as inform the public about activities that happen within and reveal to the users of the opportunities in the community.

“that dream of a land in which life should be better and richer and fuller for everyone, with opportunity for each according to ability or achievement… It is not a dream of motor cars and high wages merely, but a dream of social order in which each man and each woman shall be able to attain to the fullest stature of which they are innately capable, and be recognized by others for what they are, regardless of the fortuitous circumstances of birth or position.”

-Adams, 1931, p.214-215

METHODE

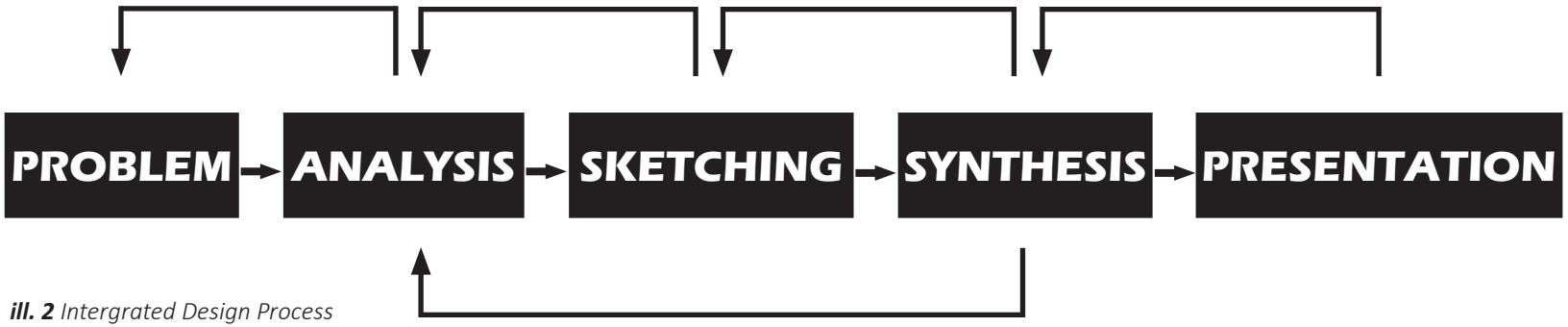
A good design is often a result of a good process. Different methods applied during this thesis will incorporate and highlight both the architectural and technical abilities gained at Aalborg University. These methods are chosen out carefully in every phase of the project, to find the most suitable results for the design.

The main method for the general process is the Integrated Design Process in Problem Based Learning, defined by Mary-Ann Knudstrup. This process consists of five different phases (ill. 2). Here new knowledge is explored, creating a solution to the problem by considering both theories and practice. Through this approach, there is worked with a cross-disciplinary profile, where both the engineering and architectural fields are explored, aesthetically and technically for the best solution. It is an iterative process where all phases are worked with more than once, and where all phases have a constant effect on one another. Through the phases, the project is explained in further depth, to end with a final integrated solution. (Knudstrup, 2004)

In this project, there Is integration in the process on different levels. The first integration is gathering all the visions, interest and problems, to then create common focuses to be explored, resulting in one solution. As mentioned in the motivation; personal experiences, previous travels, close network in the artistic fields and knowledge about the Educational system in America has set an awareness in me about this lack of opportunities for everyone to achieve The American Dream. The architecture and design skills pursued, provide the enthusiasm to be determined towards creating a solution to this specific problem through architecture. With the new typology of mixing a community center and educational spaces, theory about good educational spaces and catalyst architecture are explored to get a basic understanding of certain guidelines to follow. Defining how catalyst architecture, can be an imperative role, in bringing the community and learning environment together.

The second integration in the project is combining the personal interest and focus points with a tectonic design. Using the term tectonic design has an influence in the design process of a building project. When working with a tectonic design, there are three main properties used; form, structure, and material. Depending on the approach used, one property is chosen to be the first influence to the design. The three forms finding methods are; form-first, structure-first and material-first. Whichever method chosen, that's the property that will be explored first and will ultimately shape the building (Rivka Oxmon, 2009).

With experience from previous semesters, Rivka Oxmon's methods synthesize the importance of implementing the structure and technical approaches in early stages. With the vision of using the



ill. 2 *Intergrated Design Process*

structure, as both an important aesthetic element for the architecture and an important form shaping element, it has been decided to focus on Structure-first, which will be one of the main design tools in the design process.

The research gathered, is supported by case studies of three different projects, that all represent different uses. Focus in the case studies are; approaches in the design that are taken into account to become catalyst, program approaches and elements to consider for good educational spaces and how the structural system supports the programming of the building. All this results in guidelines for the user program and design.

For the design to have the best influence on the youth and the community, as well as best indoor spaces, analyses of Miami are made. With previous trips, phenomenologist impressions are taken into consideration, but facts are based on site analyses, mappings, and climate analyses. This to help characterize the important landmarks in the area, and other locations affecting the design and flow, as well as give an idea of the sun and wind to help characterize some design principles. Based on the information, design parameters are set, a program is formed and a room program is developed.

With the results of the analysis and the approach of Rivka Oxmon, the design process will run in two parallel individual processes, that are then connected when the concept is detected. Aesthetics and function will provide multiple architectural design ideas that will be explored in the context, climate conditions, and flow. This to make sure all ideas provided the connections between the community and the users to accomplish a catalyst building which is still a good educational space. Parallel the technical approach will focus on structural solutions and ideas being explored that expresses the program and use. Challenges, pros, and cons will be reflected on and also aesthetically looked at, to then merge the two processes and create a shape for the building and a concept.

During the different phases, a variety of digital tools will be used. Some tools are best for the conceptual process and some are more suiting for the detailing process, the digital tool will vary as the project progress. For the digital form studies, Rhino will be in use. This phase will be supported by Robot for the structural approaches. As the design becomes more detailed Revit will be used for spatial and program visualizations/explorations. As the form and rooms will take form Velux will be used to ensure good daylighting in the right spaces, and Pachedam will be used for acoustic analysis.

TECTONICS

The word tectonic originates from the Greek word; tektón, meaning a building master or carpenter (Frampton, 1997). There are many views on what exactly tectonic is and what makes a building tectonic. Looking at different architectural theorist through time gives an overview on what approaches to take in the design of The Artistic Youth Center. They all find tectonic being of different focuses, but in common they all in their own way, have an impression of tectonic being when there is an interplay between different processes/focuses in a building project.

Vitruvius was an architect and civil engineer from Rome, who believed that tectonic was the way in which three important things worked together; Beauty, usability, and durability. This meant that focus couldn't just be one thing, but all elements needed to be equally considered in the project, to be a tectonic design. In The Artistic Youth Center, the focus is therefore on altering these three main focal points. Frascari focuses on the details in a design, being of highly important for the tectonics. Detailed choices of beams, connection and materials are the elements applying the finishes to a building. Seklers quote simply describes tectonic as a term that can be used when the structural elements take part in the aesthetic beauty and expression.

Based on different theorists and courses at Aalborg University, for it to be a tectonic design, the building should have a visible structural concept, which influences the aesthetic qualities in the interior spaces, as well as symbolizes the interior functions, from the exterior. The visible system should be easily readable, creating an overview of how the forces are handled throughout the system. With an exposed system, the building becomes honest in its way of being structured and assembled, which is as well important for a tectonic design. Equally important is the detailing of the structure, like the joint of example the columns and beams. Decisions on which elements and connections to choose, should therefore equally be decided based on the structural performance and the aesthetic quality, for the design to be tectonic and integrated (Mogens fiil Christensen, AAU). If approaches and consideration like these are implied, it can cause the term "builder" to transform to an integrated building system (Rivka Oxman)

Another architectural theorist explored is Rivka Oxman, who has studied how tectonics can be a key influence when shaping a building. Rivka focuses on the process, in making a tectonic design, one of the processes being Structure-first. The type of system wished to work with is decided first and explored, which will then set the guidelines for the shape of the building. In the Artistic Youth Center, the different uses of the buildings are therefore looked at, together with the tectonic analyses of the case studies. These will set the guidelines to determine what kind of structural system should be explored, which will then be the guiding tool for the design process.

“When a structural concept has found its implementation through construction the visual result will affect it through certain expressive qualities which clearly have something to do with the play of forces and corresponding arrangement of parts in the building yet cannot be described in terms of construction and structure alone. For these qualities which are expressive of a relation of form to force, the term tectonic should be reserved”

(Sekler, 1965)

ill. 3 *Art on Wynwood Buildings*

ANALYSIS

Studies and reflections on main topics will be presented in the following chapter. Good Educational Spaces and Catalyst Architecture will be explored through different sources and previous studies. Principles of the theory are further studied through case analysis, which will give a more detailed design approach to achieve these principles. User profiles and a variety of site analysis will be explored and defined. The result of these analyses will conclude in a room, function and strain program, and a vision for the project

The three cases being analyzed are Campus Roskilde by Henning Larsen, Shibaura House by Kazuyo Sejima and Museum of Image and Sound by Diller Scofidio & Renfro. All cases have been chosen because of their diverse qualities; an educational building giving examples of good educational spaces and its surroundings; a community center with many examples of the multi-use spaces and good connections to the surrounding neighborhood; a museum and public space, which will give some insight in exhibition spaces and the contrast between public and private.

GOOD EDUCATIONAL SPACE

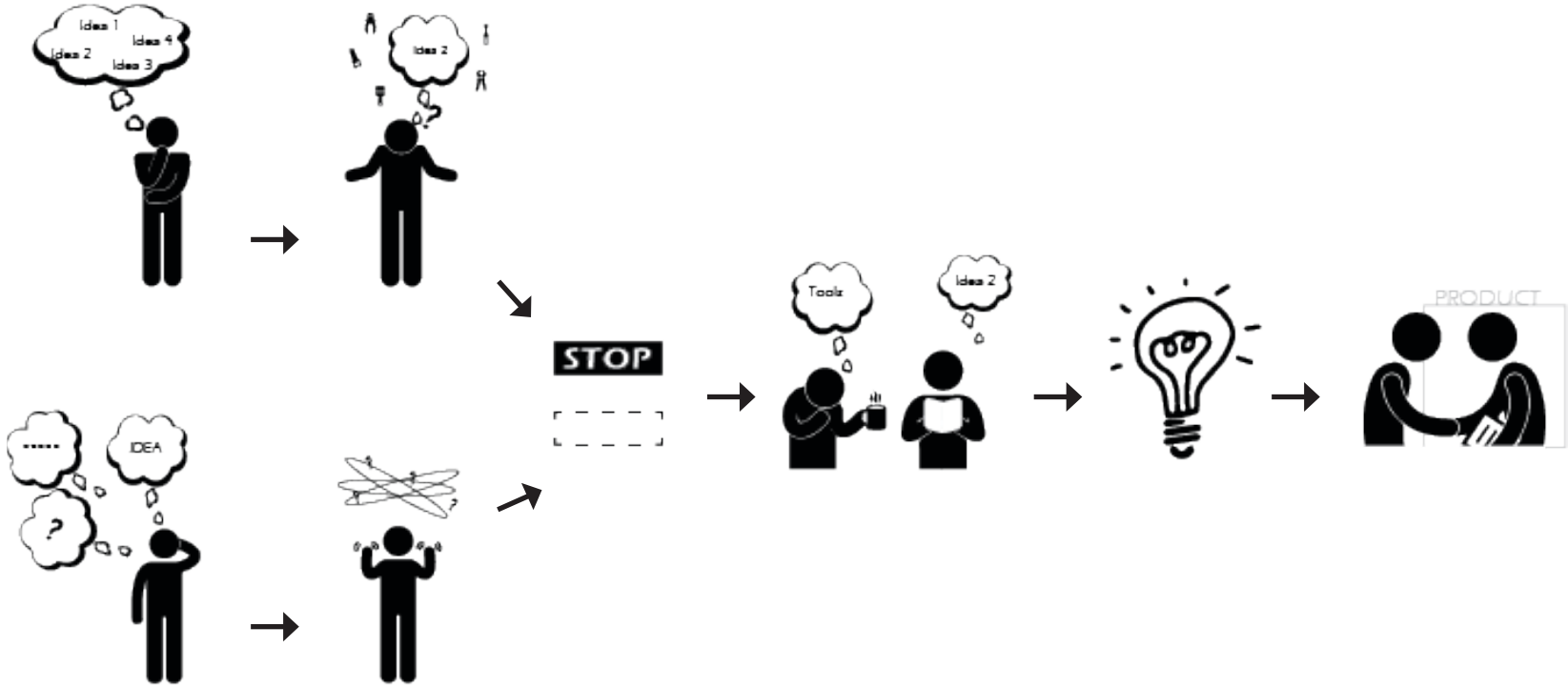
To create the best opportunities for the users through the design, it is important that design goals, like a good educational space, is a key focal point. But how can architecture be a part in creating a good educational space? The Organization for Economic Co-operation and Development (OECD) has, for many years, had a big influence in exploring and researching how the economic and social well-being of people can be improved. The OECD has defined some clear principles that are important when working with innovative educational spaces.

Design Principals

Many of the listed principles can be used in the design considerations for The Artistic Youth Center, such as The Learning spaces being a central part of the design, creating spaces that are social and collaborative, designing for individual differences and motivating for interaction cross fields, both inside and outside of the educational space (OECD, 2013, p. 16).

Julia Atkin supplies these principles through focusing on flexible environments. Some of the key elements pointed out to solve flexible environments are: making a design that shares knowledge among students and the community through social interaction; making simple and open spaces flexible and adaptable to multi purpose use; arranging workspace for multiple sized groups, both inside and outside; lastly constructing the building and spaces, to be an educational tool in themselves (OECD, 2013, p. 58).
Flexible solutions are essential when it comes to different fields collaborating under one roof. Other than creative purposes, adjustable spaces also provide future possibilities in a building, as well as provide individual needs and preferences possible (Jonathan Molloy, 2013).

For the Artistic Youth Center, besides the specific areas assigned to each field, there should be multiple common spaces in order to provide a good educational space. Group work, as well as work cross fields, should be possible while being adaptable to individual spaces. The different areas should vary in sizes and location in which to create a different atmosphere not only within the building but as well as outside of the building. One of the most important roles of the building is to provide connections to the community.



ill. 4 *two different fields stuck in their project, due to missing tools and knowledge in specific areas*

ill. 5 *causing project stop*

ill. 6 *meet at a cafe, realising they got different skills and experties*

ill. 7 *the idea of collaborating might just be what they need for both their projects*

ill. 8 *resulting in complete projects*

"the most creative spaces are those which hurl us together. It is the human friction that makes the sparks." (Lehrer, 2009)

Collaboration

This quote used by Jonathan Molloy describes how architecture can make us more creative, is an interesting view on what collaboration can do. By highlighting examples of buildings through time, Molloy recognizes some of them to be the most creative spaces in the world, because of the frames they set for individuals to interact and converse. Through ideal programming, by purposely placing common spaces like restrooms and hallways, in such a way that all users are to cross paths, the programming forces interactions between individuals when making their way from one destination to another. Seeing the building as a horizontal neighborhood or community is a key factor when creating spaces for interactions. (Jonathan Molloy, 2013). Molloy also emphasizes the many possibilities created when different fields of an educational level interact in group settings.

Collaborative and interactive spaces seem to be an important factor in a good learning environment and educational spaces, but it is about more than being able to work with other people and fields. It is also about having the right environment to gain knowledge about other fields, in which individuals can collaborate within the real world (OECD, 2013, p. 49). This surpasses to environments outside of the learning space. Having experts, successful people and the right support from the community is also an important factor for in good learning environments. Getting local companies, schools and different cultures involved in the process of motivating and sharing knowledge, is collaborating on a whole other beneficial level (OECD, 2013, p. 134-140). Besides having multiple spaces for group work and collaboration in the center, it is also about creating scenarios for those unexpected interactions. Social spaces for breaks or lunch can provide the frame set in which two people from different fields can meet, resulting in a completely new project outcome.

Users

Besides the importance of creating spaces, there is also an importance in designing for the specific user. Factors like age, background, social status, location, and interests are important elements to consider during the design (OECD, 2013, p. 33-42). In the Artistic youth center, these factors may vary tremendously. The variation is due to the very international location and the users being at a point in life where they are in-between having an interest in the field and trying to become successful and experienced in their field. Because of this, user studies should be more targeted to each field, rather than each individual person.

Thriving spaces

Creating a good educational space also means to design an environment where people will enjoy occupying. Henning Larsen Architects have become somewhat experts in developing and researching good learning environments. Here Nina La Cour Sell plays an important role in educational developments, raising attention to the importance of indoor climate, lighting and outdoor accessibility. Looking at a future with more online classes, it is important to design spaces that make students want to stay, to not loose interactions between people (Nina La Cour Sell, 2016). The well-being of the users can be achieved through psychological approaches like; color within the spaces, shapes, and textures. Studies performed, show how the color green and blue is energizing and therefore influences the ability to learn. Spaces within close proximity to natural lighting and view to the exterior affect the mental encouragement of learning. The difference between public and private atmospheres can contribute to a certain feeling of the working/educational environment. One approach that can be researched for its effects on good educational spaces, is lower ceilings for a more comforting and intimate space, and higher ceilings for more public spaces. (Sally Augustine, 2009, p.221)

Solving both the physical and psychological needs of the users in the building seems to be the key to designing a space, which the users thrive in. This, together with the principles encouraging creativity and collaboration, creates the ideal surrounding for a good learning environment and educational space.

ill. 9 *Outdoor restaurant Wynwood*

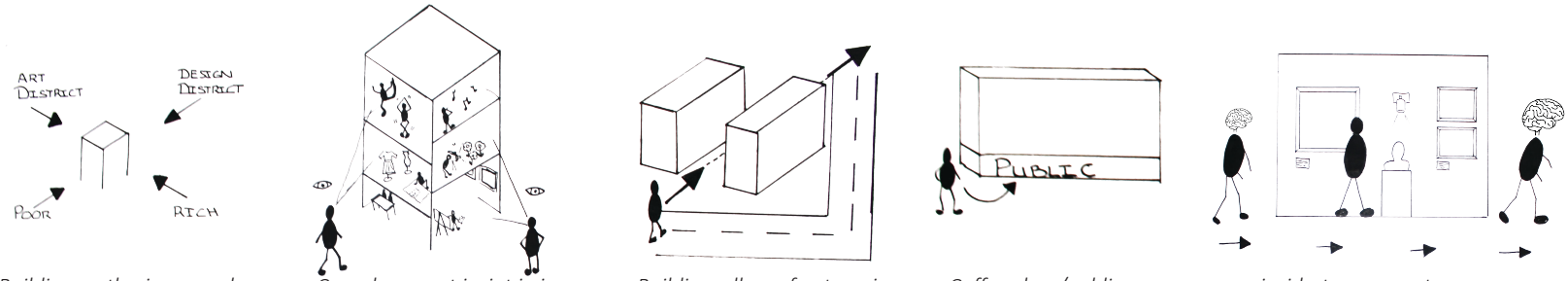
CATALYST ARCHITECTURE

Catalyst is the definition of what happens when an element or thing creates a reaction or change, without changing itself. This can be interpreted and used in chemistry, events, people or architecture.

Architecture usually has a particular function. If looked at aesthetically, the design can give the user an experience through the space created. The architecture in a certain area or city can play an important role in the development of city plans. When architecture is used in such a way to transform an urban space, it can be titled as catalyst architecture (Hans Kiib & Gitte Marling, 2015, p.11). In this connection, the architecture may be used as the solution to a certain problem. What effects does the architecture need to have on us to be a problem solver, and what qualities in the design are important for it to be a part of urban catalyst?

Different Principles that can be used to achieve Catalyst Architecture, have been studied and analyzed by Hans Kiib and Gitte Marling from Aalborg University, through different projects. Some of the highlighted design strategies that can be further used and focused on in the design of the Artistic Youth Center are; relationship between outside and inside, attractions for different user groups, transitioning a space between night and day, connecting different social classes, and to design interactive and cultural learning spaces. If these areas are worked thoroughly and solved correctly, it is possible to make physical, social and cultural changes, making it catalyst architecture (Hans Kiib & Gitte Marling, 2015, p.12-21).
This defines what architecture can do when being catalyst. But what is it in the architecture that makes it do these things. In the design, this can be done by creating a multifunctional building for different programs with flexibility in the building to meet needs. Through aesthetics, the use of the building should be expressed clearly. The architecture can also function as an element to change transition zones. The building might be a destination or starting point, but the space in-between the building and another place will be a transition zone evolved around a certain user group (Hans Kiib & Gitte Marling, 2015, p.23-24).

Catalyst architecture is related to this project with The Artistic Youth Center being a connection between the creative youth of Miami, gaining knowledge and experience in different fields through the center, which without the center wouldn't be possible to certain social groups; as well as merging the educational space with the community, to create a new way of interaction and networking. If these connections are done right, the youth center can be categorized as catalyst architecture, and maybe in more ways than one change the way the space is used and the way the community comes together. Design approaches mentioned above could make



Building gathering people from fifferent district and class.

Cross byers get insigt in indoor activities.

Building allows for transition through site.

Coffee shop/public spaces, invites transitioning people inside.

inside transparent spaces, will let people gain knowledge of diffrernet fields.

ill. 10 *Diagram of what catalyst architecture*

the community, a part of the user's educational development, as well as sharing the knowledge gained with the community through the building. By designing a Catalyst building, the youth of Miami are offered the opportunities they have the right to, to live the American Dream.

Using the architecture to achieve new things, will result in a catalyst effect, just like The Artistic Youth Center can be located in such a way that it drags people from different surrounding districts to the center's location (Hans Kiib & Gitte Marling, 2015, p.65). Hans Kiib and Gitte Marling, provide similar approaches from the analyses, where this is just one of the many examples. More detailed choices in the design like ceiling heights, room sizes, lighting, and acoustics can be used to define the specific user for each space. Furniture is of equal importance, in the expression of different functions within a space, the location and arrangement can attract different users to different areas (Hans Kiib & Gitte Marling, 2015, p.166).

During a lecture at Cornell University in the AAP department, the subject of catalyst architecture is presented as well. Here Gary Handel uses projects to exemplify how they achieved catalyst architecture. Again the main focus is creating a space for different user and social groups. The proper programming and planning can affect the flow and activity, both inside the building and in the surrounding community, which will differentiate during the week and time based on the users. This is accomplished by the way in which they chose to divide the site and main buildings, to keep control of the flow surrounding the project (Michael Goldsmith, AAP)

During a visit to the Utzon Center Aalborg, the Art Of Many – Right To Space exhibition, also raised examples and points on catalyst architecture. A presentation video by Jan Gehl raised awareness of how we, through catalyst architecture, tend to build to change the behavior of the human movement and activity. This is achieved by forcing a certain outcome we wish in the users, through the design. But do we have to change the conduct of the human behavior to achieve catalyst architecture? An example from Gehl's studies was the behavior of pedestrians and bicycles in Copenhagen. Instead of changing their flow in the very trafficked city, the city changed the streets of Copenhagen to accommodate the pedestrian and bicycles instead. This resulted in the cars having to stop for bikes, instead of bikes having to stop for cars. This also results in catalyst approaches by changing a certain way something used to be, through urban planning. In the Artistic Youth center, this can be designed by creating a certain flow for specific use, when the use change, so will the flow.

SUBCONCLUSION

Based on the theories of good education spaces and catalyst architecture, general guidelines to what this type of architecture should be capable of doing, have been explored. A common goal for both educational and catalyst projects is the connection between people on two levels; between the different fields themselves, and between the community and artistic fields. The external spaces and the way they connect with the interior spaces are therefore highly important in creating connections between all fields and the community.

The characteristics for a good educational space is providing space for a diverse audience and user groups. Through a variety in interior and exterior spaces, the right settings for all types of interaction and collaboration will be provided. This means both for individual, groups and bigger arrangements. The Artistic Youth Center should function as a learning center, not only for the active students but for people passing by. Through the facades, programming, and design, people on the outside should be able to learn something about all the different fields inside the center, as well as all fields should be able to learn something about each other, through visible and physical connections.

When it comes to a view on catalyst architecture, it is all about having a vision for how you want to change a city or area through the architecture and how this space or building created, will force people to use it in a specific way through activities and interactions. Providing a building that allows for easy flow through the local area is one thing, but providing people with an experience when flowing through the site, is what makes it catalyst. It is therefore important that the programming is specifically designed to make this experience interesting in such a way that it also attracts, people who weren't meant to pass through the site. Through these flows, there are obvious opportunities for interactions.

The idea of a community center functioning as an educational center is in itself a catalyst approach, and a new way of providing knowledge, which will change the way people educate themselves. In The Artistic Youth Center, the main focus will be to create that special connecting between users and community, interacting on different levels through the architecture. As well as providing a variety of collaborative opportunities for all fields. Certain keyword to providing these settings are common for both good educational spaces and catalyst architecture; Flexible spaces, interactions and collaboration, programming and furnishing.

CASE STUDIES

Now that it has been defined what a good educational space and catalyst architecture is. The case studies will generate a more detailed approach in how to achieve these things. The analyses of a good educational space and catalyst architecture provided a more general view on what spaces like these, are capable of doing between the fields and the community. This resulted in three main focuses; flexible spaces, interaction and collaboration, programming and furnishing. These will all be further explored through the case studies, providing examples of what approaches can be addressed to the design.

With The Artistic Youth Center consisting of functions related to a community center, educational center and museum, all studied projects are of different uses as well, to get insight in all types of functions. The Shibaura House and The Museum of Image and Sound are both categorized as catalyst projects, where Campus Roskilde is a pure educational building with diverse insight in interactions.

Besides defining properties to apply to the design, the tectonics are also of equal importance. Through the case studies, it will also be studied how the cases structural systems are, choice of materials and their aesthetic expression to the building. These choices will be reflected on, to provide inspiration and guidelines to The Artistic Youth Center.

CASE STUDY - CAMPUS ROSKILDE

Henning Larsen Architects have added one of the more recent additions to Roskilde University Campus, Denmark. The building is called Campus Roskilde and was built in 2012, it houses the main majors for social educations and work, health, and teaching. The focuses and approaches are similar to other well-known campuses like; Aalborg university the Create Building and SDU. These all based on Henning Larsen's studies and expertise in a good learning environment.

The main themes for Roskilde's University building by Henning Larsen are creating spaces that establish the foundation for dialogs and random meetings, as well as having a diverse university where everybody feels like being a part of one big community (Henning Larsen Architecture, 2012). Campus Roskilde consists of four square buildings that are connected and twisted inwards (ill. 11). This provides a sense of relation and connection, and many different spaces in-between and around the building. The diverse choice of spaces, consisting of both outdoor/indoor, public/semi public/private, bigger/smaller spaces, casual/serious spaces. All through the choice of materials, sizes, and location creating something for everyone by providing diverse options for work. The solutions in Campus Roskilde aren't physically flexible, but they provide spaces so that there are many different options for everyone to be comfortable in their choice of environment, making it a good educational and flexible building. The big overhang by the main entrance also creates a public and gathering space (ill. 12), where users approaching the building are guided towards, creating interactions between users from different fields of study. This way of thinking is as well shown in the interior building, where a main-common area also functions as the atrium, from this main area there is access to the more diverse spaces and private spaces (ill. 14). The main area is centered as the heart of the building and from here there is a clear view to all floors and many common spaces as well as lecture spaces. Both the private and collaborative spaces provided, are designed based on an open plan concept. Spaces like the library is only divided from the common spaces, with book shelves, creating this semi-transparent line between public and semi-private space. Closed classrooms and group rooms are only made private through a glass wall, so visually it is still a part of the common space but separated from the common noise (ill. 13).

The program solution connects fields, where students cross paths and knowledge, by being exposed to what goes on with other majors, because of these open floor plans and transparent private

ill. 11 *Ground floor*

ill. 12 *Exterior render*

ill. 13 *private spaces*

spaces. With the heart centered in the building where there is also common facilities like the library, multiple fields will cross paths through the main staircase in the atrium. The staircases are designed to also be a hangout spot, again creating this interaction between students making it from point A to point B and the people sitting there.

Looking at Campus Roskilde, based on Vitruvius tectonic view, the building has managed to create a balance between beauty through simplicity, a satisfying program for the use of a university campus and a structural system that functions both performance and aesthetic wise, for this specific design. The structural system is easily readable, with a simple column and beam structure. The structural beams are hidden and the ceilings are lowered, hiding all mechanical and structural systems. This creates a un honest building, but because of the simplicity of the design and the exposed beams in the atrium, the system is still readable to a certain level. Based on the structural abilities, floor slabs and opening have been places where possible. It is for example seen in the above image (ill. 10) how the opening in the ceiling doesn't cover the entire main room, this looks to be adjusted to the space in-between the columns. The shape and dimensions of the columns chosen, suites the size of the spaces created, as well as the common shape expression with heavy vertical and horizontal lines. The detailing in the project has an obvious importance for the clean design. The structural connections aren't visible like many other examples of tectonic approaches, but the continues choice of hiding the detail and providing sharp connections between all vertical and horizontal elements is a choice of connection in its own way, which is an essential role to the finishes of the design. The wood materials on characteristic elements and the yellow floor colors inspiring for energy and positive atmosphere gives the entire building a warm contrast to the additional white surfaces.

The building and the similar known projects create a very interesting play between public and private. Looking at it most would call all areas for open because of the transparent floor plan, but when analyzed further into the variety of spaces, seem to create a feeling of privacy when smaller groups gather and interact in their preferred space. This building shows that interactions aren't just made by physical meetings, but visual interactions can also provide an educational environment.

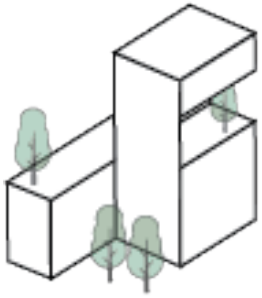
ill. 14 *Main common space and main entrance*

PARAMETERS

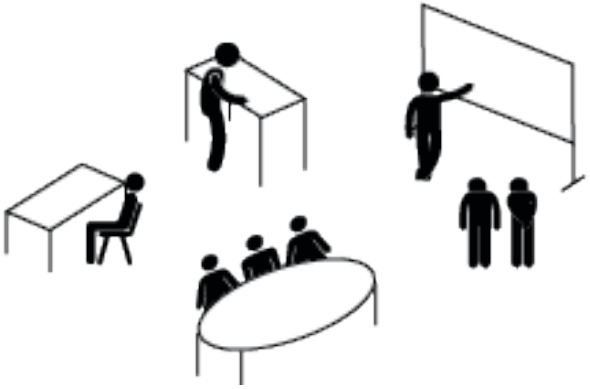
Flexibility
-Divers outdoor spaces created by the shape of the building.
-Different choices of spaces and arrangements through furniture and surroundings
-private areas which are still a part of the common space because of transparent walls.

Interactions & Collaboration
-Create one main point that everybody passes, like the entrance.
-The entrance being big enough for flow and hang out spots.
-Heart of the building should gather users.
-atrium where different levels are visible.
-open plan concept.
-main interior flow, located centrally.

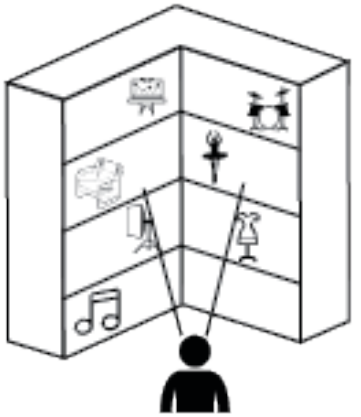
Tectonics
-make the structural elements more important to the space
-program and openings located according to structure
-lighting through atrium specify the location of spaces



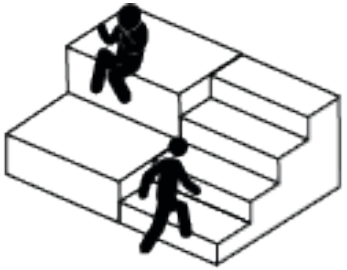
ill. 15 *Outdoor spaces around the building*



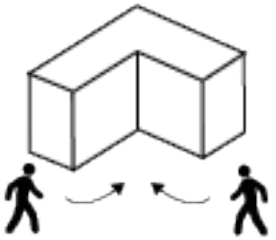
ill. 16 *Different types of work stations*



ill. 17 *visible connecion to learning environments*



ill. 18 *hangout spots and transition zones meet*



ill. 19 *withdrawing exterior shape*

CASE STUDY - SHIBAURA HOUSE

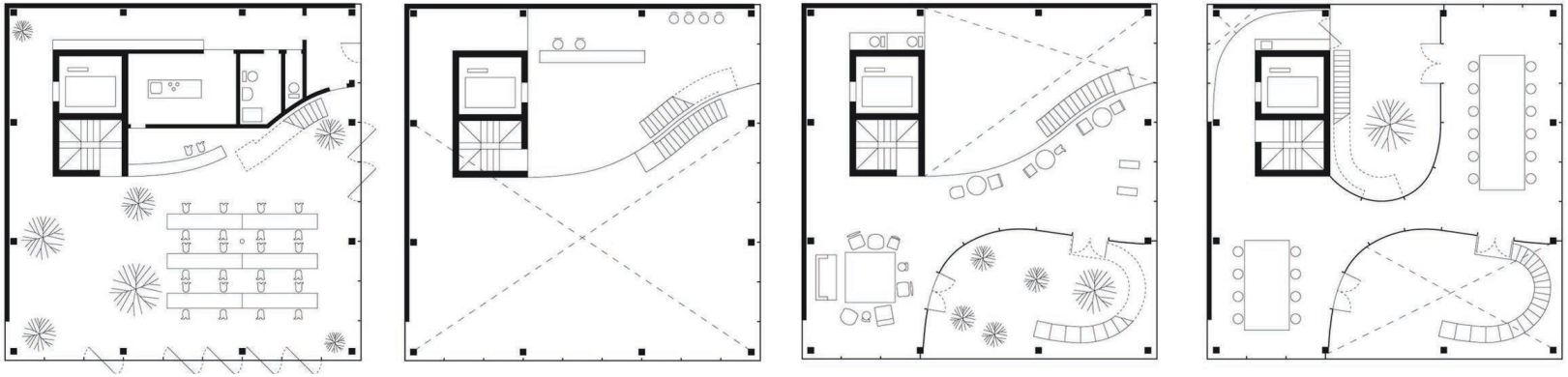
The Shibaura House is designed by Kazuyo Sejima & Associates and located in the Shibaura district, central Tokyo, Japan. It is a mixed use five story building, that was completed in 2011. The Shibaura House is not designed specifically as an educational space but has many similarities in the intentions of The Artistic Youth Center, where multiple functions and activities are possible under one roof.

This mixed-use building has created an atmosphere targeting a wide range of activities; Private offices, smaller events, exhibitions, lectures, workshops, yoga, dance and painting classes. The entire purpose is to create a space for the locals and community to use when needed (Hans Kiib & Gitte Marling, 2015, p.207). The programming of this center is a big part of the building being categorized as a catalyst.

Through minimalistic and neutral spaces, a flexible building is achieved, this by creating a diversity of spaces in size, and a variety of both public and private areas. This allows for a transitioning building through the day/week, without the building changing its self. Because a variety of activities being possible, it will also attract a wide range of user groups. So, by creating flexible spaces in this specific way, a catalyst building is achieved. The use of transparent facades gives a very public appearance to especially the ground floors, sets for visual interactions between people passing by and the users. This also invites the daily life of the city indoor, both for curious purposes and for the café facilities open to the surrounding community. Incorporating a café on the ground floor of this building, allow the settings for interactions between the community and the users of the center. Higher levels get more private, where the facades are still transparent but instead there is worked with the programming and the layout of the areas. Two approaches here are pulling the more private spaces further into the building, creating outdoor spaces that then become the public appearance; The split level floors in the double height spaces, also create these more private areas, where there are still possibilities for interactions. (ill. 20)

The transparent facade expresses a truthful building. From the outside you can read the activities and spaces the building facilitates, nothing is kept from the public or hidden. The structure of the building also expresses this truthfulness. With its metal load barring structure, that is visible through the glass façade, and the clearly divided floor slabs, the structure is easily read. Besides be-

Ill. 20 *Exterior view of Shibaura House*



ill. 21 *Floorplans Shibaura House*

ing readable, the structure is also a part in creating this light and simple atmosphere (ill. 22), which in an accurate way illustrates the simple building created through flexible approaches. The flow and experience of the building is guided by the concrete cores creating stairs in different locations of the building (ill. 21). Materials are kept just as simple as the programming, with white surfaces and white steel columns, so to Vitruvius' satisfaction, this building is balanced well between the beauty, usability, and durability. Just like Frascari's important view on the detailing of the connections, illustrating the concept of the building as one. From the outside, all joints between columns and cross bars, as well as mullions and floors are visible in the façade, just like the interior activities are visible from the exterior. Where the connections in the interior spaces, between columns and beams are hidden behind the lowered ceilings.

This making the structure and transparency in all the design decisions, the catalyst to how the community becomes a part of the program activities, without being a regular user of the building. A building like this, where there is such a wide range of activities, and without using any movable elements have accomplished to create such a flexible building, is a great solution to provide interaction and collaboration across fields and community. Here users easily can learn from each other or the activity pursued. It is a new way of rethinking the programming and use of a building and In many ways a catalyst to this district. Whether it is night or day, this building gives something to the surroundings through its transparent facades, letting people take part of what is going on inside, and visually lighting up the evening street views. The expression of the building being so transparent and opening and at the same time having these more private areas located around the building, expresses very well the use of both public and private programs.

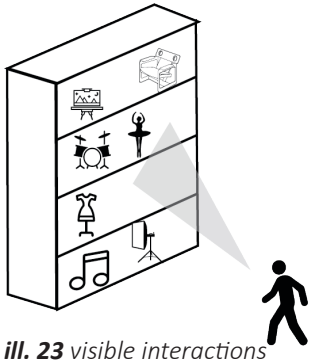
ill. 22 *Interior view of Shibaura House*

PARAMETERS

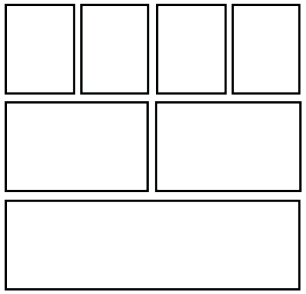
Flexibility
-minimalistic and neutral spaces.
-different size spaces for multi purpose use.
-public and private spaces by different locations in the building. Both towards facades and in different levels.
-outdoor and indoor spaces.

Interaction & collaboration
-transparency to share activities with the community.
-public café facilities to invite the community in.
-open levels, that flow goes through

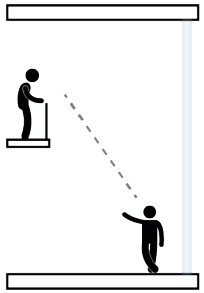
Tectonics
-Steel structure is a good choice for a light building.
-Steel structure gives transparent possibilities.
-structures simplicity gives an easily readable room.
-the structure can be a part of controlling the flow.
-Exterior lighting important for the programming



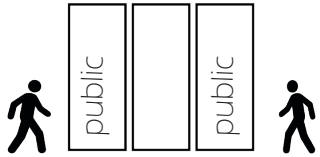
ill. 23 *visible interactions with fields*



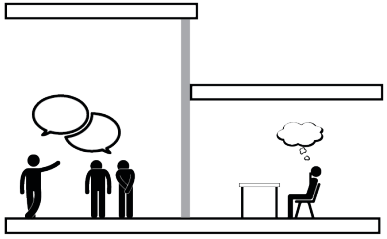
ill. 24 *variaty in room sizes*



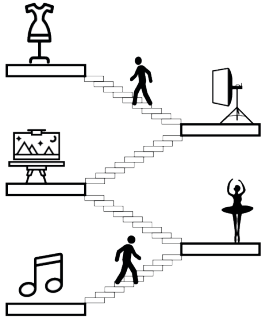
ill. 25 *visible access between levels*



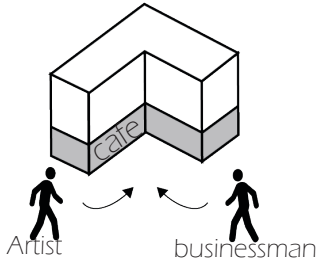
ill. 26 *public spaces towards exterior*



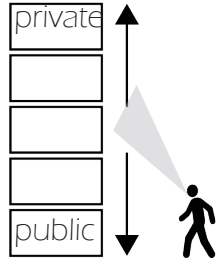
ill. 27 *Group and private spaces*



ill. 28 *flow that forces interaction*



ill. 29 *public offers to attract the community*



ill. 30 *locaton of fields*

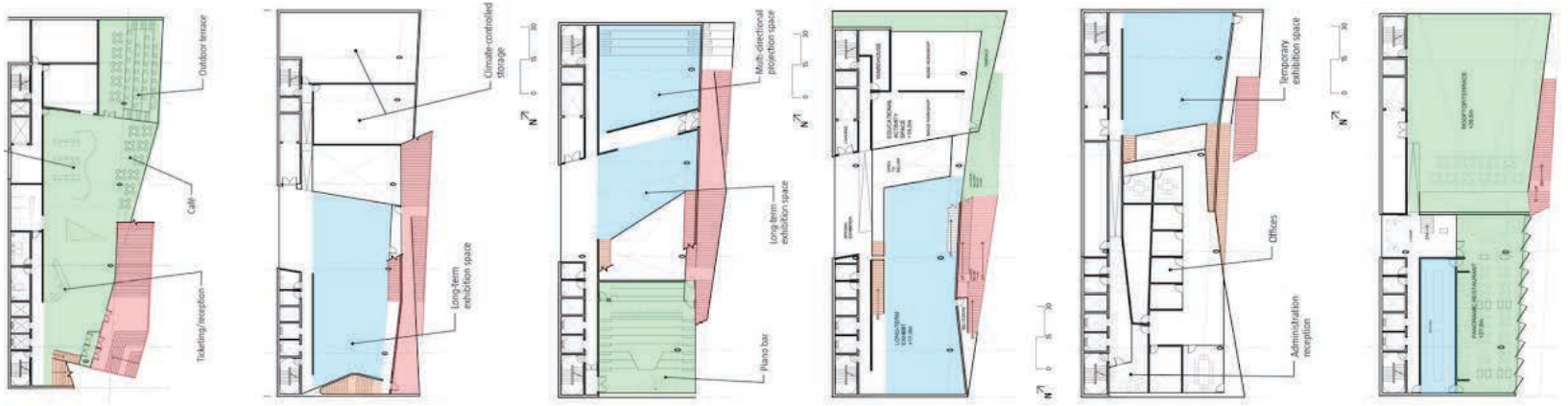
CASE STUDY - MUSEUM OF IMAGE AND SOUND

The Museum of Image and Sound is designed by Diller Scofidio & Renfro, located on the promenade of Copacabana Beach - Rio De Janeiro, Brazil. It is a museum, performance and public building which main focus is to encounter the public and the surroundings. It has been called out as a great example of catalyst architecture by Hans Kiib and Gitte Marling (Hans Kiib & Gitte Marling, 2015, p.245).

The location of the museum, already forces interactions between different social classes, having both poor and rich gather on the famous beach of Copacabana for a wide range of activities. To nurture this concept of providing public spaces, the entire ground floor is open to everyone as well as the building roof top. These public spaces offer a wide range of possibilities; open cinema (ill. 33), café, restaurants and hang out spots. This provides countless of options for interactions between users of the building and the public. To get from the public space on the ground floor to the roof, a sloping path zigzags up along the façade (ill. 31), having multiple hang out spots and terraces. Through this public space, the flow from one destination is meet with the contrast of the private spaces (ill. 32). All levels in-between are a part of the museum, where there is only accessible if paying a fee. These spaces include both short and long term exhibition spaces and museum programming (ill. 32).

As the path to the roof passes these spaces, some facades have been made transparent and some have been made solid. This is intentional to share some of the exhibitions with the public and keep some private for the paying visitors. This will create an interest and maybe make some people in the public spaces, want to explore the interior spaces further. By giving the public a little view on what to expect inside, it will attract a broader audience to explore the interior building, providing a broader user group that interacts. Not only does this journey up along the building facade, provide users with an experience of the history from exhibitions, but it also gives the experience of different views of the area from the path. Making this flow an experience in itself sets the conditions for making it a catalyst building, besides all the interactions that are possible through the design. The design allows for specific chosen views of the exhibition while approaching the roof top. This providing knowledge of local history, making the building an educative tool in itself, both to users and public passing by, creating a good education public space. These views are as well selected carefully from the interior spaces, to make the surrounding views a part of the atmosphere. This to again show the importance of different classes meeting and interacting through activities, right in front of the building.

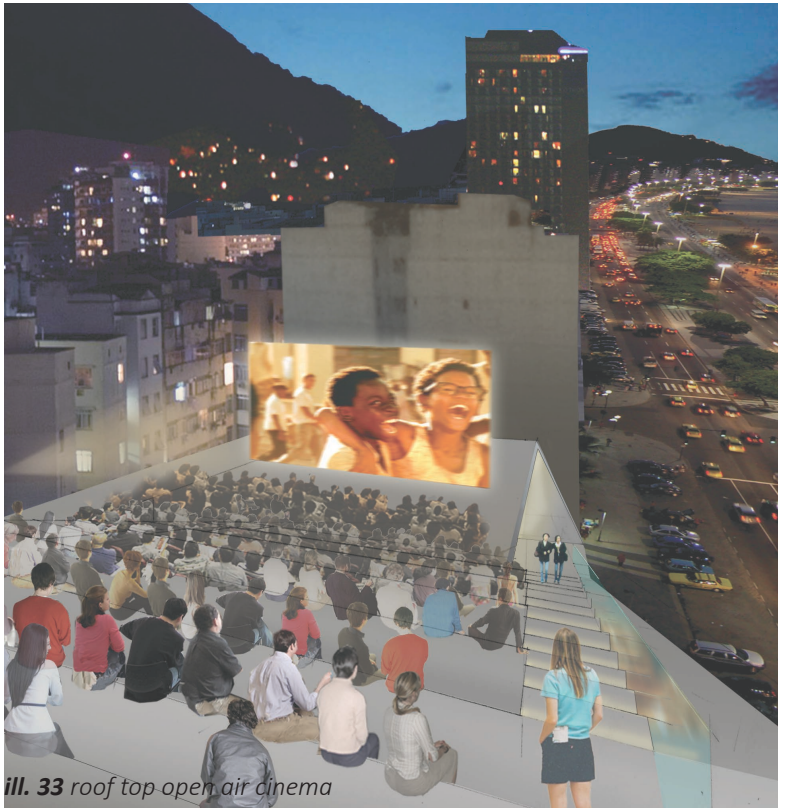
ill. 31 *Exterior render*



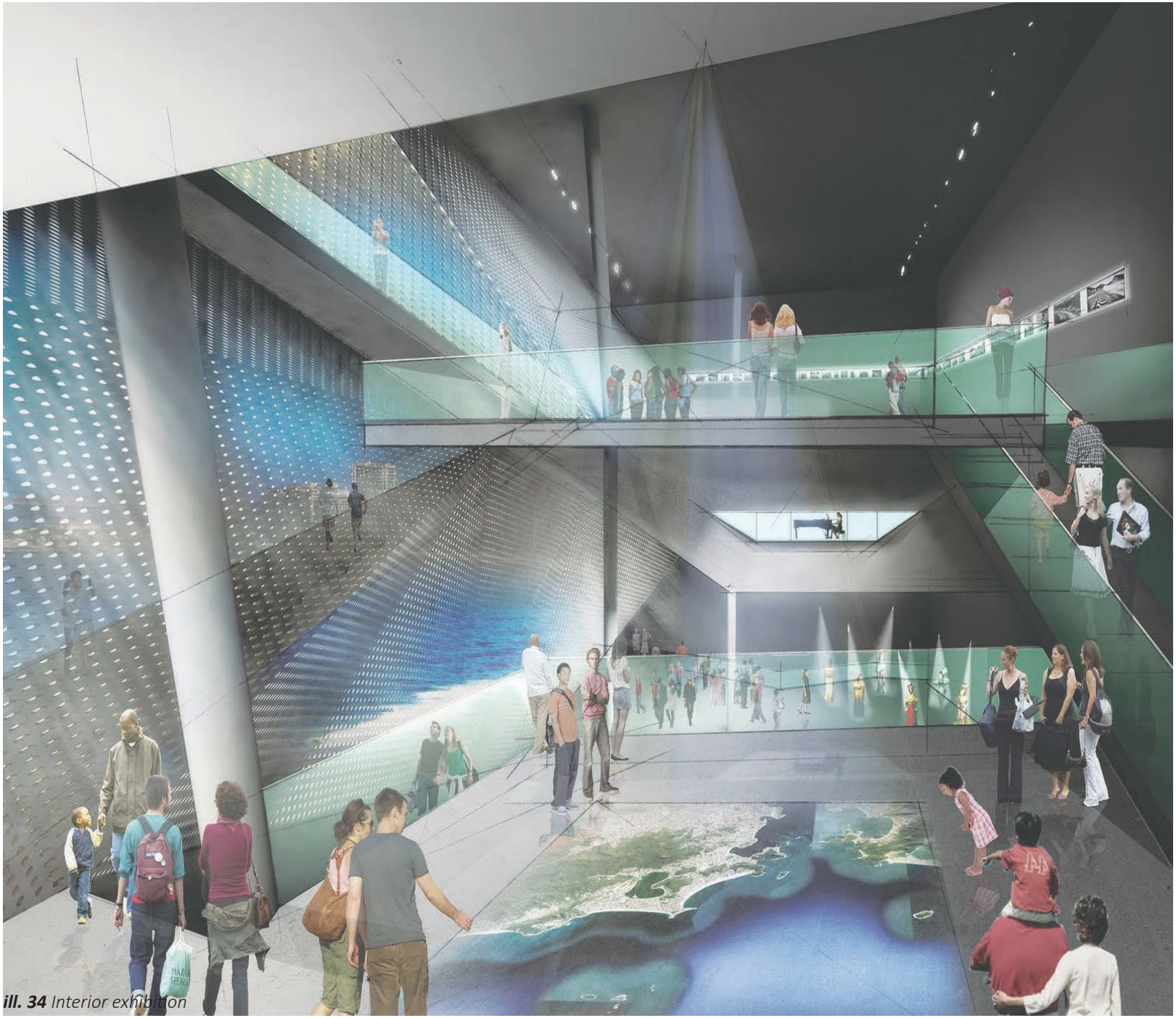
ill. 32 *Plans- Blue exhibition, Green entertainment, red flow*

This movement that the path creates on the façade, symbolizes the surrounding beach. The path is constructed by the floor slabs that have been extruded to the exterior of the building. The structural system doesn't really create the spaces inside. The concrete beams are systematically placed in the building to carry the loads, where all the heavy concrete diagonal walls and slabs purposes, is mainly for that movement look. Because of the missing integration of the structure, Vitruvius would not agree on the building being catalyst, lacking in the combination of equal beauty, usability, and durability. The structural and material chosen makes the interior of the building seem very closed, as well as the approach of leaving all flow and interaction to be on the exterior of the building.

The play between public and private and how the public areas have been divided out to the furthest top and bottom part of the building is interesting. This solution isn't creating an interaction between the different users like the Shibaura House and Campus Roskilde does, but it creates an interaction between the knowledge gained at the museum, and people just enjoying the hangout spot. As well as the interaction between many types and classes of people, because of the public spaces not being interest oriented. The flow in this design is the key factor to interactions and catalyst opportunities, and it is highly important to the design the right



ill. 33 *roof top open air cinema*



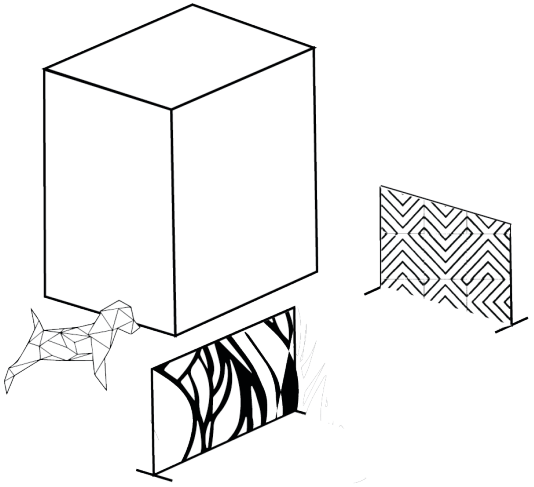
ill. 34 *Interior exhibition*

PARAMETERS

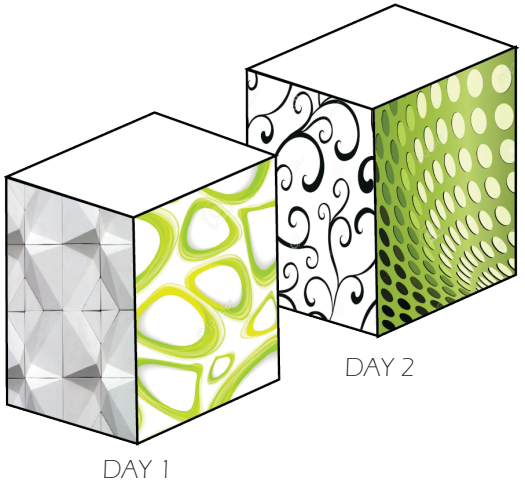
Flexibility
-Transparent and closed facades result in different exhibition options.
-Big flow spaces, provides space for hang out spots or activities

Interaction & Collaboration
-Location of the building can cause certain interactions.
-Open ground floor invites public in.
-Exterior public spaces will provide opportunities for public activity through architecture.
-exterior flow can connect the path to the community
-the public/private contrast in the façade can create an interaction between indoor activities and the public.
-the flow creates views of other people making interactions.
-exterior flow can seem unwelcoming to be a part of the interior activities

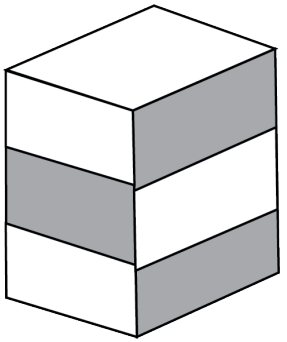
Tectonics
-Concrete structural walls should be avoided for a more open and transparent building
-Closed structural walls in original shapes and sloped should be avoided for a readable structural system
-For a lighter building concrete and dark colors should be avoided



ill. 35 *access for arts and activity to be viewed outside of the payed activities*



ill. 36 *visual art changing the building everyday*



ill. 37 *transparent and solid facades*

SUB CONCLUSION

Flexible spaces

Creating flexibility in the building is a key requirement to a good educational space, for a cross field building. Flexible spaces will give opportunities in the education and learning spaces for individuals and groups, as well as provide diverse spaces for exhibition or events. Main approaches are; room sizes/shapes, closed/open through materials and variety in furniture. Elements of such will provide qualities to the public spaces and the atmosphere around the flow, setting the spaces up for a diverse audience. Transforming the spaces into flexible areas, where there is also space for collaboration and social common activities, provides the opportunities for interaction as well as the best settings for good educational conditions. Having the interior functions connect to the outdoor for the users, and provide a function driven connection to the exterior spaces, is as well important when providing experiences and interactions, thus making the building a space of sharing knowledge. This can be done through spaces located to the exterior, views or outdoor hangout spaces, or purposely transparent facades chosen.

Interaction and dialog

Achieving good interactions and providing collaborative spaces is a requirement for catalyst architecture. Dialog between people and interactions among differences can be achieved through common open spaces located so everybody passes by. Here having a centered heart of the building where everyone passes is one approach. The visual interaction is another approach. Visual access to the different levels, different spaces, and smaller private spaces through open plans and transparency will make the community a part of the center. In general, the location itself can provide interaction among users that weren't there before, supported by public activities inside the Center.

Readable building

To achieve this openness in the building, a light steel structural system, gives multiple options suiting the youth center. The structure itself being a part of the façade gives a truthfulness to the building, and the program located in it. The light and simple structure gives transparent possibilities, where the structure isn't a visible distraction. The programming and structure should work equally together, for the structure to be a strong and positive influence.

Detailing

Besides this, there are the detailing and psychological approaches that should be considered. The color of the interior spaces will trigger certain feelings and focuses to the users. Green, yellow and blue will provide good conditions for an educational space since they trigger energy, learning possibilities, focused thinking and creativity. Furniture should be just as diverse as the spaces, so there is something for everyone and all sizes of groups gathering, possibilities for standing, sitting, casual lounges, as well as furniture aimed to individuals and groups. With the creative and artistic fields being in focus, the acoustics and lighting to certain spaces are as well important. The detailing of the structural connections between the different elements and materials, are visible and therefore should be carefully chosen.

ill. 38 Art on Wynwood Buildings

SITE ANALYSIS

Site analyses will in the following chapter be presented to get a better understanding of the conditions around the site and provide general knowledge of the Wynwood area, located in Miami, Florida. Here there is a focus on getting some insight in how the different neighboring areas are connected, specifical-ly those related to the fields in The Artistic Youth Center. This should result in creating more adhesive connections between the community and the users. Through mappings different Zones, Districts, Flows, and building uses will be explored further and illustrated.

The climate conditions for the site will also be considered, as part of making decisions for the design and proper technical approaches. Lighting is specifically important to certain fields and the exhibition galler-ies, as well as for the general programming decisions throughout the project. The sun paths and angles as it pertains in the Miami area will be studied through sun diagrams and followed by shade diagrams. In order to make the appropriate choices- location, shape, and size- for the spaces, these climate condi-tions are considered together with the evolving concept.

MIAMI

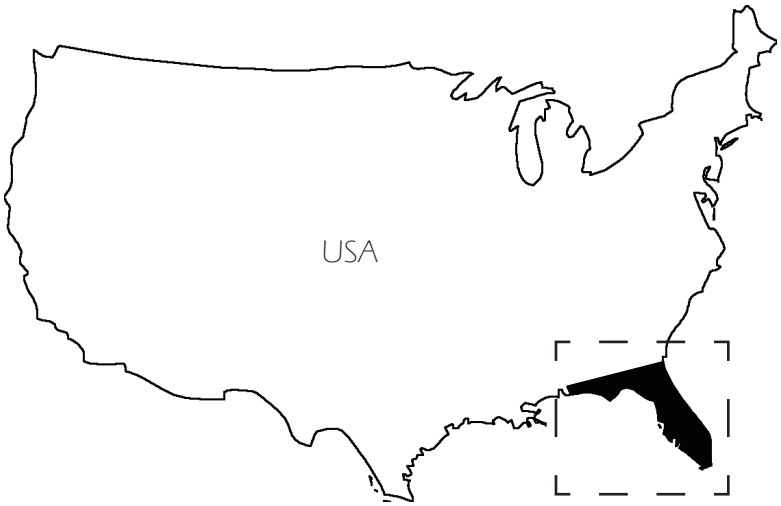
Through the History of Miami, Florida has taken part in multiple wars and effects of fugitives, this resulting in Miami becoming an international city, where more than sixty-five percent of the population are Latin Americans (Area Connect). Because of the many connections to South America and Miami being one of the busiest shipping ports and airports in the United States, Miami is called home by countless of big corporations that are well known like Disney and FedEx (Michael Dobbs). With its many beaches, tropical weather and aesthetically pleasing palm trees, Miami continues to be a top tourist destination.

The city of Miami is almost the double in size to Copenhagen. Just as diverse as Copenhagen is in the different areas, so is Miami. In the North and Northeast, there is a lot more crime than there is in the South and Southwest. (Neighborhood Scout) Smaller districts stand out from these data, due to a specific use or attraction.

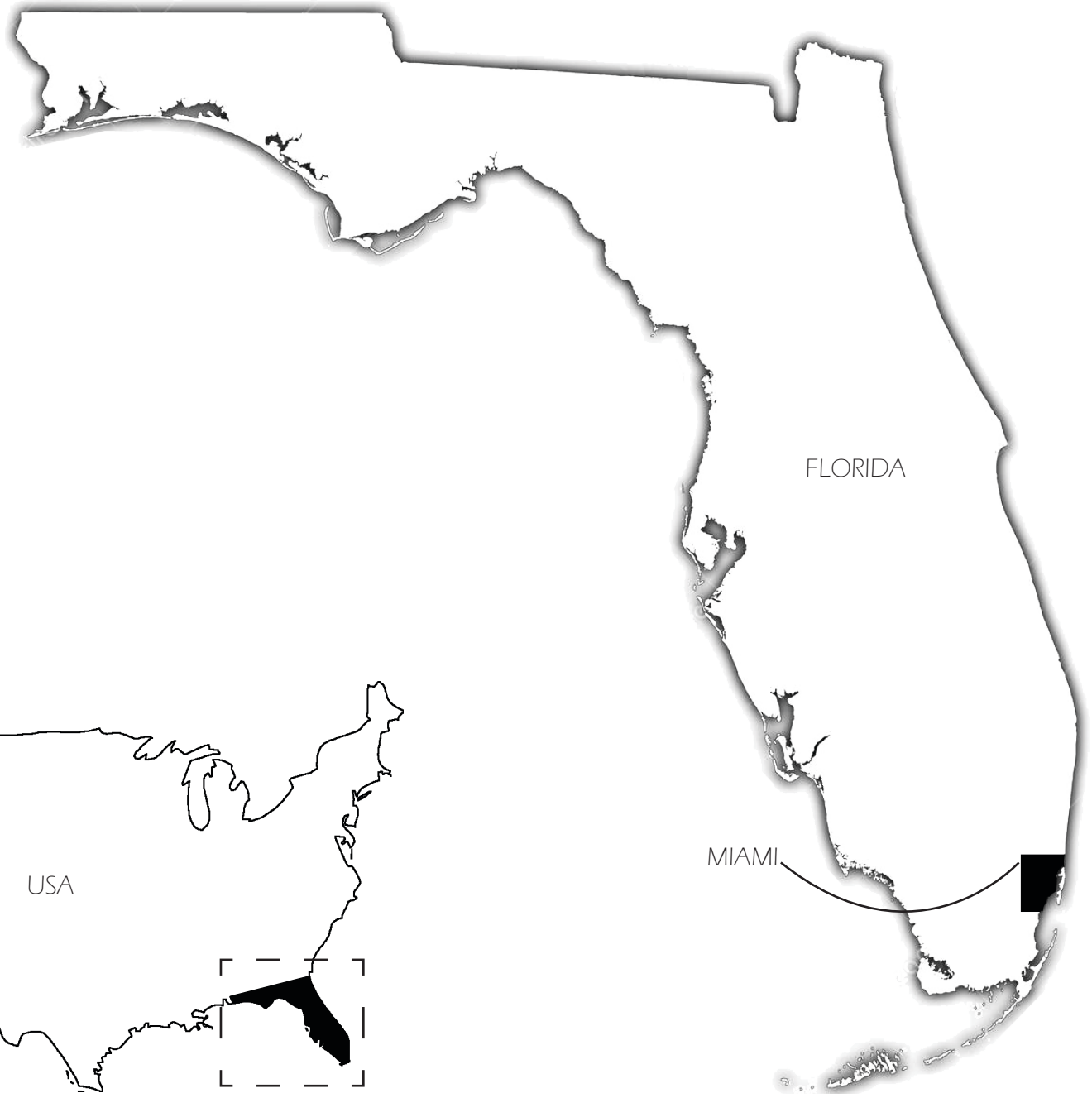
Art District
The Wynwood Arts District is a fairly large creative community, where street art is legal. In this area, there are roughly seventy galleries, as well as retail stores, shops, bars, and restaurants. This area was formerly a warehouse and manufacturing area, but now these spaces have been transformed into art exhibitions, performing art spaces and creative businesses among other types of uses as well. The area is growing fast and quickly becoming popular among others than just the local artist (Wynwood Arts District). Although creative and inspiring during the day, at night Wynwood transforms into an area attractive to the nightlife of Miami. The bars and restaurants are just as diverse and creative as the art is, giving Wynwood a unique artistic experience compared to the other go out areas in Miami.

Design District
Besides comprising of over one hundred galleries, bars and cafes, Miami Design District, located North of Wynwood is known for its high-class stores and shops. Specially selected fashion and design brands, from all over the world are in this area, appealing to the high-class population. The restaurants located in this area, are as well among the top chef restaurants, creating a very opposite atmosphere to the Wynwood area. (Miami Design District)

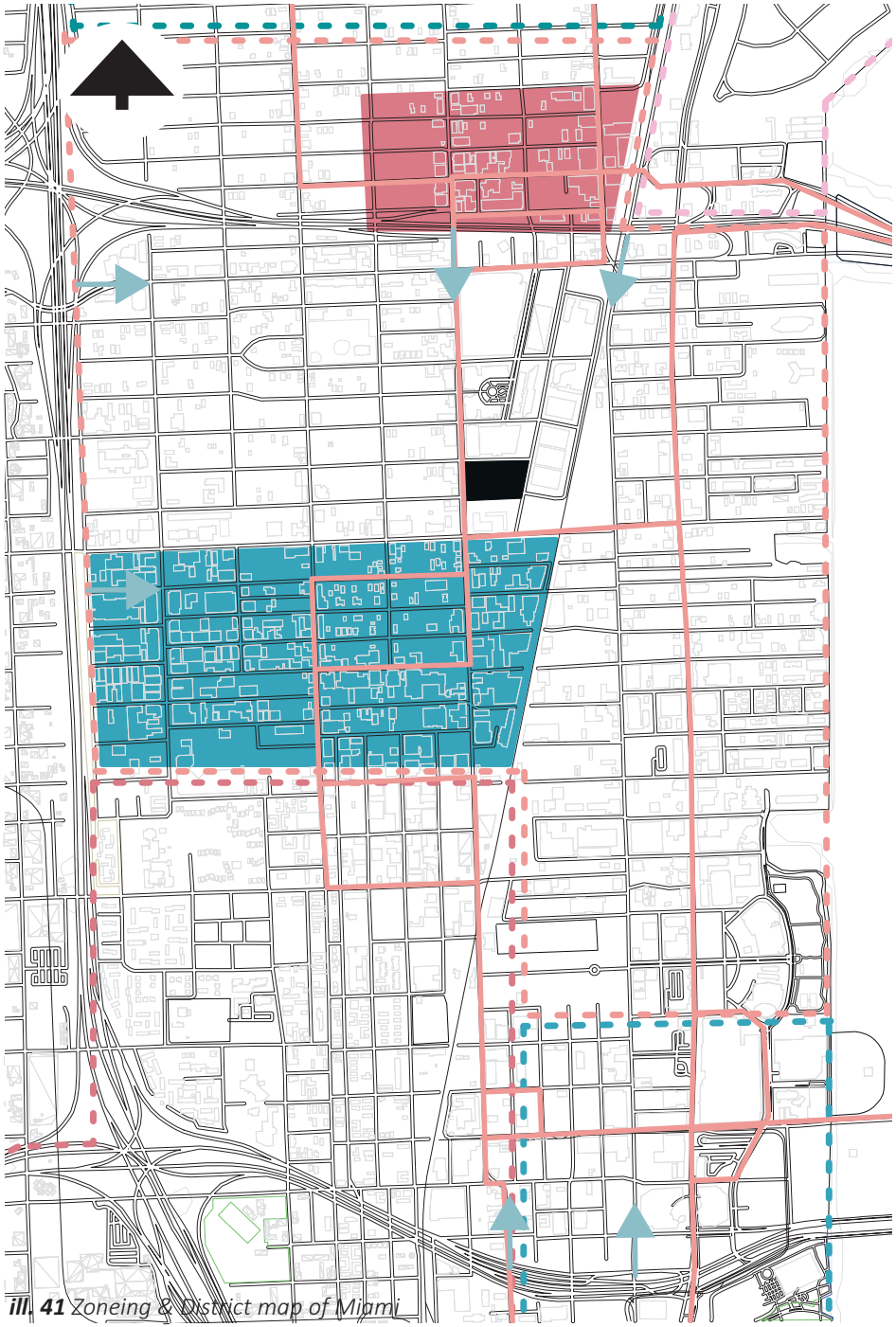
Entertainments District
The entertainment district is more than The Art and Design District. South Beach, has colorful Art Deco buildings, and host multiple galleries and classy boutiques, as well as bars and restaurants. This is the main area for life and entertainment, in Miami. (greater Miami and The Beaches)



ill. 39 *Outline of the United States*

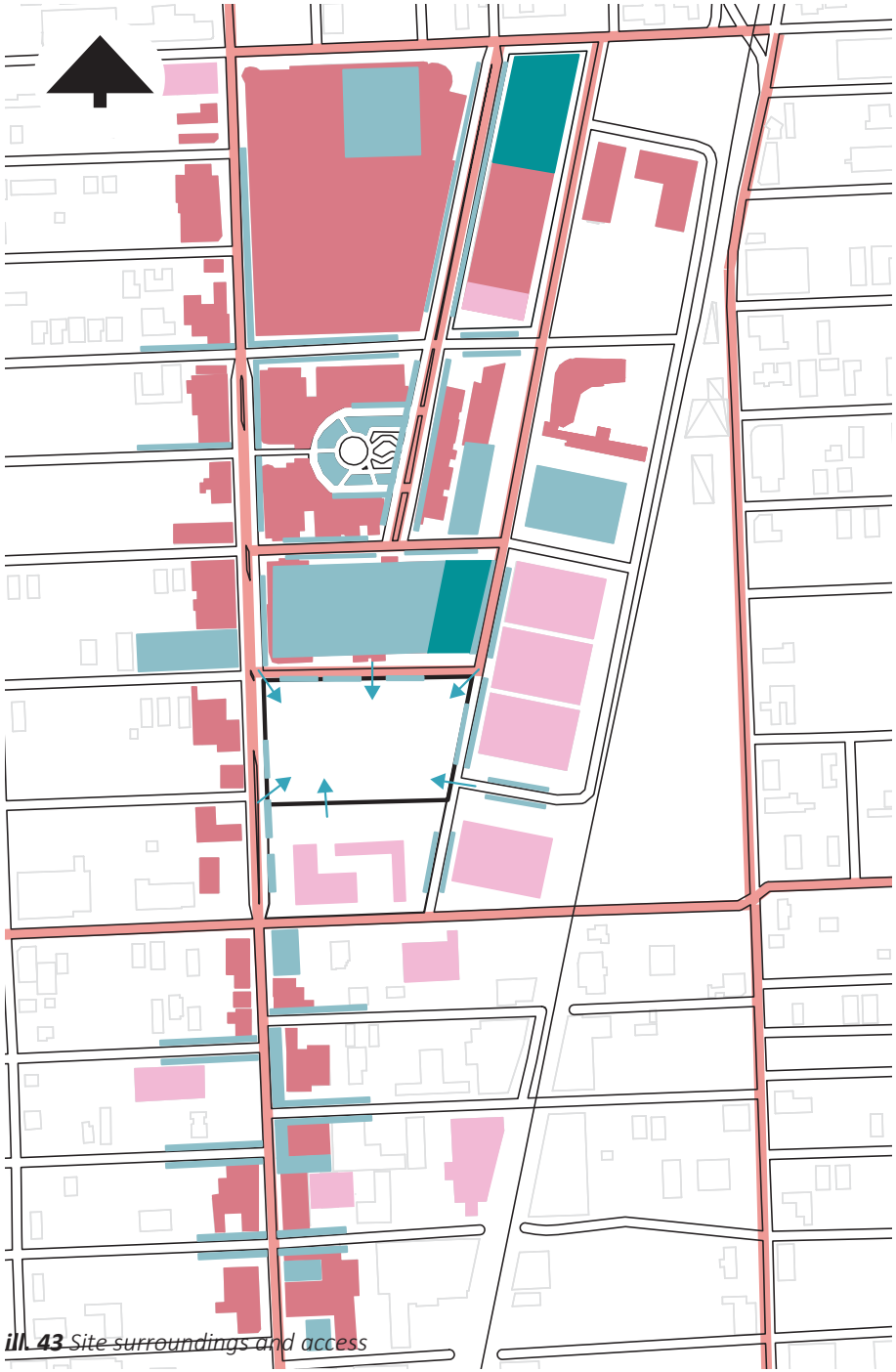


ill. 40 *Outline of Florida*



ill. 41 *Zoneing & District map of Miami*

ill. 42 *Landmarks Map of Miami*



Public buildings (stores & offices)
Galleries
Main traffickedroads around site
Parking
Site Access
Parks
Site

ill. 43 *Site surroundings and access*

MAPPINGS

ZONING & DISTRICTS (ill. 41)

The Site is located in the center of Wynwood close to the intercoastal, surrounded by the three main highways 195, 95 and 395 giving easy access to both the North and West as well as the famous and entertainment life of Miami Beach right across the Biscayne Bay.

The surrounding zones of Wynwood are all very different in their own way. The two main districts are located on opposite sides of the 195 highway, with access underneath the highway. The site is therefore located perfectly in-between the two districts, to create a center point for the users of these districts.

The Flow in the area makes it easy for cars as well as pedestrians to access the site. Public transportation is available to the northern design district, and South towards the many educational opportunities and music industries. Many of the main bus routes pass by the West side of the site, giving many opportunities to create a visible interaction through the building if created more open or transparent on this facade.

BUILDING USE (ill. 42)

The site is located around numerous of exhibitions and galleries. Between the big residential areas, multiple of educational institutions are located. The site itself is surrounded by multiple bigger gallery spaces. The outdoor galleries are all gathered in the West-Central Wynwood around the famous Wynwood Walls. In both districts, multiple galleries are to be found. With only a ten-minute walk from both the main heart of the art district by Wynwood Walls and the shops of the design district, The Artistic Youth Center is a great connection for pass byers and art interested.

The music industry is also very well represented in the Wynwood area, many studios have located themselves here, and most bars and cafes advertise with live music, so there are many good connections in the local community. The further South you seek, more firms in the music industry appear, as you get closer to the downtown area.

SURROUNDING SITE (ill.43)

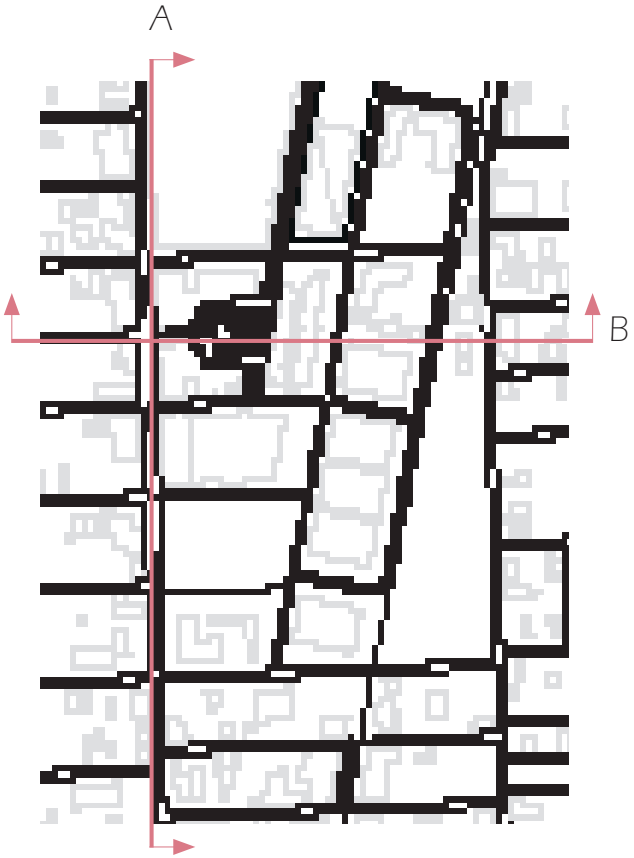
Next to the site on the North are; Stores, galleries and a parking garage also attracting pass byers and a different audience. Having the public parking garage across the street on the North side of the site is very beneficial to the center, to both give guest easy access, but also drag pass byers' attention. East of the site is a big contemporary gallery, which can create good connections to the Centers own exhibitions, and this way use the site as a transition space towards The Art District. South of the site is an open building pavilion, which is used for markets and occasionally events. This building creates a shelter to the southern roads, providing opportunities for more closed and private outdoor activities in this part of the site.

The surrounding roads and buildings gives six different openings to access site, these accesses can as well all function as transitions to the different main areas surrounding the site, and this way making the people along the flow a part of The Artistic Youth Center

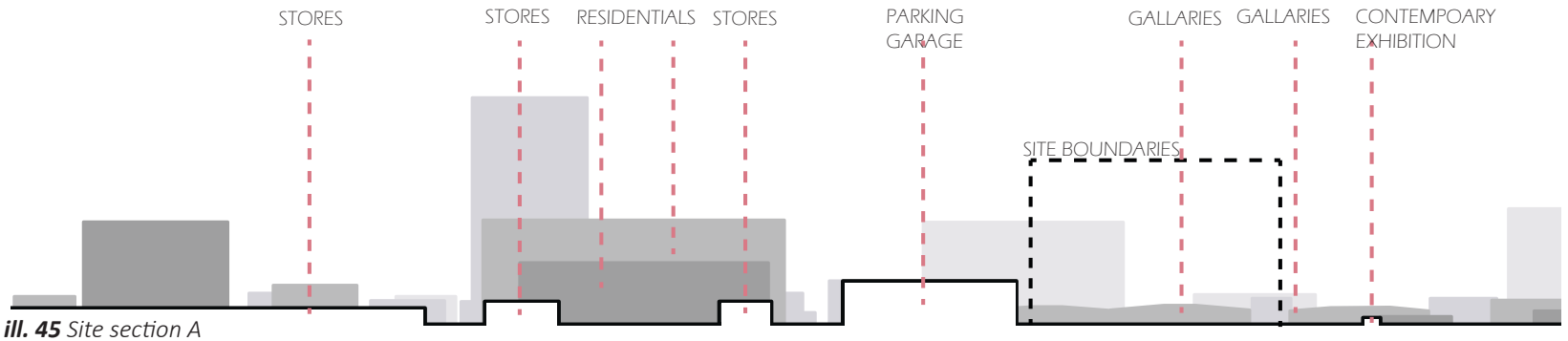
SURROUNDING SITE

The terrain of Miami is very flat, which is also shown in the site sections on illustration 45-46. The site is located far enough away from the coast line, for the surrounding buildings to be very low. Highest build-ing around the site is the parking garage on the North, which is only a four-story building. Taller build-ings are located two blocks North and East. This means that The Artistic Youth Center in such a scale doesn't have big dramatic buildings to compete against, and can at the same time blend in and become a part of the existing surroundings

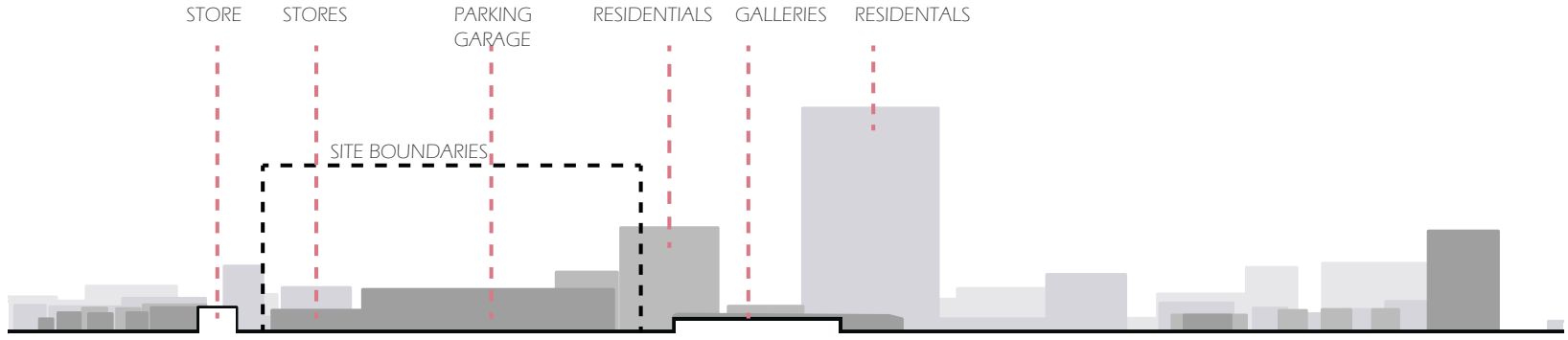
Looking at the surrounding views in illustration 47-53 there are many great views towards the site from the different access points and surrounding roads, creating visible connections to the build-ing. The sur-rounding vibe, Is very open with smaller roads and sidewalks. Planted all around the site are native palm trees giving the typical Florida vibe with the colored buildings, mixed with the artistic Wynwood façade decorations.
With the right outdoor spaces, the site has a lot of potentials to attract people to use the outdoor spac-es, explore the building or just pass by through the site.



ill. 44 *section arroa on city map*



ill. 45 *Site section A*



ill. 46 *Site section B*

ill. 49 *View point on site*

ill. 47 *View A*

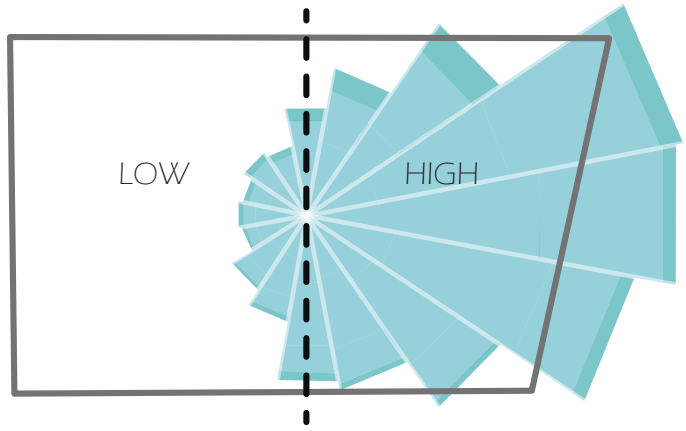
ill. 48 *View D*

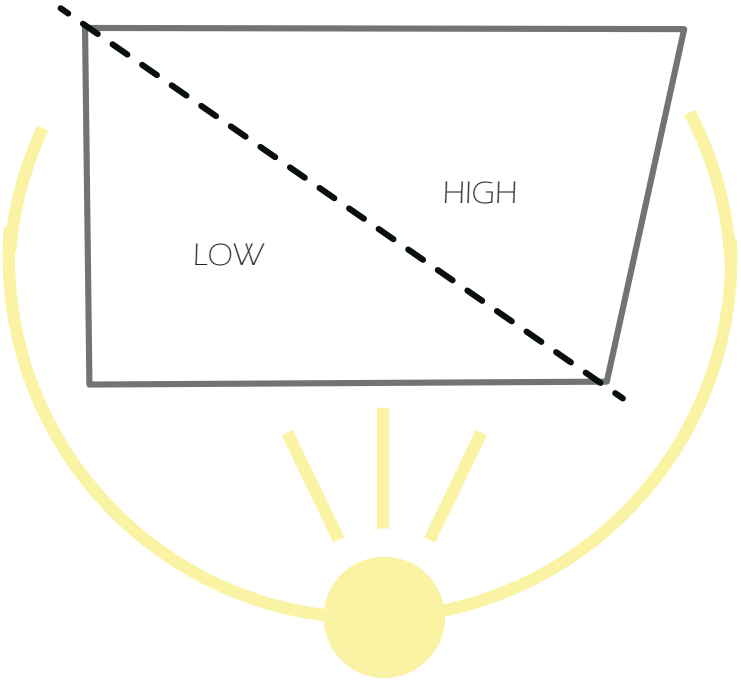
ill. 50 *View B*

ill. 51 *View C*

ill. 52 *View E*

ill. 53 *View F*





ill. 54 *Building design based on Climate*

CLIMATE

Florida is known as the Sunshine State, which is clearly shown in the weather data provided in appendix 1, gathered from U.S Climate Data. The minimum mean temperature is during the coldest month January only down to about 15 degrees Celsius and in the hottest Month of July up above 30 degrees Celsius.

The weather conditions are perfect for an area like this, with activities and art being exposed outside in-stead of inside closed galleries. During most of the year, rainy days are less than ten every month, except for the raining season, June through September, where two-thirds of the month is rainy. This seems like a lot, but the tropical weather of Florida is also known for its quick showers. During the rainy season, it will rain almost every day, but the rain comes and goes within only an hour, giving the total of most days to only have up to 10mm of rain. This doesn't ruin anything for the outdoor spaces applied to the de-sign, but the design for the outdoor or open exhibitions should have this in mind.

With the site located close to the open ocean and intercoastal, all wind comes from the Eastern side. The hours of heavy winds are few and kept at a wind speed of under 12km/h. In the design considerations, open spaces should go diagonal on the site or from North to the South, to not create wind tunnels in the East-West direction (ill. 54).

Miami has an average of twenty sunny days per month with many hours of sun. The shortest days of the year are from seven in the morning till five thirty in the evening. The long days during the summer are extended by three hours, giving extra opportunities to create interactions with the evening crowd. The suns placement is high as well, only varying from 50 degrees to almost 100, giving plenty of sun all year around. Shading analysis in appendix 2 show that with the low buildings surrounding the site, the shade is limited. Only the South and East outer areas of the site gets minimum shade during the evening and morning hours most of the year.

With the buildings on the south-west side of the site being only one story buildings, no shade will be provided for the second level and up. Depending on the placement on the site, the ground level can still be provided with sun during these hours if raised ceiling heights (ill. 55)

ill. 55 *Illustration of the winter solstice & Spring Equinox Site Shadows*

SUB CONCLUSION

The site location and the surroundings provide many opportunities for the users of The Artistic Youth Center, to get the right network for future experience in their fields, as well as connections to successful artist and companies to take part in the activities in the center. With the variety of different arts and fields surrounding the site, there is plenty of inspiration and connections for all users of The Artistic Youth Center. The galleries located East of the site, could be a great possibility for locating The Artistic Youth Centers own galleries and exhibition spaces in the East part of the site as well.

With a well-functioning flow and easy access to the site, both local and visitors can easily use the site. With the many stores located Norths of the site, and the most occupied road on the West of the site, locating a public space or café in the North-West area of the site, would create great opportunities of pulling the new audience in through the public space. The different access to the site provides pass byers, from the surrounding buildings and the surrounding community, to use the outdoor spaces on site. It would be a good magnet tool, to provide attractive spaces in the North where people are access-ing the parking garage, and in the South-West where people are accessing the Wynwood Art District. Most private outdoor spaces are in the south, being isolated from both roads and occupied buildings, providing options for a great outdoor event space, connected to this center. The one-story buildings in the South and West will make the building visible from further away if two stories or more are applied.

The outdoor space is a key factor to attract people to enter The Artistic Youth Center, making the site open and welcoming in especially the North and West part of the site, as well as the East and South-West. Providing a park feeling in these areas is essential for making the community use the site for activi-ties or just hanging out, creating a connection and interaction with the building activities.

Weather conditions are perfect for these outdoor spaces, and with the sunny conditions, covered spac-es on the site should be provided, since the natural shading is minimum. These weather conditions also provide great indoor conditions. To provide the best natural daylighting for all spaces in the building the South-West part of the building should have fewer floors than the North-East. By locating the building centered on site the shade from surrounding buildings is avoided and the access from all surroundings is guided towards the center of the building.

To create the best interactions among the users and the community, the more open and transparent facades should be in the North and West, for the spaces provided for the different fields and for the gal-leries it should be more open in the North and East.

With all the access and flow lines pointing towards the center of the site, both the public and collabora-tive space should be located here, to make new collaborative opportunities among different user groups.

ill. 56 *Art from Wynwood Buildings*

USER ANALYSIS

User analyses will in the following chapter be presented to create a better understanding of the different user groups in The Artistic Youth Center and their specific roles and requirements. Based on the previous analyses, information researched and personal vision, the specific rooms required to achieve the best learning spaces and collaborative spaces are set up in a listing, showing the room sizes, spacial qualities and the use.

Based on the rooms needed and how the different users are thought to interact and collaborate, a functions diagram showing what rooms should be connected is created and supplied with a strain diagram, indicating when during the day there is activity in the different spaces.

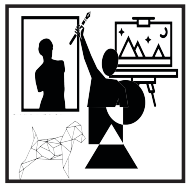
USER GROUPS

The Artistic Youth Center is a space for artistic fields and the community. Public user groups should have access to outdoor as well as indoor common spaces, for the purpose of individual activities or activities managed by The Artistic Youth Center. The coffee shop, store and exhibition galleries should also be open for public users, having a transparent and welcoming expression.

The different artistic fields should have access and be a part of the everyday public spaces as well. These fields need their own common space for collaboration and interaction. This space should be a bigger open space, providing flexible solutions for work, while also being the main flow and transition space. Besides these common spaces, all fields should be provided with their own spaces, that are specifically designed for their needs.

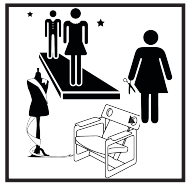
Music
These fields need space for different types of music, recording, editing and song writing. The smaller spaces can have a more living room spacial quality, by having more privacy and lounge furniture for activities like; editing, songwriting, and individual rehearsal. The bigger spaces need to be more open for different instrumental solutions and maybe also more open to the public. Acoustic qualities are an important design feature and should affect the spacial design.

Dance and entertainment
These fields are team oriented and need big open spaces for larger groups. Not much private space is needed other than access to the wardrobe. These spaces have the great potential to be show rooms in themselves, locating them for public viewable opportunities.



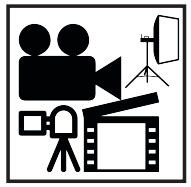
Art & Graphic

These fields need flexible spaces for different types of art like; painting, sculpturing, computer graphics, building, and drafting. There is a need for both small studio spaces and bigger studio spaces. Essential for this field is the workshop, where the equipment should be provided and space for all types of crafts. Personal space provided for every user is important, for ongoing projects as well as good lighting conditions.



Fashion & Design

These also need private stations for every user with a connection to the workshop and equipment. The studios themselves don't need to be in bigger spaces but might need to be divided up into two sub field areas.

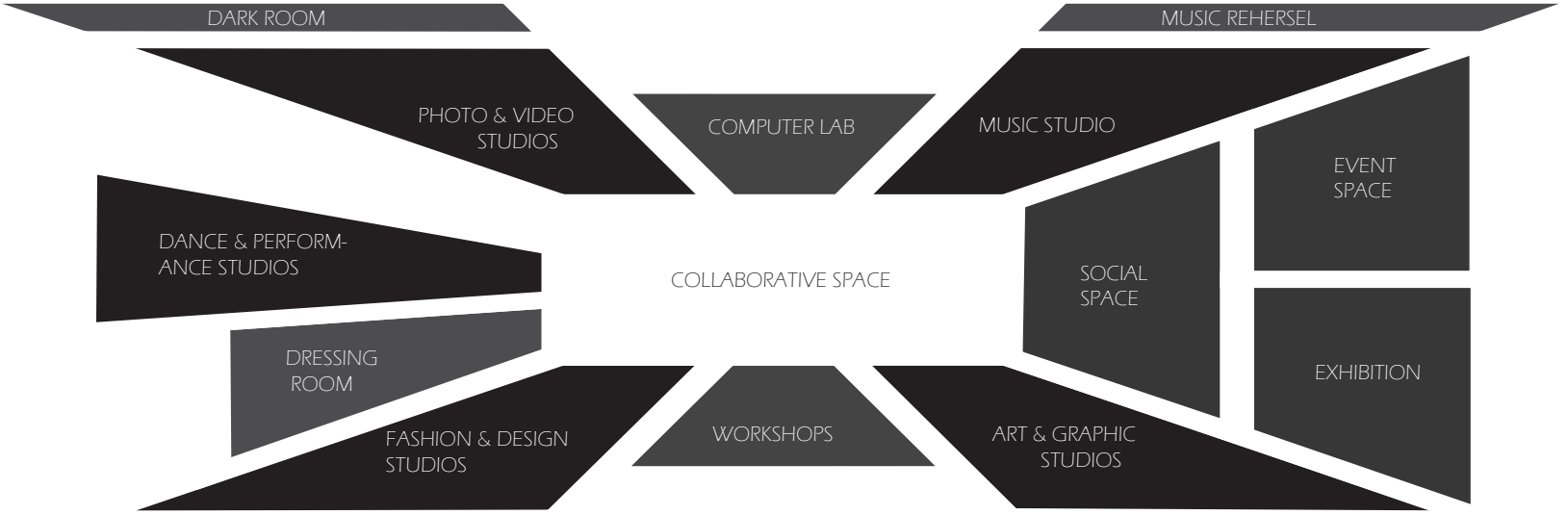


Photography & Video

These fields should have transformable spaces for different scenarios, simplicity is the key word in both the bigger and smaller spaces. Video shoots will require more space and equipment, and the height of the space is therefore important. If needed these spaces should be able to be closed completely off, leaving only artificial lighting for certain shoots. Editing tools should be provided in separated bigger spaces, for both individual or class use.

General

All spaces should have a simple and flexible atmosphere, having the users themselves provide the special qualities to the different spaces through their activities.



ill. 57 *Function diagram*

FUNCTIONS

Looking at the different requirements for the different users and the analyses, a room program has been formed. As shown in illustration 58, all functions have been given a wished size based on the amount of users and activity. The room program is supported by a strain program (ill. 168, p. 117), indicating the time of the day where the different spaces are occupied. Together they have resulted in the function program (ill. 57), indicating which spaces need to be in connection to each other.

With The Artistic Youth Center being both a community center and an educational space, the use of the different spaces is diverse. As shown in the function diagram, the common spaces and collaborative spaces should be the main connection between all other functions. Having this centered in the building would create a gathering space for all activities, also symbolizing the intentions of The Artistic Youth Center to bring different user groups together through the building.

The centered points should provide access to either the public exhibition and coffee shop areas or the more private artistic fields. Many of the fields have common needs like; computer lab, workshop and dressing room. These spaces can be gathered into one space and therefore be in connection to multiple fields, creating collaboration and interaction in these spaces as well. The different room heights can help locate them on the plan in connection with the climate analyses, indicating the taller part of the building being in the north-east.

Even though public spaces and field spaces, should be connected through the common and collaborative spaces. The strain program also indicates how they aren't active at the same hours of the day, all day long. The fields are highly active in the morning and the exhibition spaces are highly active in the evening. The building should provide options of dividing up the building, into different areas that can be closed down, for un invited visitors to not circulate around in the more private areas.

	AMOUNT	PEOPLE	M^2	HEIGHT	PRIVACY	KEYWORDS
Music						
Studio small	1	4	16	4	Public	Recording and rehersal room
Computer lab	1	10	25	3	Semi Privat	Editing and research
Rehersa l room	1	10	30	4	Public	When not recording
Photography & Video						
Studio big	1	15	80	6	Public	For shooting on sets & green room
Studio small	2	4	50	4	Public	For shooting smaller elements
Computer lab	1	15	40	3	Semi Privat	Editing
Dark room	1	3	10	3	Privat	
Art & Graphics						
Stuido small	1	5	30	4	Public	more for grafic art studio
Studio Big	1	15	80	6	Public	Art stuidoe for bigger pieces
Workshop paint	1	10	40	5	Semi Privat	Paint equpment and spaces
Workshop build	1	10	40	5	Semi Privat	Wood, metal etc. workshop
Dance & Performance						
Stuido big	2	15	160	4	Public	rehersal room
Dressing	1	20	30	3	Privat	-
Fashion & Design						
Studio big	1	15	60	4	Public	Studio work space
Dressing	1	5	10	3	Privat	For models
Workshop	1	10	60	4	Semi Privat	sewing, painting etc.
Common spaces						
Colaborative spaces	5	5	200	4	Public	Collaboration cross fields & in fields
Exibition space	6	15-50	1000	6	Public	Each fields should have their own + common
Event space	1	400	200	6	Public	For public and youth to meet through the art
Social space	1	50	200	3	Public	Hangout areas
Additional						
Restroom	7	-	150	3	Privat	All fields should have easy acces to one restoom
Offices	6	3	70	3	Semi Privat	one office for each field and one main office
Storage	-	-	85	3	private	

ill. 58 *Room program*

VISION

The vision is to create a community and learning center for the artistic youth of Miami. Through architecture, the different fields should have the environment to collaborate cross-fields and interact within the community. The artist should be able to share their art both during the process and the finished result. The building itself should function as one big art piece, which through the ongoing activities is always its own live gallery. The outdoor spaces are of highly importance to complete the intentions of the building, providing diverse spaces for activities, flow and occupancy.

ill. 59 *Diagram of vision bringing the people together*

SUB CONCLUSION - DESIGN PARAMETERS

To achieve a catalyst building thats also a good educational space, there is a need to design for ineraction, collaboration and flexibility.

To achieve all the goals listed in the vision for The Artistic Youth Center, certain specific focuses in the design decisions and the surrounding analysis for the shape and location will be applied.

A good educational space is a key factor in providing a good environment for all fields as well as visitors.

To achieve collaboration across fields and within the community, creating a catalyst building appears to be a good place to start.

The openness should be reflected all through the building, not only to the community but also between fields and common spaces.

The Artistic Youth Center can become a great connection between the main artistic areas and a new useable space for the surrounding stores, residential buildings, and commercial spaces.

Create a connection to both districs, becoming a catalyst of bringing these together.

→ **- flexible programming: simplicity, openness, furniture and transparent solutions.**

→ **- unexpected interactions: outdoor spaces, the building should attract pass byers and the community to want to enter The Artistic Youth Center and experience the diverse art.**

→ **- express the openness and welcoming feeling: Simple steel structure systems have shown in many examples to provide this.**

→ **- design in different private/public scales. Having the spaces for the community more public and then minimizing the areas as they progress within the spaces, to become more private to only have common spaces for the fields themselves.**

→ **- locate the majority of the movement on the north and west roads of the site with public spaces**

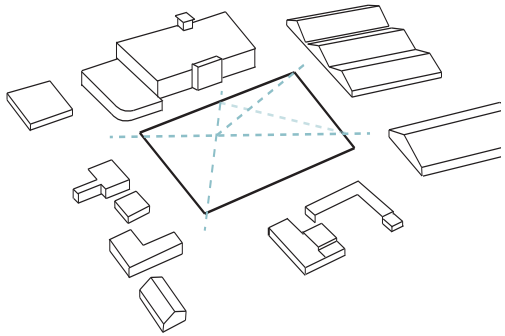
→ **- outdoor opertuneties conected to the center giving a relation to the authentic vibe, that Wynwood has, with its outdoor activities and public spaces.**

CONCEPT DEVELOPMENT

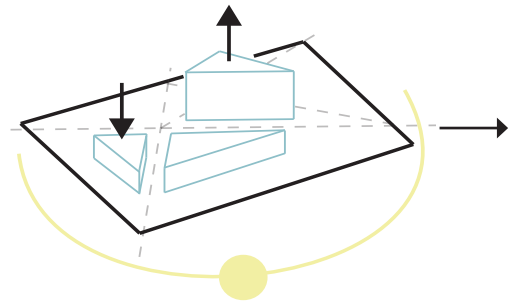
With The Artistic Youth Center being located centrally, the flow lines from the surrounding buildings have been highly prioritized, to involve the pass byers in the site. This by creating a learning and community center that stands out from its surroundings.

The conceptual configuration has been formed based on the inspiration and studies from the model workshop, together with the structural principles, also creating a form language connected to the concept of bringing the fields and the community together. The functions are located according to their requirements and the analyses, around the centered collaborative and interactive spaces, which are divided by the exterior flow. This became the main concept of how to bring people together through the building and also reflects the intended function of the outdoor spaces.

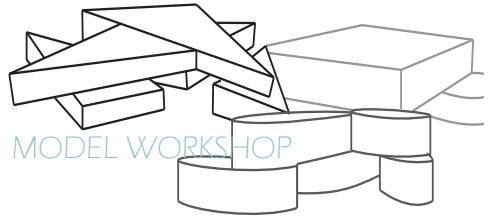
The more detailed process with a focus on the interior functions was part in developing the form and programming. The connection between flow lines and indoor spaces was further developed as well as the connection between different fields. As this process was evolving the exterior spaces were thought into the programming and use. After the finished program was set, the outdoor detailing phase could start and was developed with the same approach as the interior phases. This done through elements and conceptual divisions, that have become very characteristic for the outdoor spaces and their connection to the different functions.



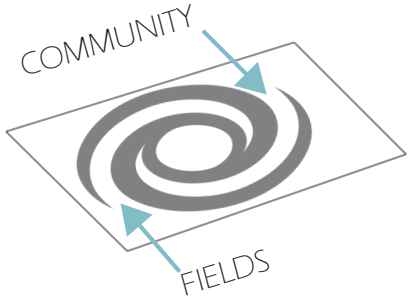
ill. 60 *.Flow lines connection surroundings*



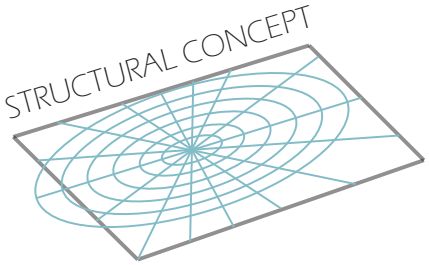
ill. 61 *.Climate analysis applied to maximum shaping*



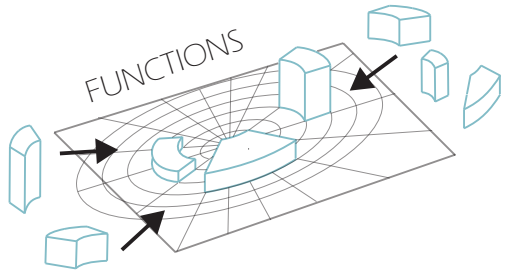
ill. 62 *. model workshop with all analyses incorporated in the design suggestions*



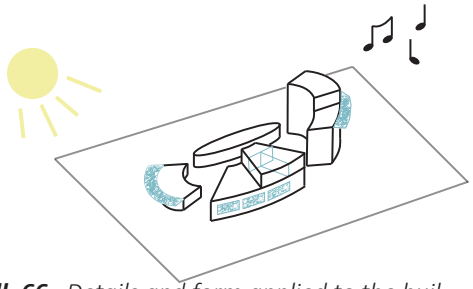
ill. 63 *. concept of bringing people together applied to the site*



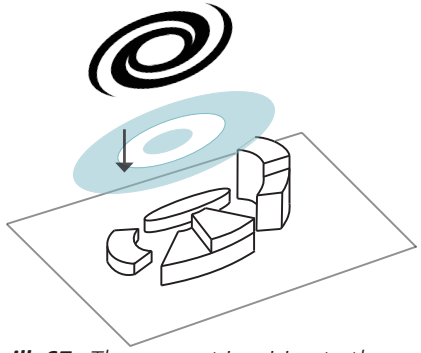
ill. 64 *.structural grid applied to the site*



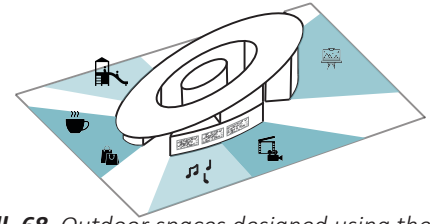
ill. 65 *. the explored volumnes for all functions applied to the new structural grid*



ill. 66 *. Details and form applied to the building based on climate analysis and function needs*



ill. 67 *. The concept inspiring to the shape of the building, flow and roof*



ill. 68 *.Outdoor spaces designed using the same concept.*

ill. 69 *Art from Wynwood Buildings*

PRESENTATION

The presentation will in the following pages introduce the final design for The Artistic Youth Center. This by walking through the experience of the building from arriving on site to the understanding and intentions of the interior spaces.

As the structural solutions appear in the provided visual material, they will as well be explained in further detail with the technical approaches that are of importance to the solutions.

This presentation will be displayed through visualizations, illustrations, technical drawings and accompanying text.

THE ARTISTIC YOUTH CENTER

To create opportunities for the creative youth, The Artistic Youth Center is located in the creative heart of Miami. Being inspired by the American Dream, this center opens up to prospects for the users to easily interact with the surrounding community, allowing various fine art industries to engage and contribute to the everyday life in The Artistic Youth Center. This so the young artists can collaborate and interact with people in their own fields and cross disciplinary fields. The objective with the design is to generate a new type of place that motivates, inspires and where artist will learn everything needed to succeed.

The Artistic Youth Center will function in such way, that it is available for individual artists working on projects trying to selfeducate, as well as artistic groups booking workspaces for specific projects, or smaller courses held by the surrounding successful artist, firms etc. in these fields. The intention of combining these fields in an integrated program through the design is to make the different fields collaborate and educate each other. This so they can gain experience from the real work life scenarios, and also be provided with all tools needed through other fields expertise, at the center. Artists should be able to engender professional connections in the community, so future employment is more successful.

This has been done by focusing on creating a design and program that appeals for the community to be a part of the center on a daily basis, as well as providing options for the artists to always be able to expose their work and talent. To provide the conditions for a diverse audience to engage in the centers as well as the sites activities, diverse site planning, and flexible indoor spaces have been provided. The open and public coffee-shop being an exposed part of the design, will attract the surrounding district, to approach the building and stay, unintentionally interacting with the artistic environment providing a better educational space.

When approaching the site, the curved shape building immediately gives a feeling of circulation and a continues flow. This is connected to the purpose of the building, which proposes interactions between fields and people through the flow lines and transparent facade. This continues circular flow and design forcing the flow to the center, symbolizing the intentions of The Artistic Youth Center of bringing people together through catalyst architecture. The building has a modern and artistic vibe, inspired by the surrounding design and art district. Especially in the detailing, the exterior blinds and surface pavements, are famous art from the local community. Looking from the surrounding streets, there is easy visibility to both indoor and outdoor spaces, and there is as well access to both, from the surrounding connecting points and land-marks. This appealing to pass byers from other surrounding buildings, to explore The artistic Youth Center, or occupy in the park and exhibiting site for social meetings.

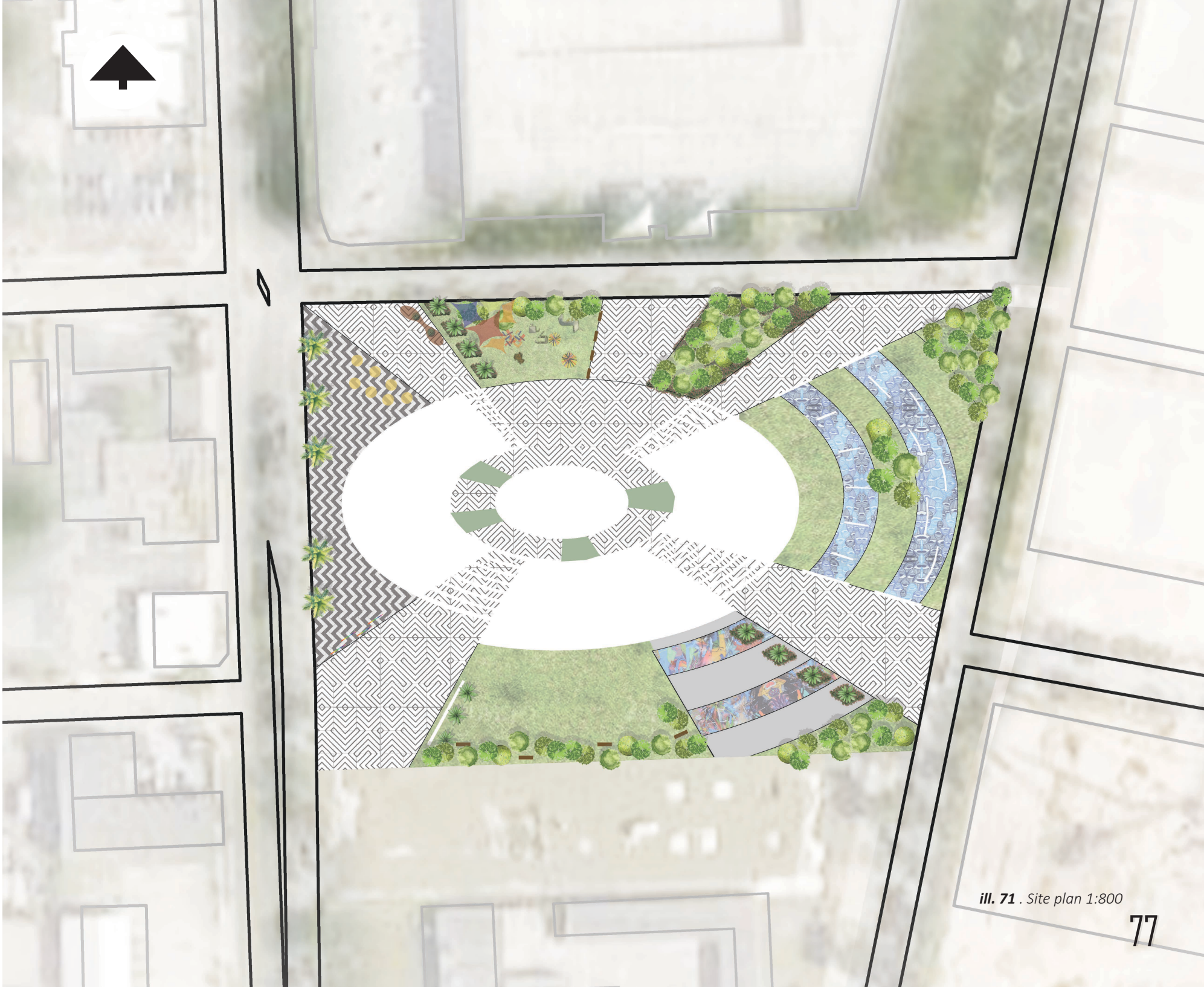
***ill. 70** . Rendering of access from NW entrance*

THE SITE

The site is inspired by the curved circulation and the symbolizing ellipse, which surrounds the interaction exhibiting and collaborative spaces. The curves used from the ellipse provides a flow, following the building all the way around so people can explore, the different zones and fields passed by. The site is a mix of green areas providing a park in the middle of the city for the community, as well as the site being an art piece itself, through the many patterns and colors where the center can host events and activities.

The Flow areas are symbolized with one type of artistic tiles, as every area has its own unique choice of ground surface. The main entrance to the site from the north and north-west corner takes you straight into the center of the ellipse, or into the main entrance, while already passing different types of spaces. The main entrance to the building on the west provides an open and flexible space for events and activities. The playground and park for families and kids is located north on site. This area is elevated down two steps, so the playground creates its own space, in a space. Entering the site from the north-east, where the Wynwood contemporary galleries are located, the site functions as an outdoor street art exhibition space, this to create a connection between existing galleries and The Artistic Youth Centers exhibitions. The south part of the site is divided into two areas, due to the functions inside the building. The zone towards east is connected to the video fields, and this space is therefore designed for outdoor movies and events to be shown on the building. The site is therefore elevated in different steps, to provide a proper view. The two spaces are closed from all sides through vegetation and artistic elements, to provide an enclosed space for events and activities. The second zone is in connection with the music field, so the big open park provides opportunities for concerts and bigger arrangements. The flow areas around the music and concert spaces are provided in such size that food trucks and other booths, can be arranged for events.

The building site delivers a continues design that is connected through this gathering ellipse. The centered ellipse provides both outdoor interactions and indoor collaborations. The flow lines connected to these spaces are symbolized in the roof through trusses, making the spaces not feel like alleys, by providing lighting for the outdoor spaces, as well as providing a little bit of shading for the indoor spaces. The interior flow lines are also seen from the exterior, through bridges connecting the two shapes, made of glass to feel like a part of the exterior interaction spaces.



ill. 71 *. Site plan 1:800*

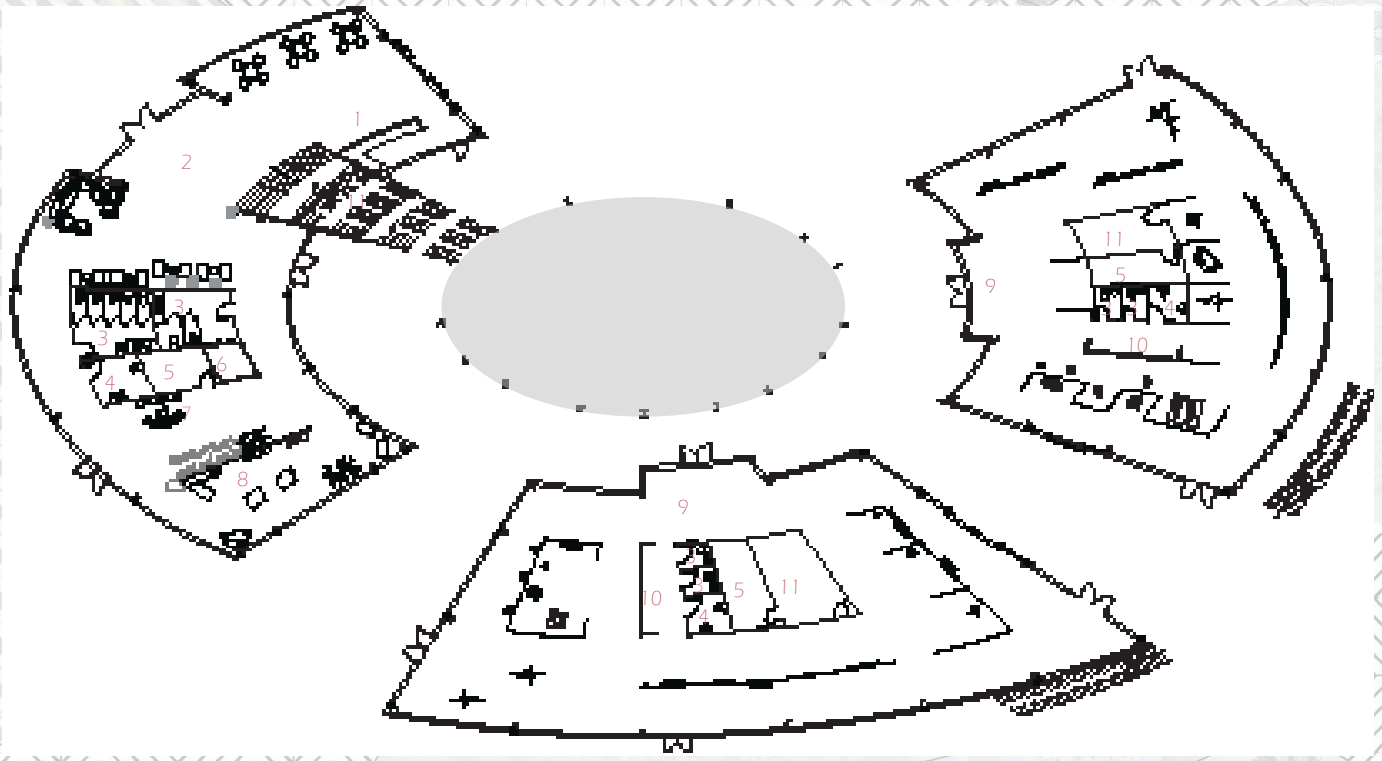
FIRST FLOOR

The first floor being the ground floor has direct access to all the exterior spaces on site. This floor is divided up into three separate buildings, where the exterior flow, circulates up close to the different interior spaces. The main building entrance is located to the west on site. This space functions as a public space that is open to everyone. This part of The Artistic Youth Center, invites for meeting, work, a coffee in the coffee-shop or visiting the gift store, where the artists items can be bought.

It is only from this building that there is access to the above levels from inside, which forces the different fields to interact with the community on their way in and out of the building. Another way to get access to the second levels is through the reception next to the restroom facilities. These stairs give access to the administration part of the building.

The other two buildings on the ground floor are the exhibition spaces. Here the users of The Artistic Youth Center will have plenty of options to exhibit their art. With the programming being very flexible, and with the intentions of trying to bring local talents in to be a part of the center's organization. These spaces are also great opportunities to give something back the locals hosting courses, by offering them exhibition space. These spaces are carefully designed, to fulfill all intentions of interactions and dragging people in. Like the Museum of Image and Sound, it provides the surrounding flow, to see a part of the exhibition. For the visitors being part of the event inside or paying visitors, they will be provided with new art and a new experience, when inside the exhibition spaces.

1. Coffee Shop
2. Common Space
3. Restroom
4. Handicaped Restroom
5. Technical room
6. Elevator
7. Reception
8. Store
9. Exhibition
10. Wardrobe
11. Storage



***ill. 72** . First floor 1:400*

COMMON SPACE

The first approached space when entering the building is the common space. This is the biggest open space in The Artistic Youth Center, which has a nice open atmosphere for community events. During the day this space is where the artistic fields and the community meet. The coffee-shop attracts the surrounding neighborhood inside to stay, while students flow through the space. Besides its double height volume, this room reflects the general design aesthetics for the rest of the building. The structural system is visible, providing clear lines of the programming concept. No matter what room you are in, it is quick to navigate towards, the centered interaction space and collaborative space, almost as if these lines drag you in the direction they want you to go in. The colors of the furniture are kept in yellow and green in the interior spaces, psychologically affecting the human brain to think creative and energizing.

The main purpose of this space is to function as interaction space between artist and the creative community, providing them with a broader network, and possibilities for gaining experience. A central placed digital bulletin board, with employment opportunities and events, is visible from not only the common spaces, but from the outdoor and collaborative spaces it is visible as well.

The visible interaction is in this space equally important since it from here is possible to get a visual to administrative meeting and the collaborative spaces, as well as the exhibitions spaces.

ill. 73 *.Rendering of Common space*

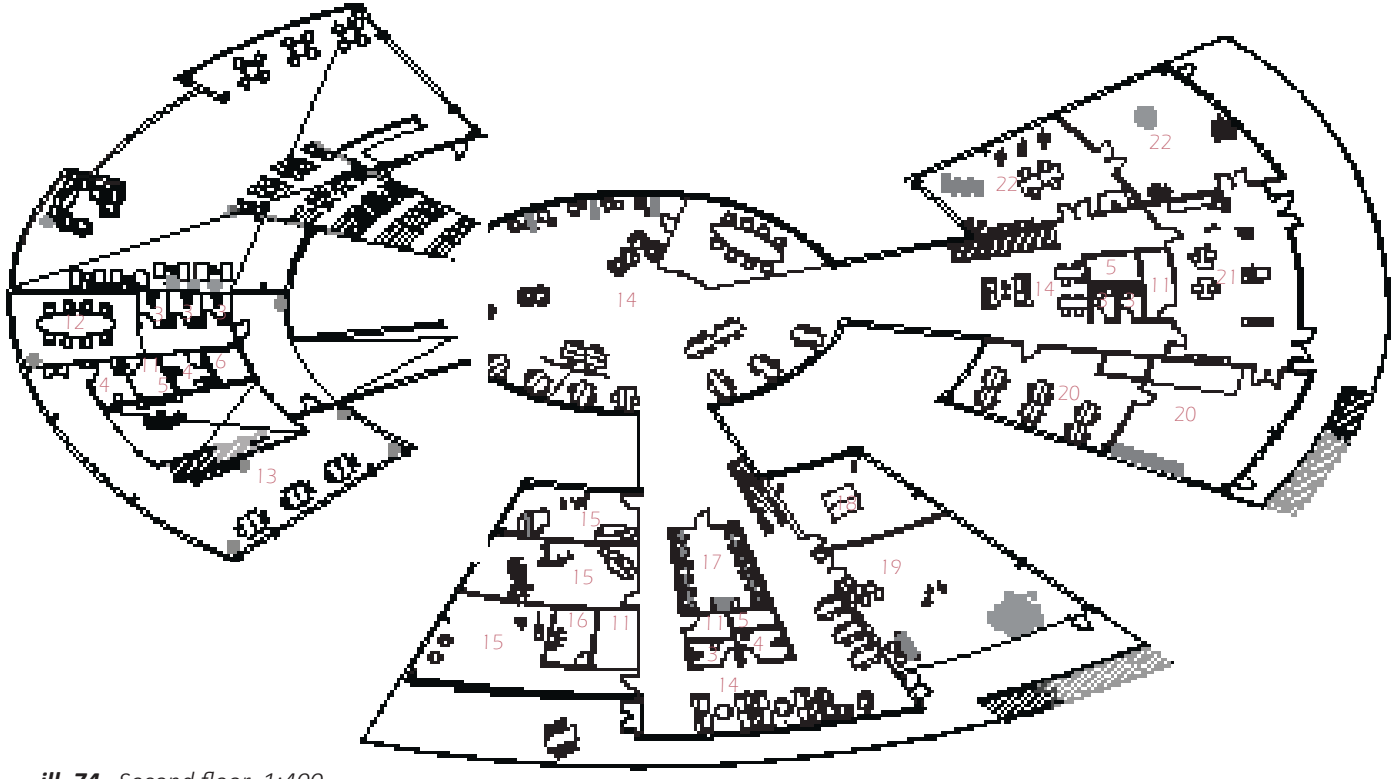
SECOND & THIRD FLOOR

When arriving at the second floor, it is not possible to get access to the spaces for the specific fields, without passing through the collaborative space. This Is a semi-public space for the artists, where they can work in a flexible environment, next to all the other fields, and really close to the community in the public space. Through furnishing, there are many different ways to work providing flexible solutions for a divers user group. Inside the collaborate space, there is also an enclosed meeting room in completely transparent walls, giving the feeling of being in an enclosed and private space, while still being able to observe and learn from each other.

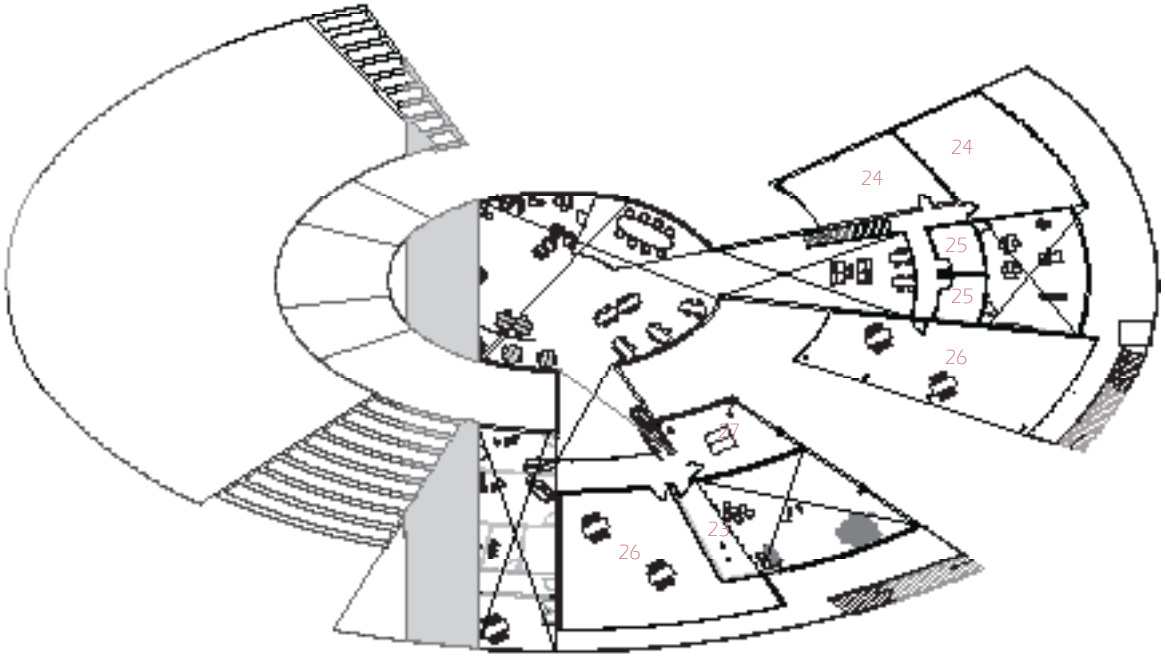
From the collaborative space, there is access to all the specific field areas. The areas for these fields are located in two separated buildings. One for music and video, and the other for fashion and design, and arts and graphic. Both spaces have a common lab or workshop, that they can share. This provides for the different fields to interact and collaborate in the workshops.

The floor for the different fields, both have access to the third level and outdoor spaces. Video and photography, also has a studio on the third level as the dance studios are located above the arts and graphics.

3. Restroom
4. Handicaped Restroom
5. Technical Room
6. Elevator
11. Storage
12. Meeting Room
13. Office
14. Collaborative Space
15. Music Studio
16. Recording Studio
17. Computer Lan
18. Photo Lab
19. Video Studio
20. Fashion & Design Studio
21. Workshop
22. Art & Graphic Studio



ill. 74 *. Second floor 1:400*



ill. 75 *.Third floor 1:400*

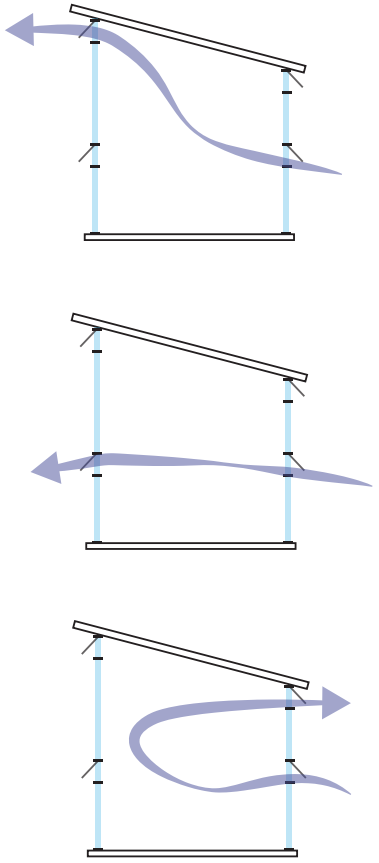
23. Tech. Balcony
24. Dance Studio
25. Dressing Room
26. Outdoor Space
27. Dark Room

ill. 76 *.Rendering of the collaborative space*

ELEVATIONS & FACADE

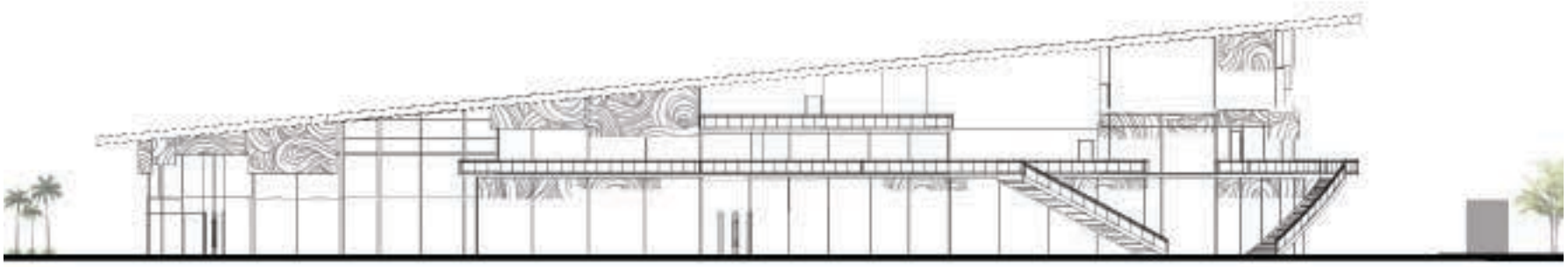
The Artistic Youth Center is characterized by its very transparent facades, allowing for views into all fields and activities. This also gives the users the opportunity to constantly be in charge of decorating the building facade, through their work and activities exposed in the interior spaces. The simple and modern expression is inspired by the design district, where the playful details like the patterns on the blinds and pavement is inspired by the Wynwood Art District. The facade also expresses the interior functions. It is easily readable where the flow through the building is, since these outdoor pathways, don't have blinds, but are completely open to the interior functions. The functions needing less lighting have bigger blinds than for example common and collaborative spaces. Some facades are also solid, because of the interior needs for video and photography.

The facades also functions as a frame when viewing the activities going on inside, making the interior spaces a part of an outdoor exhibition. The facade pattern of the glass mullions is designed based on the structural system, making the mullions a part of the secondary system. With the columns located at a distance of 6 to 11 meters apart, the glass facade is divided into window frames in the spacing between the columns. The horisontal lines are as well created with mullions adjecent to the divided levels in the building. In the bigger common space and collaborative spaces, rectagular windows are places yo support the mechanical system with a natural stack ventilation system, during the non humid season.

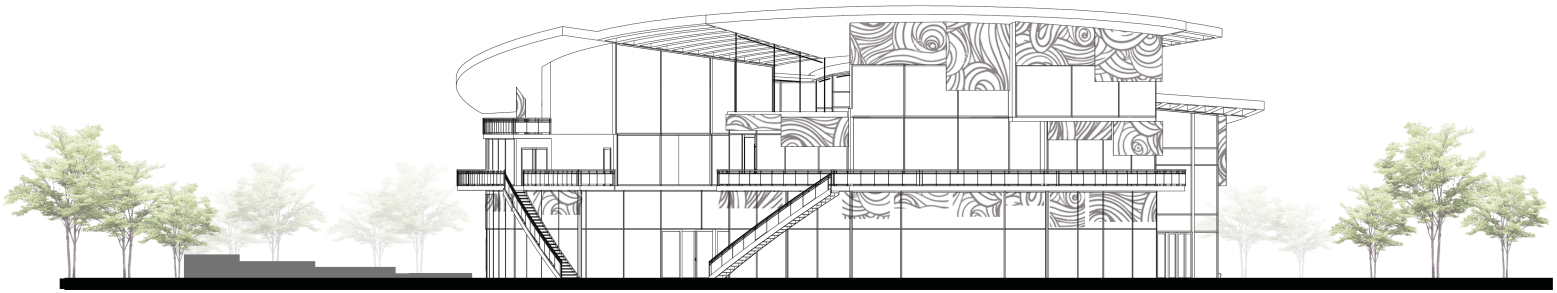


ill. 77 *natural ventilation options through the facade*

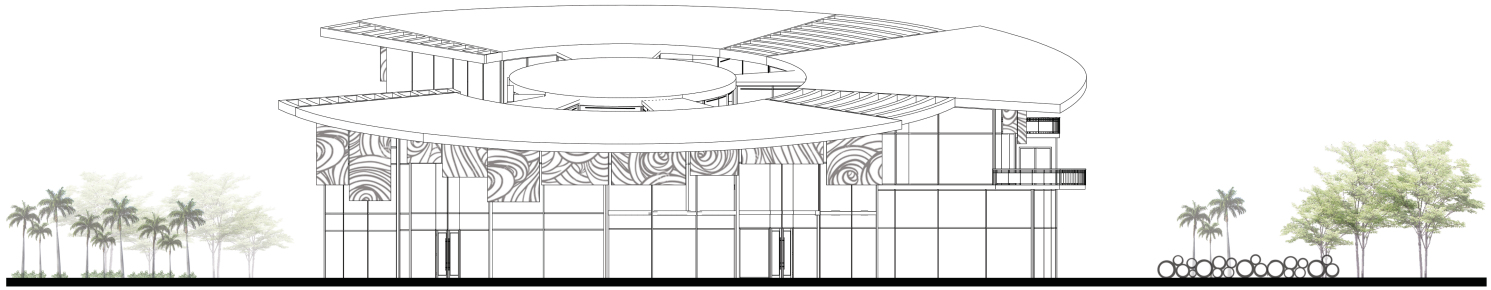
ill. 78 *.Elevation North 1:400*



ill. 79 *.Elevation South 1:400*

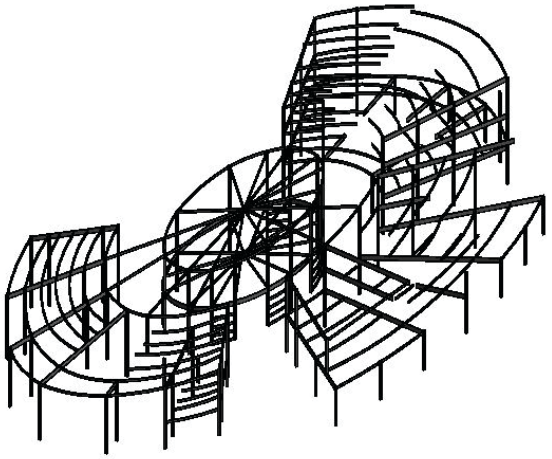


ill. 80 *. East Elevation 1:400*

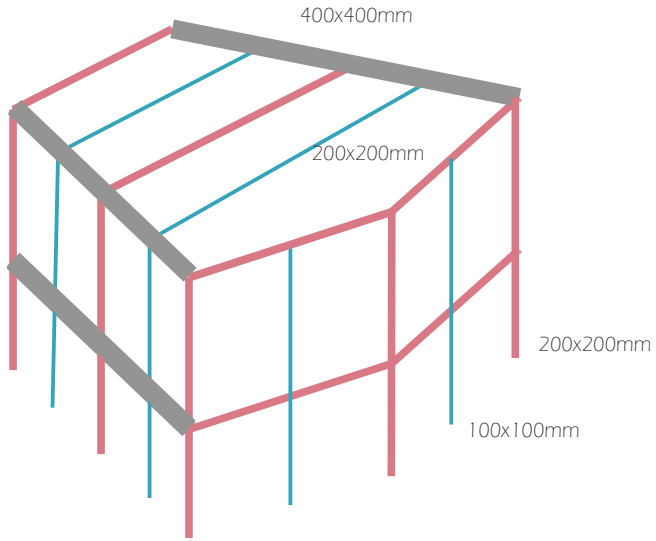


ill. 81 *. West Elevation 1:400*

ill. 82 *.Rendernig of video studio*



ill. 84 *. Steel structure build following the eLlipse shapes*



ill. 83 *. Structural dimensioning*

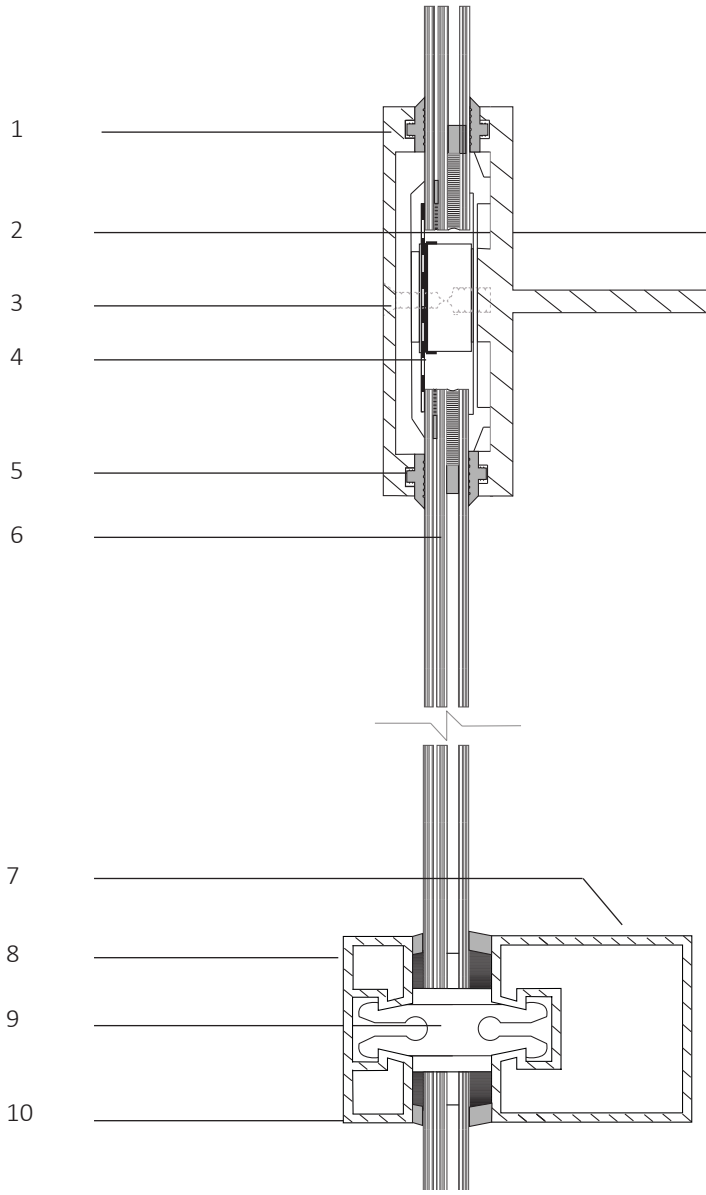
Structural

A light steel structural system is in this project used to provide the undisturbed facades for The Artistic Youth Center. The light steel frames are applied in such way that the main frame highlights the lines spreading out from the center point and also divides up the building in the different functional zones. A secondary system follows the lines of the growing ellipse shape, to strengthen this centered point that The Artistic Youth Center is based on, and the concept of bringing people together and grow new connections through the centered interactions (ill. 84).

The red and black columns and beams illustrate the main system, and the blue columns and beams illustrate the secondary system (ill. 83). The main system consists of H (HEM) steel columns and steel beams with a dimensioning of 200x200mm, making the system look light and open. To resist the long spans and heavy loads of two and three levels, the framing beams in the main system have been required to be 200x400mm. This makes it easy to read the system and the transferring of the loads, making it an honest and tectonic system.

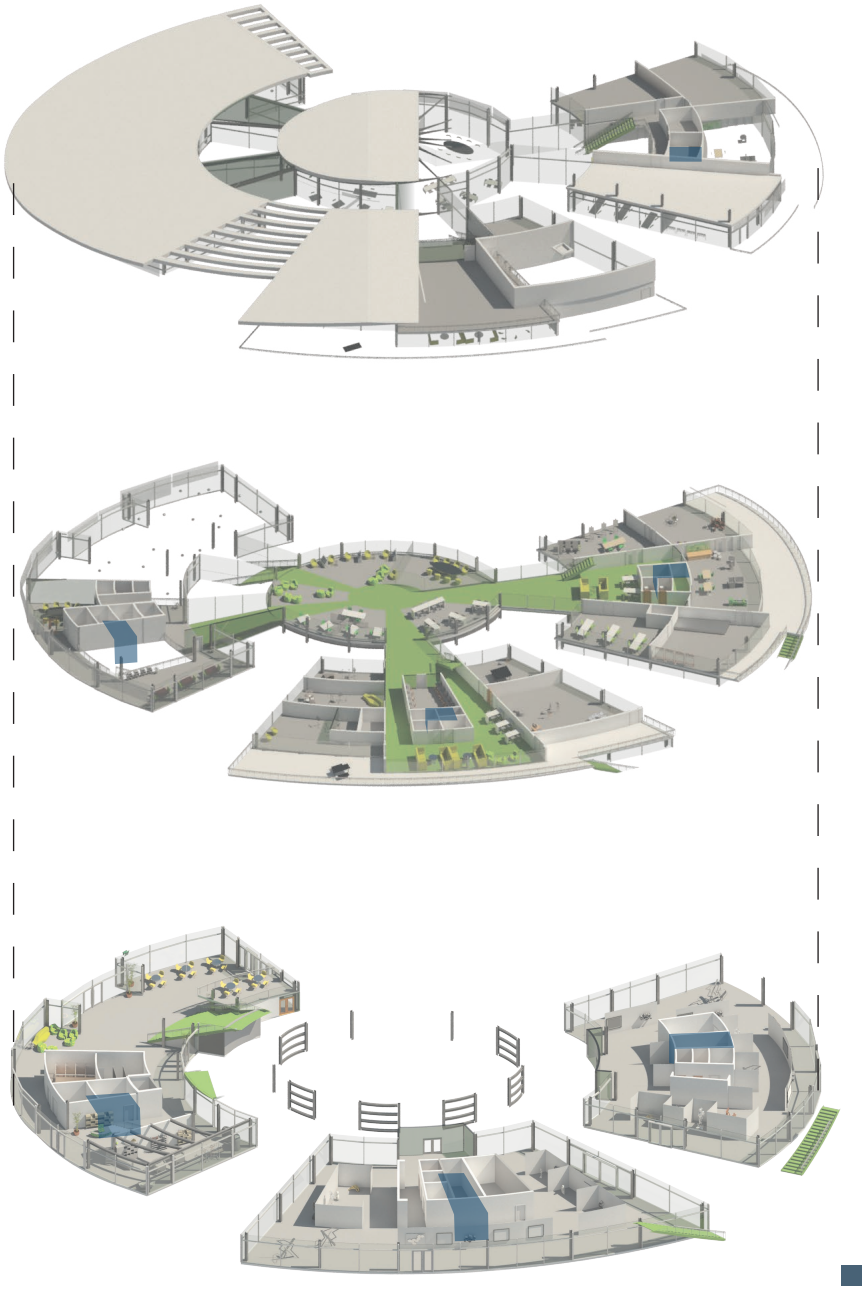
The secondary system consists of columns that are a part of the facade mullions, these are designed to be square, with a dimension of 100x100mm (ill. 85). The secondary beams are designed with the same size as the main beams, to even out the loads for the main beams, and keep them at a light dimension, and not create an uneven view when looking at the exposed system in the ceiling.

The system types and dimesions have specifically been worked towards, having a focus on providing an integrated structural system. The systems being on of the main design guides to other architectural decisions made to the interior and exterior spaces. This is also shown on all facades, where the structural columns are an integrated part of the glass facade as shown in the sectional detail (ill. 85)



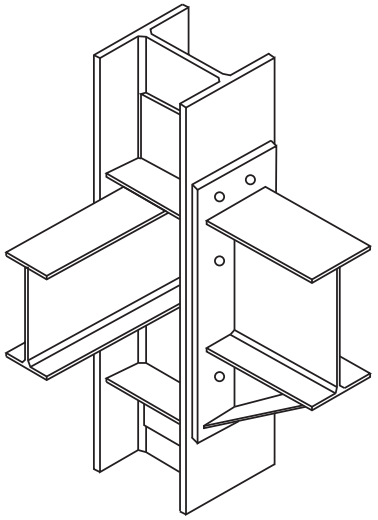
1. Aluminium mullion Cap
2. H (HEM) colums of 200x200mm
3. Exposed Cap Fastener
4. Flexible Butyl tape
5. Molded silicone Gaskets
6. three layered window glass
7. Secondary column 100x100mm
8. Aluminium mullion Cap
9. Molded silicone Gaskets to assemble the two frames
10. sillicone filling

***ill. 85** . 1:50 Detail of glass facade with mullions and the steel column being connected*

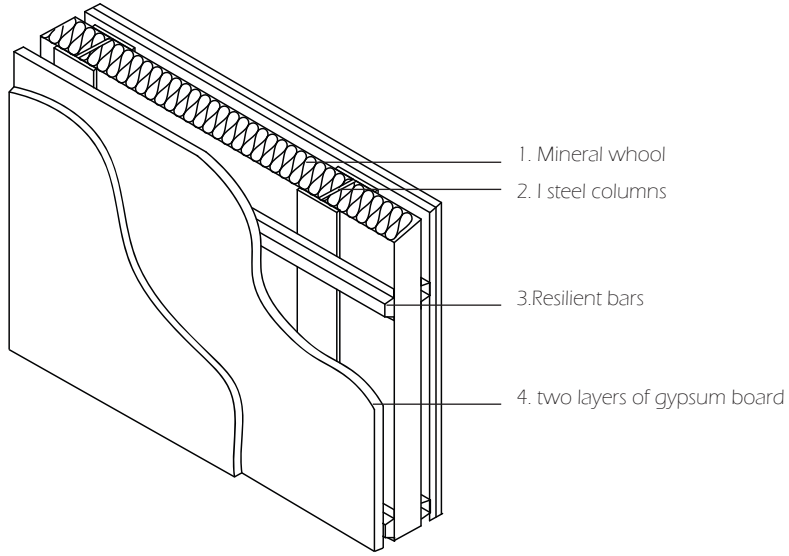


Mechanical rooms/shafts placed centered in three seperated systems, above each other

ill. 86 *. Centered mechanical rooms (blue)*



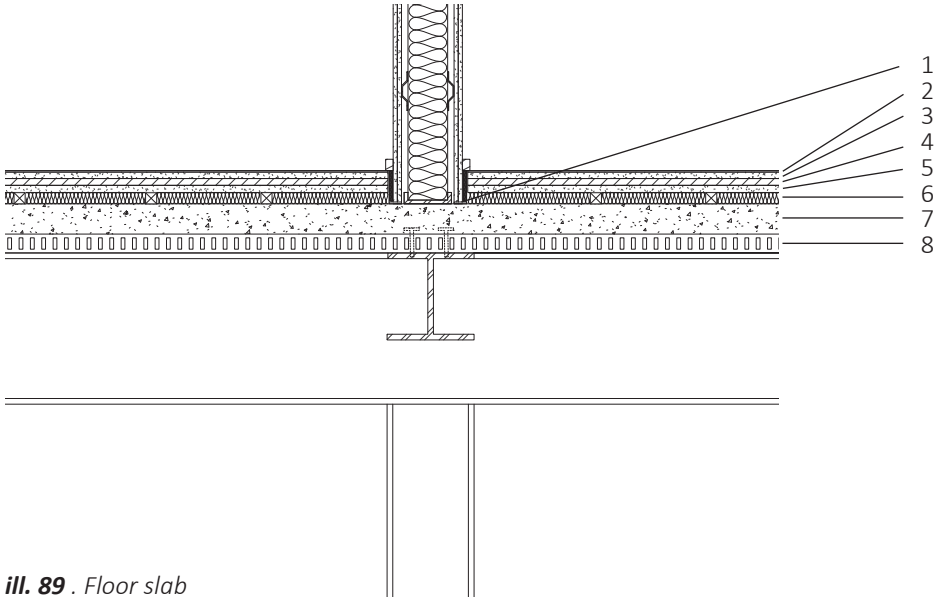
***ill. 87** . Fixed steel element connection*



***ill. 88** . Interior structural acoustic wall*

To supply the light steel structure with supporting solutions suiting The Artistic Youth Center and the use of the spaces, other approaches are also applied. The building shape itself provides extra stability to the system from the lateral loads. The diagonal lines from the center and out to the exterior of the building, aren't parallel, as well as the curved walls also providing stability. The shape, as well as a continues frame, provides undisturbed facades as well as larger spaces. Fixed connections (ill.87) between structural elements have therefore been found to provide a rigid structural system.

All the divided areas of The Artistic Youth Center are arranged in such a way that they have centered spaces of enclosed walls (ill. 86). These walls are structural with a light gauge steel framing, providing that extra support needed to avoid brazing on the façade. These structural walls in the interior spaces are all constructed to be sound proof. This to not disturb the exhibition and collaboration areas with noise from music or workshops, as well as the mechanical system. By applying insulation between the frames, and using resilient bars to apply the gypsum board on, the sound vibrations will be absorbed in the interior walls (ill. 88).



ill. 89 *. Floor slab*

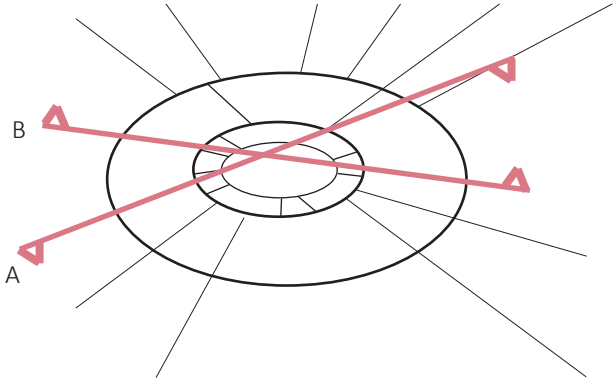
1. Gap filled with acoustic seal
2. Linolium top surface
3. Kork 3mm
4. Chipboard and walking surface 18mm
5. Plaster board 19mm
6. Mineral whool 30mm
7. Poured concrete deck 80mm
8. Shallow decking 50mm

The floor slabs are as well designed with a soundproof mindset, to avoid disturbance from other levels. Above the exposed light steel structural beams, is a shallow decking followed by the concrete deck and the isolation layers. Besides the sound absorbing layers, the openings have been filled with acoustic sealant (ill. 89).

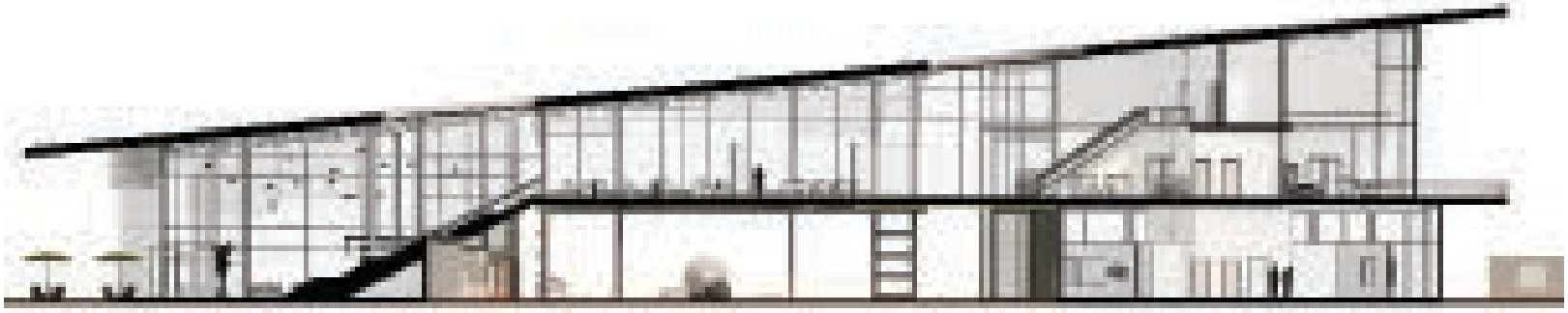
Because of the diverse use of the building and the financial aspects, a sustainable and durable material like linoleum is surfaced on all floors. All materials through the building have been kept in basic and raw colors, to provide the purest canvas, for the spaces to evolve and express through the user's adjustments and activities.

SECTIONAL VOLUMING

The Artistic Youth Center is diverse in its design and programming. If looking at section A (ill. 90), it shows how the artistic fields, have different settings and spaces to gain knowledge in. The one-story rooms, are more intimate, especially if you are having smaller courses. The common space ceiling slopes, so there is a cozier area of the space, and then it inclines to a bigger open space. These sloped ceilings are a big part of providing these visual interactions between the fields them selves and the community. Double height rooms, always have a view to some of the other spaces on the other levels. The atrium in the administration area creates a connection to the visitors in the reception and a feeling of being in the same space. If looking at section B (ill. 91), the flow through the building, going from public to private, also follows this diagonal flow through all the spaces. The further up you go in the building the more private are the spaces, but all the flow paths up are meant for interactions, so here there are no closed or private spaces.



ill. 90 *Section A 1:400*

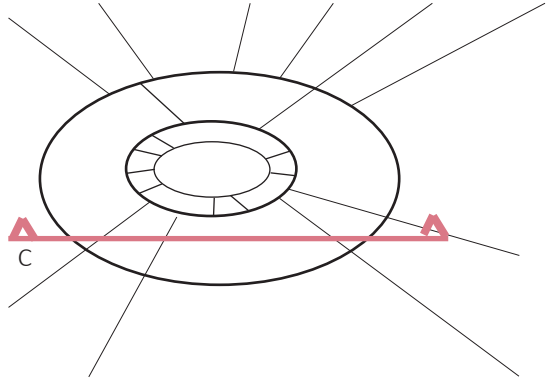


ill. 91 *.Section B 1:400*

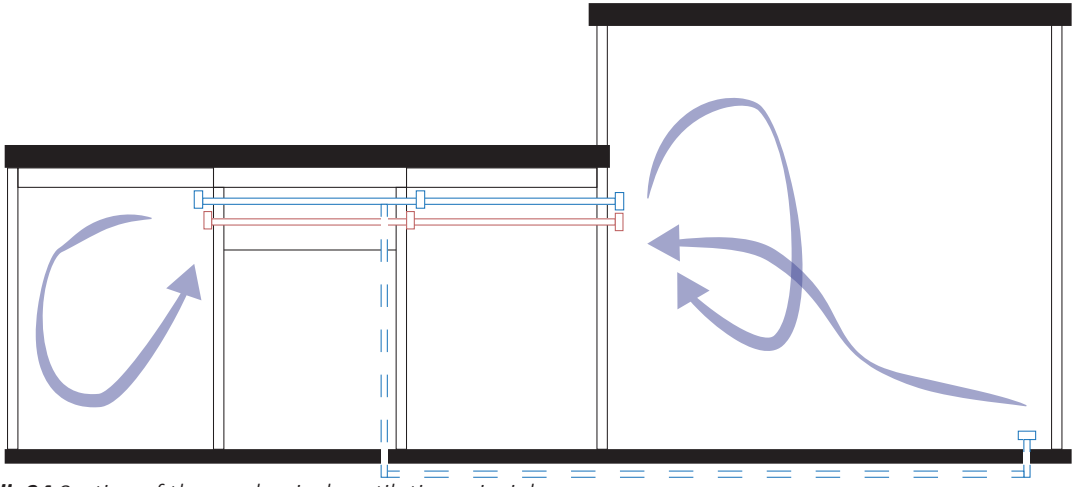
MECHANICAL SYSTEM

With the building build up as three individual buildings that are then connected through bridges and the roof, all buildings have their own centered enclosed spaces where their mechanical system runs. With the structural elements being such a big part in highlighting the lines, the ventilation system is better of being hidden, not disturbing these aesthetics from the structural system. The centered spaces in all buildings are practical rooms such as; restroom, computer labs, and storage. The ceiling in these spaces are therefore dropped down ceiling hiding the mechanical system between the beams and new ceiling (ill. 93)

The main mechanical system is a mixing ventilation system, that is applied in the smaller spaces from the center's mechanical rooms. In the bigger spaces like the common space and collaborative space, the mixed ventilation applied in different zones in the floor, to reach the areas further away from the centered cors (ill. 94). The further layout of the ventilation system is applied in appendix 13.



ill. 93 *.Section C 1:400*



ill. 94 *Section of the mechanical ventilation principle*

ill. 95 *Art from Wynwood Buildings*

PROCESS

The integrated design process for The Artistic Youth Center, will in the following pages be described to give an understanding of the finished design. The entire process consists of smaller individual processes, which will be explored in different chapters of the diverse areas that all come together. The project consist of both a general process and the individual processes for different areas of The Artistic Youth Center, which have been worked with into further detail.

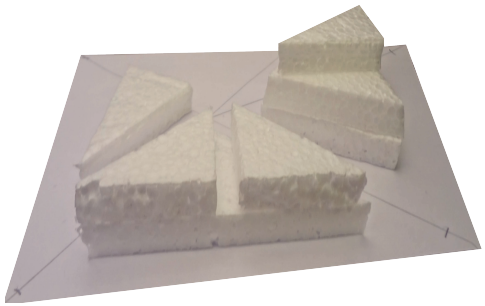
This process is examined through illustrations and pictures of models and analyses made. The different areas being described are; the shaping process, technical process, structural process, floorplan process, interior detailing and outdoor process.

BUILDING SHAPE

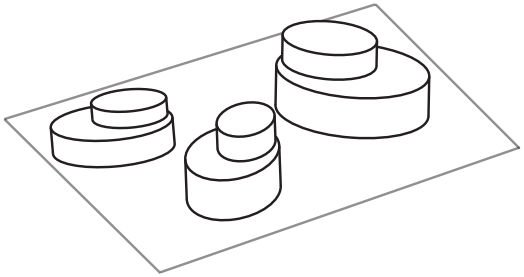
The building shape has been an ongoing process, already taking its point in the site analyses (ill. 96), and creating maximum volumes based on this and the climate analyses (ill. 97). To not narrow down the design and shape possibilities, a model workshop with random design ideas was explored. Pros and cons for the different ideas were evaluated, keeping in mind the analyses results, the structure, the flow and the interaction between the community and The Artistic Youth Center. A chosen conceptual design was merged with the first volume studies (ill. 102) and this was developed in further detail through the programming and the technical explorations of daylight (ill. 103), acoustics, and ventilation (ill. 104).

***ill. 96** . Maximum shapnig based on flow lines*

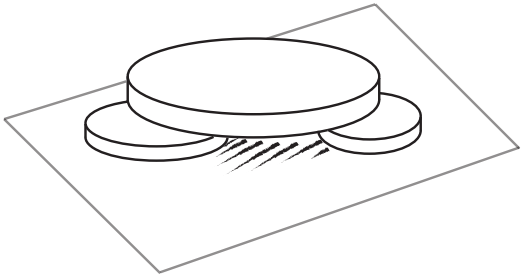
***ill. 97** . Climate analysis applied*



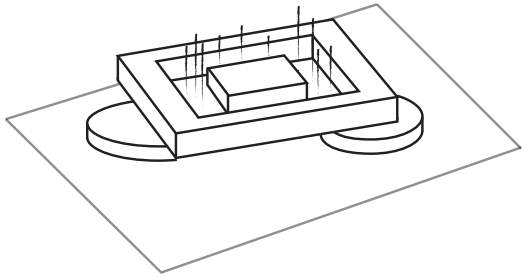
***ill. 98** . Functions applied*



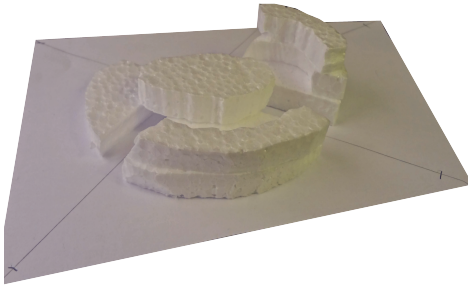
***ill. 99** . Organic divided shapes*



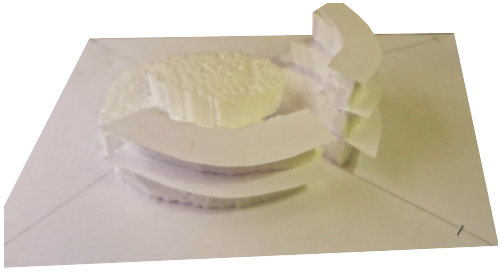
***ill. 100** . Organic divide shapes with one common spaces on second level*



***ill. 101** . Rectangular shapes on above levels and dayligt access applied*



***ill. 102** . Program and design combined*

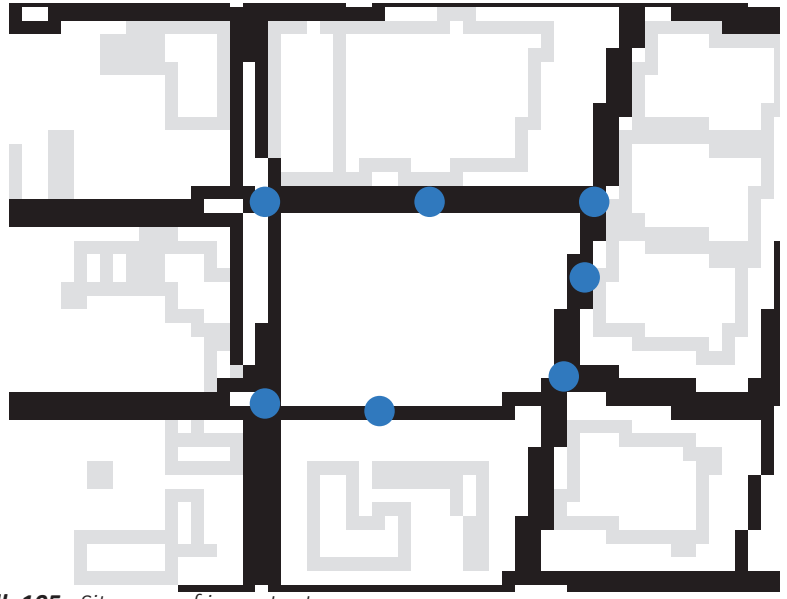


***ill. 103** . Day light applied overhangs*

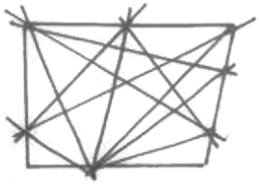
***ill. 104** . Acoustic and visiblle interaction inspired tilted roof*

CONTEXT INFLUENCE

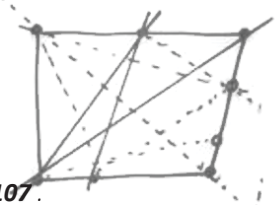
The first steps in the shaping of the building took its starting point in the site analyses. Based on the surrounding buildings and existing flow, the site was divided up with new flow lines to create short cuts from important locations providing interactions between the surrounding community and the users of The Artistic Youth Center. As shown in ill. 106 to 129, this started out with a total of 11 different flow lines that were then sorted based on which flow lines were of highest importance. It was narrowed down to three main flow lines all intersecting each other in the center of the site. These flows were the ones thought to attract the most diverse group of people from the different surrounding buildings while providing this centered point the building could evolve around.



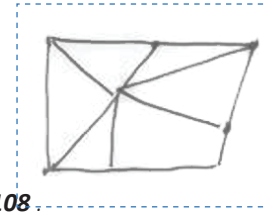
ill. 105 *. Site map of important access*



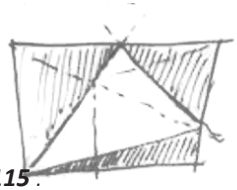
ill. 106 .



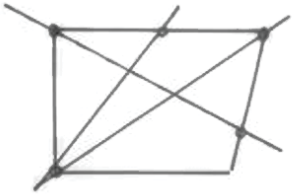
ill. 107 .



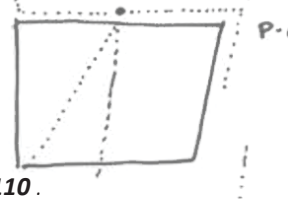
ill. 108 .



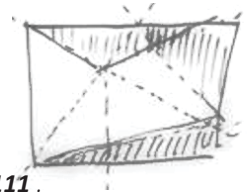
ill. 115 .



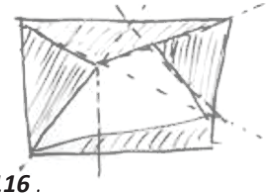
ill. 109 .



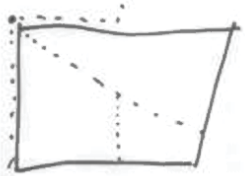
ill. 110 .



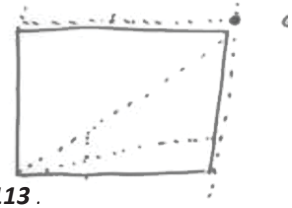
ill. 111 .



ill. 116 .

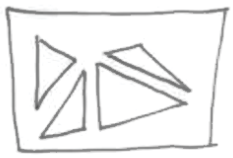


ill. 112 .

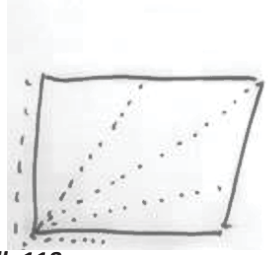


ill. 113 .

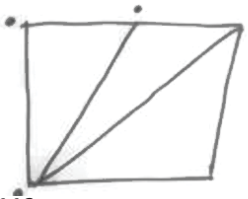
ill. 114 .



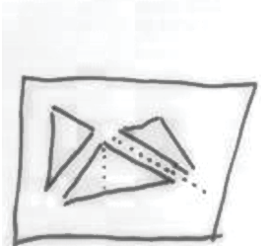
ill. 117 .



ill. 118 .

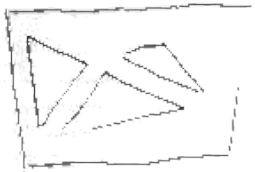


ill. 119 .

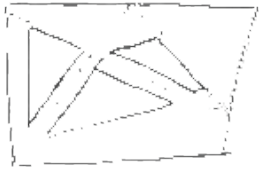


ill. 120 .

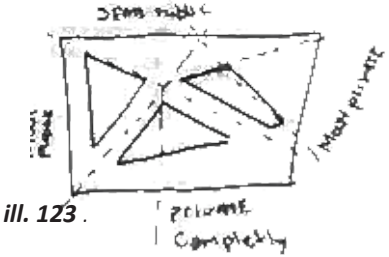
ill. 127 .



ill. 121 .



ill. 122 .



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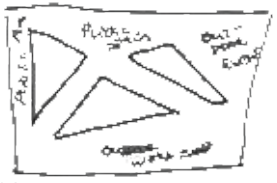
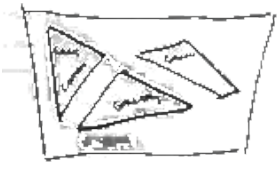
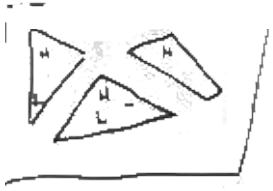


ill. 128 .



ill. 124 .

ill. 125 .



ill. 126 .

ill. 129 .

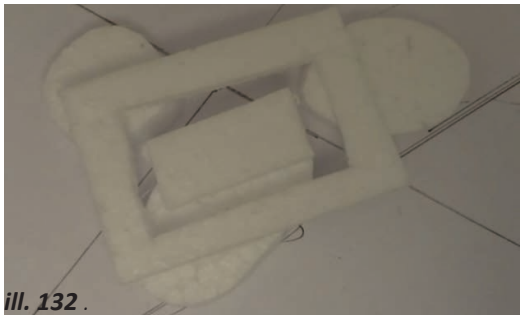
WORKSHOP MODELING

Based on the flow lines created, the first shaping of the building took place in massive triangles (ill. 96, page 103). With the climate analyses in mind, the mass height was adjusted in all triangles (ill. 97, page 103). With the development of the room program and functions diagram, the triangles were adjusted and shape was developed as rooms with different heights were located.

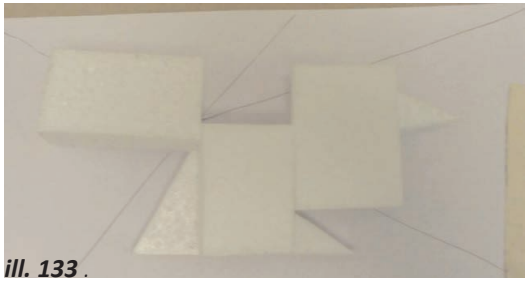
A model workshop provided new ideas for shapes, taking their point of the three main flow lines (ill. 130-141). Further illustrations in appendix 6. The three chosen models for further development were more circular and welcoming around the flow lines. The first model (ill. 130 & ill. 99) had the openness and exciting form language for the outdoor spaces, but having the building divided into three separate buildings, didn't inspire for much collaboration. The second model (ill. 131 & ill. 100), had one unified level on the second floor, suitable for collaboration and all fields. This gives a lot of darkness and a closed feeling to the flow lines. The third model (ill. 132 & ill. 101) had the gathering second floor, while still providing open atriums, to provide light and air for the flow spaces. But the most of using organic shapes on the ground and a more cubic shape on the second floor, created a feeling of the different levels being separated and not united as one center.

ill. 130 .

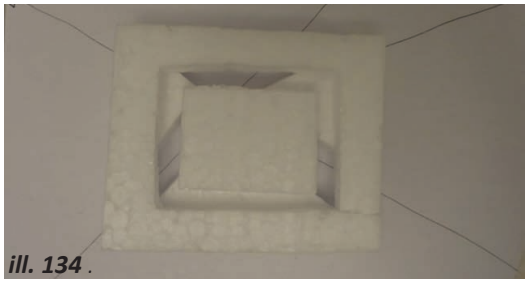
ill. 131 .



ill. 132 .

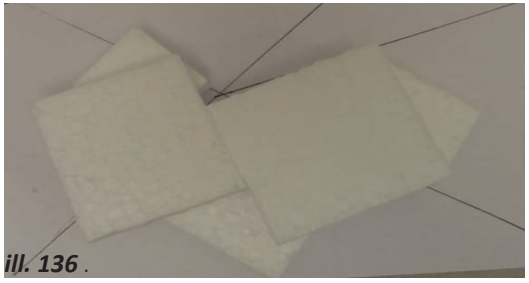


ill. 133 .

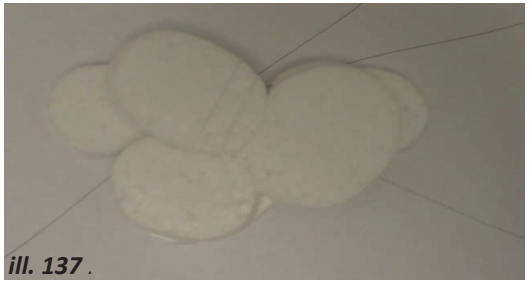


ill. 134 .

ill. 135 .

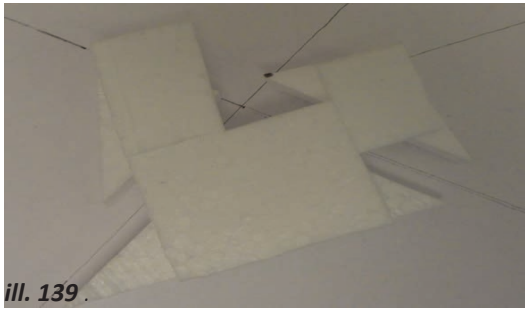


ill. 136 .



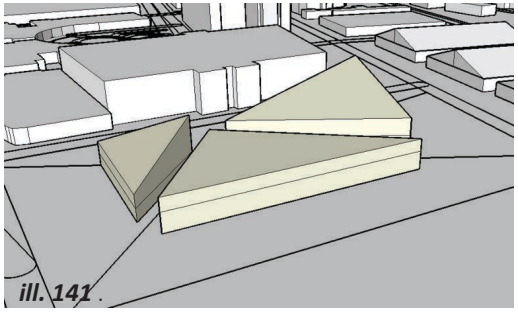
ill. 137 .

ill. 138 .



ill. 139 .

ill. 140 .



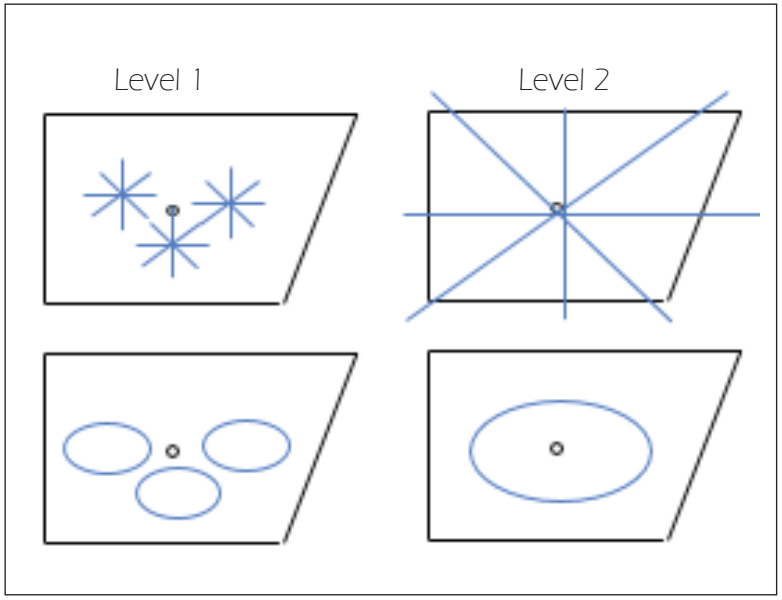
ill. 141 .

STRUCTURAL GRIDS

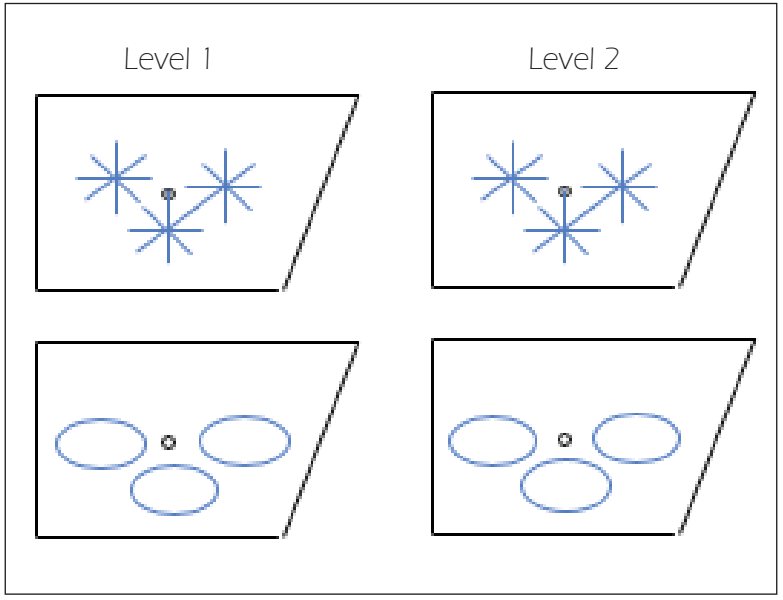
The structural process started early in the project when looking at case analyses. The Shibaura House used as the second case, had the open and light looking structure, which complemented the intentions and use of the building. This system was therefore researched further to apply the content of a chosen system like this to the building.

Further more the three chosen workshop ideas were explored with a structural mindset. Investigating different structural grids, and what complications and possibilities these could provide.
From previous experience, complications appear when the structural grid is not the same in the different levels of the building like ill. 142 & 144. It is not impossible to make such design work, but with a concept of making it a simple and easy readable system, having the same structural grid on all levels as shown in ill. 143 & 145, would be more suitable.

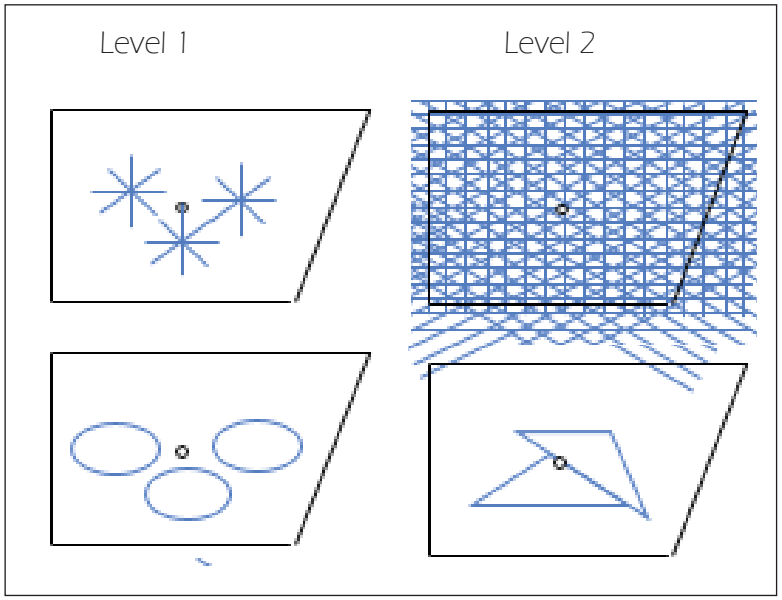
After the concept evolving, uniting the grid into one circular system would highlight the intentions and concept of creating interactions and collaboration between different fields making it work under the same centered space. The grid on ill. 145 symbolizing this center where everyone interacts and grows from, was chosen.



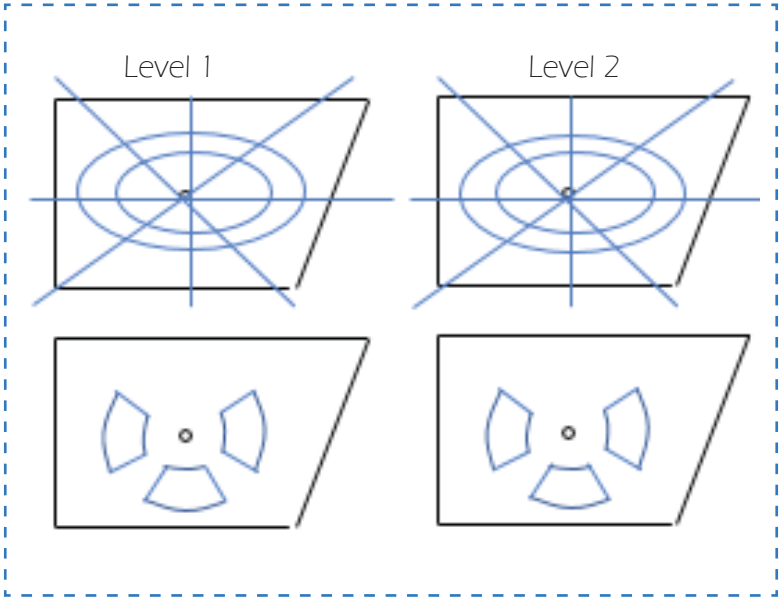
ill. 142 *. Divided ellipse inspired structure, with another elipse structure on second level*



ill. 143 *. Divided ellipse inspired structure on all levels*



ill. 144 *. Divided ellipse inspired structure, with rectangular grid on second level*



ill. 145 *. Ellipse inspired structure, continued through both levels*

STRUCTURAL SYSTEMS

From the start, there has been worked with a steel frame structure (ill. 146). This was inspired by the case study of the Shibaura House, where the steel posts and concrete slabs, provide flexible spaces in the open floor plans. Here the structure is also a big part of the façade and the spatial expressions, which is also the intentions for the structure in The Artistic Youth Center. With knowledge about steels strength and possibility for large spans, choosing this material made it possible to have smaller elements, keeping the system looking light and open spaces undisturbed by columns

Based on thumb rules for steel columns to achieve sizes of maximum 200mm x 200mm, the spacing between them should be maximum 9.5 m when working with a three-story building and 11.5m when working with only 2 stories (ill. 147).

To apply the result from the daylight analyses functions not needing natural lighting have been located in the center of the bigger spaces, in such way that accommodates the functions needed space, and sizing them so the space between the center walls and exterior façade don't exceed 9.5 meters (ill. 148).

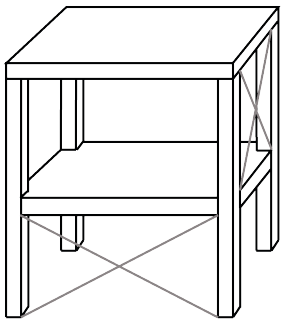
Another reason for a light structural system on the exterior facades was the intentions of framing the interior spaces, as well as providing a system that doesn't have brazing in the exterior facade for the lateral loads. To avoid this, other systems have therefore been explored, where inspiration in both continues frame and using the interior centered walls have been applied. The connection between all elements is therefore looked further into, to provide rigid connections (ill. 149).

A truss system has also been explored. The trusses come with many benefits also being good for long spans, and for the functions to easily use the exposed structure for flexible solutions when exhibiting art. They have been placed to strengthen the lines from the growing eclipse, as well as provide stability between the main frames (ill. 150).

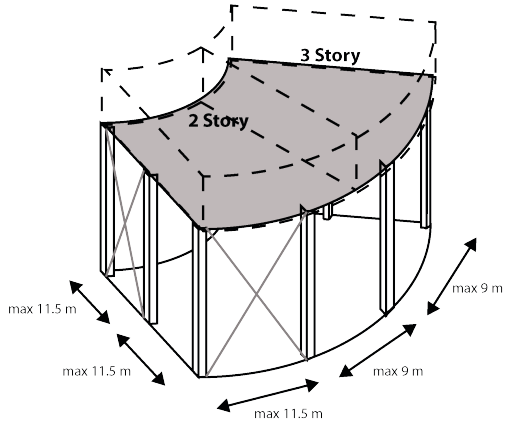
The type of system applied to the centered spaces was also worked with, to apply the structural and acoustic needs for all spaces. To maintain the structural elements in all spaces, at a dimension providing a light look as well as keeping the appearance of the different dimensions in the system clear, to easily read the system. extra support from the centered walls was needed (ill. 151).

Besides providing a lighter looking system by using the support from the rigid system and the centered enclosed spaces, the big spans between all columns was to be divided up into sections for the curved glass. These were divided in the center and the mullions were designed in such way that they also became a part of the structural system, providing extra support for smaller dimensions on the rest of the columns (ill. 152).

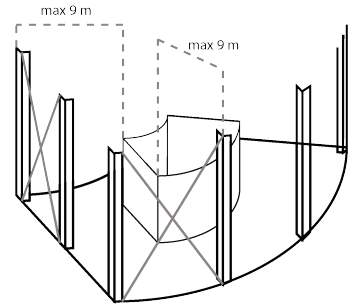
For calculations, this was detailed by working on the exhibition space, which illustrates the most common scenario through the entire building. After detailing the final dimensions and analyzing the structural stability, the system was applied to the entire building (ill. 154).



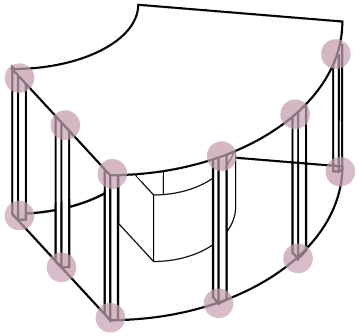
ill. 146 *. Steel frame structure*



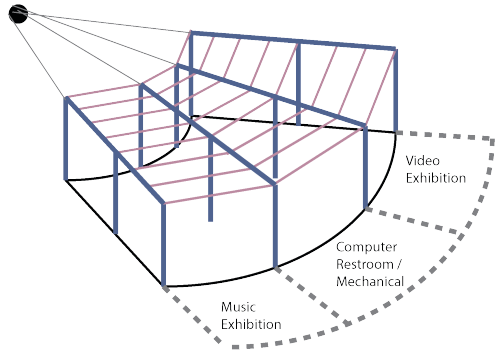
ill. 147 *. Thumb rules applied*



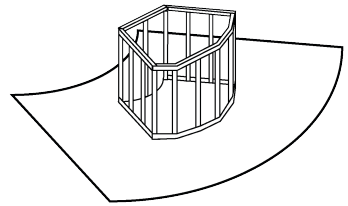
ill. 148 *. Practical functions applied in center spaces*



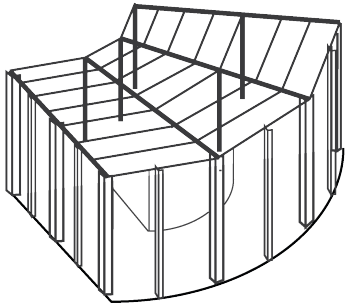
ill. 149 *. Rigid system applied on joints*



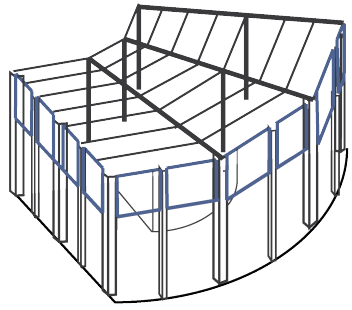
ill. 150 *. Beams applied, growing from the center*



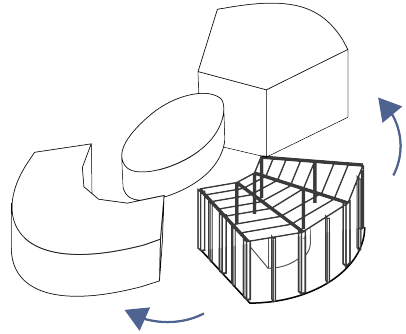
ill. 151 *. Light gauge steel framing, with sound proof approaches*



ill. 152 *. Mullions used as extra columns*



ill. 153 *. HIgh leveled windows applied for ventilation*



ill. 154 *. Structural apprach applied to entire building*

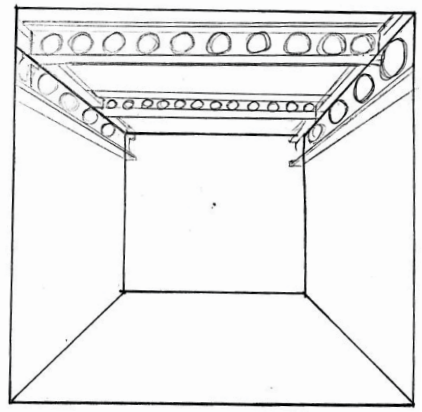
STRUCTURAL ATMOSPHERE

Besides working on the dimensioning based on the structural analyses, the atmosphere and effect on the interior spaces were as well looked at. The goal was that the structural elements should contribute, to the concept of bringing people together through the flow of the building, as well as the tectonic approach of providing a readable system. The main system was therefore from the start, dimensioned larger the secondary system, but there was worked with how much these two systems should stand out from each other.

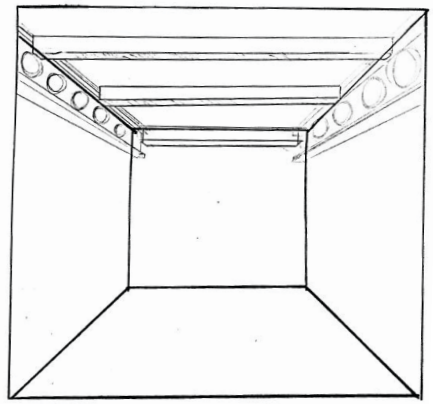
The type of beams used for the structural system was the first thing explored. Here the placement of the mechanical system had a big effect on what systems explored. With beams going in both directions, the mechanical system should be able to go through the system, or the heights had to be further adjusted through the entire building to provide enough open space for exhibitions and work. The first beams explored were the continues cellular beams, which would provide the big open spaces that were needed without brazing and at the same time provide access through the beams for the mechanical system (ill. 155). This dragged too much attention away from the lines created to strengthen the building concept and shape, so a second iteration was explored where only the main system was of cellular beams (ill. 156). Ventilation pipes would have to be carefully planned to only be able to move through the structural system in one direction, but it was still disturbing the clean view of the spaces. A lighter looking system was explored with trusses, to provide more transparent systems in the space (ill. 157). This system worked well, but when adding the mechanical system, which disturbed the lines, the system became too transparent and the lines became unnoticed. The mechanical system was brainstormed, for the final structural system with H beams to be dimensioned without having pipes running through or under the system.

For the dimensioning three approaches explored. The first one was having the secondary system almost being invisible compared to the main system (ill. 158), which provided clear lines to the center point of the building reaching out to the exterior. Then there was worked with highlighting the secondary system through sizing but using other beams than H beams which aren't as structurally strong (ill. 159). This provided a better feeling of the evolving eclipse through the buildings and a curved feeling in the spaces as well, but the reading of the structural system became misguided. A variation where both systems are highlighted but the sizing of the two systems differentiated a little, provided both the feeling of the concept and forms, as well as an easily readable structural system (ill. 160).

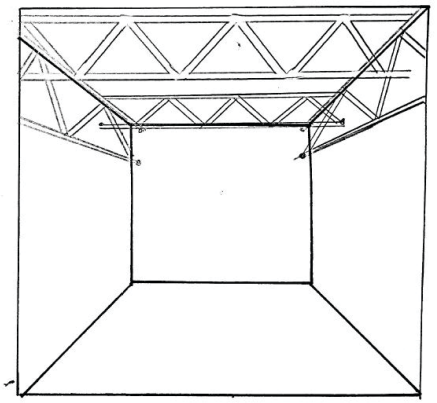
The columns also had a big effect on both the appearance from the exterior but also the interior spaces. The beams were dimensioned in such size that mullions almost weren't needed and a more transparent connection between the glass, was possible (ill. 161). This made the system and columns look very heavy and didn't support the light system, which had been chosen to work with. Dimensioning the mullions and columns to the same size provided the light look for the system that was intended (ill. 162). But the façade seam un honest since the mullions weren't transferring the same loads as the main columns, and therefore over-dimensioned. Adjust the sizes of the mullions and columns to both satisfy the honest reading of the structural system and still look light and open, was done through multiple structural calculations (ill. 163).



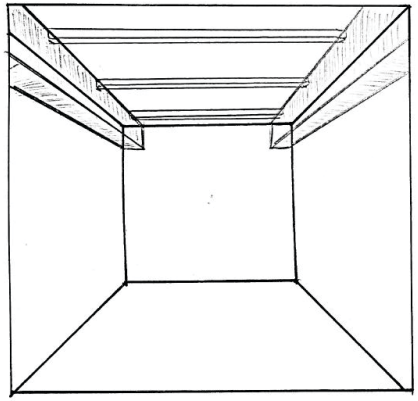
***ill. 155** . Continues cellular beams in both system*



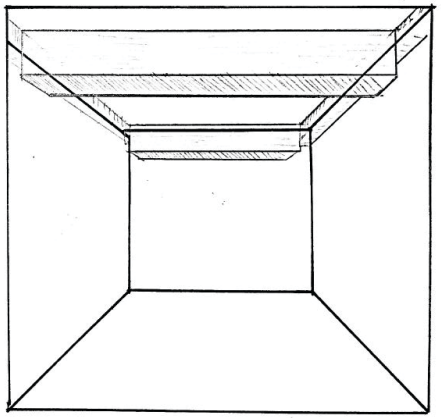
***ill. 156** . Continues cellular beams in main system*



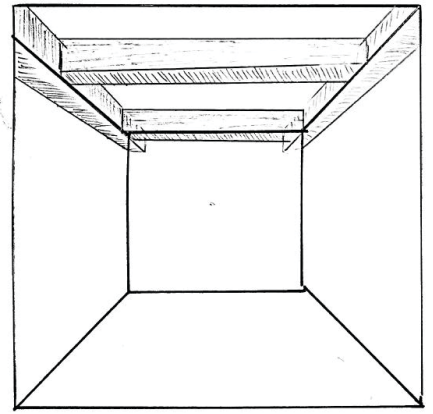
***ill. 157** . Light steel trusses in both systems*



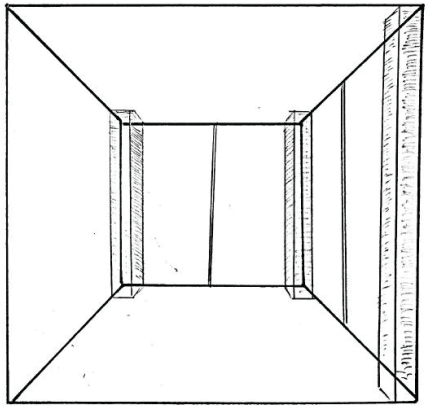
***ill. 158** . Big beams on main system*



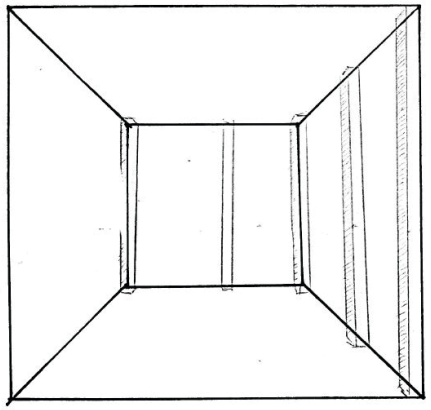
***ill. 159** . Big beams on secondary*



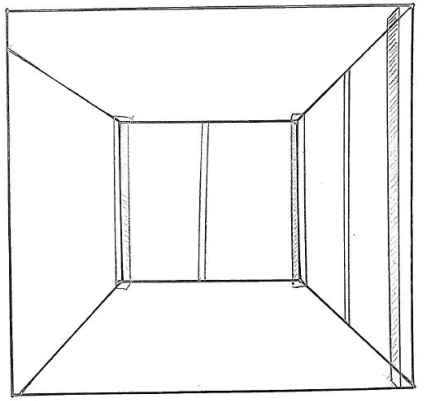
***ill. 160** . Same sized beams on both systems*



***ill. 161** . Big columns and no visible mullions*



***ill. 162** . Columns and mullions same*



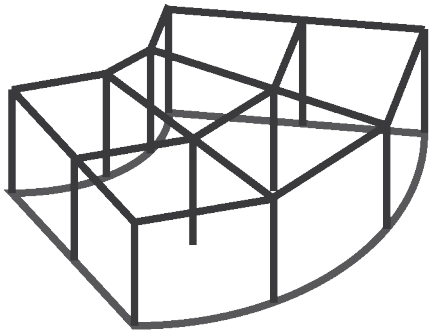
***ill. 163** . mullions sized half the size of columns*

STRUCTURAL DIMENSIONING

Along with the atmosphere and visual effect of the spaces the structural system had, the dimensioning also took big part from the structural analysis through Robot. To make the system as clean and light as possible only the main frame was tested with the wished dimensions and beams along the façade (ill. 164). This resulted in the system being way too weak and elements in more than 2/3 of the system having a ratio above 0.99, and many elements having ratios all the way up to 4.21 causing the system to fail. It was especially the beams, not being able to resist the self-loads, and the columns having trouble with wind loads in the south-eastern corner and transferred loads from the beams.

A secondary system was applied, to provide some extra elements to distribute the loads more equally. Beams were therefore applied to the ceiling as part of the visual appearance as well (ill. 165). This allowed for the main beams to get closer to a stable ratio, but most elements were still above the 0.99. The main beams were therefore strengthened by providing bigger dimensions, which resulted in a more satisfying distribution of the loads, where all elements were beneath 0.99. Few elements had a ratio beneath 0.6, causing considerations to change single elements in the system. For visual and financial reasons, these few elements were decided to be keept as the general system. The columns were still unstable, in the south-eastern corner the ratio had only gone up, where as in the opposite corner the appliance of the secondary beam system had improved the performance of the beam. A secondary system was here applied in connection with the placement of mullions, to keep the wished dimensions at a maximum of 200 x 200mm (ill. 166). Mullions with the same size as the main columns were tested but provided too much support, which allowed for the secondary columns system, to have half of the dimensioning than the main system.

The applied loads to the system and calculations are to be found in appendix 9.



ill. 164 *. Main frame applied*

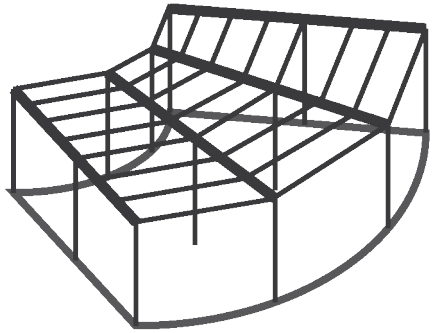
Main frame beams

200 mm

Main frame columns

200 mm

Amount of elements: 103
Elemnts above 0,99 (%) : 35



ill. 165 *. Secondary beams applied*

Main frame beams

200 mm

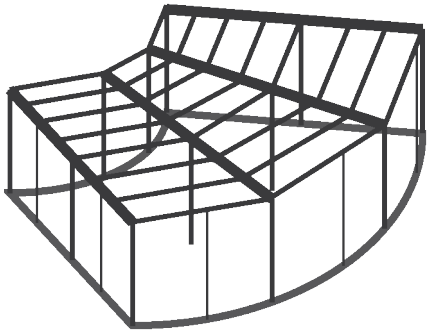
Secondary frame beams

200 mm

Main frame columns

200 mm

Amount of elements: 133
Elemnts above 0,99 (%) :



ill. 166 *. Mullions used as support for columns*

Main frame beams

400 mm

Secondary frame beams

200 mm

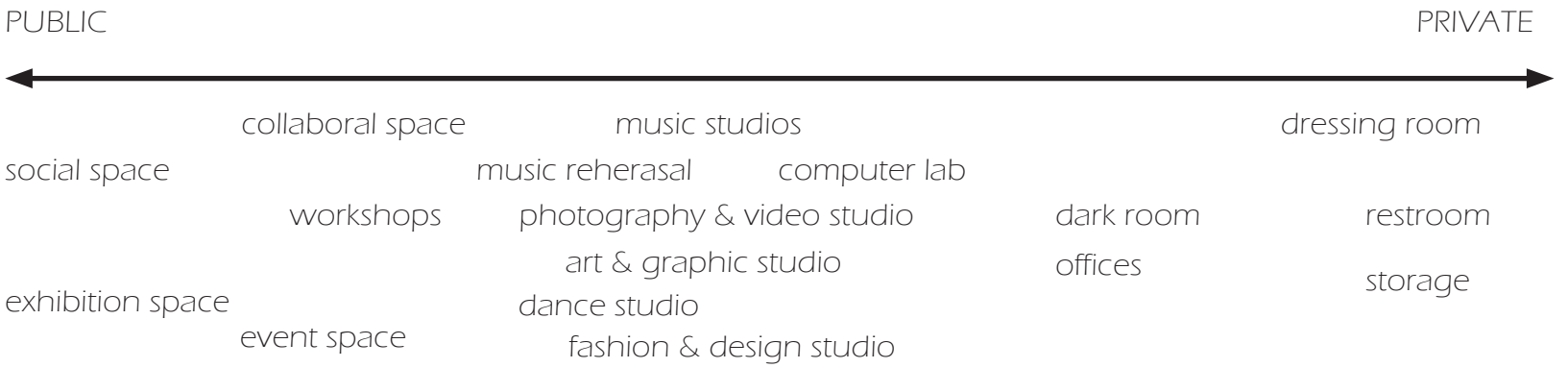
Main frame columns

200 mm

Secondary frame columns

200 mm

Amount of elements: 163
Elemnts above 0,99 (%) :

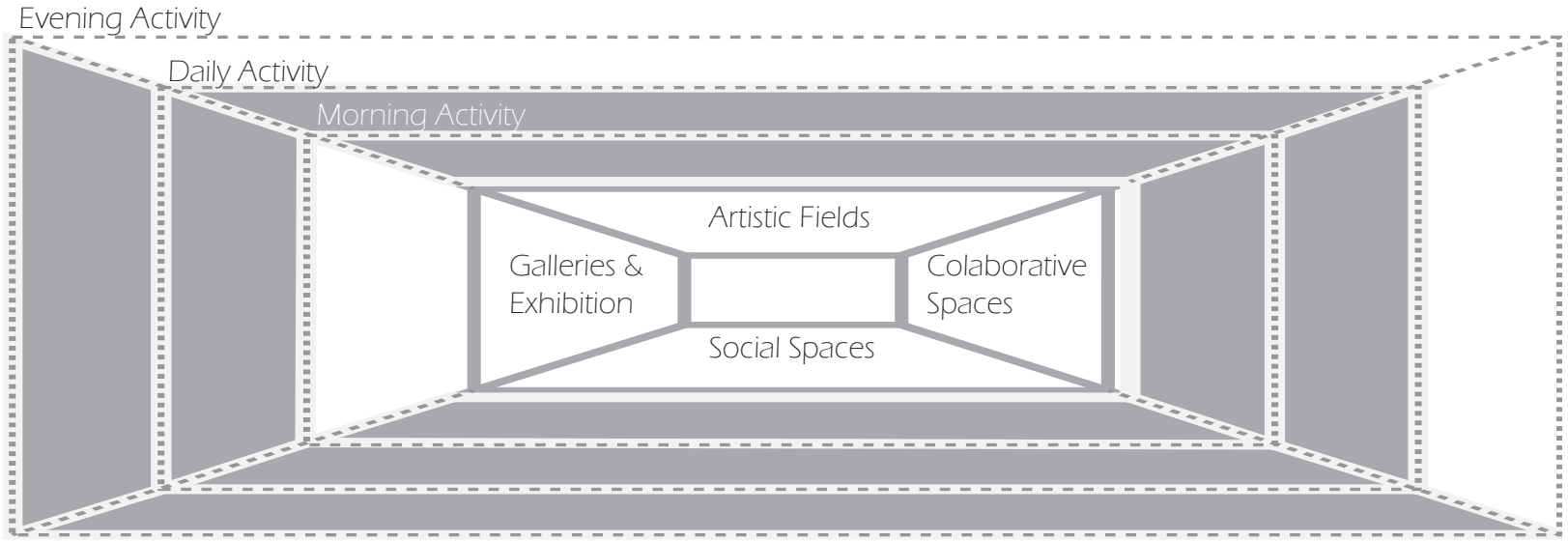


ill. 167 *. Public private diagram*

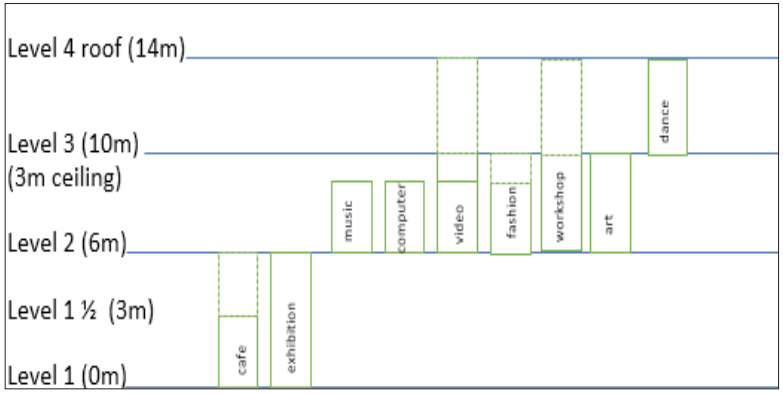
PROGRAMMING

Before being able to apply shape to the building, it was important to look into the programming and the volumes needed for The Artistic Youth Center. This was done by looking at the public and private needs (ill. 167) for all spaces, as well as which times of the day the different spaces would be active (ill. 168). These explorations together with what functions connection to each other, resulted in a functions diagram.

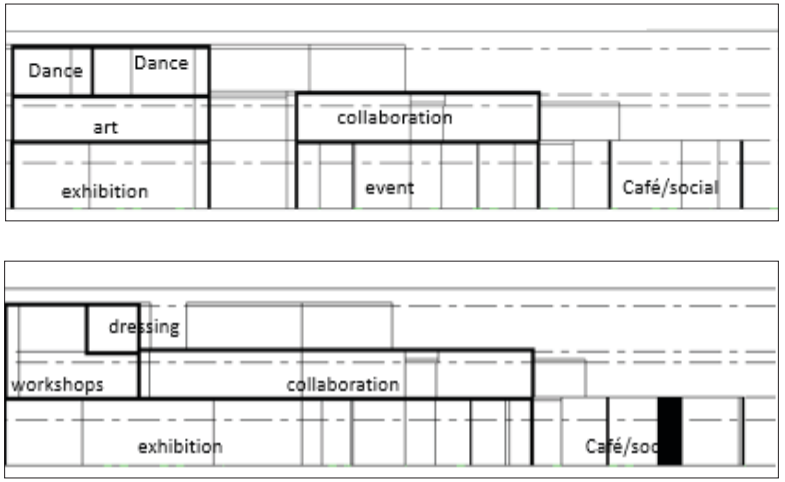
The function diagram created the first outlines towards creating floor plans. The needed sizes and volumes were as well considered for each space (ill. 169), and the function diagram was transformed into sectional explorations (ill. 170).



ill. 168 *. Strain diagram*



ill. 169 *. function heights*



ill. 170 *.Functions height and functional diagram applies together*

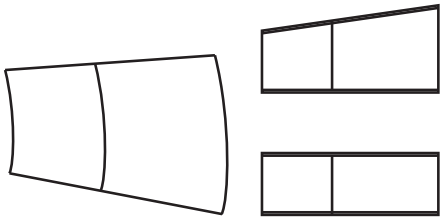
ACOUSTIC

With the many activities going on in The Artistic Youth Center, not all spaces are wished to be disturbed by noise from the other located spaces. There has therefore been a focus in the processes of applying the acoustic consideration into the design. The floor slabs were designed with the main focus to isolate the exhibition areas from the sound of the above-placed fields. The centered spaces in all building where restroom, mechanical system and shafts are located, were in focus when providing a system for the interior walls.

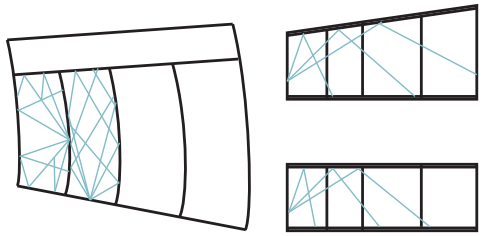
But the acoustic qualities for The Artistic Youth Center is also about providing good sound to the existing activities. With the music fields, it was important to have some guidelines when creating spaces for such activity. With a further study on the specific theoretical qualities of this type of musical spaces in appendix 3 and 4, it was possible to transform the theory into an evolving floor plan.

Two types of rooms were explored, knowing they would have to be applied to the grid and ellipse shape, a bigger more squared space and a smaller rectangular space (ill. 171). The results showed that the recommended reverberation time of under two, was closest to being achieved in the smaller spaces accurate to the theory, by having the source and receiver in the shorter distance of the rooms (ill. 177). After applying the first iterations and analyzing on the giving spaces, the rooms were adjust based on the result from the plug-in to Rhino, Pachedam. Improvements in the reverberation time were made when the ceiling was raised and tilted (ill. 178), creating the shape of a megaphone. This influenced not only the floor plans in the musical areas, but also the shaping of the buildings through the ceilings and overhangs applied.

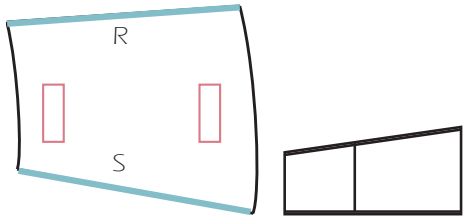
The detailing solutions were also looked at through the acoustics, by applying the different materials, glass and gypsum board, to the walls in the spaces. This to find that glass behind the source and receiver improved the acoustic qualities (ill. 180). By applying and moving around with audience and other elements absorbing the sound in the space, these were as well located (ill. 181). This helped the general design decisions for the materials through the building and the detailing of the floor plans. Furnishing was also integrated into the analyses, to improve the quality through the design of the interior spaces.



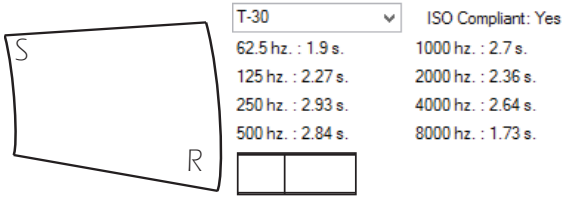
ill. 171 *. two types of spaces tested*



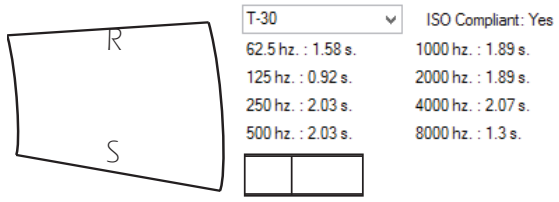
ill. 172 *. Rays if the sound*



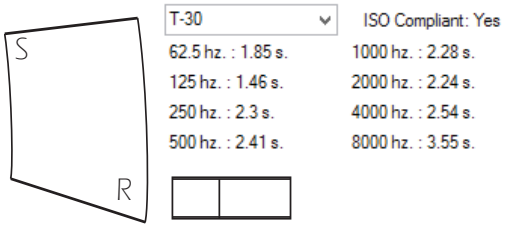
ill. 173 *. Final result from analysis*



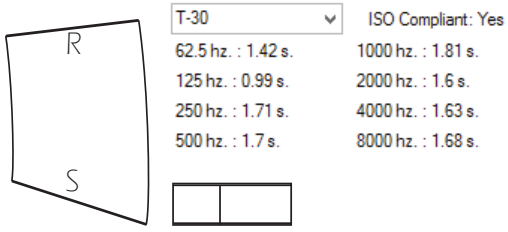
ill. 174 *.squared spaces tested*



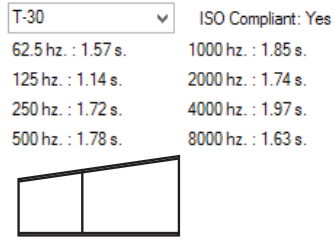
ill. 175 *. squared spaces tested*



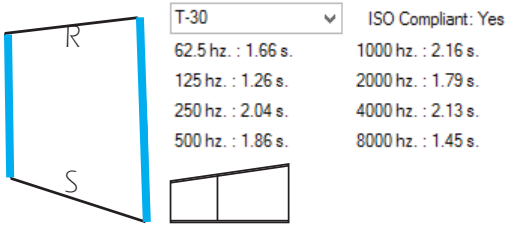
ill. 176 *. rectangular spaces tested*



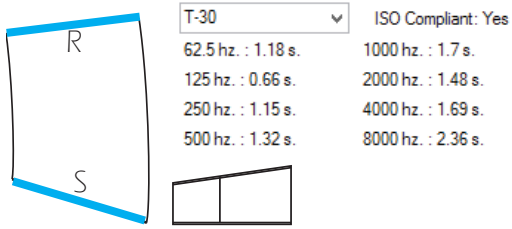
ill. 177 *. rectangular spaces tested*



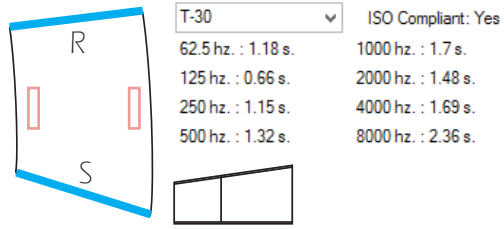
ill. 178 *. rectangular space with tilted ceiling*



ill. 179 *. Material applied to the analyses*



ill. 180 *. Material applied to the analyses*



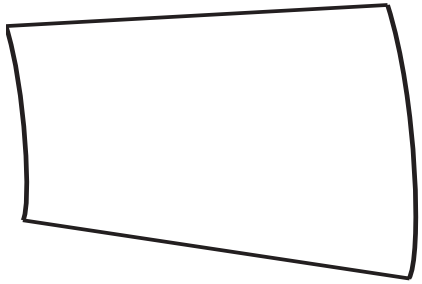
ill. 181 *. interior furnishing and people applied*

DAYLIGHT

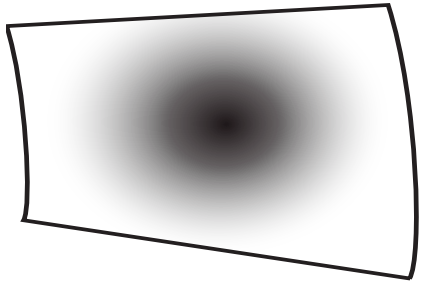
Daylighting factor was also important for the spaces, all floors were analyzed with their specific location and correct materials applied (appendix 8). The first iteration of the ellipse shaped building had a daylight factor above two in the entire building and was therefore properly lightened (ill. 182).

With the tropical and hot conditions in Miami, a solution that would minimize the daylight transmittance into the spaces, while still achieving the correct lighting, was explored. Less transmissive glass was therefore applied, creating less lighted spaces, in the center of the rooms (ill. 183). Together with the structural analyses and process, this was solved through the floor plan, by applying the practical rooms in the centered areas (ill. 184).

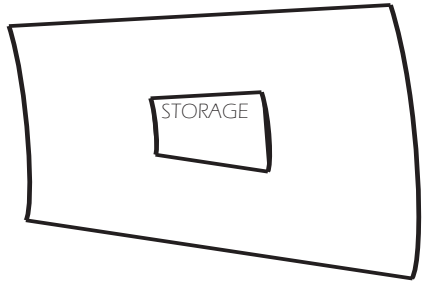
Overhangs on each floor were applied for further improvement. This again, made the centered areas less lighted, creating opportunities for practical rooms (ill. 186). The application of the overhangs and the acoustic tilted roof gave a lot of shade to the flow spaces, and a semitransparent roof was developed, providing more light for the outdoor covered spaces (ill. 187).



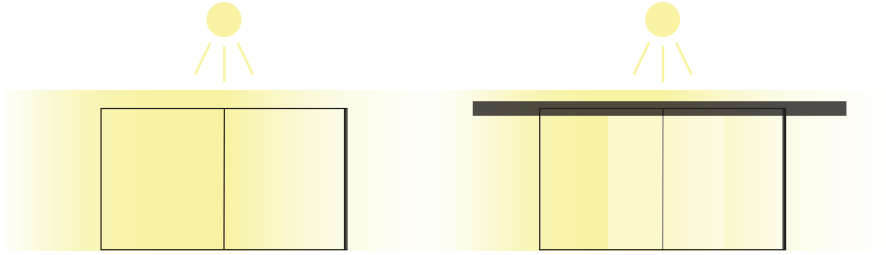
***ill. 182** . 78 % Transmissive glass*



***ill. 183** . 42% Transmissive glass*

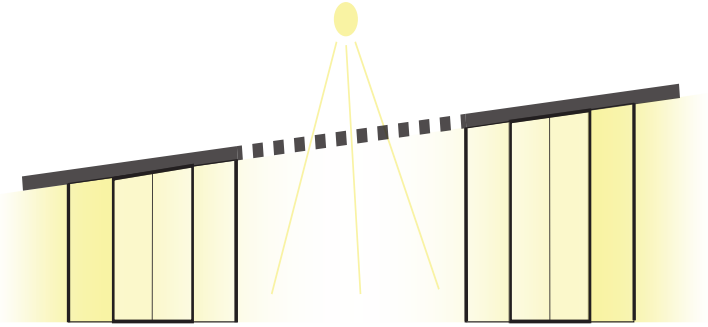


***ill. 184** . Location of dark functions in center spaces*

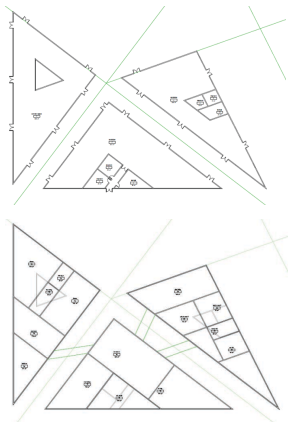


***ill. 185** . No overhangs*

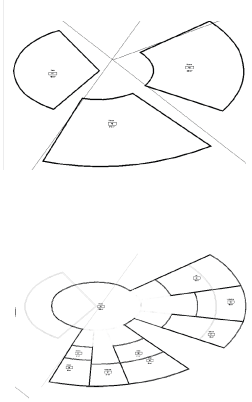
***ill. 186** . Overhangs for each space*



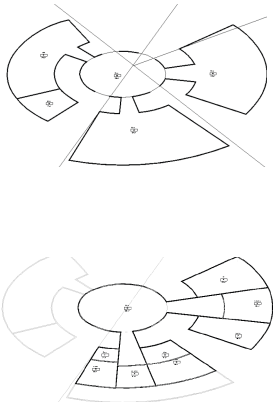
***ill. 187** . One big connected overhang*



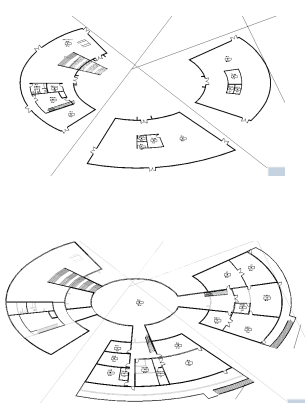
ill. 188 *. Triangular plans*



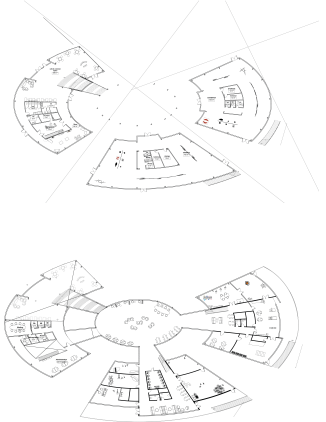
ill. 189 *. First ellipse*



ill. 190 *. Flow changes*



ill. 191 *. Practical Centers*



ill. 192 *. furnishing plans*

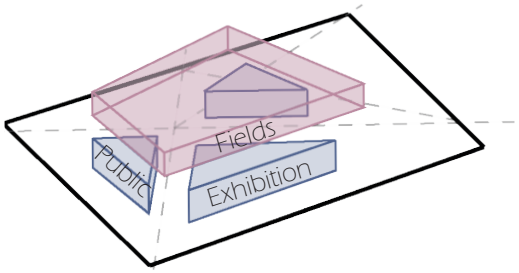
FLOOR PLAN

The floor plans were from a very early phase in the interactive design process affected by all aspects. The first iteration of a floor plan was based on the explored flow line, function diagram and the room program created. These plans were shaped through the building being divided into bigger zones (ill. 193), which resulted in the first plans shown in illustration 188, and further explored. This caused a lot of unusable space and a form language that at this point wasn't very welcoming (ill. 194).

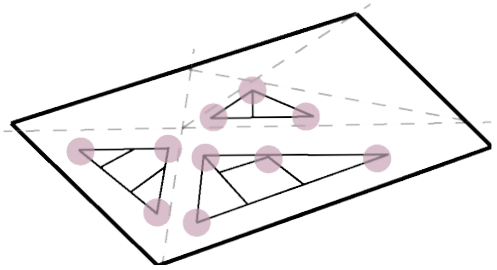
After the model workshop, the structural grid was worked on, causing the floor plan to be based on the ellipse shape and the centered point. All functions were again applied in their initiative size to the new plan (ill. 195). The plan was further worked on to combined certain functions and work in a two-dimensional space (ill. 198), by incorporation sectional planning, to create a connection to the different levels of the building the first elipse plans were sketched out (ill.189). Just as the external flow lines being of high important, and a main design tool, the interior flow lines were as well worked on, to further develop the interior spaces and placements of functions (ill. 190). During this process the structural development and daylighting analysis, were applied in further detail to the floor plans, providing all zones with practical functions in the centered spaces (ill. 197). This also provided for each centered space to incorporate common and collaborative spaces in conection to these centers and inbetween the fields (ill. 191). To express the functions being gathered in subdivided buildings, the exterior facades, were push and pulled in and out, to indicate every fields being in different areas (ill. 198). This also provided the entrances to be highlighted, and outdoor spaces on the above levels to be more intimate, when dividing theses paces up as well.

With an important focus on providing interactions, this was a key factor when placing the different types of spaces. This to made sure all users and fields had visible interactions, physical interactions, and spaces where their interactions could turn in to collaborations. Besides the placement of the functions, the materials chosen for all walls of every space was also a key element in creating these interactions (ill. 199). Here there was worked with transparent, semi-transparent or closed.

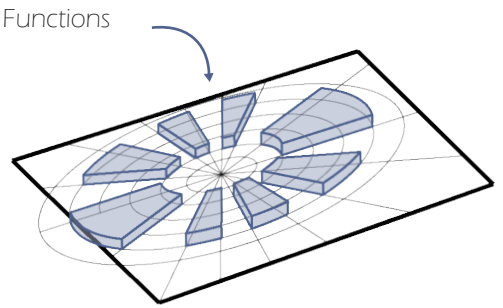
Lastly, to detail the plans, the furnishing was thought in and last design decisions for the spaces were considered, by focusing on providing flexible solutions, and the atmosphere wished in the assigned spaces (ill. 201), providing the last details for the completion of the floor plans (ill. 192). Appendix 5 is provided with further sketches of the process.



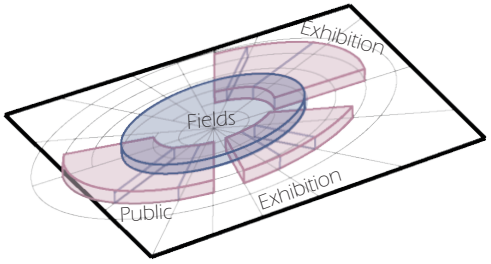
***ill. 193** . Zones applied to building*



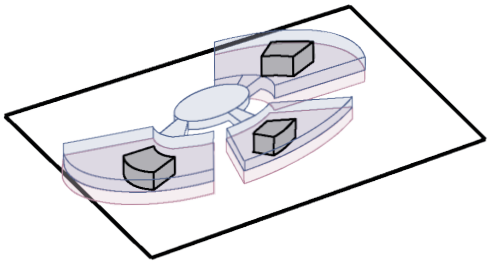
***ill. 194** . Critical spaces in the triagular plan*



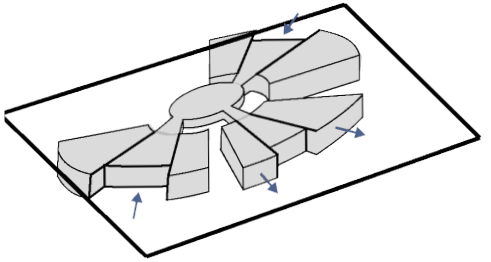
***ill. 195** . Functions applied to the structural concept*



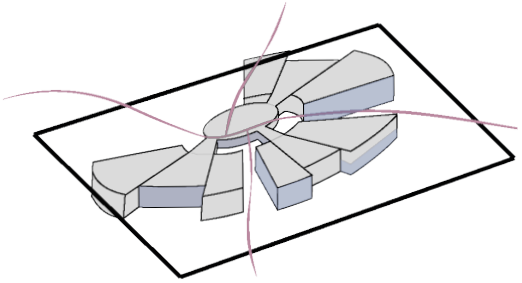
***ill. 196** . Functions gathered in new zones*



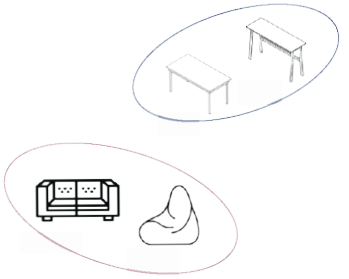
***ill. 197** . Practical functions applied in centers*



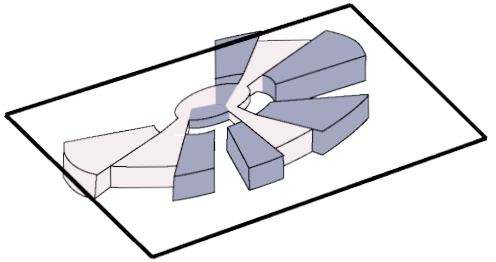
***ill. 198** . Functions highlighted through the shape of building*



***ill. 199** . Flow lines used for material application*



***ill. 200** . work and social spaces explored through furnishing*



***ill. 201** . Furniture zones applied into zones*

OUTLINES FOR THE PLAN

To further detail the considerations of the floor plan, a side going process was explored. Based on the site analyses, the different zones on site were considered. Here The Artistic Youth Center was divided into three spaces; exhibition, fields and the public (ill.202). Considerations on what pass byers were to explores closely when walking through the site, and what should be explored from distances, was important in the decision of where to place all functions. There was worked especially with locating public spaces on the second level, so they felt like they were a part of the entire center when walking close by and through the fields on the ground floor (ill. 202, 203, 205 & 206). Or if the public activities and access should be on the ground floor to drag the community in, while then allowing them to explore the fields from distance, on the second levels (ill. 204 & 207).

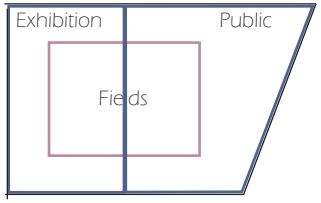
As the levels had been assigned the different zones, the functions were considered to be placed so some of the spaces could be gathered in bigger arrangements. This was done by considering how the fields individual spaces and the workshops should be placed according to each other on the second floor. As well as how the exhibition and common spaces on the first floor were to be connected for best possibilities of community interactions.

On the second floor, the main focus was if it should be the workshops or the fields that should be towards the exterior spaces, for the public to view (ill. 208 & 209). On the first floor it was more about if the exhibition should be the first noticed thing explored when passing by, before entering the building (ill. 211) or the common space should be assigned towards the surrounding community, for them to feel welcome before getting closer to the centers exhibitions and fields (ill. 212).

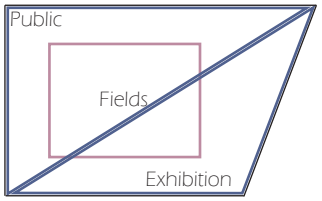
***ill. 202** . Zones study section*

***ill. 203** . Zones study section*

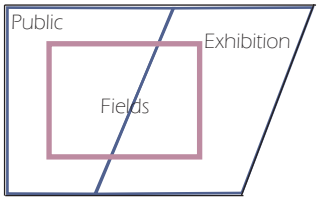
***ill. 204** . Zones study section*



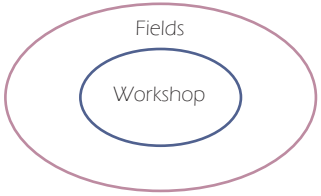
***ill. 205** . Zones study plan*



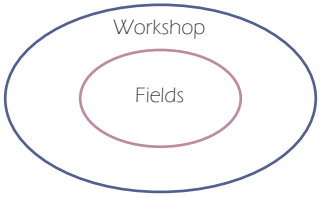
***ill. 206** . Zones study plan*



***ill. 207** . Zones study plan*

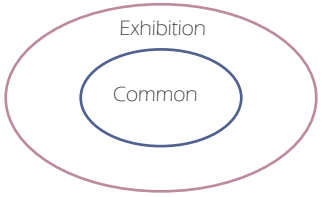


***ill. 208** . Fields and Workshop placement*

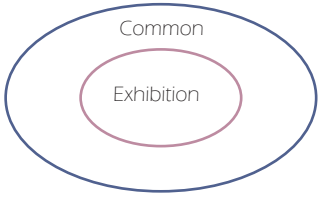


***ill. 209** . Fields and Workshop placement*

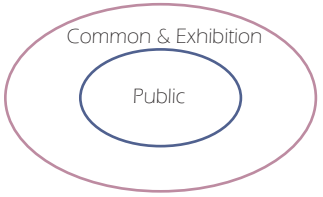
***ill. 210** . Fields, Workshop & public placement*



***ill. 211** . Exhibition and common space placement*



***ill. 212** . Exhibition and common space placement*



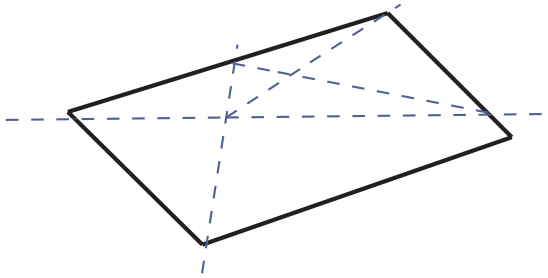
***ill. 213** . Exhibition, common space and public placement*

SITE PLANNING

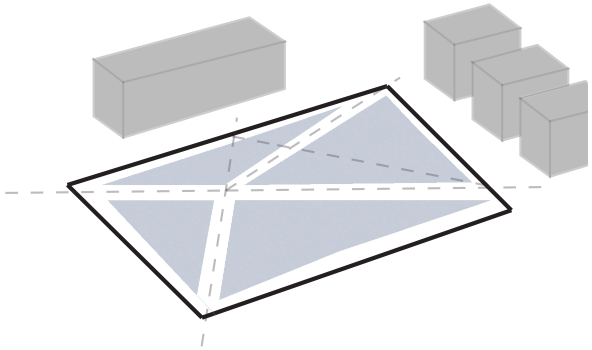
As the floor plan was based on the flow lines through the site and the interactions made in connections to this, the site planning was as well evolved around the flow lines (ill. 214). Looking at the surrounding buildings and the near by activities, the site was divided into zones that would accommodate the surrounding community (ill. 115).

After the detailed process of the design of the building, the site was divided further up according to the spaces and functions inside the building (ill. 216). This process was further sketched on in appendix 7. The flow lines being such an important role in the design of The Artistic Youth Center and the future intentions, these were highlighted through the pavement, inspired from the design district and art district (ill. 217). The activities in each subdivided zones were considered more detailed, and pavements for each area was provided to accommodate the activity, here provide park areas, where applicable (ill. 218).

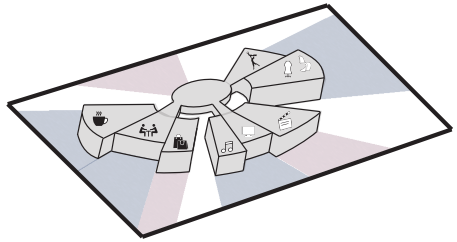
The exterior spaces were also designed with flexible intents, which provided areas like the exhibition area, movie area and play area with flexible functions (ill. 219). To create different feelings in different spaces, elevations on the site and building were taken into use (ill. 220). The family and play area the site was lowered, where as in the event and music area, the building user was thought into the site, by providing the second floor with space for activities to the site. With the area and center being very artistic, the elements and pavements used on site were also inspired to be creative and original (ill. 221). The weather conditions, and especially the many hours of sun, caused for shading being important to all spaces, in many areas natural shading from trees and planting was provided to also creat a park feeling (ill. 222).



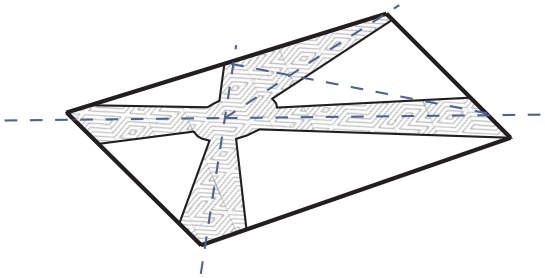
***ill. 214** . Flow lines*



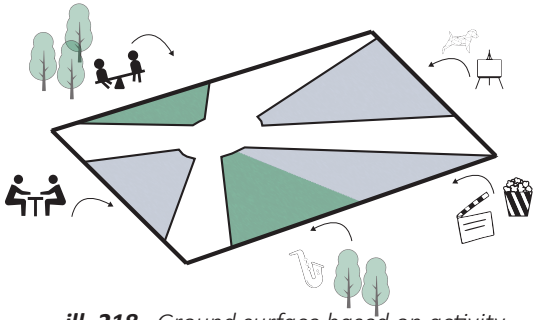
***ill. 215** . Zones based on surroundings*



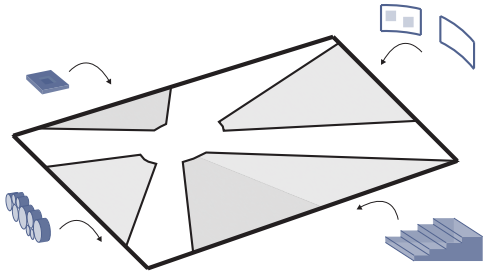
***ill. 216** . Zones based on floor plan*



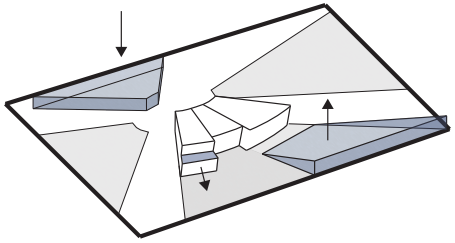
***ill. 217** . Flow lines highlighted pavement*



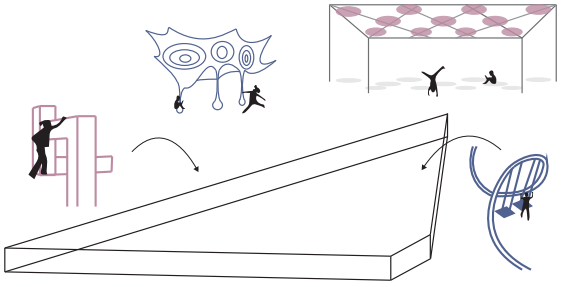
***ill. 218** . Ground surface based on activity*



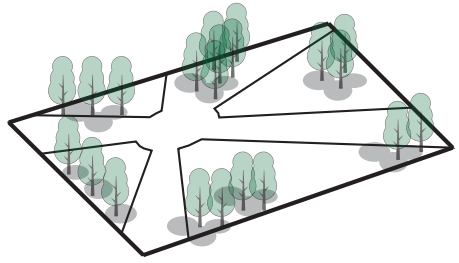
***ill. 219** . Flexible solutions for activities*



***ill. 220** . Raised and lowered spaces applied*



***ill. 221** . Creative playground*



***ill. 222** . Natural shading with trees*

ill. 223 *.Art from Wynwood Buildings*

EPILOGUE

Based on all the previous analysis, process and the final design of The Artistic Youth Center, the entire project will now be concluded and reflected on. Here the focus will be on the vision set from the start and based on the analyses. The reflection will take part in desired focuses, for future adjustments.

CONCLUSION

Based on the original intentions with the project, of providing a space for the artistic youth of Miami to seek knowledge, experience and the right tools for a bright future in their field. I would say that The Artistic Youth Center is an upgrade of the Shibaura House, tailored specifically for the creative fields in Miami.

With a diverse environment, for a student to step into a building like this, and have so many set options of what environments or arrangements to work in, while having departments specifically for their fields, with the right settings and also the right fields to collaborate with right around you, is something not achieved on any university level. By doing so this building has become a catalyst in its own, for the way people are to collaborate and interact with each other.

The continued focus on providing a catalyst project and a good educational space, has through the analyses, created a constant focus in the design process on interactions, collaboration, and flexibility. This has been achieved both in the buildings and the exterior site plan.

The interactions worked with are successfully combined with interactions made with the community, which is of highly important to this project. Working with interactions on three different levels; physical, visual and collaboration being an interaction in itself, has provided countless of opportunities for a broader user group to meet and create something great.

The building as a design suits the different districts, and because of this, users from the different districts will feel more comfortable about coming to the site. This will give the opportunities for the districts to merge further together, not only on the city map but also social wise.

The design sessions and structural system, have together achieved becoming a tectonic design, while still appealing aesthetically the artist and modern user group. The continues concept of bringing the community and the center together through the flow lines, has been provided in the entire process through the structural system, being animportant factor in all decisions and the inspiration to the spaces created both inside and outside.

REFLECTION

If the project was to be worked further with, more realistic approaches would probably be incorporated as the first thing. Focuses here would be Economics, live in students, public arrangements to provide a broader community center, and green building approaches.

The economic focus would first of all be applied to the details and systems chosen. Curved glass, curved structure, custom colored furniture and countless of different pavements is financially not the right way to go. But if we take the structure as an example, the choices made here have been essential for this design, if worked further on, an improvement of the structural system could be made, so elements are of a standard type and design.

Beside ´s the cost worthy elements, with free or cheaper facilities and courses, the money has to come from somewhere. It has been thought about a lot during the process of for example the exhibition spaces both outdoors and indoors. But incorporating this even more in the general building and site design could have provided the last elements to the concept, which would make the project more approachable for future investors. With student housing being a big part of the campus life on American universities, applying similar offers on site would provide the building with some financial income.

The Artistic Community Center already has big spaces for events inside, as well as a wide range of possibilities around site. But working closer together with Miami's municipality could provide possibilities that are needed in the artistic areas, which would cause for The Artistic Youth Center having more set activities, arranged by the community it self.

Besides, the more general things that could be worked with on a bigger scale, there are also a couple of personal improvements, that are considered to be applied for further improvements of the existing design.

When studying good education spaces, a good environment is automatically a must. With previous knowledge gained, this could have been incorporated in many ways during the design without making many changes. Something so simple as green walls would be beneficial for a lot of the things worked with things.

The flow lines are as mentioned the key word to almost everything done in The Artistic Youth Center. Further development on the flow lines could therefore also be worked on. If we take an example as the ground level, where the exhibition spaces all provide big event areas. With their open possibilities in their facades towards the flow line, this could have been great spaces to work with incorporating seating and hang out spots, and this way connect all the exhibition area, to be transformed into one big event space.

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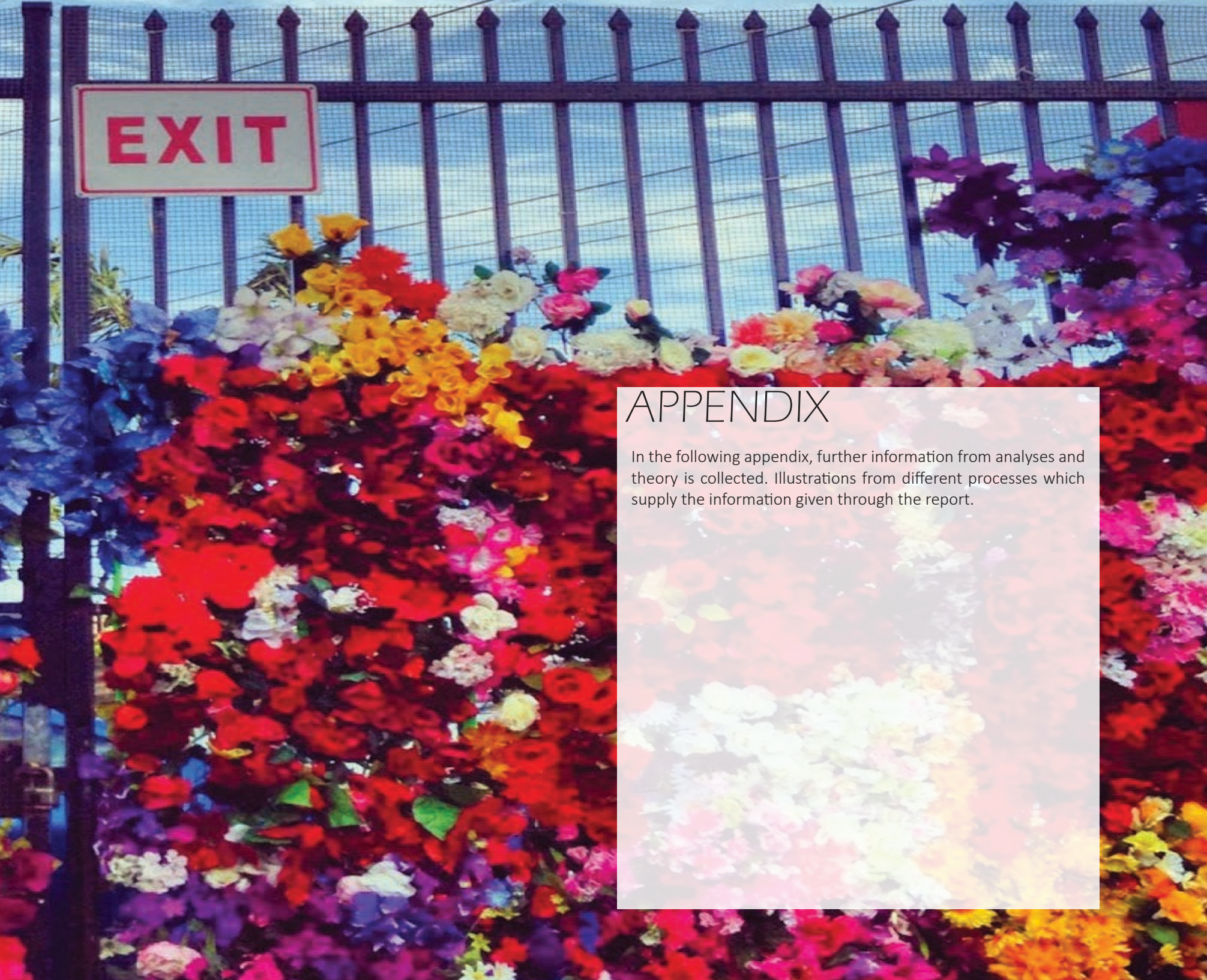
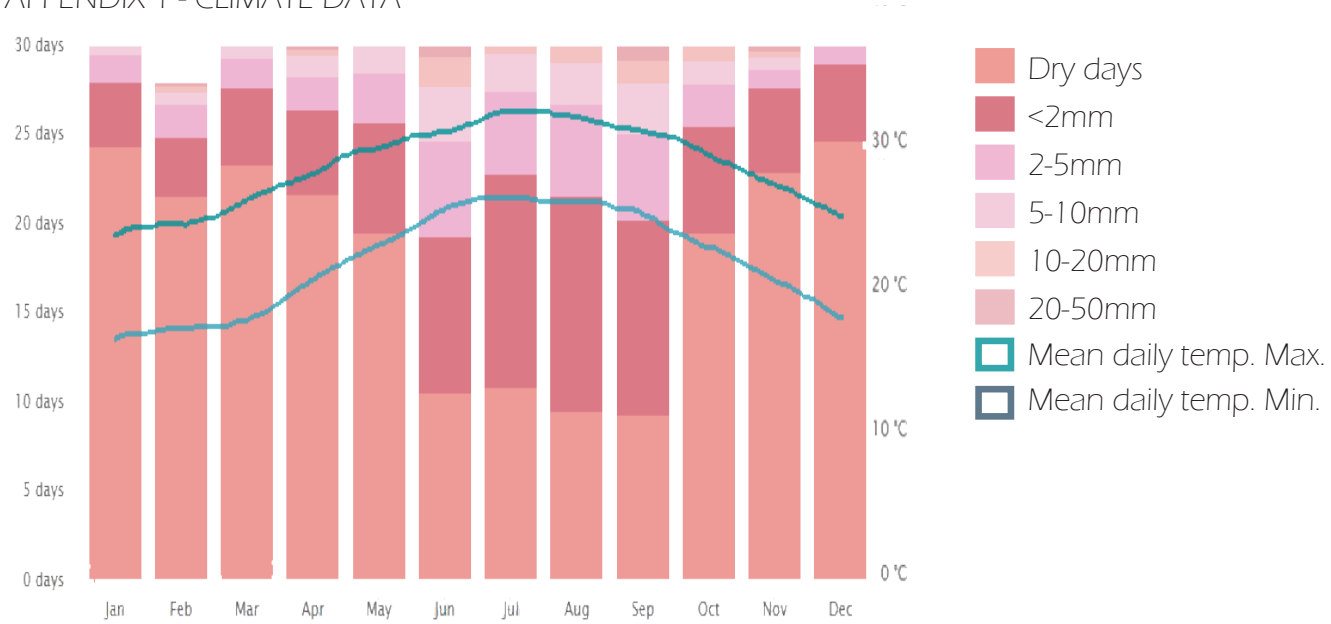
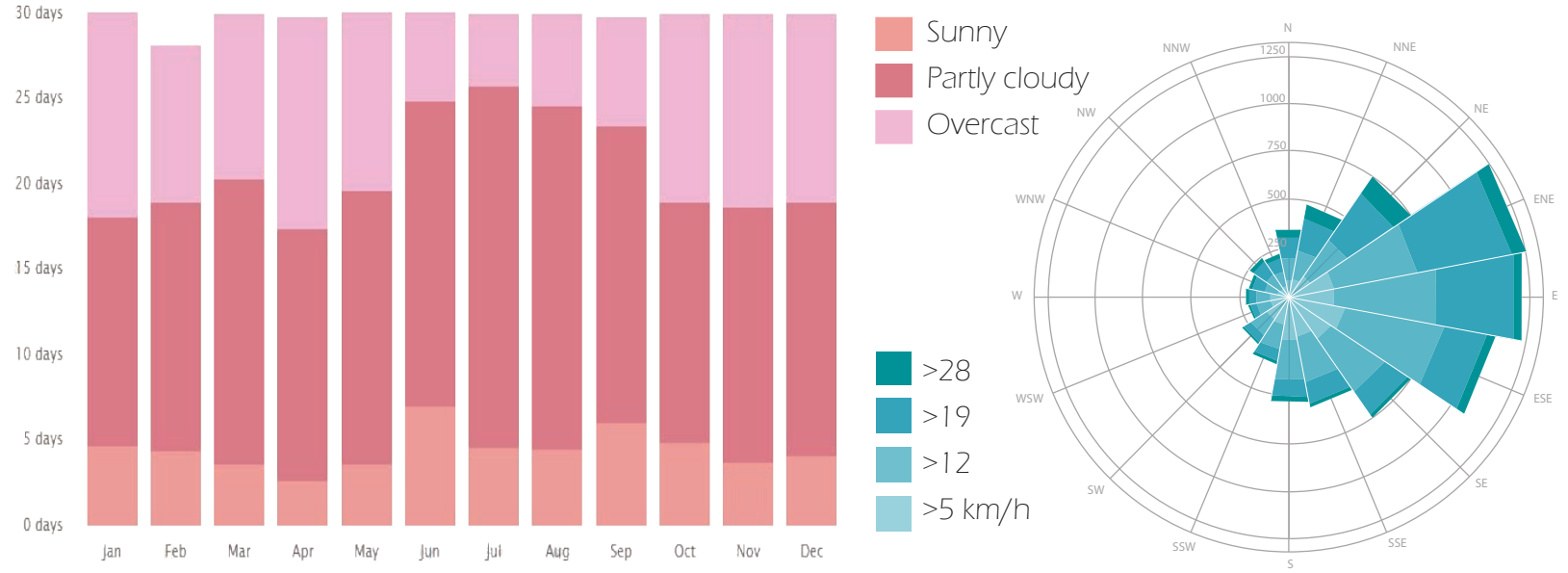


APPENDIX

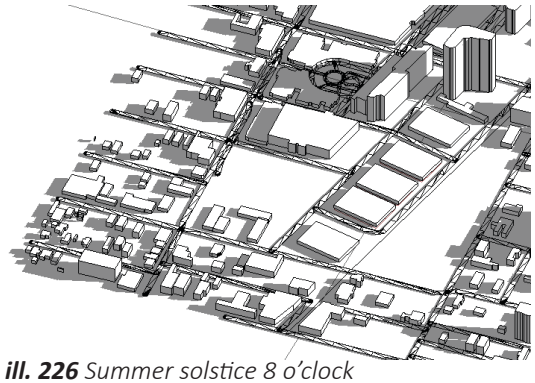
In the following appendix, further information from analyses and theory is collected. Illustrations from different processes which supply the information given through the report.



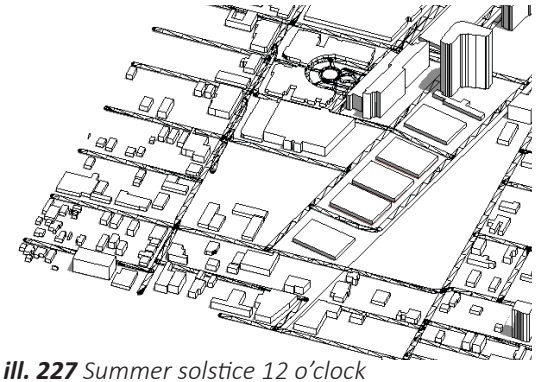
ill. 224 *Average temperatures & Precipitation*



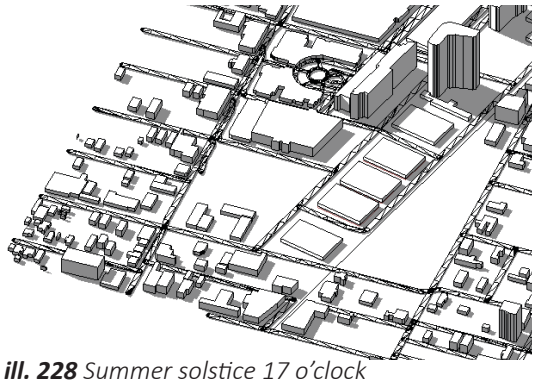
ill. 225 *Wind Rose of Miami- Average hours pr. year*



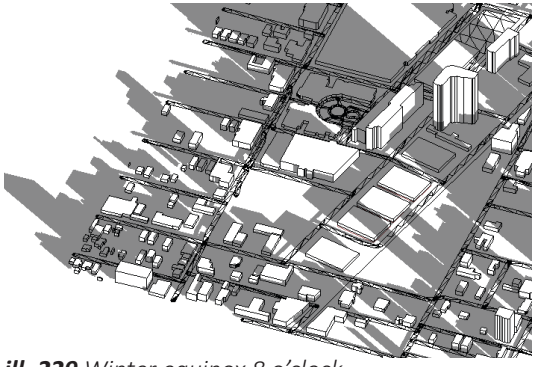
ill. 226 *Summer solstice 8 o'clock*



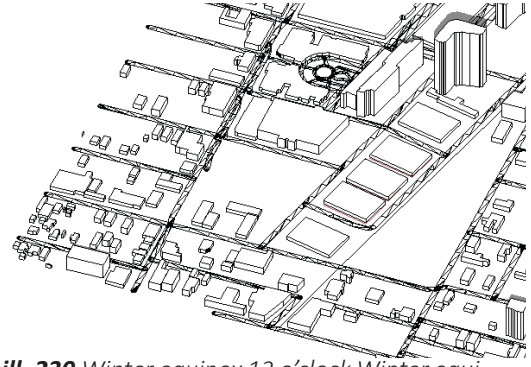
ill. 227 *Summer solstice 12 o'clock*



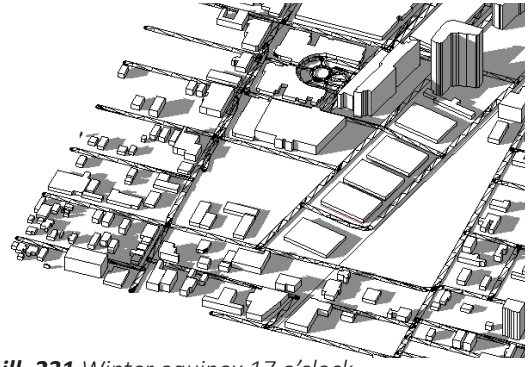
ill. 228 *Summer solstice 17 o'clock*



ill. 229 *Winter equinox 8 o'clock*

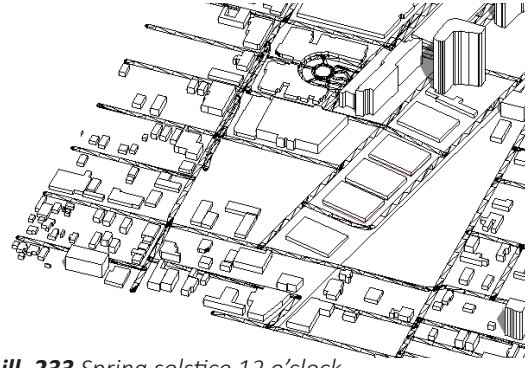


ill. 230 *Winter equinox 12 o'clock Winter equi-*

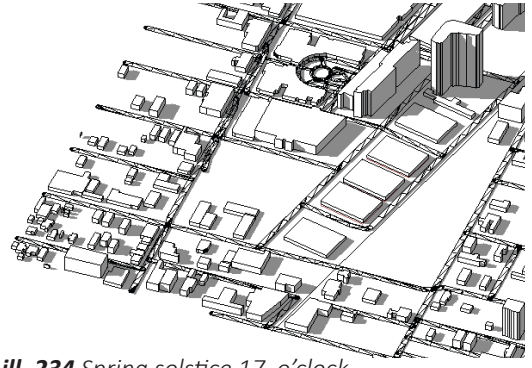


ill. 231 *Winter equinox 17 o'clock*

ill. 232 *Spring solstice 8 o'clock*

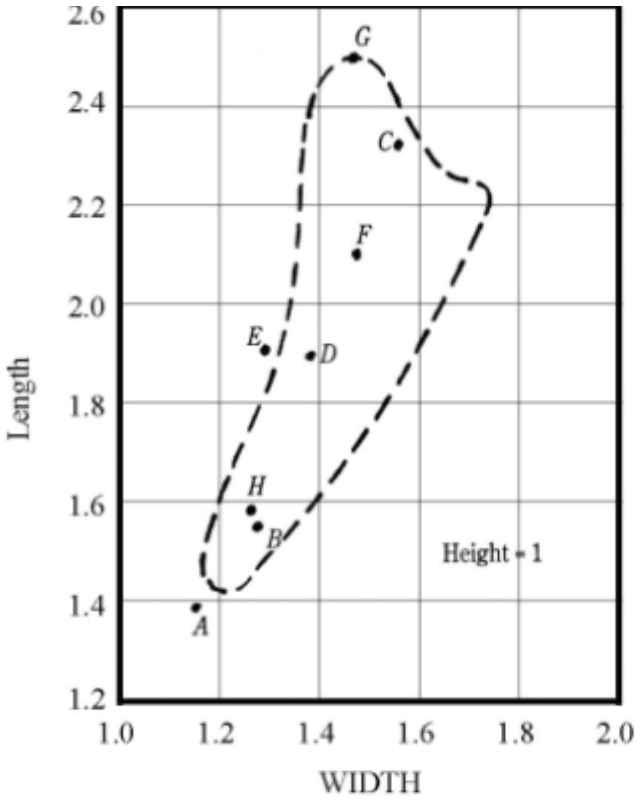


ill. 233 *Spring solstice 12 o'clock*



ill. 234 *Spring solstice 17 o'clock*

Music Activity Space	Area m^2	Height m	Volume m^3	AS2107.2000	DfES.2002	BB93.2003	OCPS.2003	ANSI S12.60
Music theory classroom	50-70	2.4-3.0	120-210	0.5-0.6	0.4-0.8	<1.0	N/A	<0.6
Ensemble /music studio	16-50	2.4-3.0	38-150	0.7-0.9	0.5-1.0	0.6-1.2	0.5-0.7	<0.6
Recital rooms	50-100	3.0-4.0	150-400	1.1-1.3	1.0-1.5	1.0-1.5	N/A	N/A
Teaching/practice room	6-10	2.4-3.0	14-30	0.7-0.9	0.3-0.6	<0.8	<0.5	<0.6
Studio Control room	8-20	2.4-3.0	19-60	0.3-0.7	0.3-0.5	<0.5	<0.6	N/A



13-6 A chart of favorable room dimensional ratios to achieve uniform distribution of modal frequencies of a room. The broken line encloses the so-called "Bolt Area".[2] The letters refers to Table 13-2.

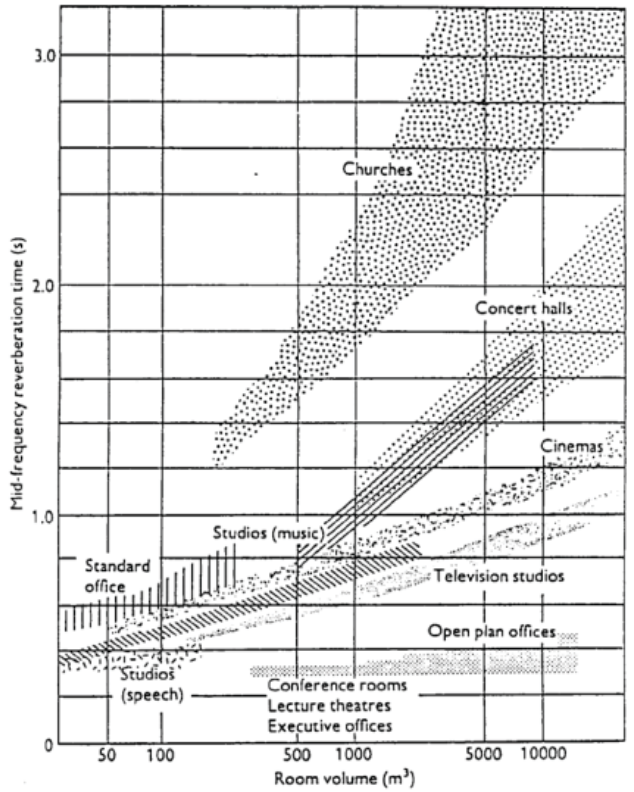


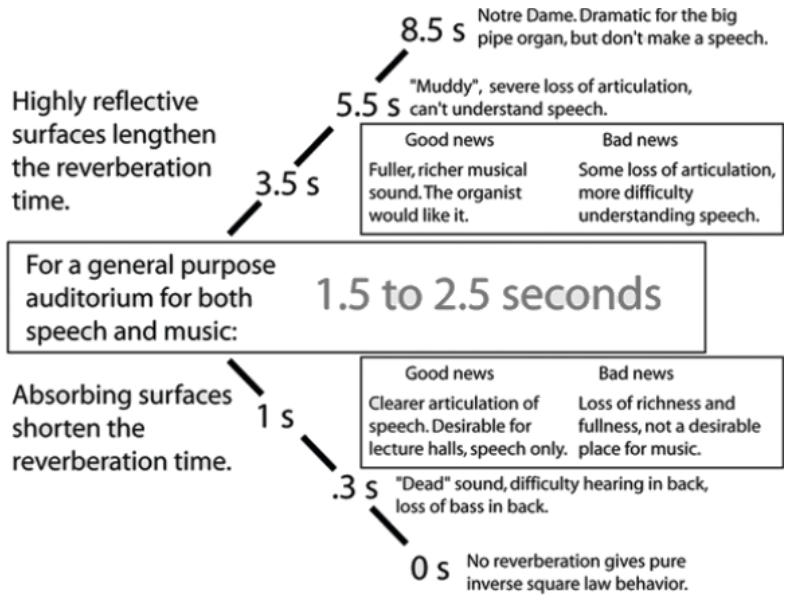
TABLE 7.1 Absorption Coefficients of Common Materials, (*Continued*)

Material	Mount	Frequency, Hz 125	250	500	1k	2k	4k
Floors							
Floors, concrete or terrazzo	A	0.01	0.01	0.015	0.02	0.02	0.02
Floors, linoleum, vinyl on concrete	A	0.02	0.03	0.03	0.03	0.03	0.02
Floors, linoleum, vinyl on subfloor		0.02	0.04	0.05	0.05	0.10	0.05
Floors, wooden		0.15	0.11	0.10	0.07	0.06	0.07
Floors, wooden platform w/airspace		0.40	0.30	0.20	0.17	0.15	0.10
Carpet, heavy on concrete	A	0.02	0.06	0.14	0.57	0.60	0.65
Carpet, on 40 oz (1.35 kg/sq m) pad	A	0.08	0.24	0.57	0.69	0.71	0.73
Indoor-outdoor carpet	A	0.01	0.05	0.10	0.20	0.45	0.65
Wood parquet in asphalt on concrete	A	0.04	0.04	0.07	0.06	0.06	0.07

Material	Mount	Frequency, Hz 125	250	500	1k	2k	4k
Walls							
Glass, 1/4", heavy plate		0.18	0.06	0.04	0.05	0.02	0.02
Glass, 3/32", ordinary window		0.55	0.25	0.18	0.12	0.07	0.04
Gypsum board, 1/2", on 2×4 studs		0.29	0.10	0.05	0.04	0.07	0.09
Plaster, 7/8", gypsum or lime, on brick		0.013	0.015	0.02	0.03	0.04	0.05
Plaster, on concrete block		0.12	0.09	0.07	0.05	0.05	0.04
Plaster, 7/8", on lath		0.14	0.10	0.06	0.04	0.04	0.05
Plaster, 7/8", lath on studs		0.30	0.15	0.10	0.05	0.04	0.05
Plywood, 1/4", 3" air space, 1" batt,		0.60	0.30	0.10	0.09	0.09	0.09
Soundblox, type B, painted		0.74	0.37	0.45	0.35	0.36	0.34
Wood panel, 3/8", 3-4" air space		0.30	0.25	0.20	0.17	0.15	0.10
Concrete block, unpainted		0.36	0.44	0.51	0.29	0.39	0.25
Concrete block, painted		0.10	0.05	0.06	0.07	0.09	0.08
Concrete poured, unpainted		0.01	0.01	0.02	0.02	0.02	0.03
Brick, unglazed, unpainted		0.03	0.03	0.03	0.04	0.05	0.07
Wood paneling, 1/4", with airspace behind		0.42	0.21	0.10	0.08	0.06	0.06
Wood, 1", paneling with airspace behind		0.19	0.14	0.09	0.06	0.06	0.05

TABLE 7.1 Absorption Coefficients of Common Materials, (*Continued*)

Material	Mount	Frequency, Hz 125	250	500	1k	2k	4k
Glass Cloth Acoustical Ceiling Panels							
Fiberglass tile, 3/4"	E400	0.74	0.89	0.67	0.89	0.95	1.07
Fiberglass tile, 1"	E400	0.77	0.74	0.75	0.95	1.01	1.02
Fiberglass tile, 1 1/2"	E400	0.78	0.93	0.88	1.01	1.02	1.00
Seats and Audience							
Audience in upholstered seats		0.39	0.57	0.80	0.94	0.92	0.87
Unoccupied well-upholstered seats		0.19	0.37	0.56	0.67	0.61	0.59
Unoccupied leather covered seats		0.19	0.57	0.56	0.67	0.61	0.59
Wooden pews, occupied		0.57	0.44	0.67	0.70	0.80	0.72
Leather-covered upholstered seats, unoccupied		0.44	0.54	0.60	0.62	0.58	0.50
Congregation, seated in wooden pews		0.57	0.61	0.75	0.86	0.91	0.86
Chair, metal or wood seat, unoccupied		0.15	0.19	0.22	0.39	0.38	0.30
Students, informally dressed, seated in tablet-arm chairs		0.30	0.41	0.49	0.84	0.87	0.84



Besides being structurally influences, the tectonic design is about more than the system chosen. Acoustic qualities, daylight conditions and climate conditions are also a part of the tectonic approach. These characteristics should also be key factors when exploring different systems and shapes. With The Artistic Youth Center not only being a community center, but also an educational space for many artistic fields, it is especially important that all fields technical criteria to the design are achieved and still kept flexible, with the ability to apply to multiple users.

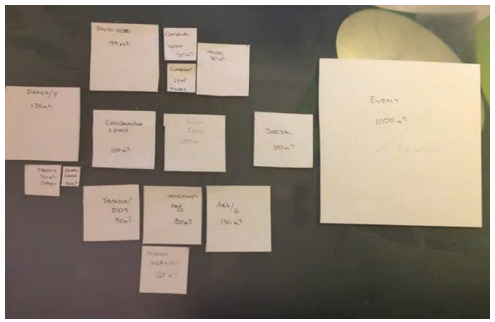
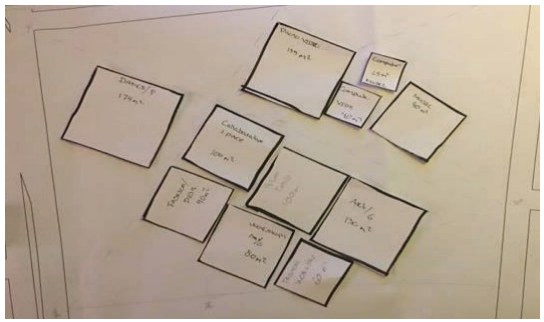
Spaces that are used for exhibitions, workshop and offices have certain needs for natural daylighting. A well-lighted space is required to have a daylight factor above two, to provide optimal conditions, without using artificial lighting. (Wikipedia Daylight Factor)

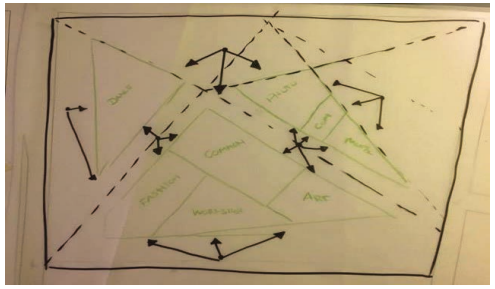
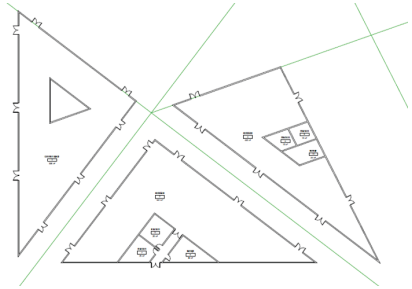
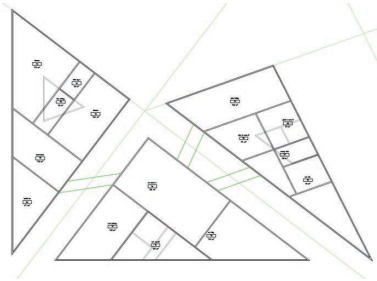
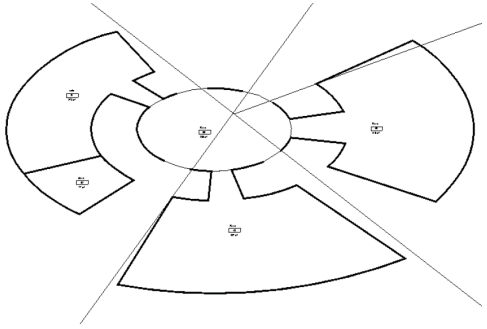
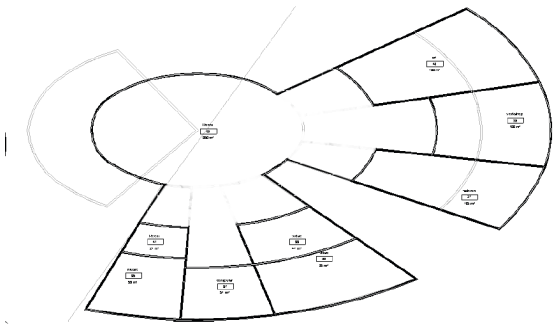
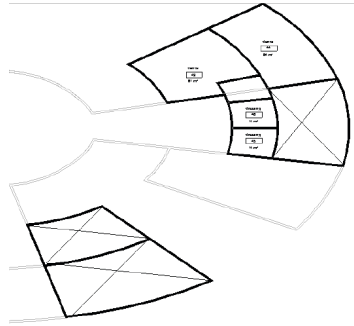
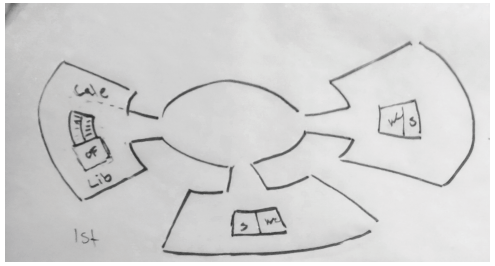
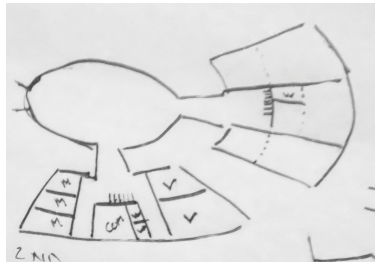
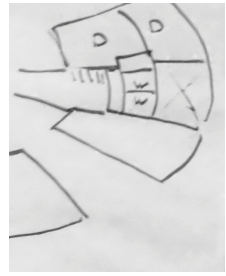
The musical spaces have different needs depending on the activity in the room and the specific genre of music. These technical criteria are looked at more general for multipurpose reasons, like the room size, effecting the acoustic qualities. As seen in appendix 1, music studios and rehearsal spaces vary to both smaller and bigger spaces. Smaller music studios 16-60 m2, Small Rehearsal spaces 6-10m2 and studio control rooms are 8-20m2, all having a room height between 2,4 and 3 meters. (Osman, 2010, p. 2) In appendix 3 it also shows how the room ratio is also very specific, when creating these spaces, and it not only about the actual size. There is an importance in the width, length and height to create the correct sized spaces, all of which strive to achieve a general reverberation time for all these spaces under two seconds.

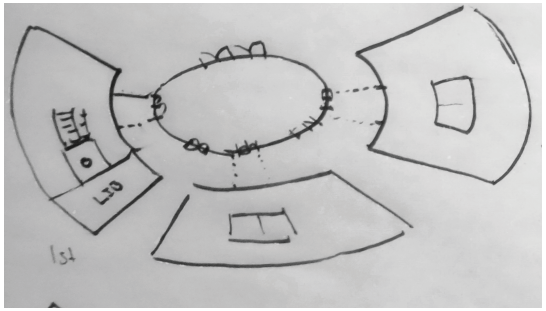
In addition to the shape and size of the spaces, the material chosen is as equally important. Different materials have various absorptions coefficients, meaning that some will reflect/absorb the sound in different ways within the space. Traditional materials like concrete and glass have coefficients from 0,02 to 0,18, where soft materials like carpet has coefficients up to 0,92 on the higher frequencies. (Foged, 2015)

The daylighting analysis' will help in the placement of the specific rooms, and will as well have a big influence to the façade and building expressions. The acoustic knowledge will influence more specifically to the musical fields, and the programming/arrangements of these spaces. The structural system will have a considerable influence to entire building, and will be a major factor in the creation of the aesthetic expression and feeling inside The Artistic youth center

Indoor climate are important for a good educational space. The systems chosen to apply ventilation have a huge effect on the aesthetics of the design. If having exposed systems, Mechanical ventilation shafts will appear in the ceiling. If hidden systems is the approach, this will affect the height in the spaces and the thickness of the floor slabs. The connection between the structural system and the ventilation is also a detail to consider, since it has many consequences of running the system through for example the beams. If some type of natural ventilation is thought out, the façade needs to be divided up so it is possible to have window openings.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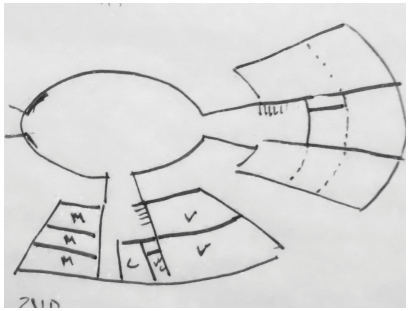
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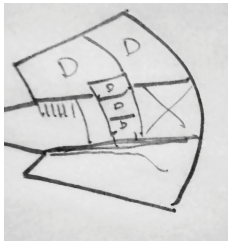
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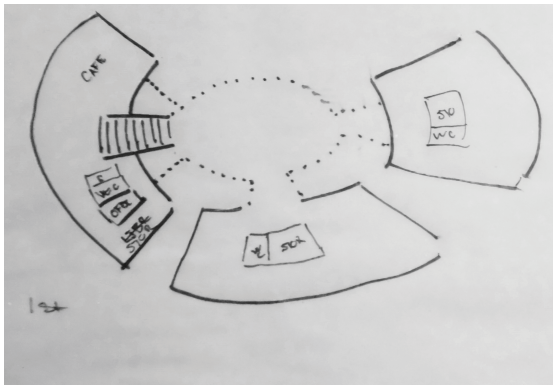
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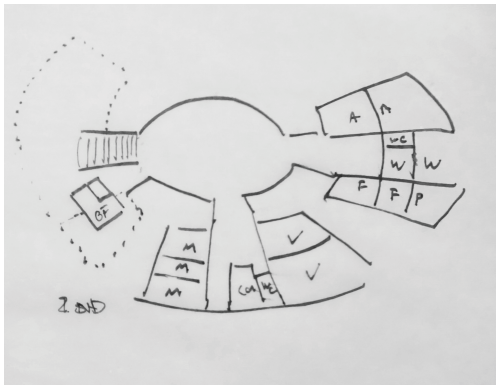
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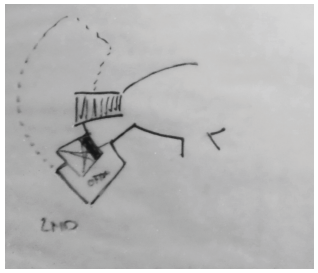
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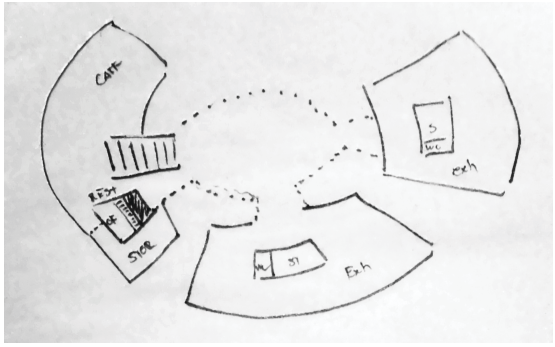
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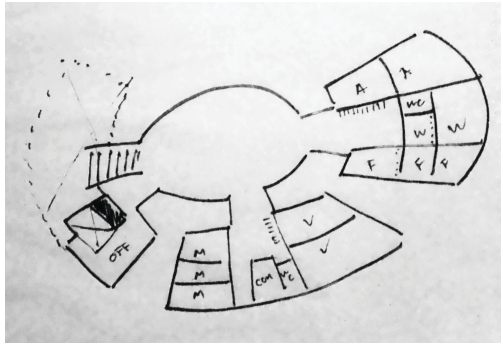
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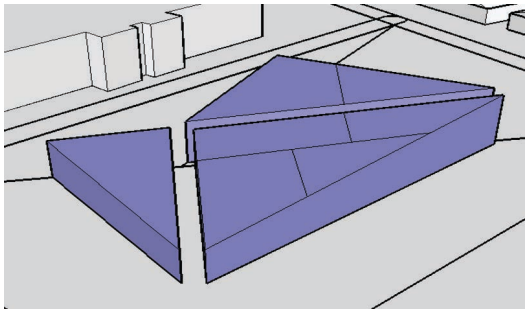
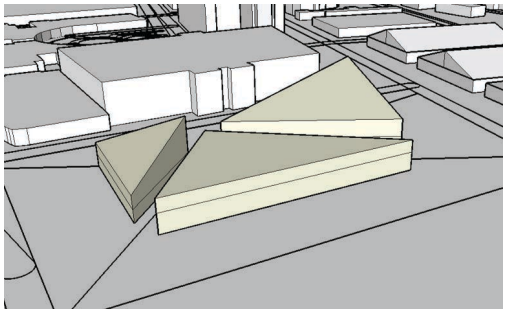
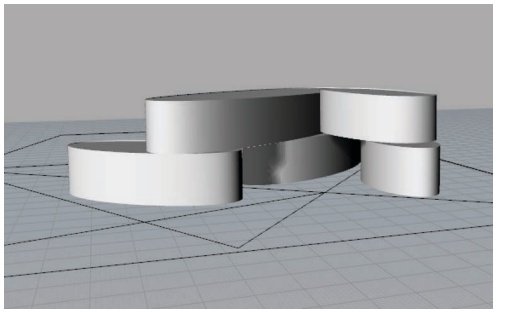


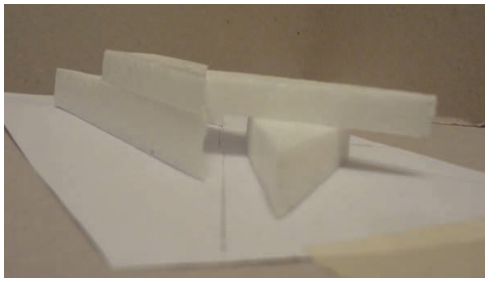



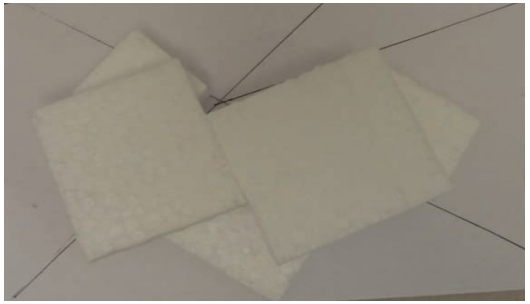
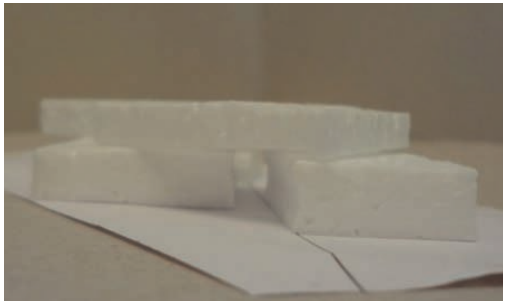
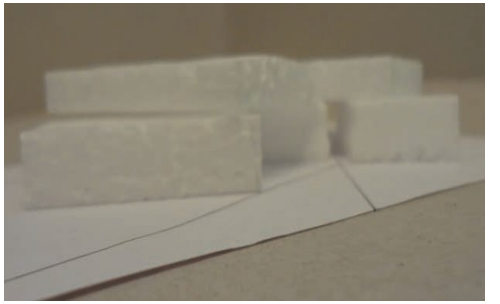

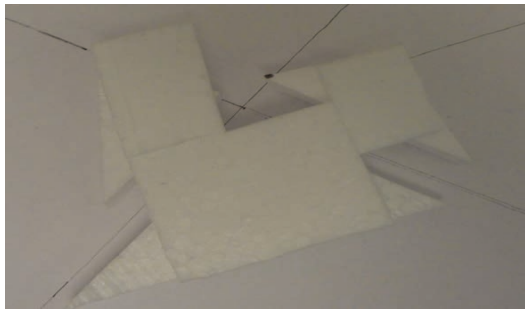


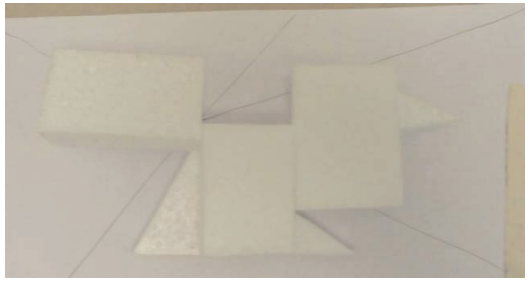

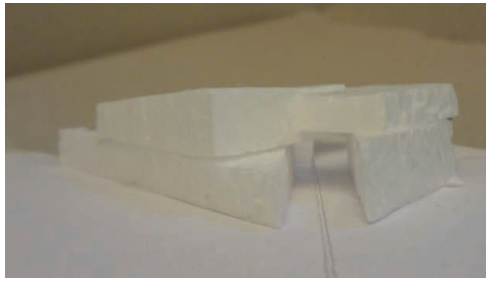





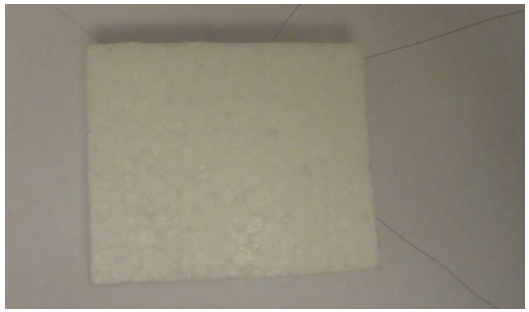
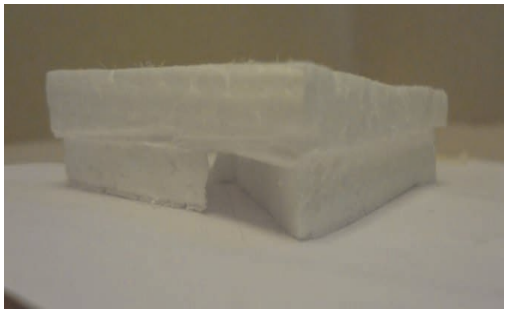

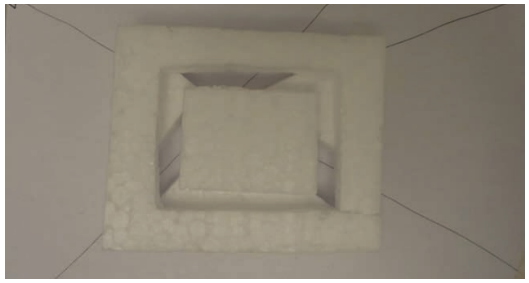
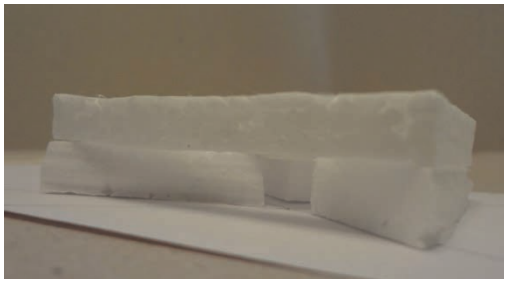

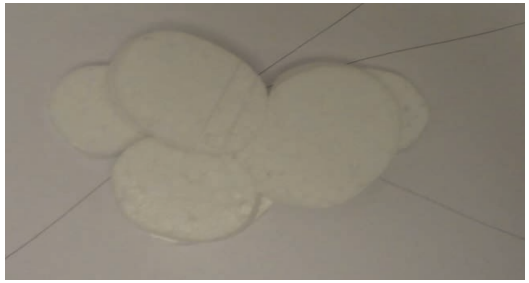


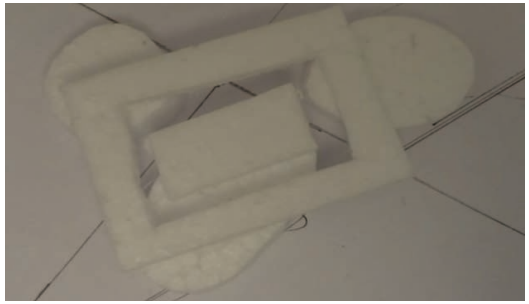
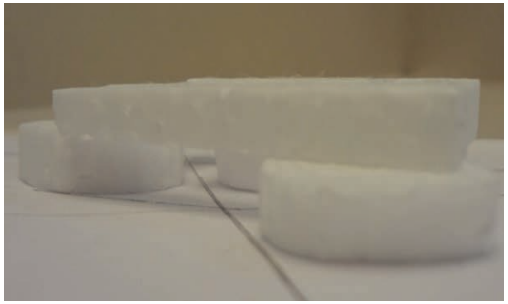
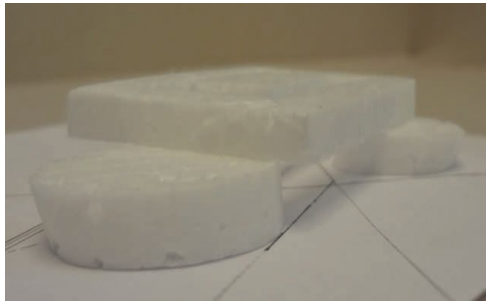

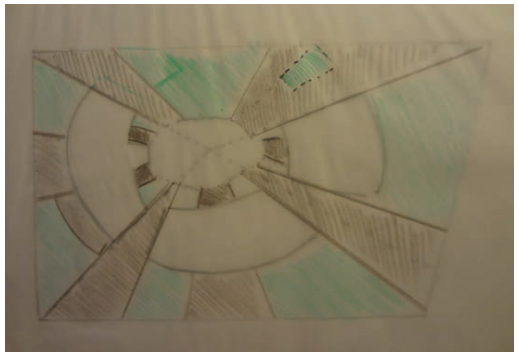

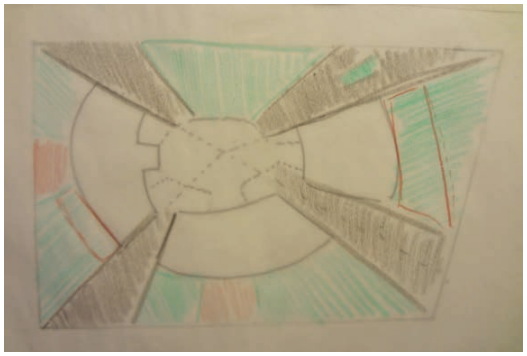

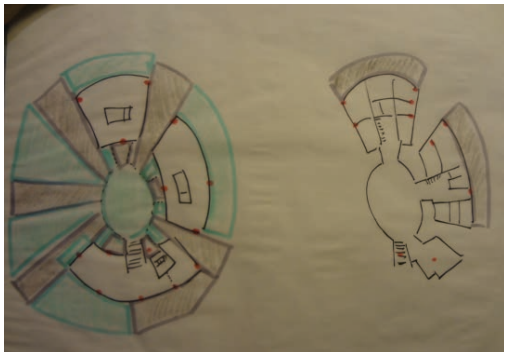

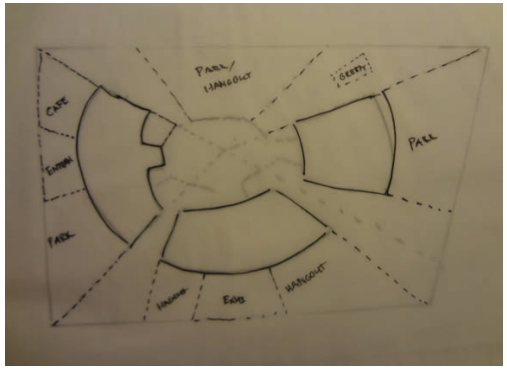
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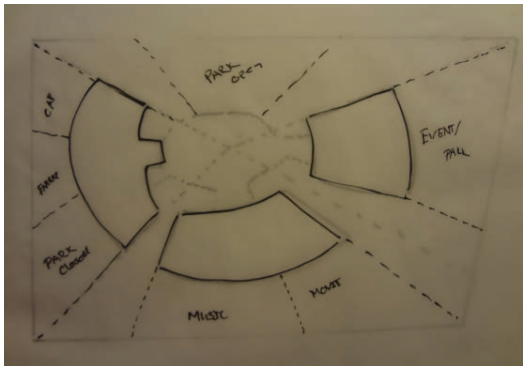
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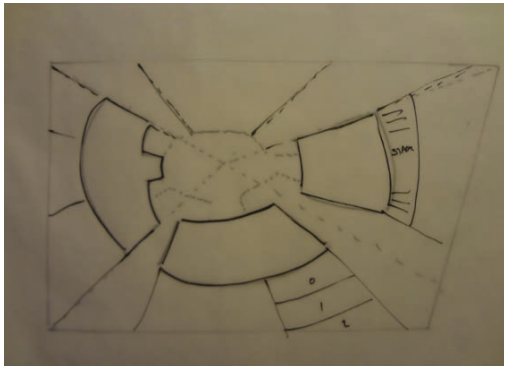
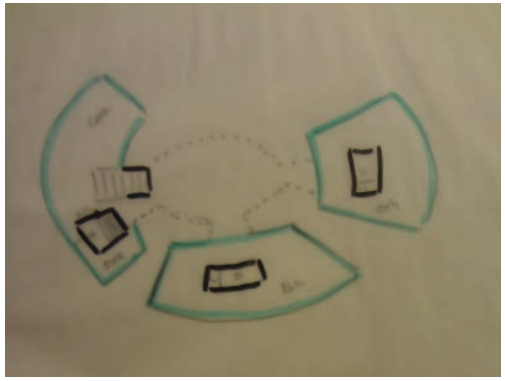
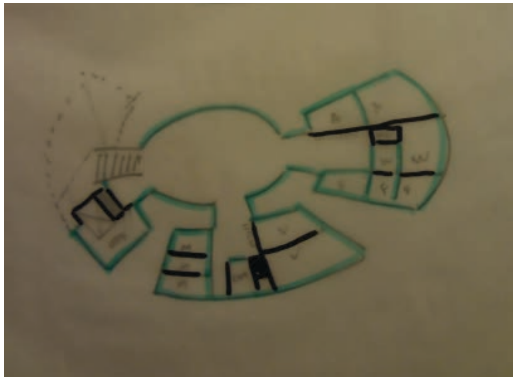
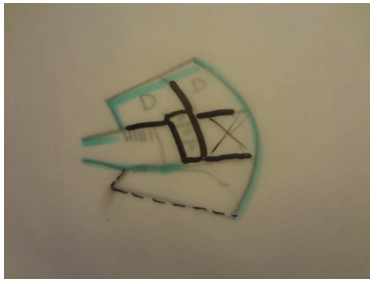
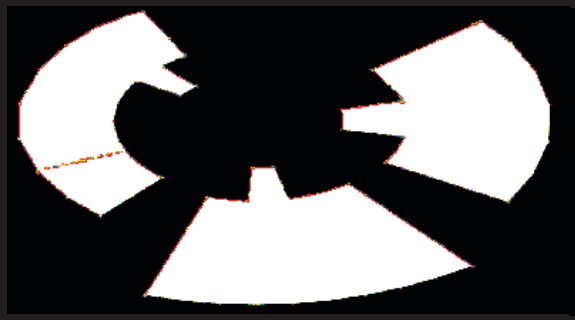




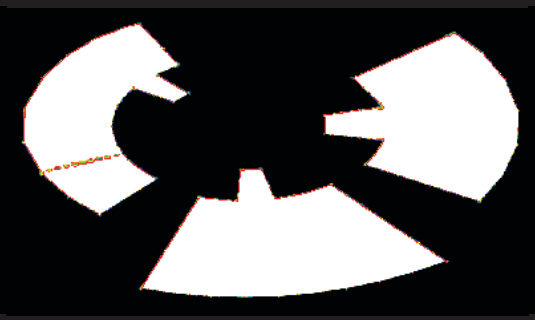




APPENDIX 8 - DAYLIGHT ANALYSES



1 ST. NO OVERHANG 78 % TRANS.



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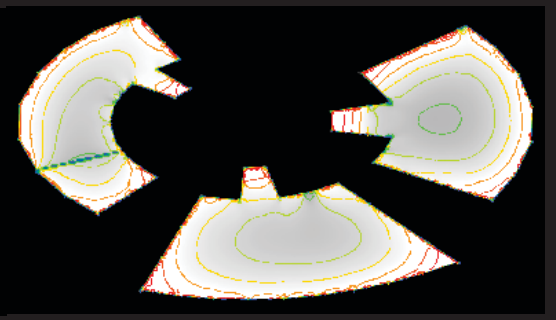

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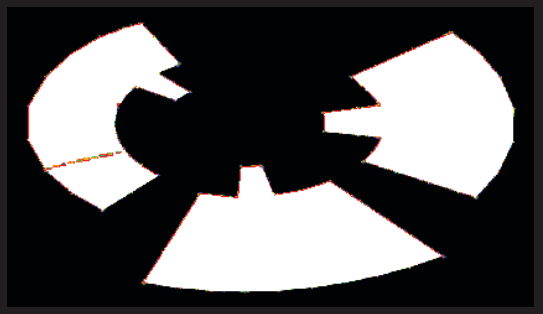

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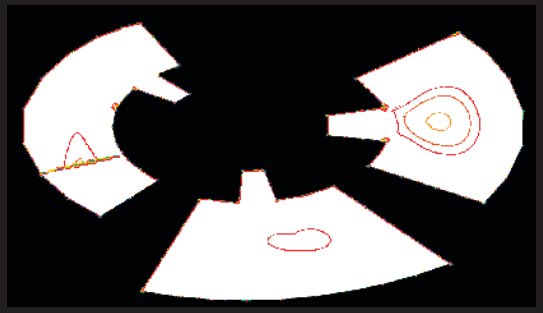

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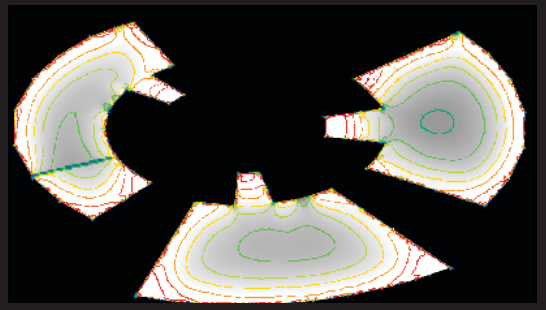

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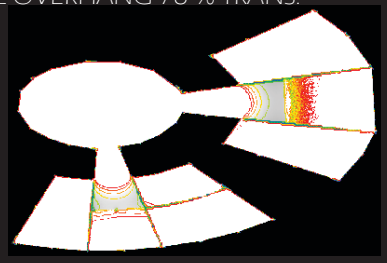

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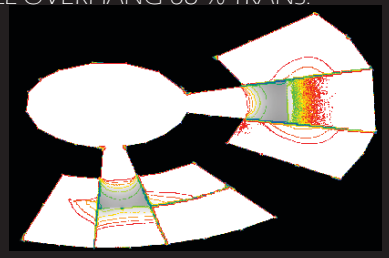

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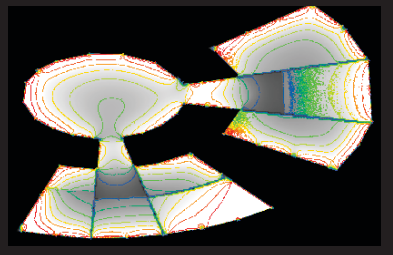

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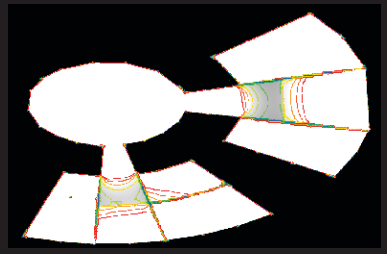

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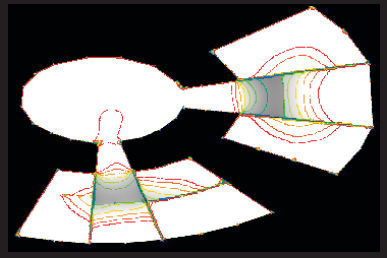

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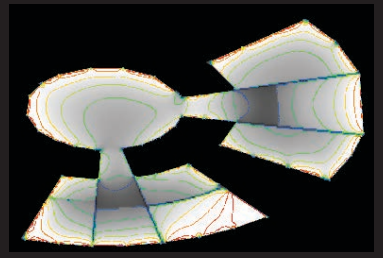

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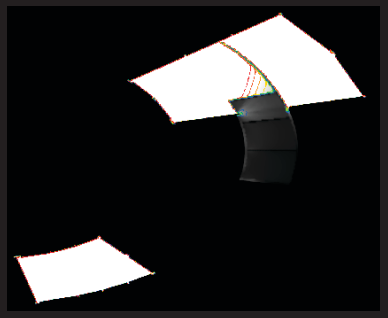

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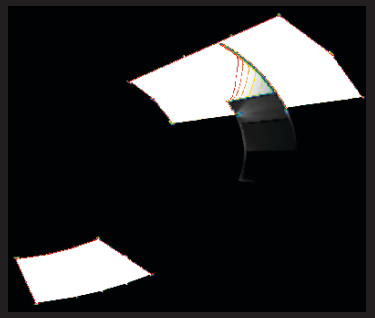

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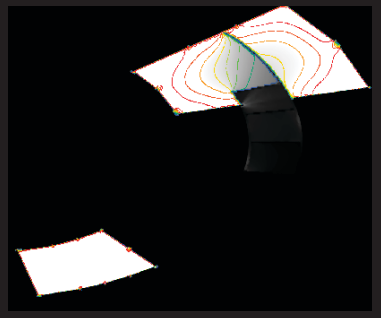

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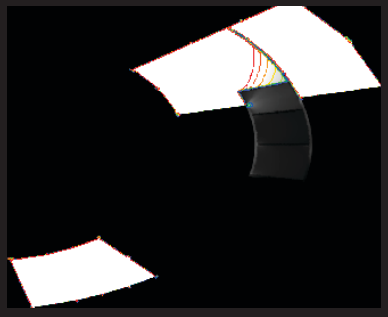

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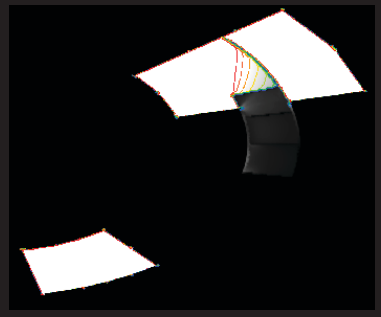

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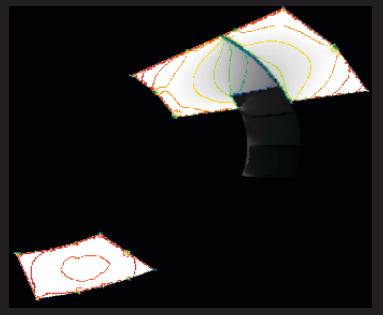

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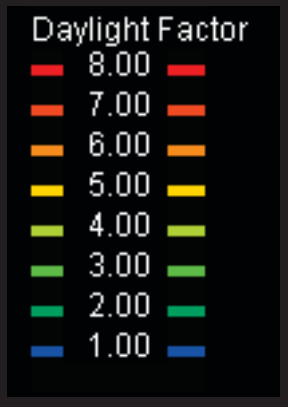
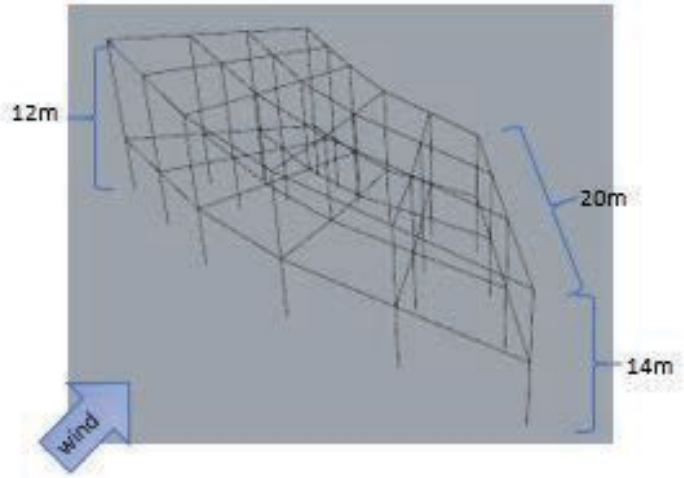




Before working with the parametric model in rhino and the analysis in Karamba and Robot, certain data had to be collected. First thing needed is the wind loads for this specific area and buildings, so this can be applied to the structure in Rhino.

Wind Load

Parameters

V_b : Basic Wind velocity
$V_b = C_{dir} * C_{season} * V_{b0}$
V_b = 1 (can be applied as 0,1)*1*28m/s

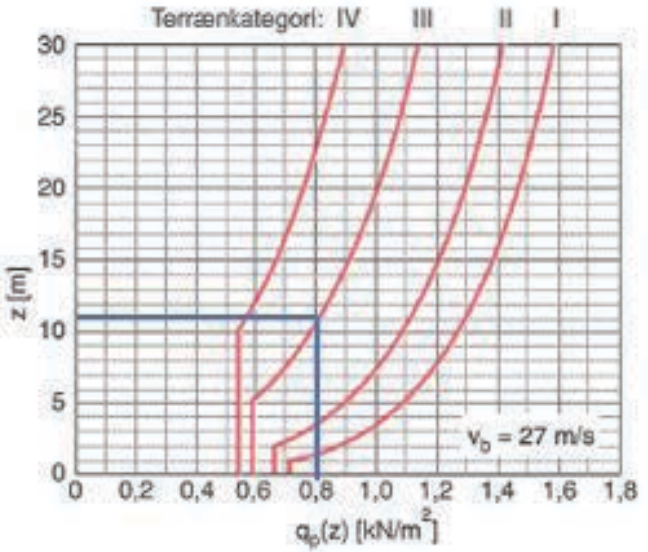
C_{dir}: found in ds-en 1992 1-4 = 1
C_{season}: found in ds-en 1992 1-4 = 1
V_{b0}= 28 m/s Miami, Florida

The Peak velocity pressure $q_p(z)$ is than found in the table, based on the terrain category and the total height of the building being 13 meters.

Table 4.1 — Terrain categories and terrain parameters

Terrain category	z_0 m	z_{min} m
0 Sea or coastal area exposed to the open sea	0,003	1
I Lakes or flat and horizontal area with negligible vegetation and without obstacles	0,01	1
II Area with low vegetation such as grass and isolated obstacles (trees, buildings) with separations of at least 20 obstacle heights	0,05	3
III Area with regular cover of vegetation or buildings or with isolated obstacles with separations of maximum 20 obstacle heights (such as villages, suburban terrain, permanent forest)	0,3	5
IV Area in which at least 15 % of the surface is covered with buildings and their average height exceeds 15 m	1,0	10
NOTE: The terrain categories are illustrated in A.1.		

Terrain Categori: III (Z_0= 0,3 Z_{min}=5)



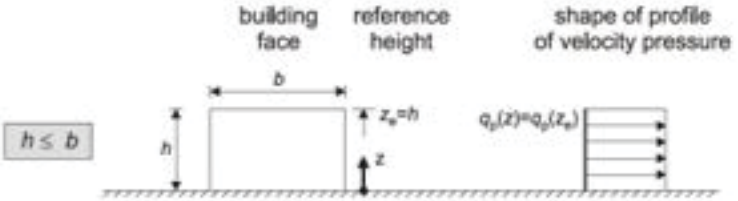
$q_p(z)$ = 0,8 KN/m^2

The next step is to calculate the wind pressure effecting the external walls and roof.

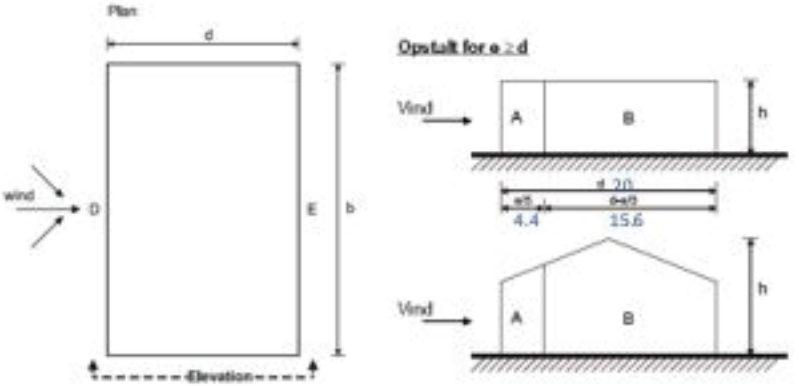
$W_e = q_p(Z_e)^* C_{pe}$

Here the peak velocity previously found is used, and the form factor, which is depended on the shape of the building. This form factor used is also depends on the area of effecting load. In this case, the area of the effected façade is more than $10m^2$ so it is $C_{pe,10}$ that is used.

First the shape of the building is analyzed, to apply the correct factors. Because the height of 13m x 2 is smaller than the width of 44m of the building, the profile shape, for the velocity pressure is single factored.



Looking at the pressure on the exterior walls, the south elevation is divided into values according to Zone A, B and D



The factors for external pressure are therefore as followed A(-1,2), B(-0,8) and D(+0,8) based on table 7.1 and having the h/d = <1 (13m/20m).

Table 7.1 — Recommended values of external pressure coefficients for vertical walls of rectangular plan buildings

Zone	A		B		C		D		E	
h/d	$c_{pe,10}$	$c_{pe,1}$	$c_{pe,10}$	$c_{pe,1}$	$c_{pe,10}$	$c_{pe,1}$	$c_{pe,10}$	$c_{pe,1}$	$c_{pe,10}$	$c_{pe,1}$
5	-1,2	-1,4	-0,8	-1,1	-0,5		+0,8	+1,0	-0,7	
1	-1,2	-1,4	-0,8	-1,1	-0,5		+0,8	+1,0	-0,5	
≤ 0,25	-1,2	-1,4	-0,8	-1,1	-0,5		+0,7	+1,0	-0,3	

Similar approach is done when looking at the roof zones. Here e is 10 and the roof is divided into the zones G, H and I. with the sharp eaves applied giving the coefficients G(-1,2), H(-0,7), I(+-0,2)

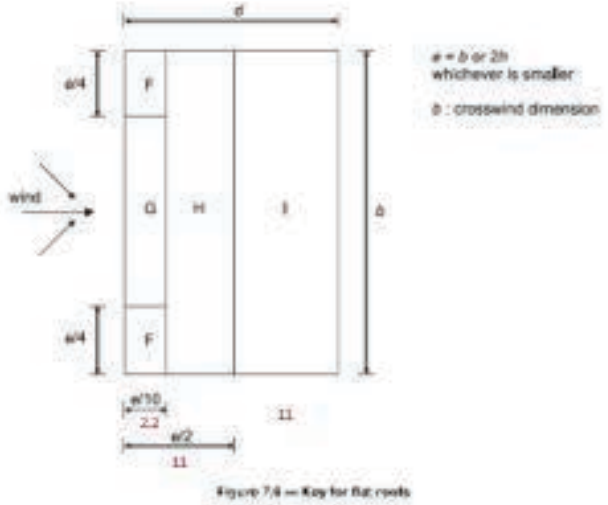


Figure 7.6 — Key for flat roofs

Last step before applying all gathered information is defining the length b of the zones, using the assigned divisions.

EN 1991-1-4:2005 (E)

Table 7.2 — External pressure coefficients for flat roofs

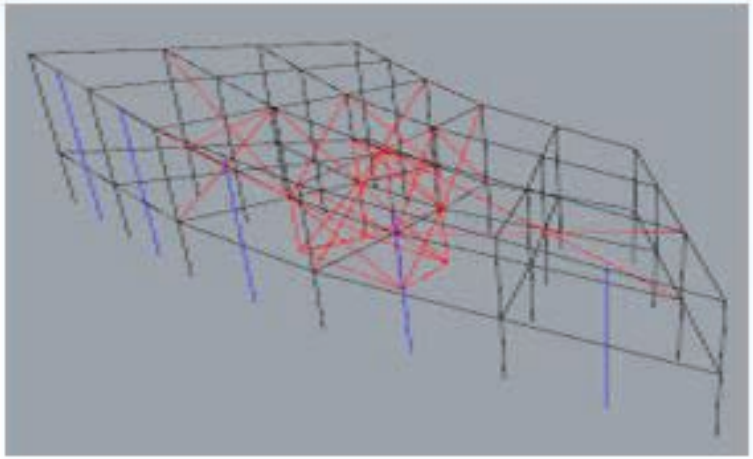
Roof type	Zone							
	F		G		H		I	
Sharp eaves	-1,8	-2,5	-1,2	-2,0	-0,7	-1,2	+0,2 -0,2	

Wall pressure

	A	B	D	E
b	4.4	15.6	44	30
qp*b	3.52	12.48	35.2	24
form factor	-1.2	-0.8	0.8	-0.5
factor*qp*b	-4.224	-9.984	28.16	-12

Roof pressure

	G	H	I
b	2.2	8.8	11
qp*b	1.76	7.04	8.8
form factor	-1.2	-0.7	0.2
factor*qp*b	-2.112	-4.928	1.76 /-1.76



Self Load

To apply the realistic Loads to the structure, the self loads are found through parametric design and hand calculations.
The steel structures load, is automatically in grasshopper found based on the total length of beams, their cross section and the steels density. The remaining material, glass facades and concrete walls are found through a similar approach, just by hand calculations.

Glass walls/facades:
total area 1426 m2
sectional dimension 0.04 m
Total material 57.04 m3
Glass density 24 kN/m3
Glass load 1368.96 kN

Interior wall/light steel frame framed infilled walls with gypsum:

Steel
total length of wall 81.5 m
steel studs every 4th meter max = 21 studs
one stud is 10 kN
total load 210 kN

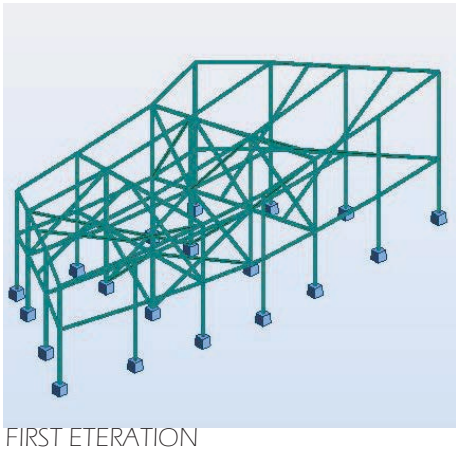
Gypsum board
total length of wall 81.5 and 4 layers gypsum is needed,
giving total length of 326 m = 4238 m2
weight is 7.62 kg/m2 for 32,293.56 kg = 316.7 kN

Concrete Floor slab and roof:
area 691 m2 giving 138,2 m3 with 0.2 m thick slab
density of 24 kN/m3
total load 3316,8 kN

Roof of 120,2 m3

Total load of 2884,8kN

Total self load of building 8097,2



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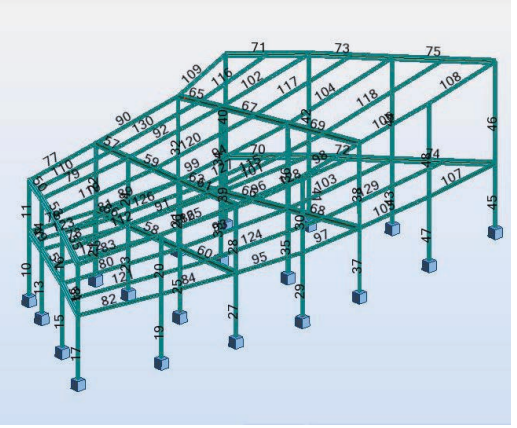
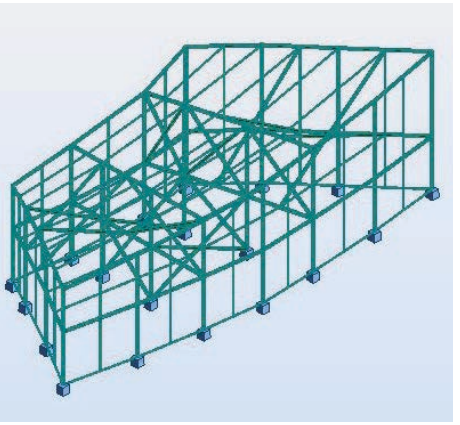
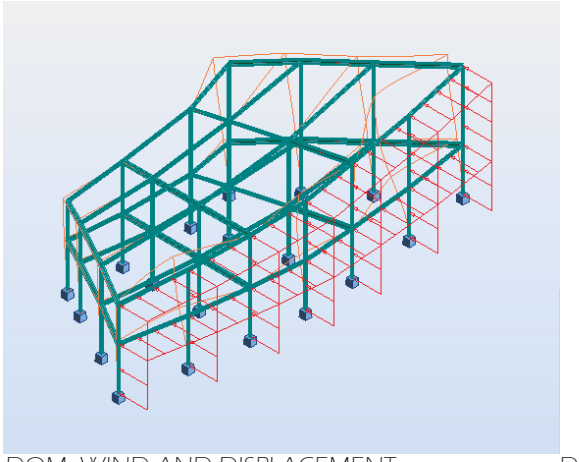


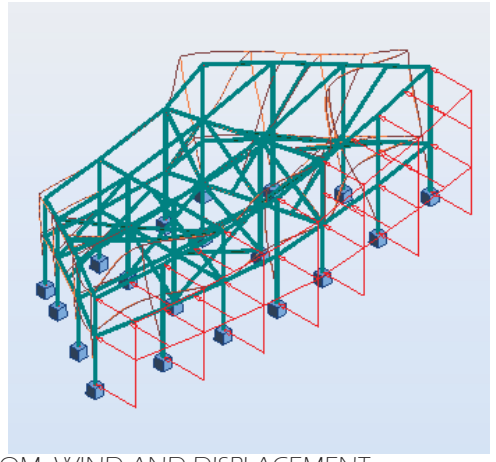
SECOND ETERATION



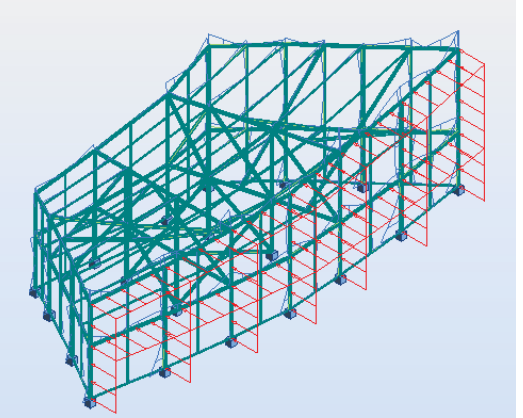
AFTER FINAL, EKSTRA CHECK



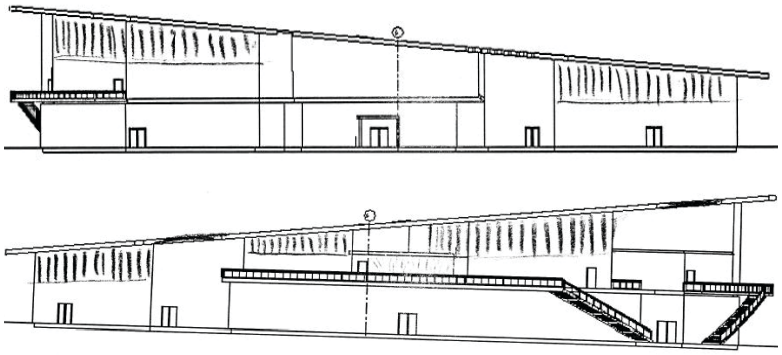
DOM. WIND AND DISPLACEMENT

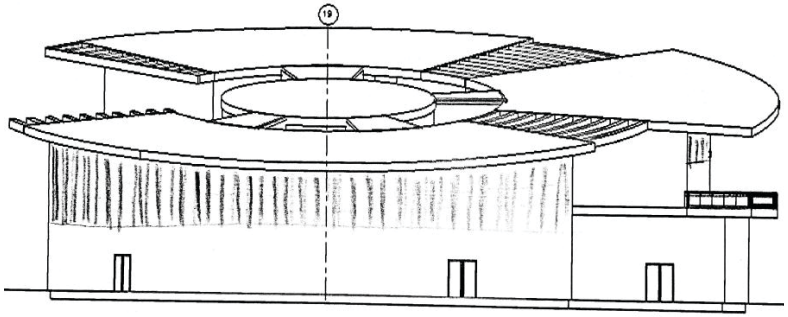


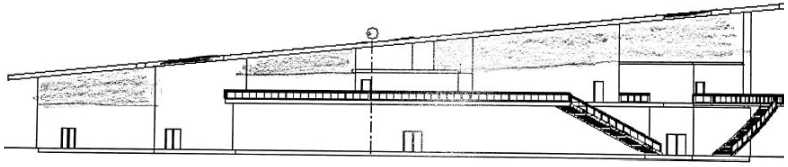
DOM. WIND AND DISPLACEMENT

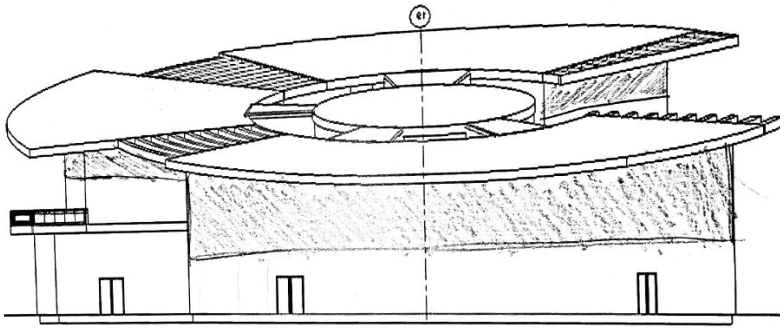


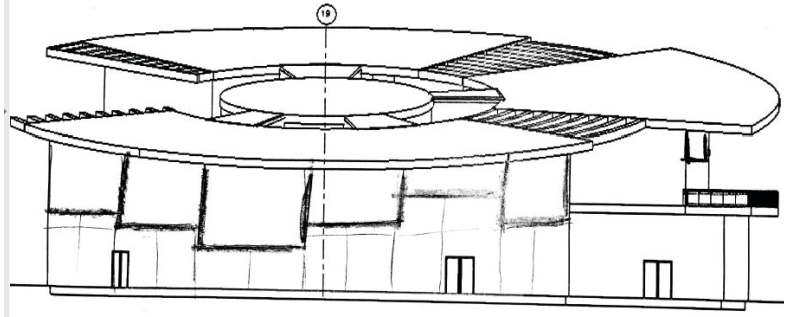
MAXIMUM STRESS FROM DOM. WIND

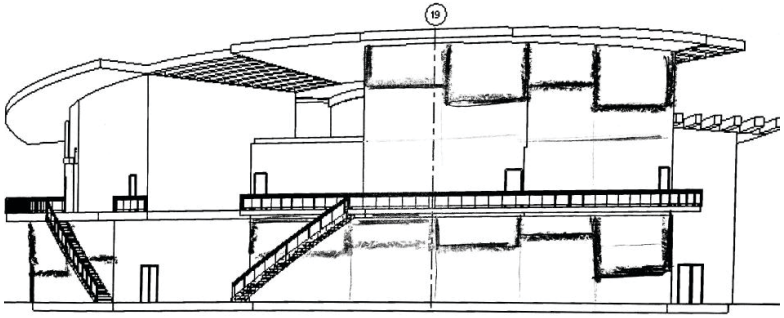


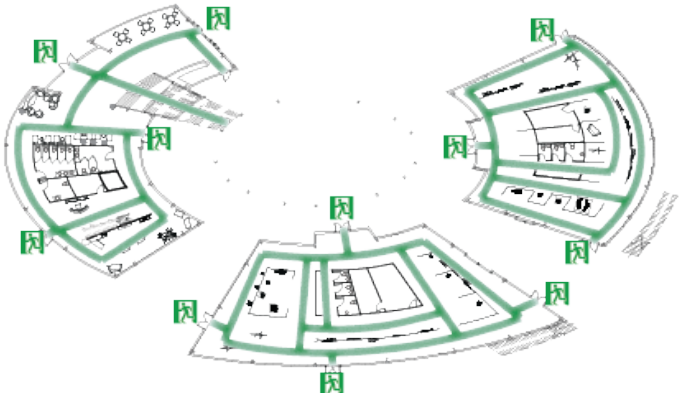


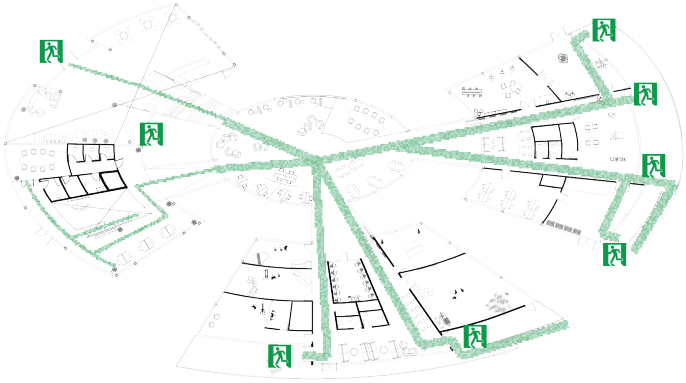


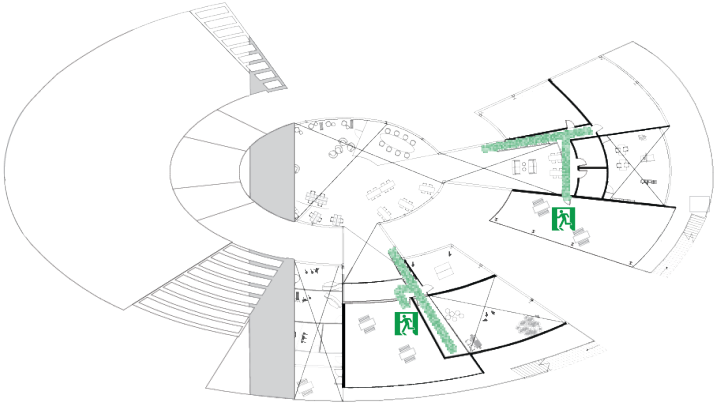


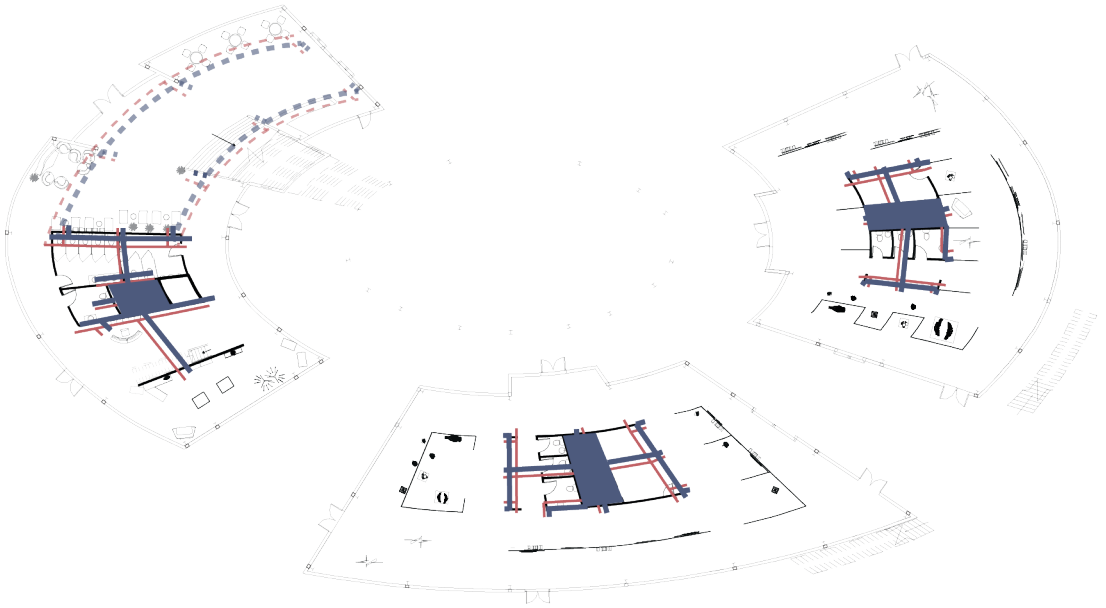


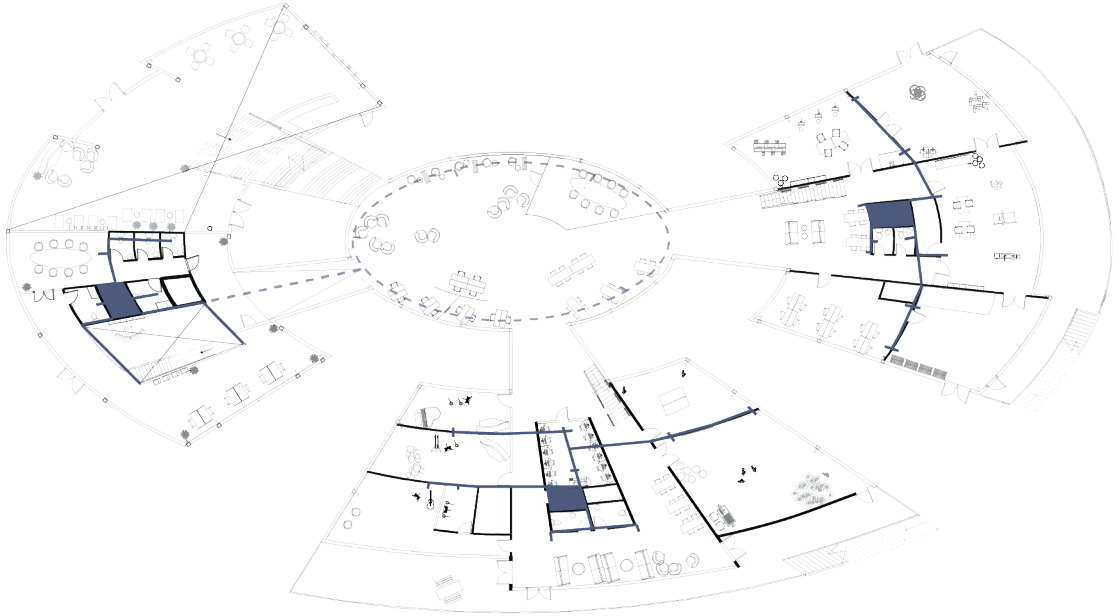


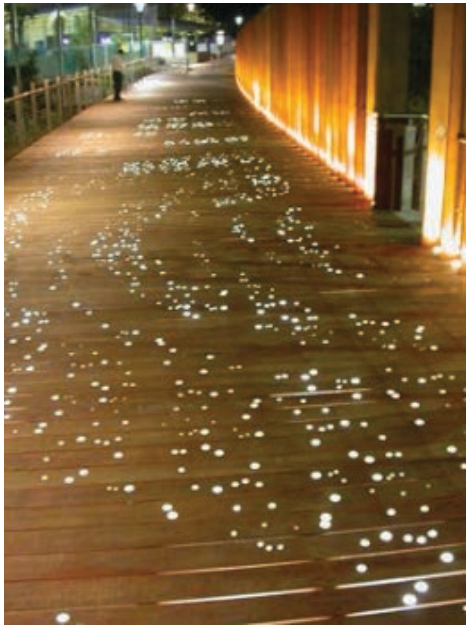


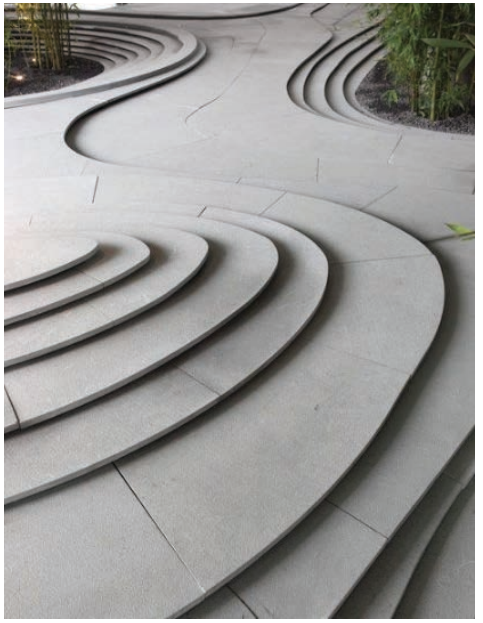


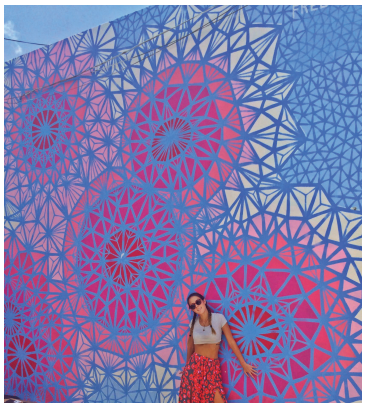


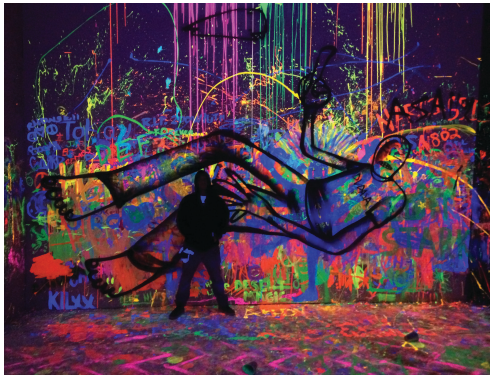


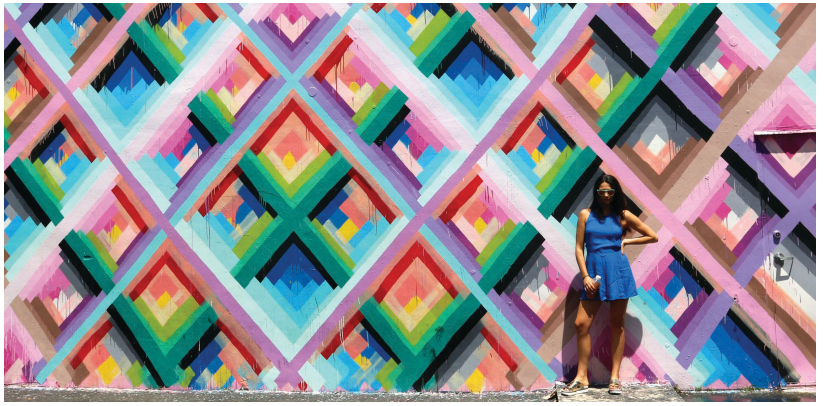










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