POOLS OF POTENTIAL

Balancing continuity and change in the transformation and reuse of swimming and sports facilities into a local hub for sports and culture

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Master's thesis, Spring 2024

Chalmers University of Technology Department of Architecture and Civil Engineering

> Examiner: Paula Feminias Supervisor: Tina Wik



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Master's thesis (ACEX35) Chalmers School of Architecture
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Keywords: transformation, reuse, retrofitting, cultural heritage, accessibility, sustainable development



Main entrace to Västertorps sim- och idrottshall (seen from northest). The main entrance leads straight on to the swimming facilities. The higher roof with the ribbon windows all around is the main pool room. To the left of the main entrance and the pine trees, the larger sports hall adjoins, and beyond this is the smaller sports hall.

ABSTRACT

Times are changing, signaling a shift in our collective mindset and actions, particularly regarding climate consciousness. Though probably sped up by the current recession, I see campaigns everywhere advocating for eco-friendly choices in everyday life, reflecting a growing awareness of individual responsibility in combating climate change and influencing political and corporate agendas. At least this is what I hope.

On a local scale, my thoughts on these questions connected to architecture have guided me in my choice of thesis project. I live nearby the buildings I have chosen to work with, namely Västertorp's swimming and sports facilities in Stockholm. As plans for a new complex unfolds, questions emerge concerning the fate of these existing buildings and their potential for adaptive reuse and transformation to meet the evolving needs of the local community, instead of being deemed obsolete and demolished.

The project focuses on repurposing the existing swimming and sports facilities, emphasizing sustainability, both from a resource and social perspective. By leveraging existing structures and materials, the aim is to create a space that integrates sports and culture, accessible to all residents of Västertorp.

Recognizing the challenges posed by evolving regulations and environmental impact of demolishing functional buildings, the study advocates for sustainable transformations that extend the lifespan of the existing buildings, exploring the inherent values and opportunities in these. The project offers insights into converting common public facilities for transformation and reuse, aligning with the community's needs, present and future, while preserving historical significance.

Employing a research-by-design approach, the study combines on-site investigations, archival research, sketching and digital modelling. By addressing deficiencies and envisioning a combination of sports and cultural functions in a joint hub, the project aims to suggest creative proposals to enrich the local area while minimizing environmental impact.

In conclusions, this project promotes sustainability in architecture by advocating for the reuse of existing buildings, avoiding demolition of functional structures and reducing the environmental impact of the construction sector. Socially, it emphasizes the preservation of heritage values, allowing the buildings to withstand time by meeting evolving needs while also offering historical depth to the community. Through this work, the project wishes to contribute meaningfully to the broader discourse on sustainable reuse, transformation and development in architecture.

Key words

transformation, reuse, retrofitting, cultural heritage, accessibility, sustainable development

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INDEX

01. Introduction

	\sim			
Site, buildings & context in short Thesis framework & research questions Method & process Changing the way we value & adapt buildings Broadening our gaze beyond the here and now Project references	04 05 09 12 14 15	J		83
				84
		A. B. C. D.	Plan First Floor, 1:400 (A3) Plan Ground Floor, 1:400 (A3) Plan Basement, 1:400 (A3) Plan First floor (Building B & C), 1:300 (A3)	3)
02. Site, buildings & context	~~	E.	Plan Ground floor (Building B & C), 1:300	
Geographical location & spatial context	21	F.	Sections b-b & e-e, 1:300 (A3)	
Description of buildings	24	G.	Elevations facades, 1:300 (A3)	
Building analysis: Structure, functions,		H.	Section a-a, 1:100 (A3)	
form & measurements	26	I.	Section c-c, 1:150, (A3)	
Bulding analysis: Assessments, reports &	0.0	J.	Section d-d, 1:150 (A3)	
designated values Building analysis: Evolution over the years	33 38	<i>K</i> .	Plan Ground Floor Café, 1:150 (A4)	
Building analysis: The user experience	40	L.	Plan First Floor Café, 1:150 (A4) Plan Ground Floor Sports Hall, 1:200 (A3	.)
Daniang analysis. The user experience	Τ°	M. $N.$	Plan First Floor Sports Hall, 1:200 (A3))
03. Design proposals				
Introduction to proposals	43			
Strategies	44			
Exterior changes	44			
New program, plan & functions	47			
General proposal - Outdoor space & connections General proposal - Accessibility measures	52			
Specific proposal - Café/restaurant extension	54 56			
Specific proposal - Extension to sports hall	61			
Specific proposal - Venue space in large pool	66			
Speific proposal - Exhibition space in small pool	70			
04. Conclusions & reflections				
Answers to the questions	~~~ 75			
Addressing & impacting sustainability	76			
Discussion & concluding thoughts	78			

References

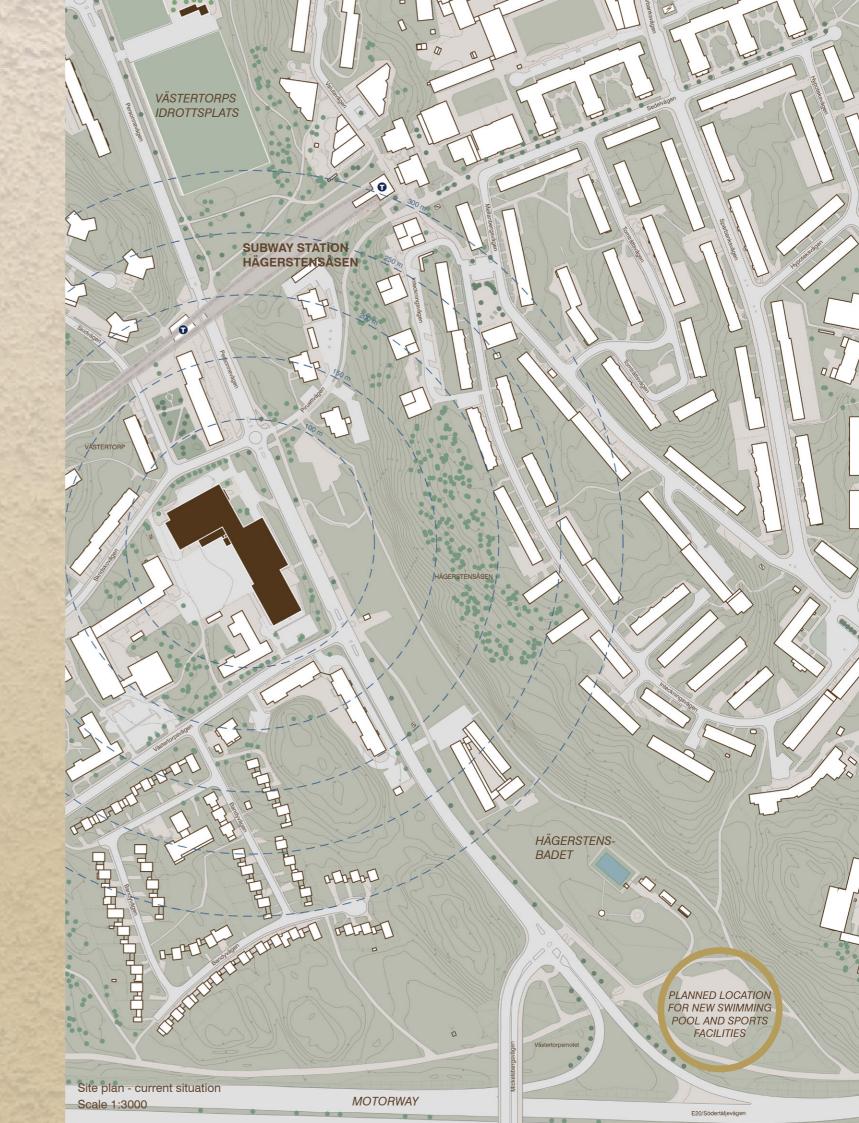
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CHAPTER ONE

INTRODUCTION

This chapter introduces the project and why it was chosen along with its prerequisites. It includes what questions will be addressed, methods used and aims and goals to be achieved.

The chapter also goes through the framework for the project, addressing adaptive reuse and sustainability as well as showcase relevant references for the project.



Main entrance (seen from northwest). Swimming pool facilties centered in the image, to the left the large sports hall adjoins. Behind the swimming pool facilties in off-white and pale yellow plaster is the former school, also drawn by C. Laudon. In the upper right part one can see the high rise apartment building marking the local square of Västertorp.

SITE, BUILDINGS & CONTEXT IN SHORT

The area in which the relevant buildings are located, Västertorp, was planned in the 1940's with a general urban plan for the whole area proposed in 1947 by the municipality through architects Sven Markelius and Bertil Tideström. The area was the first in Sweden to be planned and built with cars and pedestrians separated. It was also the last to be built according to a traditional way of planning with a single main street with shops on both sides and a square near the metro station. The whole area was built between the years of 1945 and 1954.

Today Västertorp is a popular area, also for families with children, making facilities for spare time activities much needed. The area of Västertorp is also the area in Stockholm with the most public art and offer quite a large number of artist ateliers and workspaces. In quite a few apartment buildings there are also ateliers that are rented out for artists and this has been the case since the building of the area.

The public swimming pool and sports facilities however were built between 1966-1967, just beside the next metro station from Västertorps center, Hägerstensåsen station. The facilities were built along with the school just alongside to the west, Västertorps gymnasium. Both the school and the sports facilities were designed by architect Curt Laudon. The school was used for offices from the 1980's until they were adapted and converted into apartments in 2007.

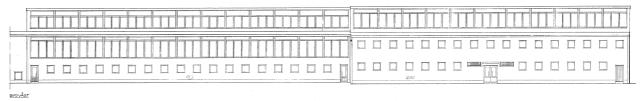
The swimming pool facilities include reception, changing rooms, a children's pool, one large 25 metre pool, gym, small cafeteria and staff areas. The large pool is centred in a large room with a small audience stand and lit by daylight all around from the rectangular ceiling lantern windows. The depth of the pool goes from 0,7 metres to 3,8 metres. By the entrance to the facilities is a famous sculpture called "Efter badet" by Pye Engström.

The sports halls are adjoined to the swimming facilities and consists of one larger hall, measuring 21x42 metres, and one smaller hall, measuring 18x36 metres. Within the halls are areas for changing rooms, storage for equipment, club rooms, kitchen etcetera. The facades of both halls were altered in the 1980's as their windows were boarded up and the halls lack natural light since then.

The swimming pool building is classified as "yellow", by Stockholms Stadsmuseum, meaning it is a buildings with a positive significance for the cityscape and/or to have a certain cultural heritage value. There are two levels of higher value classification above this, "green" and "blue".



(1) Original drawing - elevation northeast with main entrance to swimming pool building



 $\hbox{\ensuremath{(2)}Original drawing - elevation southwest, sports halls}\\$

THESIS FRAMEWORK

Problem

It is becoming more obvious that we cannot continue to build everything new and not properly see the values consisting in our existing building stock and urban environment. From a sustainability point of view the reuse of existing buildings is positive from many aspects, such as less turnover of land use, prolonging the life of building materials and resources (UNEP, 2023) as well as buildings having social and cultural significance for the city and its inhabitants.

Despite good intentions and good quality of buildings, some buildings still end up being outdated for the functions they were once built for, due to new regulations, for example accessibility and hygiene demands. This is the case for the chosen buildings that make up Västertorps sim- och idrottshall.

Discourse

Transformation and reuse of buildings is a way to access buildings inherent values and to find creative ways to change the buildings for them to be reused, recycled, or converted for new functions than the original one. This process prolongs a building's life and makes better use of resources than tearing down and building new (Plevoets, Cleempoel, 2019, pp 22-23). If buildings are properly built to begin with, tranformation and reuse could become a natural phase in a building's life, if its original use no longer is needed or attractive. A quite common example for this is excess office space during the Covid-19 pandemic and the after effect of remote working where offices can then be reused and transformed into other functions, such as housing. To convert and transform buildings from their original purpose has its challenges, such as ventilation, room height, daylight etcetera, but also makes way for creative problem solving and solutions. These tasks could very much become a more common task for architects as ecological and economic sustainability is more sought after and demanded from different stakeholders.

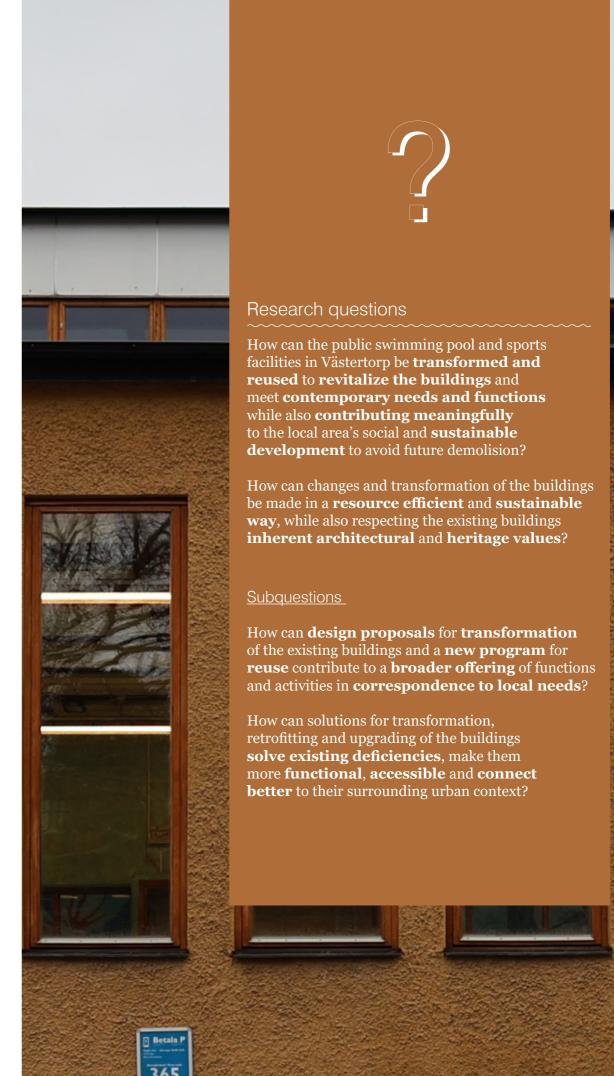
Aim & purpose

The project aims to study one existing complex of three adjoined buildings as a case study example of how transformation and reuse could be applied in a larger scale to avoid demolition.

The goal is to find a suitable combination of functions that could work together and creative ways to adapt the existing buildings for these. This way the buildings could continue to exist, but invigorated and renewed, without changing more than neccessary. Furthermore, the goal is also to find sustainable ways of implementing these changes considering both choice of materials and amount of resources needed.

In relation to the need to find new ways of using and transforming existing buildings, I want to investigate the possibilities for adaptive reuse of a public swimming pool, along whith transformation and upgrade of sports facilities in Västertorp, Stockholm. Due to the swimming and sports facilities no longer fulfilling the requirements demanded of such buildings, they are deemed obsolete. Therefore, a political decision has been made to build a new, modern sports complex a few hundred meters from its predecessor. Because of this decision, the original swimming and sports facilities that constitute Västertorps sim- och idrottshall are stated to no longer be needed and a plan for the future of these buildings is required.

The task of the project will lie in finding ways to transform, upgrade and reuse these buildings in order for them to be considered worth saving and converting. The scale of the project involves the building scale and its immediate urban context and surrounding public space. Furthermore, the aim of the project is to question the notions of value of buildings and for whom, address sustainability and cultural heritage by answering the chosen research questions.



Broader context

The project aims to contribute to a broader perspective of architecture and planning by investigating if common building types that have been deemed obsolete can be given new purpose through adaptive reuse and transformation and further also contribute to the discourses within these subjects.

More specifically the project contributes with ideas for conversion of swimming and sports facilities, which are common in the existing building stock. Many of Sweden's public swimming pools and connected sports facilities were built during the "record years" of the mid 1950-70's, as ideas of the welfare state influenced architecture and planning and these types of facilities were deemed needed in all municipalities and areas of the city for all citizens to have equal access to (Hejdelind, 2021). Therefore, many of these buildings are either in need of restauration and upgrading or are too obsolete for their original function that their future existence lie in finding new ways of using them.

When it comes to Västertorps sim- och idrottshall it is one of Stockholms oldest public swimming pools still in use. The building's condition has been investigated to see if it is possible to upgrade and extend the existing facilities, but investigations show the cost of this would almost equal that of building completely new and it would still not be as modern as wanted and house all that is needed in a modern swimming pool. Because of this it has been decided that a large new swimming and sports complex is to be built a short walk from the existing one. This way the existing facilities can be used until the new complex is in place, leaving no gap in between where the public would have to make do without.

Relevance for sustainable development

The relevance for sustainable development lies in transforming the already existing and giving it new life, promoting circularity in and reuse of architecture, avoiding exploitation of new land, demolishing of functional buildings and a new-is-norm mentality. Making possible transformation of the existing building stock through reuse and adaptation to fit today's needs is essential in order for the building sector to reduce their emissions and overall negative impact on environment (UNEP, 2023).

From a socially sustainable standpoint it is positive to adapt existing public buildings, especially those with heritage values and give them other functions. In this way buildings that are important in a local context can withstand the toll of time and adapt to new needs while still telling the tale of their history and give historic depth to an area (Plevoets, Cleempoel, 2019). In addition the adaptation to make existing buildings accessible for all is also of relevance and an important social sustainability aspect to highlight in transformation and adaptation of buildings.

Delimitations

The solutions found for transformation of the buildings will vary in scope and detail, as some solutions may be solved in more general terms with strategies and ideas, and others more specifically addressed in terms of design proposals and detailed solutions. For example, proposas for some parts of the buildings will be more detailed while others only programmatically changed.

The surrounding outdoor space will only be addressed in general terms as to how they might be adapted to the new uses and functions within the buildings.

The project will not delve into the existing buildings and if the construction of these could endure specific interventions, such as added windows or structures. General conclusions concerning the resilience to change will be made based on material and structure.

The project focuses on the adaptation and reuse of the existing buildings and will not provide ideas for adding new buildings within the premise, as is the official plan from the municipality in their initial phase of planning. The municipality's early proposition is to investigate the possibility to demolish the sports halls to accommodate a new housing block and add a tower block in the front of the plot, by the main entrance, along with another building alongside the north facade of the swimming pool building.

The project will not take into consideration specific fire and evacuation regulation, as this requires delving into exactly how many people can use different parts of the building at any given time, which would be time consuming and not evolve the architectural or programmatic parts of the project. Neither will the project discuss energy consumption or LCA (Life cycle assessment) or other energy related questions.

Lacking accessibility to large parts of the facilities has made is neccessary to base drawings, measurements and function of certain spaces on original drawings, building permit applications and photographs from Stockholm City Museum. Aspects such as ceiling construction and room heights are uncertain for many of the spaces within the buildings.

The basement level has only breifly been addressed and investigated and therefore few changes are proposed for this space.

Choice of program & functions

The buildings were originally built for very specific purposes – swimming and sports. However, as requirements since then have changed, the facilities no longer fulfill the necessary demands of today. Because of this, questions arise concerning what these buildings could and should be used for instead, and how this could be done. Some of these questions constitute the research questions for this thesis.

As the decision to start plans for new sports- and swimming facilities in the area of Hägerstensåsen/Västertorp has been made, the municipality's planning department has asked the cultural department about current needs in the local community to find potential uses for the existing facilities of Västertorps sim- och idrottshall. This has been asked although no decision for reusing the buildings have been made.

The municipality's cultural department (Stockholms stad - Kulturförvaltningen, 2022) answered that there is a need for space for cultural and social activities for children and teenagers as well as spaces for artists. The list below states what functions were suggested and claimed to be needed in the area.

- Youth Center (Fritidsgård)
- Cultural activities
- "House of the Youth" (Ungdomarnas hus)
- "House of Artists" (Konstnärernas hus)
- Artist ateliers

In the city of Stockholm there are general needs and shortages that could be taken into account and answer to in the project. These are for example:

- Housing (especially student housing/senior housing)
- Bomb shelters
- Indoor sports halls
- Outdoor sports areas

METHOD & PROCESS

On-site investigation

The first and foremost method used to carry out this project has been visits on-site where inventory, mapping, photo documentation and taking measurements all have been different parts in the investigation of the buildings and their qualities. On-site visits also make it possible to embed how one experiences the buildings while there and take these phenomenological aspects into account in the project. Such aspects could be relating to how one feels when using or experiencing a building, such as the feeling of safety, orientability and general condition. But also things such as natural light, sound and spatial sequences are better understood when visits have been done on-site.

Archive & document inventory

Original architectural drawings and blueprints have been essential to map out and digitalise in order to understand the building and all its parts. The building is inherently complex, with many different levels. There are spaces I have not had the opportunity to get access to. Drawings have in these cases been essencial for the understanding of the building. The drawings, from plans, to sections and elevations, are also essential for the ability to analyze the building.

Building analysis

With the help of the on-site investigation and archive and document inventory, material have been aquired that can be used for analysis of the buildings. These analyses involve both plan analysis and spatial analysis, as well as analysis of architectural features and elements. Examples are what makes up the load bearing system of the buildings, how one can move and orient oneself in the buildings, spatial relations and sequences, floor levels and accessibility, what parts of the buildings are original and which are newer additions/changes and so

on. These analyses show how the buildings work and helps lift problems that coud be addressed in the proposed changes of the buildings as well as motivate choices made in the design proposals.

Studies of heritage documents

A heritage evaluation has been carried out by Stockholms Stadsmuseum (City Museum) where values have been classified and documented. This evaluation has been read and used to define which aspects of the buildings are of importance and should be preserved.

Research by design

All the mentioned steps of investigating and understanding the buildings addressed in this project become the basis, and also the toolbox, for the design proposals that answer to the questions being asked in this project. By using design tools, such as mapping, sketching and modelling as methods for inquiry, the testing of different design solutions are part of the exploration of what could become of the chosen buildings. Both analogue and digital sketching, modelling and drawing have been used to test designs.

Reference projects and ideas from these have been studied and implemented in this testing and sketching phase.

Theoretical overview & current practice

As a basis for the project, its scope and outcome, theoretical material and reference projects have been analyzed. The theoritical overview mostly concerns adaptive reuse theory and transformation along with theoretical texts on sustainabile development. Current practice has been studied through reference projects addressing similar spaces, themes and solutions.

Chosen framework & strategies

By analyzing the buildings and their architecture and load bearing construction, along with mapping, investigations, conclusions from heritage evaluation, sustainability and accessibility aspects and local needs of the area a project framework has been formulated.

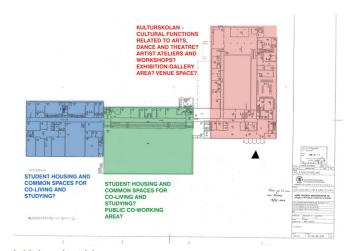
This framework acknowledges limitations, becomes a guide and helps motivate choices made and proposals suggested in the project.

The framework along with a will to suggest subtle and smaller physical changes and avoid large, radical or very costly changes, is the mindset and attitude proposals will be based on. I seek to find a balance between necessary changes or improvements, finding new functions and ways of using parts of the building, making the buildings more accessible in general and give the buildings new life.

Process

Due to being the first time carring out a transformation/reuse project, the process has not been completely linear and structured and changes has been made along the way. However, with the method to fall back upon and design tools to navigate forward the project has been summarized with design proposals as a result.

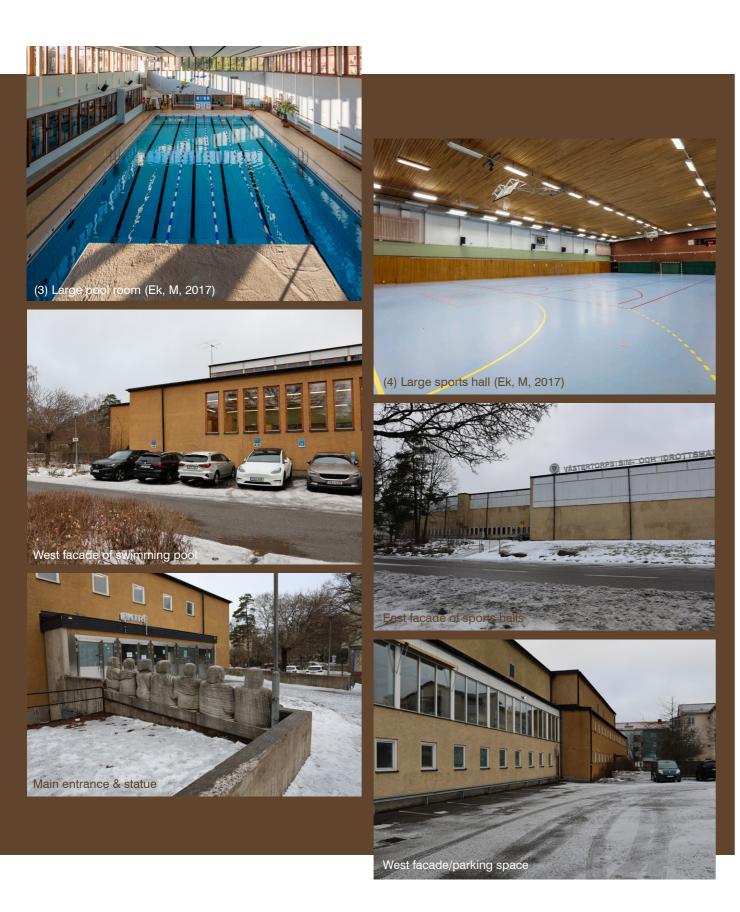
The following diagram explains my process in a schematic way.



Initial project ideas



Diagram of my process



CHANGING THE WAY WE VALUE & ADAPT BUILDINGS

Adaptive reuse & transformation

For too long we have seen buildings as something that can be torn down when it simply does not suit our taste or needs anymore. But by stepping back a few hundred years in time we can seek foregone approaches that need to be taken into our time. Buildings used to be built to withstand time, outlive its founders, builders and users.

Historically, Plevoets and Cleempoel (2019) explains, buildings were reused and repurposed again and again, driven mainly by a rational approach to the built environment, where functional and financial aspects were decisive in times where buildings were expensive to erect. In more recent times, if not deemed obsolete, old buildings with high values have often become protected monuments in need of preservation. But somewhere in between the prized monument and the useless relic and between demolition and preservation, lie an approach with much potential for creativity, innovation and sustainability, namely adaptive reuse (Plevoets, Cleempoel, 2019, pp 22, 28).

Every building is rooted in its own context, has a direct connection with the place that it inhabits, and therefore has a definite narrative to be revealed; every building has its own story to tell. This chronicle or account begins with the society that originally constructed the building and is overlaid with the tale of those who remodelled it. Thus the existing building contains a sense of connection with the past and a link to the future. (Plevoets, Cleempoel, 2019, p 19,)

In their book Adaptive Reuse, Plevoets and Cleempoel (2019) presents an overview on adaptive reuse theory. In this, one can read of different approaches and categories of reuse and transformations. Deriving from conservation of buildings, which started in the 19th century when we started historicizing the past and wanting to save it for the future, thoughts on transformation have evolved. Also, what buildings considered valuable enough to protect has evolved over time.

From mostly antique or medieval buildings being seen as preservation worthy, to more recent and modern buildings, as the founding of these with time becomes more historical (Plevoets, Cleempoel, 2019, pp 31, 35).

According to Plevoets and Cleempoel, Viollet-le-Duc was a pioneer when it comes to transformation of buildings and his interventions in 19th century France had great influence in the west. For example, he was to have stated that "the best way of preserving a building is to find a new use for it" (Plevoets, Cleempoel, 2019, p 30).

However more conservational approaches have also been in focus throughout the 20th century. One famous name stressing the importance of conservation and maintenance instead of restoration and transformation is John Ruskin, who was to have claimed that restoration is "the most total destruction which a building can suffer" and that they should be preserved and maintained instead (Plevoets, Cleempoel, 2019, p 31). The Athens Charter of 1931 was the first international document promoting conservation policy and stating that buildings should be used for a purpose which respects that of their original character (Plevoets, Cleempoel, 2019, p. 34). CIAM had a more radical opinion, promoting only modern architecture and seeing historic architecture as a barrier to development and advancement, where only a few buildings should be preserved as monuments in an otherwise modern urban fabric (Plevoets, Cleempoel, 2019, p 35). In 1964 came a new charter, The Venice Charter, which stressed the importance of "adaptive reuse" as a way of conserving buildings and making use of them for socially useful purposes. (Plevoets, Cleempoel, 2019, p 36).

In the 1970's adaptive reuse had become a creative discipline in itself within the architectural field, especially after many famous and influential architects had begun to work with transformation of historical buildings, such as Scarpa, Bo Bardi and Fehn (Plevoets, Cleempoel, 2019, pp 36-37). However opinions of how to best transform or reuse buildings still differ,

much depending on different understandings and valuing of authenticity and which buildings can endure transformation without losing its own, original identity (p. 32, Plevoets, Cleempoel, 2019). Cleempoel refers to Machado as a way to define the act of adaptive reuse and to make it easier to grasp and more forgiving. Machado uses the notion of architecture as palimpsest, as something that can be rewritten over and over, or layered. If architecture is seen as palimpsest, it allows overlays and interventions from different times, making the act of adaptive reuse less restricted and more creative (Cleempoel, digital lecture, March 27, 2024)

To carry out a successful transformation project one needs to fully understand a building, its history and its context, which requires a lot of analyses and structured courses of action. To do so projects involve time-consuming site investigations and building analyses. There are additional, more practical challenges with transformations, such as fitting new standards of comfort and demands into old buildings, like accessibility and ventilation, as well as not being able to use standard products with standard measurements or installations and so on. In addition to this there is a more aesthetic, and sometimes even philosophical, challenge in transforming the existing which lies in connecting different tenses, from past, through to present and on to the future. How is the history of the building, its use and users, memories, narratives, and traditions engaged in the transformation and how does the aesthetic of the old or original correspond to the new? How can transformation be carried through with respect for the existing? (Plevoets, Cleempoel, 2019, p 23).

"The process of adaptive reuse may hence be an opportunity to recreate, rethink, or strengthen the genius loci of a building, a site, or a landscape."

(Plevoets, Cleempoel, 2019, p 113)

To make use of the existing built fabric and transform it into something functioning and attractive according to the standards of today is a task architects will need to work with more. It is much harder than demolishing and building anew, takes longer, but it results in a much more sustainable development, both looking at ecological and social aspects, but many times also economical. (Plevoets, Cleempoel, 2019, p 22)

But change is coming when it comes to the swiftness of demolishing and building new. Attitudes are also changing rapidly which can be seen in the general debate in social media, in large news papers and in the themes of architecture students' projects at schools. People are tired of seeing buildings torn down. Sustainability awareness is spreading. Policy works slower, but things are changing there too. In Sweden there was a law which came into effect in januari 2022, demanding climate declarations for all new buildings. Forcing builders to calculate and think through their building related emissions. However, these climate declarations are not needed in transformations projects (Boverket, 2024).

Challenging renovations

During what is sometimes called "rekordåren" (record years) in Sweden, which was between the late 1940's, after the world wars, up to the 1970's, a large part of public swimming pools and sports halls around the country, were built. This goes for the facilities in focus of this project too. Especially when it comes to the swimming pools, if they are still standing and in use, they are in many cases reaching the end of their functional and technical capacity and life span. Many municipalities face the decision to renovate or build anew, which in both cases mean large investments, as swimming pools are one of the most technically challenging buildings to build. According to SKL (Swedens municipalities and county councils) many of the older swimming pools, built during these record years, used building technology not completely suitable for their actual function and not durable to last due to leading to problems with moisture damage, rust and weathering. The technology of today is stated to be much better and more suitable for the challenging function of a swimming pool when it comes to concrete and steel durability and protection, water cleaning systems, effective ventilation, cleanability and better sealing technology. So, to build new swimming pool facilities today should make these buildings more durable over a longer period of time than their precursors (SKL, 2014, pp 9-10).

New regulations concerning for example water quality and clorine and trichloramines, has also made it more difficult to keep using older swimming pools without extensive renovations. Of course, there are many ways to renovate and transform older buildings to make them adapted to the new regulations, but in many cases it is easier, less risk and more economical to build anew (SKL, 2014, p 10). Many of Stockholm's public swimming pools have been or are currently being renovated, such as the one in Högdalen, Skärholmen and Vällingby along with Forsgrenska by Medborgarplatsen. However, decisions to start plans for new facilities to replace the swimming pool and sports halls in Västertorp has been made. This leaves the future of the swimming pool uncertain and alternative futures for its reuse possible to imagine.

BROADENING OUR GAZE BEYOND THE HERE & NOW

Sustainability in design & building

As many know by now, the building sector world wide contributes largely to global climate change, accounting for approximately 37% of total global greenhouse emissions. Most effort to mitigate the sector's impact on the environment has been focused on buildings' operational carbon, meaning energy required to heat, cool and light up buildings. Within the next few decades the operational carbon is estimated to decrease by 25%. The embodied carbon, which is the emissions from production and building materials, has not seen the same shift or improvement when it comes to decreasing their environmental impact (UNEP, 2023, p 9).

In the report *Building Materials and the Climate: Construccting a New Future* (2023) the UN:s Environmental Programme presents three crucial ways that the building sector need to make progress in order for the sector to decarbonize and reach towards the goal of net zero-emissions by mid-century. These presented ways are:

AVOID

the extraction and production of raw materials by galvanising a circular economy, which requires building with less materials through better data-driven design, while reusing buildings and recycled materials wherever feasible.

SHIFT

to regenerative material practices wherever possible by using ethically-produced low carbon earth- and bio-based building materials (such as sustainably sourced bricks, timber, bamboo, agricultural and forest detritus) whenever possible.

IMPROV

methods to radically decarbonise conventional materials such as concrete, steel and aluminium, and only use these non-renewable, carbon-intensive, extractive materials when absolutely necessary.

(UNEP, 2023, p 9)

In order for the sector to succeed with this large shift requires that all involved stakeholders use the best available technology, that this technology is spread and made accessible and that stakeholders, policymakers and world leaders push towards this through incentives, requirements, policies and laws that make environmentally friendly building the only way forward. Development cannot proceed as it has always done, new ways, new materials and new mindsets are needed. The process of decarbonizing the building sector will also result in different methods in different parts of the world, as climate and resources shift. A local and sustainable building material in Sweden may very well look very different from one in Egypt or Australia. Changing the way we think also needs to span beyond new, sustainable materials and products and look at what is already there. This shift must include seeing and valuing the existing building stock as a resource and material bank for future projects to find circularity in building.

This large shift is based on knowledge having to be spread and gained in all parts of the sector. Architects too need to learn what is needed from them to be part of the transition towards better ways of building that does not burden the environment further. Architects need to design differently, collaborate and be humble towards other expertise being part of the design process to find ways forward. Form needs to follow sustainability, the existing needs to be prioritized over the new and architects need to find their role in this new order, where circularity and sustainability needs to be at the center of designs (UNEP, 2023, pp 11, 17, 19).

PROJECT REFERENCES

Teatro Oficina by Lina Bo Bardi, 1984-94

The Teatro Oficina in São Paulo was transformed by architect Lina Bo Bardi in 1984 following a fire that left only the brickwork of the former theatre standing. The space is non-traditional both in shape, size and interiors. The venue space is 9x50 meters and the theatre creator Edson Elito's and Bo Bardi's vision for the space was a long, narrow, street-like space. This shape supports the performances through limited audience space and instead accentuating the act and its actors. The stage and act come closer to its audience which promoted a democratic, contemporary style of theatre. The "Street" stage is also symbolic as it leads the people into the cultural space, making them meet and interact.

The space for the audience is also narrow and solved through vertical collapsible structures, much alike scaffolding. The theatre space can host up to 350 people on seats spread out on four levels in this steel structure with stairs linking the different levels (Archeyes, 2016).

The original theatre was founded in 1958 and up until the fire in 1966 had an arena format. The importance of the theatre was recognized in 1981 as it was given a protected status. This became a limit and framework for what could be changed in the original building and its interior space. The theatre space created by Bo Bardi has a temporary aesthetic and is also reversible. It highlights the original features of the building, such as brick arches, while also bringing in natural elements such as plants in the venue space to create a tropical atmosphere (Archdaily, 2024).

Application in project

The part of the buildings with the highest cultural heritage value is the space in which the swimming pools are located. Because of this the space is transformed through reversible interventions, like Bo Bardi's Teatro Oficina. The scaffolding audience space

and the "fitting in" of a new function in an existing space, not necessarily obvious for the given function, are features and approaches used in my project.





(5+6) The "Street" stage and seating at Teatro Oficina, Sao Paulo, Lina Bo Bardi (Kon, N. 2016)

Framtidens Idrottshall by White Arkitekter, 2020

(translation: "Sports hall of the Future")
Conceptual program for building new sports halls
by White Arkitekter. The program is produced in
collaboration with several sports associations to
create guidelines for building more flexible sports
halls better equipped for spontaneous and non-programmed exercise and movement as an upgraded
and updated version of traditional sports halls.
The program also has strategies for sustainability
measures, such as volume efficiency, multifunctionality, flexibility and sustainable materials, but
social sustainability issues are also addressed, such
as making exercise and sports more accessible for
everyone on their personal and individual terms.

In addition to this they describe how sports halls have the possibility to become more than just for sports and instead becoming a meeting place in the everyday life of the local community and a place for social interaction and health.

In the program different scenarios and spatial options and uses are visualized to better communicate the ideas and multifunctionality that is promoted in the design of the future sports hall (White arkitekter, 2020).

Application in project

Some of the design solutions and ideas are tested and applied in adjusted form in the extension and transformation of the large sports hall and measures proposed for this. Ideas that are taken into account in the design of the sports hall extension are better connections between adjoining rooms like hall and entrance, multifunctional space for movement and exercise, using all space as possible space for motion, adding backstage functions and places to socialize, making them accessible for everybody and opening up the building towards public space outside.

The Swimming Pool Project, N. Lomidze & A. Gharibashvili, 2020

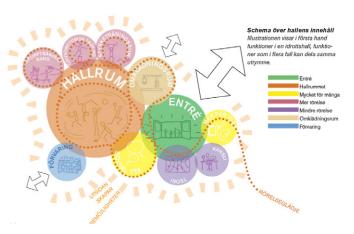
An abandoned public swimming pool was transformed into a public open air amphitheater in the city of Tblisi, Georgia. The pool was converted into an amphitheatre with terraced seats, stairs and a ramp and covered in light blue, to resemble water and the former use of the pool (Designboom, 2021).

Application in project

The idea of turning a pool into a theatre is used in my project and in the large pool of the buildings.



linionahild för Framtidans idratta



(7+8) Vision for the concept and functions diagram (White Arkitekter, 2020)



(9) Amphitheatre in a former pool, Tbilisi, designed ny N.Lomidze & A.Gharibashvili (Designboom, 2021)

The Pool by SO!, 2022

The Pool is an adaptive reuse project where a former private pool was transformed into a public hall with a venue space with a stage and seating. As it was deemed to oexpensive and unsuitable to make the private pool public the pool was near destruction. Instead the idea to reuse the space, to keep the structure and image of the pool and use minimal interventions concerning funds and time. To keep the pool as intact as possible, what not only economically viable but had a symbolic meaning too as the new city administration for Istanbul wanted to reclaim public spaces. Due to these factors the original roof structure, tiles and walls were kept intact (SO!, 2024).

Application in project

As the above project this reference project also turned a pool into a theatre, here as part of a public hall. The aspect of maintaining a collective memory of what the space once was used for as well as the fucntional reuse is inspiration in the project and the remake of the large pool.

Cineroleum by Assemble Studio, 2010

The Cineroleum by Assemble Studios is a collective adaptive reuse project realized by hundreds of volunteers. An unused petrol station in Clerkenwell, UK, was transformed into a cinema by using cheap, leftover or donated materials. The old station shop was transformed into a foyer, where visitors can socialize and buy popcorn etc while the petrol station roof and space beneath was transformed into the actual cinema or auditorium. Roof membrane was sewn into drapes that envelope the old petrol station roof and can be hoisted up or let down depending on if there is a movie screening or not. Flip seating was made up of old scaffolding boards. When the film is finished the curtains are pulled up again to let people back to the real world after having been in the fictive world of the viewed film (Assemble Studio, 2024).

Application in project

From this project inspiration is taken to create the possibility to view films/cinema in the large pool room. Seating can be easily created in cheap materials and fitted into the slope of the pool and blackout curtains be made to be hung along the ceiling and manually drawn up or down, depending on activity in the space. In general the straight forward-ness and simplicity of the Cineroleum project is inspiration for the venue space of the pool room.



(10) Former private pool turned public hall with minimal interventions to the original structure, The Pool, SO! (SO, 2024)







(11-13) Former petrol station turned cinema, Cineroleum, Assemble Studio (Assemble Studio, 2024)

Arkdes Exhibition by Tham & Videgård, 2022

Tham & Videgård is a Swedich architecture firm that curated a dedicated exhibition of their works at Arkdes, Museum for Architecture and Design, in Stockholm in 2022. The exhibition name was "Tham & Videgård – On: Architecture". The firm exhibited both realized and non-realized projects in a large exhibition hall at the museum where a large exhibition hall was transformed so that the floor was built up of glass covered cassettes which worked as showcase boxes to exhibit the projects. Each cassette hosted a project or a theme with text, photographs or renderings and models. In addition to the glass cassette floors there was a large screen showing various projects. To access the exhibition space a ramp was built to lead the visitors up on the floor where they were encouraged to remove shoes to avoid unnecessary scratching of the glass floor (Arkdes, 2024).

Application in project

The idea of the glass cassette floor is brought into the project in order to maintain the small pool and its mosaic while at the same time adding floor space to use for an exhibition hall. The cassette floor can work just as it is, and like in the reference example, as voids to fill with exhibited material.



(14) Tham & Videgård exhibition space at ArkDes, Moderna museet, Stockholm (E:son, Å, 2024)









GEOGRAPHICAL LOCATION & SPATIAL CONTEXT

The local context

The site on which the swimming pool and sports facilities are built on is located southwest of the center of Stockholm, approximately 9 kilometers from Stockholm Central station and 16 minutes by subway. The plot is then less than 200 meters from the subway station of Hägerstensåsen.

Västertorps sim- och idrottshall is located in Västertorp, but close to the boarder to Hägerstensåsen. Västertorp as a whole is identified by the Stockholm City Museum (Stadsmuseet) as an area of cultural and historical value as it is a great example of "the subway suburbs" that were built in the outskirts of what was then the city limits of Stockholm as the subway system was expanded. Västertorp was built according to the current ideals where housing was built in rather slim apartment buildings and in neighbourhood units, with a lot of green space and natural terrain surrounding them, a local square with one taller building and a main street with shops, all in proximity to the subway station. Accompanying the area was public buildings such as schools, local care centres and swimming and sports facilities, such as Västertorps sim- och idrottshall. The area of Västertorp today still looks a lot like it did when it was built (Stockholms Stadsmuseum, 1998).

The site & its spatial relations

The plot on which the swimming pool and sports facilities stand upon is located approximately 200 meters from the nearest subway station and small subway square with a few shops and restaurants. The buildings are set back 15-30 meters from the nearest street and grass and trees make up the space between. The main entrance to the buildings face the main street, Personnevägen, that passes by along the west of the plot. This street divides Västertorp from Hägerstensåsen and connects towards the motorway which is approximately 600 meters



(16) Västertorpsplan - Västertorp's square (Arhagen, M, 1958)

to the south. This road is a somewhat larger road today and has quite a lot of local traffic. Plans are for it to become more of an urban street (translation of "Urbana stråk") with reduced lane width for cars and added space for cyclists, pedestrians and trees.

At the back of the buildings, towards the southwest, one finds the larger parking lot. From this side one can only enter the buildings through the school pupils entrances leading straight to the changing rooms. Following the parking lot towards the west is the former school, Västertorps gymnasium, which was transformed into apartments in 2007. The

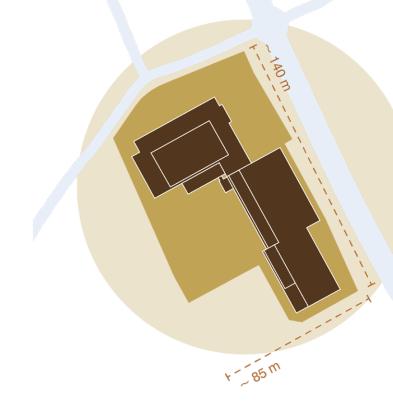
school was designed by the same architect as Västertorps sim- och idrottshall in 1950, Curt Laudon.

Surrounding the facilities towards the south are apartment buildings from around year 2000 as well as more newly built ones that were completed in 2022. Towards the northwest and north there are apartment buildings dating back to when the area was built, early 1950's.

On the opposite side of the street from the buildings there is a small outdoor play area and some taller apartment buildings. There used to be a preschool but this has been demolished and new housing is being planned there.

The main street that passes by the buildings align with a green strip dividing Västertorp from Hägerstensåsen. This green strip, parts of which are included in Mellanbergsparken, is made up of natural southwest facing slopes with trees, larger grass areas and popular walkways. Towards the north of this strip one can find Västertorps IP, with outdoor football fields. Towards the south of this green area one can find Hägerstensbadet, which is an outdoor public swimming pool with surrounding grass areas. Next to this, near the motorway is where the new swimming and sports facilities are being planned.

The size of the property, called ISPRINSESSAN 5, is approximatelt 9900 squaremeters. The longest part of the property is approximately 140 meters and broadest part of property approximately 85 meters.



Building legislation & future plans

The original detailed plan for the area, including the swimming pool and sports facilities dates back to 1947 (Stockholms stad - Stadsplanekontoret, 1946). The existing, now ruling detailed plan is however from 1997 as it was updated when the apartment building towards the southwest was planned. According to the detailed plan Sports (Y) is the function allowed along with a narrow strip of nature (NATUR) towards the main road (Stockholms stad - Stadsbyggnadskontoret, 1997). If changes in functions and extensions were to be carried out a new detailed plan would be needed.

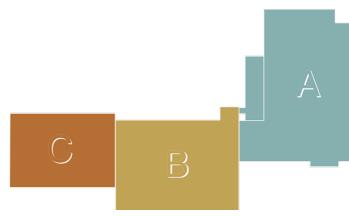
In 2020 a political decision was made to start to plan for the larger area of Mellanbergsstråket, which runs along the west of the plot from above the outdoor sports area all the way down to the motorway. In the program for the area that is currently being planned new facilities for swimming and sports are included close to the motorway (see map on following page). In addition to this approximately 700 apartments are included, as well as a park, a square and a nature reserve (Stockholms stad - Stadsbyggnadskontoret, 2024). Västertorps sim- och idrottshall are included in the area being planned, but there is not yet a clear vision for the future use of the existing buildings.



DESCRIPTION OF BUILDINGS

General description

Three buildings adjoined constitute the swimming pool and sports facilities addressed in this project. The seperate buildings are readable from the outside. These buildings area as follows: building A the swimming pool building, building B - the large sports hall and building C - the smaller sports hall.



The buildings all have plaster facades in different shades of ochra/yellow. Heritage evaluation of the buildings have been carried out to identify existing architectural and heritage values. The buildings have the lowest value classification, but according to the evaluation they would get a higher classification if they were to be reclassified today.

The buildings have been in public use since they were built in 1966-67 and are well visited by the local community. Facilities are fully booked by schools by day and different sports associations from afternoon till evening. The buildings also house a municipal gym connected to the swimming function, offering both gym and instructor led excercise classes. These classes are carried out in the basement facilities.

The swimming function is deemed obsolete according to standards and requirements of today. The sports halls are also not up to date as the hall measurements are smaller than what is sought after today. They also lack social areas in connection to the halls.

The buildings are introvert and the only place one can see into the buildings at ground level is by the main entrance. Towards the parking lot at the back of the buildings there are ribbon windows all along the facade on the first floor. There are few entrances. Apart from the main entrance from Personnevägen there are only pupils entrances from the back leading straight to the changing rooms and two anonymous doors on the south gable on building C that lead to changing rooms and club areas.

All buildings are in two floors plus a basement level. However, within each floor are several partial levels with stairs connecting them. If counting the actual levels within the swimming pools, the ground floor has an additional two levels. There is one elevator in the building, but this does not connect all the different levels within the building. These different levels may be architecturally interesting but are not suitable for a public building as it is inaccessible for many people. This is one of the main issues of the current buildings.

Specific description

The following parts of this chapter will describe varying aspects of the buildings in more detail based on different analyses. These analyses have been carried out in accordance with methods described earlier - i.e. some through inventory and mapping and some through archive materials and assessments/evaluations.



Buildings seen from southeast with sports halls nearest in picture

BUILDING ANALYSIS: STRUCTURE, FUNCTIONS, FORM & MEASUREMENTS

Current size, functions & program

Footprint of buildings - approx. 4 200 sqm

Building area (BTA),

excluding basement approx. 6 900 sqm

(Ground floor approx. 3 670 sqm First floor approx. 3 230 sqm)

Basement approx. 1 650 sqm

Within the property there is space for parking and some greenery/vegetation.

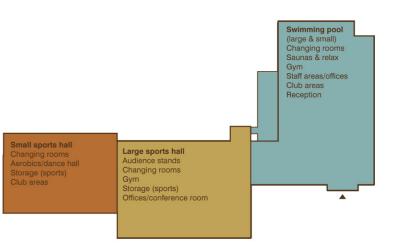
I have not had access to all parts of the building and the function of some rooms/space is unclear/unstated in the architectural drawings I have used. These unclear/unstated spaces are not included in the following specifications. All numbers are approximates.

Building A - Swimming pool (incl. basement)

- Swimming pool area 900 sqm (large pool, childrens pool, audience stands)
- Changing rooms connected to swimming pool 750 sqm (365 sqm mens changing rooms, relax, sauna etc + 385 sqm womens changing rooms, relax, sauna etc)
- Gym area 130 sqm
- Exercise and gymnastics areas 425 sqm (including connecting changing room areas)
- Reception, foyer, staff areas etc 285 sqm
- Technical areas 875 sqm (water management facilities, machine rooms, workshop, electrical central etc)

Building B - large sports hall (incl. basement)

- Large sports hall 990 sqm (including audience stands)
- Changing rooms connected to
- large sports hall 170 sqm
 Gym area 125 sqm
 Technical areas (culverts etc) 300 sqm
- Building C small sports hall (incl. basement)
- Smaller sports hall 720 sqm
- Changing rooms connected to
- small sports hall 330 sqm
- Aerobics hall and adjoining
- changing rooms 160 sqm
 Club rooms 340 sqm
- (including dining, kafé, office and storage space)Technical areas (culverts etc) 180 sqm











Construction and building frame

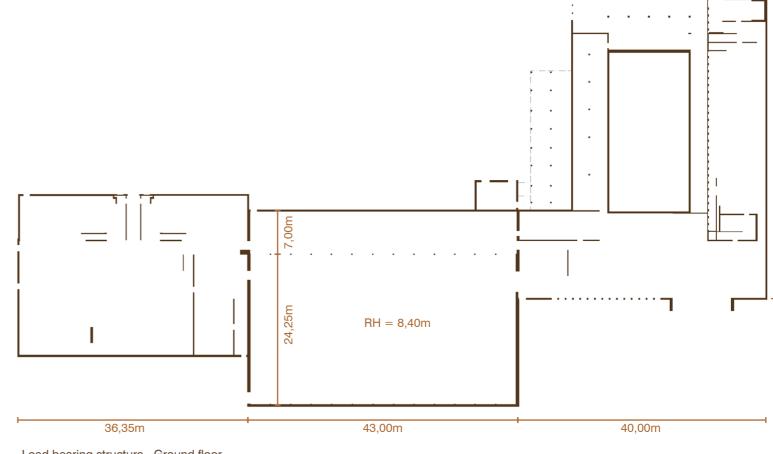
The buildings that make up the swimming pool and sports facilities all have a building frame that consists of concrete walls, with an inner core of concrete and an outer, thinner layer of lightweight concrete followed by façade plaster. The inner concrete core is the loadbearing part of the wall and varies in thickness between 255 and 505 mm. On these concrete walls rest wooden beams that carry the roof constructions that consist of lightweight concrete elements. The beams extend into the wall between 120-150 mm. The buildings all have concrete slabs. Both ceilings and slabs have thin layers of insulation. Most middle joists consist of only concrete and the chosen flooring of that specific space, for example stone tiles or plastic/linoleum mats. Where pillars are part of the load bearing system instead of load bearing walls, these are in concrete and 200x200 mm.

Spans & volumes

The total spans of the buildings together are approximately 119 x 65 meters. The roof spans of the different halls are 19 meters for the swimming pool room, 24,25 meters for the large sports hall and 18,30 for the smaller sports hall. All these spans are held up by wooden beams varying in height from approximately 900 to 1200 mm. The room heights of the sports halls are 5,6 meters in the smaller and 8,4 in the larger and in the large swimming pool room 8,2 meters and in the small pool room 4,25 meter.

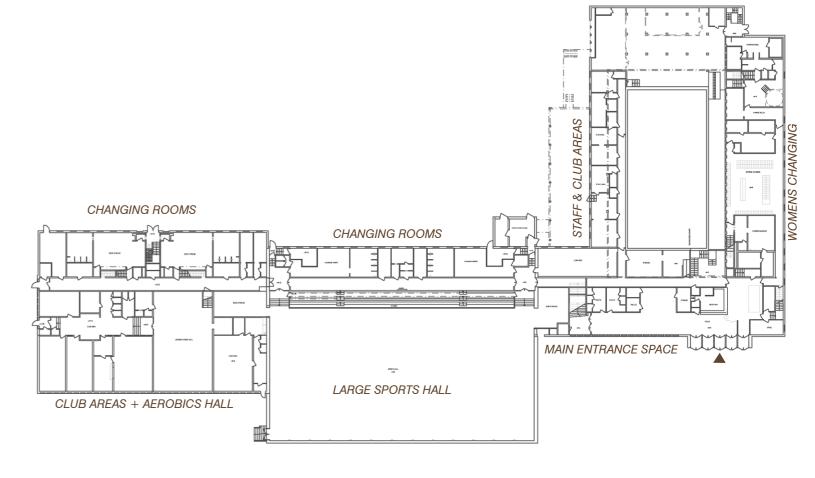
Walls & openings

The buildings all have a predominantely horizontal and introvert expression. Facades are relatively closed. There is a dominance of small, square windows, although some facades, as well as higher set ribbon windows consist of more vertical, larger windows. Entrances are few and small, with the exception of the main entrance which consists of a band of five pairs of doors in a horizontal row.



24,50m

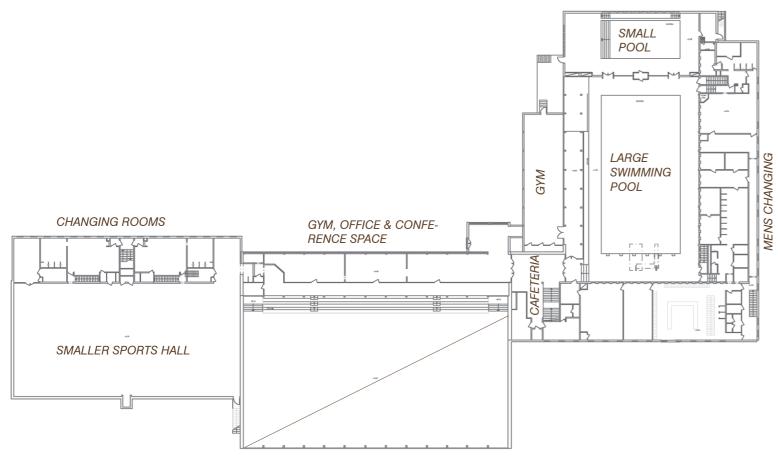
Load bearing structure - Ground floor



Ground floor plan (current)

RH = 4,25mRH = 8.20 m19,00m RH = 5,60m

Load bearing structure - First floor



First floor plan (current)

Levels & communication

As mentioned one main problem with the existing buildings is the lack of accessibility. Due to the buildings being built in many different levels with only stairs to connect them, it is impossible for people with mobility impairments to access and use many parts of the building. There is today one elevator in the building. This however only gives access to changing rooms, gym and conference areas, but not to the actual activity areas such as swimming pool floors or sports halls.

The main floor level of the ground floor is +39,75. However, it has an additional four different floor levels adding up to a total of five different level changes within the ground floor. The first floor is similar with a main floor level of +42,80 but with an additional three floor levels. Beyond all these levels the different pools have an additional two levels. The basement level has some small level changes but with one main floor level of +36,10. The other levels in the basement are mostly for maintenance space and storage.

Much of the internal flows and communication are in narrow and dark corridors and by a lot of different stairs, with no main communication connecting all floors or parts of the buildings.

Accessible areas - Ground floor

Accessible areas - First floor Accessible areas - Basement

Elevator

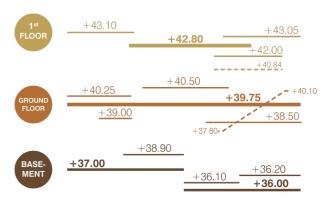
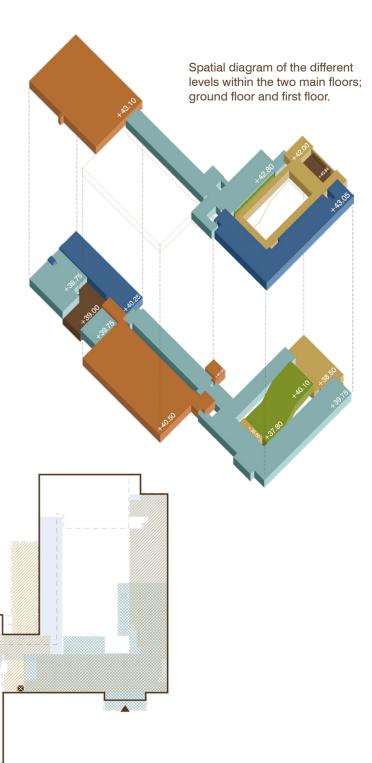
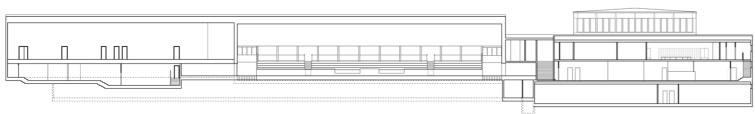


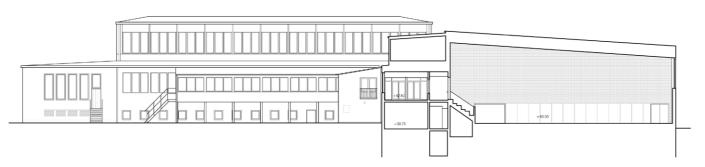
Diagram of the different levels within all floors



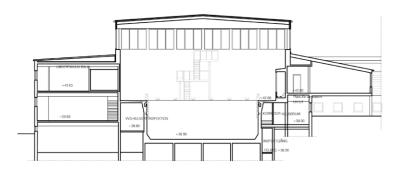
Accessible areas in the buildings (white = not accessible)



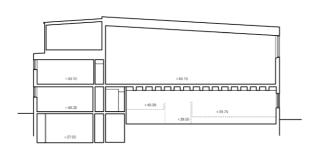
Section through all three buildings (not in scale)



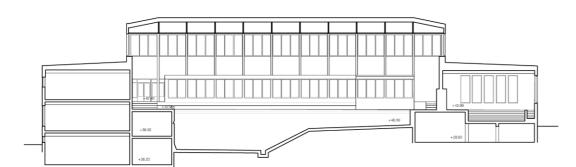
Section through large sports hall, swimming pool south facade in background (not in scale)



Section through large swimming pool (not in scale)

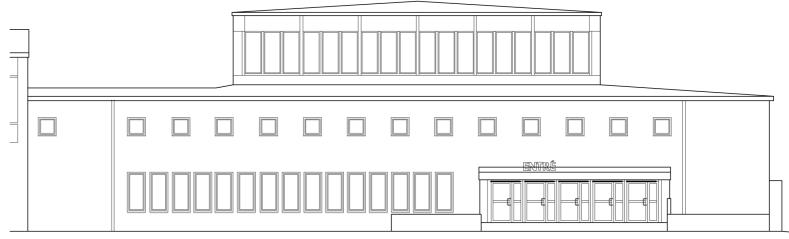


Section through smaller sports hall (not in scale)



Section through swimming pools (not in scale)

Sections through existing buildings, all showing different floor levels throughout the buildings.



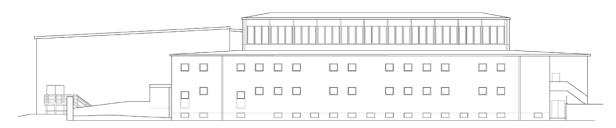
Elevation main entrance, northeast facade (not in scale)

Form & design

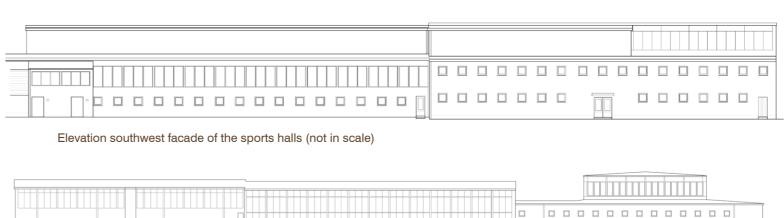
The buildings that constitute Västertorps simoch idrottshall have a varied but unified character. They all have plaster facades in different ochra tones. All buildings are relatively introvert with few windows in eye level. All windows and openings are either square or vertical in contrast to the buildings horizontal distribution.

The entrances, both main and smaller, with their retaining walls and stairs are all in cast-in-place concrete. This goes for the back stairs to the small swimming pool as well. All roofs are in roofing felt with eaves in sheet metal. All window-sills and downpipes are in brown sheet metal.

The original windows are all in wood, either oiled teak or painted white. Original doors, both exterior and interior are in oiled wood. Original ceilings are in wooden panelling. Newer doors are in aluminium. Original flooring consists of mosaic in the swimming areas as well as in changing rooms, marble stone floors in larger open spaces such as the entrance foyer and reception, main stairs and parts of the gym that are within the original building. The smaller sports hall has original wooden flooring, the larger sports hall has replaced the original linoleum flooring with new. In the large sports hall original exposed brick constitute the interior gable walls. The swimming areas' original artwork decorate the walls which are otherwise mostly painted white.



Elevation north facade of swimming pool building (not in scale)



Elevation northeast facade, all three buildings (not in scale)

BUILDINGS ANALYSIS: ASSESSMENTS, REPORTS AND DESIGNATED VALUES

Architectural & heritage values

The heritage values for Västertorps sim- och idrottshall were evaluated in 2005 by the Stockholm City Museum. The buildings then received a *yellow* classification meaning they are of positive significance for the cityscape and/or have a certain cultural heritage value. A cultural heritage investigation has since then been carried through by the Stockholm City Museum and summarized in an inventory report (Stockholms Stadsmuseum, 2017). Both in this summarizing inventory and in the analysis of future development potential by the city's cultural council (Stockholms stad, - Kulturförvaltningen, 2022) it is stated that, had the actual classification evaluation of the buildings been done today instead of in 2005, the buildings would most likely have received a higher classification, green. A green classification is given to buildings with high cultural heritage values.

The professional inventory of the buildings by the City Museum (Stockholms stadsmuseum, 2017) along with my own on site inventory, visits and experiences of the buildings will follow.

The buildings have several architectural qualities, even if some have been distorted or removed throughout the years. The buildings have facades that align with the area's characteristics, both in material and colour. The overall plans and composition of the buildings is still the same as the original and shows a common way of arranging sports facilities during this time, with each volume readable in the exterior. Original window frames, both painted white and in wood, are still in place, as well as a cast concrete stair from the swimming facilities towards the northwest and low concrete walls framing the entrance.

The large swimming pool room has most of its original features intact; it even has the original mosaic flooring and original wooden doors between the large pool and the children's pool area. The children's

pool area still has the original composition intact with high, vertical windows and original window frames as well as original mosaic flooring. In the room of the large swimming pool the original cast concrete trampoline is still in place but restricted from use.

Original doors in wood can be found at several places throughout the building, but the entrance doors have been replaced by aluminum ones and some interior windows have been replaced with different board materials. Some floorings in the buildings are still original, such as the stone flooring in the entrance hall and in the current cafeteria area and parts of the gym. The interior gable walls of the large sports hall are in their original state with exposed (acoustic) bricks in red along with the wood panel cladding of the slanted ceiling.

Some changes throughout the years have clearly distorted the original buildings. The clearest one being the boarding up of windows, obstructing natural light from flowing into the buildings of the sports halls. However, as it is stated in Stadsmuseets historical inventory, this is a dormant value as it is possible to reinstall windows in their original place.

Other changes are the adding of stairs from different points of the building for evacuation. Even if these have been needed for safety issues they are not designed or chosen in line with the characteristics of the original buildings but are merely standard products added for their function only.

From the heritage inventory made by the City Museum, the following aspects and elements are of value, categorized of High value to Some value. No aspects or elements are deemed to be of very high value.

Numbers in brackets in the following list refers to the numbers in the photographs to the right, showing some of the values being refered to.

High value

- · Västertorpshallen as a historical key component in "the subway city" (translated from "tunnelbanestaden") of Västertorp, showcasing the Swedish building ideals of the 1960's
- Social and sports history values as a hub in the local community and its association life
- Some original artwork such as "Efter badet" ("After the bath") by Pye Engström (1A) and what is left of "Glada badare" ("Happy swimmers") by Leif Ericson (1B)

Some value

- The buildings original plans and composition with each part readable in the exterior (2)
- Flat and pulpit roofs
- Plastered facades in different tones of ockra in kinship with the surrounding buildings in the area (3)
- Original implementation and placement of windows and original wooden frames (along with dormant value of boarded up windows) (4)
- The placement and execution of the main entrance and school entrance (5)
- The outdoor framing of the buildings with planted tree rows towards northeast and northwest, planted pine trees by the main entrance as well as walls and stairs in cast-in-place concrete (6)
- The halls composition and volumes as well as the shape and sizes of the large and small pools.
- Original woodwork especially those in raw pine, oak and teak in window frames, ceilings, wall paneling, locker corridor (B45), audience stands in large sports hall and some doors (7).
- Other original interiors such as marble floors, stairs and window sills, original tiling and mosaic in swimming facilities and changing rooms (8)
- The original use of natural light in large and small swimming pool areas through windows and ribbon windows (9)
- Mural on wall in large swimming pool area (10)



















(Stockholms Stadsmuseum, 2017, pp 19-22)

The condition of the buildings & alternatives for a future swimming pool

Because of the swimming pool dire need of refurbishment before the technical installations get completely worn out, the municipality of Stockholm commissioned an investigation of the buildings' conditions and what could be done to modernize them. The main focus of the assessment is the swimming pool facility. The following is a summary of this assessment report (Stockholms stad - Fastighetskontoret, 2018) along with mapped needs and political goals concerning sports and movement for the city of Stockholm (Stockholms stad - Idrottsförvaltningen, 2022).

The assessment report took into consideration different scenarios to compare between to find the most suitable way forward in securing safe and functioning public swimming and sports facilities for the citizens in the area. The investigation was summarized in a consequence analysis. The four different scenarios investigated were:

- 1. Upgrading and rebuilding of existing facilities
- 2. Refurbishment and extension of existing facilities
- 3. Demolition of existing facilities and building new on the same site
- 4. Demolition of existing facilities and building new in Mellanbergsparken (the green area in connection to the existing buildings where development is being planned)

Firstly, the buildings are presented as valuable to the area from an architectural heritage point of view, contributing positively to its surroundings. This follows by a statement that the buildings are possible to demolish due to it not having high conservational values.

Current status

Due to the building being built with a lot of floor level changes with only stairs between, the accessibility is poor and people with disabilities have difficulties using the facilities in their current state. This design also makes up a general risk for all users as tiled stairs and wet feet pose a risk of slipping as well as being inconvenient from an operational point of view for cleaning and maintenance. The building was designed in the 1950's and built in the late 1960's when accessibility demands were very different. These aspects are difficult to solve today to meet present demands for a public swimming pool.

The facilities do not meet the fire evacuation requirements of today. To solve this, new stairs from different areas within the buildings would be needed, affecting the outer design of the building. From a social perspective a lot of the spaces within the facilities are perceived as unsafe due to long corridors, dark spaces and an overall disposition that is not deemed functional today.

The concrete construction of the pools, and building in general, is in good shape. The design of the pool however needs to be redesigned according to current requirements concerning safety and maintenance, where the water level needs to be level with the floor instead of at a lower level which is the case today. Today's lower water level leads to chlorine gas being collected at the water surface which is both breathed in by swimmers and worsening the overall air quality in the facilities.

The roof was replaced in 2017 as parts of it was destroyed in a storm. The roof construction as well as other structural parts of the swimming pool building are deemed to have a relatively long technical life and durability still.

The existing water treatment has reached its end and is considered obsolete but can be kept operable for approximately five more years (stated in 2018) with enhanced maintenance and eventual replacement of malfunctioning components. The building is also not built to handle the humidity load of a modern facility. This is one of the reasons why the roof was in bad shape when it got destroyed by winds. Piping and sewage are in many places rusty and needs replacement. The rusting has also contributed to moisture damage and the whole system needs replacing. Existing damage due to moisture are almost certainly existing and will appear over time. Some areas, such as the saunas, are already closed off due to water leakage and moisture problems. All electricity installations are in need of replacing. New and larger space for this is needed in the building in general.

Ventilation is outdated and should be replaced. In the swimming pool area the ventilation is already functioning too poorly as well as in certain sports halls within the facilities.

The staff areas are located in basement level and the staff are not content with the spaces as temperatures vary greatly during the year, partly due to the temperature and humidity of the swimming pool, worries for mold damage and poor air quality. The high humidity level also makes paint peel off and contributes to dissatisfaction. Conference rooms, office rooms and reception are too warm during summer and too cold during winter. The need of eventual evacuation from basement areas are of concern to the staff due to evacuation needs to be done through narrow, high placed windows.

However, there are positive aspects with the current facilities. Mainly the location and closeness to public transport and the subway, which is only 200 meters from the buildings. Also the mix of functions and activities located under the same roof is positive. The building and its location also contributes as a public function in the surrounding area.

Current and future needs

As the area, along with the city in general, is densifying, more people will live in the area. This means a larger amount of people using the facilities and a higher overall strain on the facilities. The forecasted population increase leads to larger groups of users and higher demands on the offering of activities. The municipality has a responsibility to meet these needs as the city grows. Therefore the goal is to offer a functional, accessible and modern swimming and sports complex with the possibility for an adapted and expanded activity program (Stockholms stad - Fastighetskontoret, 2018).

There are also politically set goals within the municipality concerning sports and exercise, where one is:

"All residents of Stockholm should be able to practice sports and exercise based on their own wishes and capabilities. In Stockholm, access and proximity to areas and facilities must offer good opportunities for physical activity."

(Stockholms stad - Idrottsförvaltningen, 2022, p 10).

In the Strategic plan for Stockholm (Översiktsplan) it is also stated that

"Västertorps sim- och idrottshall is in need av modernization or alternatively new facilities".

(translation from Strategic plan. Stockholms stad - Stadsbygg nadskontoret, 2018, p 144).

It is also stated that the larger area of Hägersten-Liljeholmen in the future will be in need of additional facilities for swimming and that this need could be met in case of the scenario when new facilities are decided to be built.

Assessment's conclusions of different scenarios

Alternative 1 – Upgrading and rebuilding of existing facilities:

Estimated cost is 435 million SEK and estimated time for construction is 24 months.

This option is not recommended as the final result will still not meet the program requirements and needed functions. However, it is stated that the building should instead be used for something else. The premises cannot be used during the construction period and temporary facilities would need to be arranged.

Alternative 2 - Refurbishment and extension of existing facilities

Estimated cost is 450 million SEK and estimated time for construction is 29 months.

This option is deemed possible to fulfill the needs of a modernized swimming facility. For the sports halls however, these need to be completely rebuilt to meet the requirements. If it is important to preserve parts of the facilities, this is an acceptable option. The premises cannot be used during the construction period and temporary facilities would need to be arranged.

Alternative 3 - Demolition of existing facilities and building new on the same site

Estimated cost is 580 million SEK and estimated time for construction is 31 months.

This option is deemed to be a good solution for a well functioning and modern swimming and sports facility as it can meet all the program requirements and also meet energy efficiency demands (older swimming facilities are among the worst buildings from an energy efficiency point of view). From a social perspective this option is positive due to location and overall accessibility. To demolish and instead build new facilities makes the construction phase easier

as less adaptability is needed and no risky connections between old and new buildings are needed. The premises cannot be used during the construction period and temporary facilities need to be arranged

Alternative 4 - Demolition of existing facilities and building new in Mellanbergsparken

Estimated cost is 600 million SEK. However, this cost could end up much higher if greater maintenance is needed of the existing facilities until the new ones are completed. The estimated time for the project is harder to evaluate as a new detailed plan needs to be approved to be able to build on the chosen plot. There is also the risk of appeals prolonging the process of this.

Like alternative 3, this option is deemed to be a good solution for a well functioning and modern swimming and sports facility as it can meet all the program requirements and also meet energy efficiency demands. The biggest up-side being that no temporary facilities are needed during construction as the existing facilities can be used until the new ones are built, provided that the existing facilities can be kept functioning during the construction phase and necessary maintenance interventions and costs for these are not too high.

The assessment report concludes with a recommendation for *Alternative 3 - Demolition of existing facilities and building new on the same site.*

Personal comments on the assessment from a sustainability point of view:

The assessment carried out does not take sustaianability or resource efficiency into account, only functional and economical, and in some senses social. To not take into account sustainability aspects when comparing different alternatives for development seems both irresponsible and short-sighted coming from a municipality, who should forego other actors in these questions. Hopefully this is something they would have done differently would the assessment be commissioned today instead of in 2018. If they were to have taken sustainability issues into account and still landed in the same recommendations today, this would be more creadible.

It would be interesting with a comparison of the alternatives from a resource and sustainability point of view. Maybe *Alternative 2 - Refurbish*-

ment and extension of existing facilities - could then have been perceived as a better option, as many parts of the buildings are still in good condition. To refurbish the existing would also mean to save and continue using a very loved public building with certain heritage values.

But, if this alternative was to become obsolete quicker than a completely new swimming pool and sports complex due to not completely functioning as wished for to begin with, this is of course a down-side.

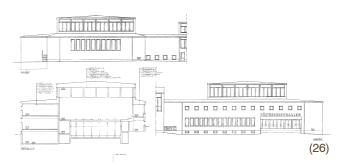
To build a completely new complex, further from public transport, without plans for reusing the existing buildings seems to be the worst option when discussing sustainability. The existing swimming pool and sports facilities are 58 years old. Can the new complex guarantee to function well for longer than that? Otherwise it is just going to become a continious spiral of "needing" to build new every 50-60 years instead of building well and maintaining properly. However, I would have understood, and better supported, the municipality's choice to build new if there was a plan for continious public use of the existing buildings, as they are located so very appropriate and are also part of a development area where a lot of new housing is built and planned to be built.

From a social sustainability point of view the continous use of the buildings are of importance as bearers of historical depth, a *genius loci*, and architectural heritage as well as a place for the public to use for activities linked to social well-being and health. If they could continue to be used for swimming and sports this would of course be positive, but to instead use the buildings for other public functions could be seen as second best.

BUILDING ANALYSIS: EVOLUTION OVER THE YEARS

Building permits & alterations

1966-67 – Original buildings built. Designed by architect Curt Laudon. The original buildings consist of three attached buildings with facilities for swimming and sports.



1976 – The sculpture outside the main entrance was erected. It is called "*Efter badet*" (translation: "*After the bath*") by artist Pye Engström. The sculpture depicts politicians, activists and debaters whom where all praised within the leftist movement during the 1970's.

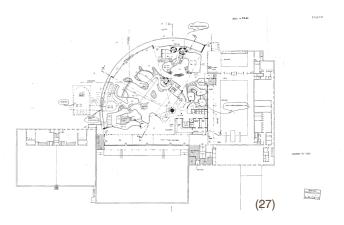


1985 – Building permit granted for boarding up of windows in the sports facilities' facades.



1992 – Building permit granted for extension of one wall in the swimming pool facilities to make room for stands and a mezzanine level along the swimming pool.

1992 – Building permit for a large adventure bathing facility on current area for parking to the southwest is applied for but never granted.



1995 – Building permit granted for an extension to the swimming pool facilities to make space for a gym area towards the southwest.



1997 – Building permit granted for new fan rooms/ventilation on the roofs of the sports facilities, along the facades that once had windows towards southwest. The facades of these extensions on the roof are clad in similar plaster and colour as the existing buildings.



2000 – Building permit granted for new fan room/ ventilation in basement, under the entrance, along with a small extension of the entrance and new doors.

2004 – Building permit granted for an extension in two floors towards southwest for waste rooms in ground floor and added space for the gym on the first floor.



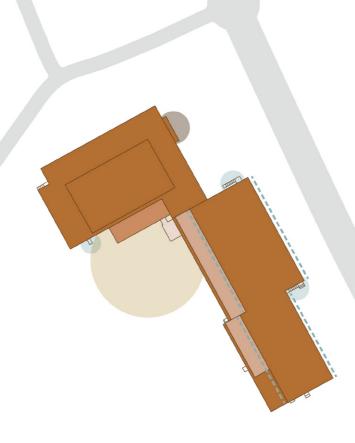
2012 – Building permit to build an evacuation stair from the large sports hall towards northeast is granted.



2013 – Building permit granted for the exchange of the entrance doors.



In addition to these changes that have been applied for and registered additional stairs have been built from the large sports hall towards the main entrance for deliveries, from the smaller sports hall towards the northeast for evacuation.





Extension gym (1st floor), 1992

Extension fan rooms (on roof), 1997

Extension of gym and added waste room, 2004

---- Boarding up of windows i facades, 1985

Added evacuation stairs; 1995, 2012

Altered entrance; 1997, 2000, 2004, 2013

Space for adventure swimming facilities, 1992
- never realised, building permit declined

BUILDING ANALYSIS: THE USER EXPERIENCE

The most striking rooms in the buildings, from an architectural and personal point of view, are the rooms with the swimming pools. The large pool room has a lantern ceiling construction and high set ribbon windows in all directions, making it feel light and airy. The small pool room has tall vertical windows lighting up the room and connecting it to the outside, but at a height that makes it impossible for people outside to see in. Both these rooms are perceiveed as spacious yet intimate. One can take in the whole room no matter where in the room one is standing. To step into these rooms is also to step back in time, as most of the interior is in their original state, which is legible.

When looking at the buildings from the outside the lantern ceiling with ribbon windows is visible from afar, especially when dark outside. This feature along with the entrance situation are the most characteristic features of the buildings. However, from outside the buildings as a whole are perceived as introvert and does not invite one in, rather the opposite. One does not want to be walking around the buildings when it is dark, as there is poor lighting and many dark corners. Windows are rarely at eye height and give little connection between indoor and outdoor space. With the exception from the main entrance, other entrances consist of only single doors with little visible connection between inside and outside, contributing to a feeling of insecurity.



Child's experience bathing. Drawing hanging on wall in small pool room



Large pool room is light and airy with high set ribbon window



Small pool room is light with a visual connection to the outside



Tall windows of small pool room from outside

It is hard to navigate inside the buildings. Corridors are long and dark and all vertical communication is seperated from one another, i.e. there is no main space for communication such as a main stairs connecting all floors. In contrast to these narrow and dark corridors, the rooms for activities such as the sports halls and the pool rooms, are all spacious. The sports halls however are perceived as a little stuffy and airless, as there is no natural light coming in.

The buildings are appropriately situated and easy to find. However, as a first-time visitors, navigating one's way into the buildings can still be hard. The entrance is facing the main road, which is not the direction one comes from when arriving from the subway, but rather the direction if coming by car. If coming from the subway, one meets the north, anonymous side of the buildings, with a facade which is only perforated by small windows. Added, impromptu signs towards the different facilities can be found around the building, revealing how unclear it is to find one's way. In addition to this, signs belonging to the actual buildings, are few. As an example, small signboards beside the doors can be found for example at the back entrance to the sports halls where it says "Pupil's entry".

The general perception of the condition of the buldings and there interior is good, despite the legible age of them. Mosaic and stone flooring, artwork, wood and glass doors as well as wooden panelling in ceilings and on walls are mostly well preserved, contributing to a sense of anchoring in time and a feeling of local history, a genius loci (Plevoets, Cleempoel, 2019, p 112-113). Many instances in many peoples lives have taken place in these buildings, which can be felt when there. This is a building that connects generations of local inhabitants with one another, which is the experience of many older buildings with continuity in use.



Original features, doors, tiles, woodwork, are in good condition



Long and narrow corridors (not always accessible to the public)



Spacious sports halls but without natural light



The north facade which one meets if coming from the subway



Impromptu sign by main entrance



INTRODUCTION TO PROPOSALS

Introduction & organization of proposals

Due to the large size and the complexity of the existing buildings, only parts of it are proposed for change and proposals vary in scope and detail. Some changes are general and some are in more detail and the presentation and representation of them will therefore vary.

The proposed changes originate in the findings from the different building analyses carried through. The proposals are also grounded in some overall strategies that have been a guidance throughout the project. These can be found on the following page (p 44).

All proposals are presented in varying architectural drawings which can be studied in more detail in larger formats in the accompanying appendices to this booklet. These appendices are referr §ed to along with the proposals.

Proposals in general detail

- Exterior changes general changes, not specifically linked to any of the more detailed proposals are presented separately
- New plan, program and functions

 what, where and how they relate to one another and correspond to local needs
- Accessibility measures throughout the building
- **Outdoor space & connections** relation to surroundings and general proposals for the plot

Specific proposals in more detail

- Café/restaurant extension
- Extension & transformation of sports hall
- Venue space in large pool
- Exhibition space in small pool

STRATEGIES

Based on the problems and deficiencies stated in reports and found through the building analysis, strategies have been formulated to act as guidelines for the changes and measures that constitute the proposals.

Make accessible

Implementing accessibility measures to make the buildings and all spaces and functions within them physically accessible for everyone.

Propose solutions to also make the existing buildings visually accessible, meaning measures to make it easier to navigate in and around the buildings, such as added and clearer entrances and signage.

- ramps, elevators, stairs
- added and clearer entrances

Open up and connect

Propose changes in the buildings to open up and connect the inside with the outside and the buildings' direct surroundings. Make the buildings announce themselves better to their surrounings and to the public space that connects to them, such as the street and square by activating and opening up facades.

Connect interior spaces with each other and find common spaces in the intersection between functions to promote interactions between users.

- find measures that connects spaces, such as openings and new communication possibilities
- adding social space for people to connect across activites/interests
- let light in and add windows to connect inside with outside
- promote sightlines and open up narrow and dark corridors

Cherish inherent values

Emphasizing heritage aspects and elements in the existing buildings, working to find ways to maintain these despite changes in function and structure. Finding ways to reuse and transform cherished buildings and invigorate them without erasing their character and past uses.

- preserving elements and aspects with arhitectural, historical and social values
- promoting changes that highlight and make visible inherent values
- find ways to integrate new functions in existing spaces with high values connected to the spatial experience, architecture and interior

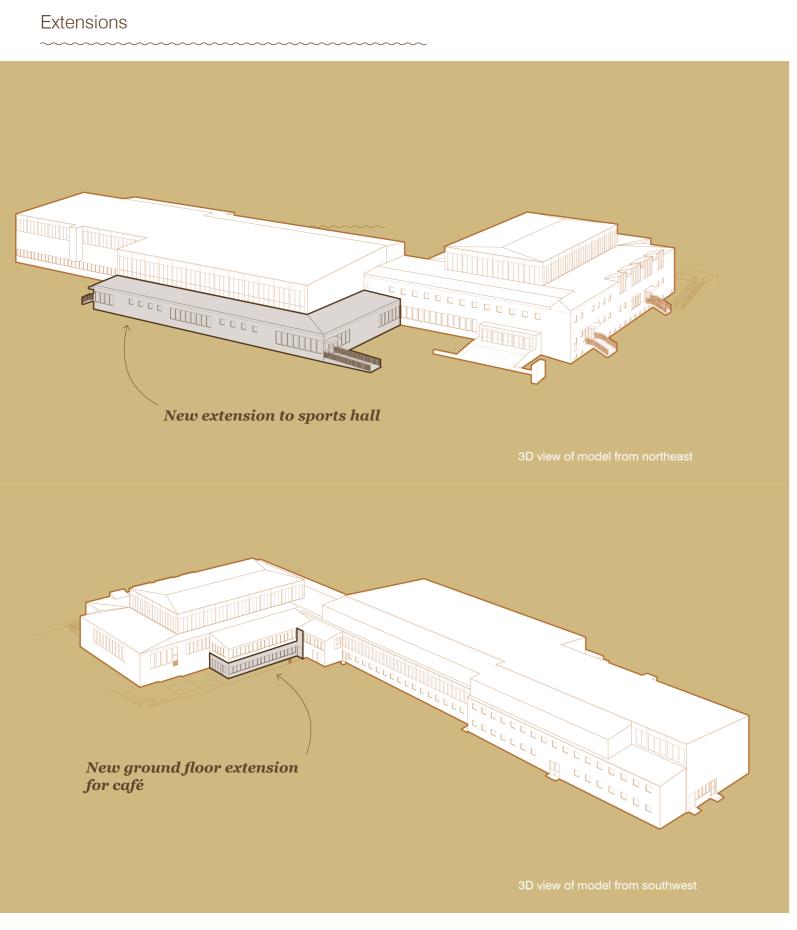
Maximize with minimal change

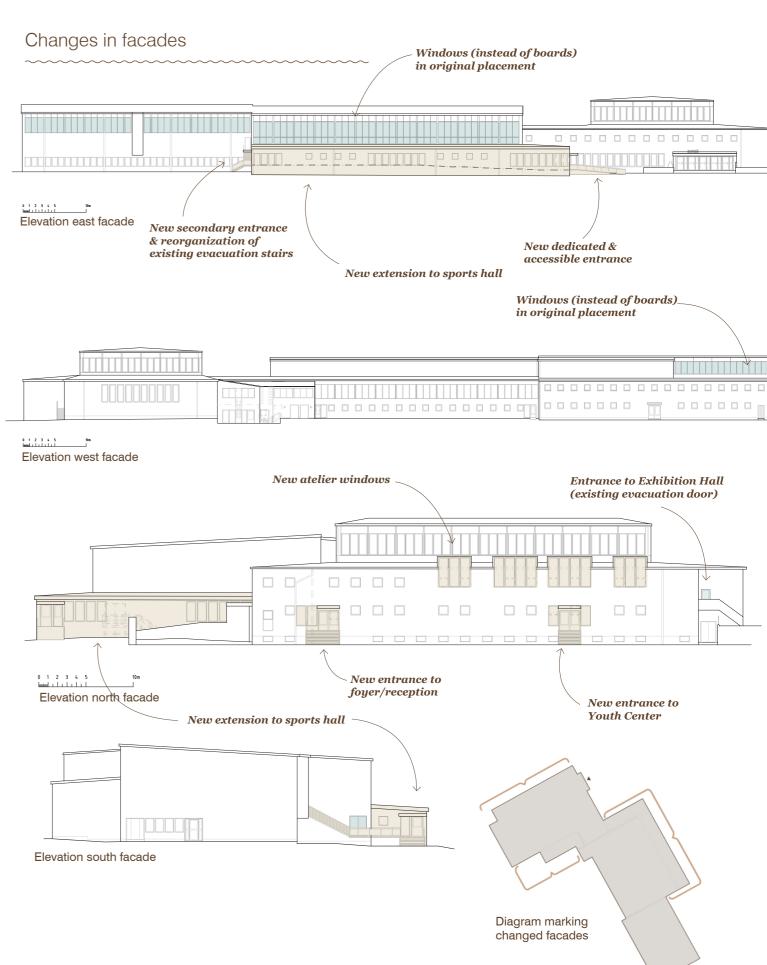
Add and reorganize space for a broader range of activities and added functions within the existing structure. Try to find ways to use existing spaces without changing them too much but still make them functional for other uses that can benefit the local community and its sustainable development. Subtle and small changes are promoted over large, radical and very costly ones.

- to ask the question if measures/ change is actually needed or the exsting can make do, before deciding
- respect the buildings existing characteristics and find a balance between preservation and change

43 DESIGN PROPOSALS DESIGN PROPOSALS 44

EXTERIOR CHANGES





NEW PROGRAM, PLAN & FUNCTIONS

The choice of buildings to work with in this project is based on the actual threat of these being demolished, as they are facing an unclear future when plans for new facilities for swimming and sports unfold to replace the existing. The choice of a new program for the reuse of the buildings therefore also responds to actual needs in the area of Västertorp/Hägersten, according to the municipality and their overall investigations.

The municipality however cannot further investigate the potential reuse of the buildings without a formal decision by the relevant council to do so and get funding for this. By basing the project on what functions and opportunities the municipality see are lacking in the area at present, the project aims to contribute with input in the question of what possible future the buildings could have if reused and adapted instead of being demolished and replaced with new buildings with other functions.

The new program and functions will be proposed shortly in the following section. Some parts will then we presented in more detail in other proposals. The more general changes can be found in the new plans for the buildings which can be found on pages 49-50 and in appendices A-C (incl. plan for the basement level).

New footprint of building approx. 4 600 sqm (addition of approx 400 sqm through sports hall extension)

New building area (BTA), excluding basement approx. 7 450 sqm (addition of approx. 400 sqm for sports hall extension and approx. 155 sqm ground floor extension for café)

A - Small sports hall

Function and program unchanged but with a few small changes proposed.

- One elevator and one ramp to link main levels in this building
- Reinstallation of windows in their original positions, to access this value that has been dormant since windows were boarded up in the 1980's.

B - Large sports hall

Function and program unchanged but updated and space transformed and extended. The audience stand is removed, despite it being orioginal and of some value. This is proposed in order to add space for the actual hall for flexible use, open storage, substitute benches for sports, stretching, warm up etc. A balcony is added to maintain space for some audience.

Additional space is gained through an extension with the function of supporting and complementing space for the main sports hall.

- Removal of audience stands for added flexible space, approx. 87 sqm
- Added audience balcony, approx. 55 sqm
- Extension towards street for added flexibale space, approx. 415 sqm
- New entrances, one accessible through integrated ramp in extension
- Connection between existing reception space and extension to sports hall
- Changed entrance from back. Made accessible with ramp and stairs removed.
- Ramp in corridor to bridge level changes
- Reinstallation of windows in their original positions, to access this value that has been dormant since windows were boarded up in the 1980's.

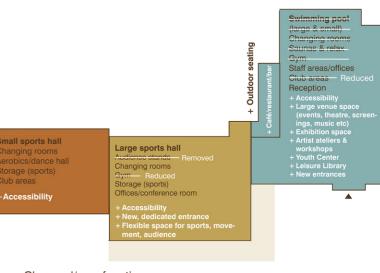
C - Swimming pool

The swimming possibility is removed along with gym, changing rooms and connected space for the swimming function such as relax and sauna (not working). Most functions in this building are changed, along with the reorganization and adaptation of spaces to suit the new program. All spaces connected to the swimming pool function are adapted.

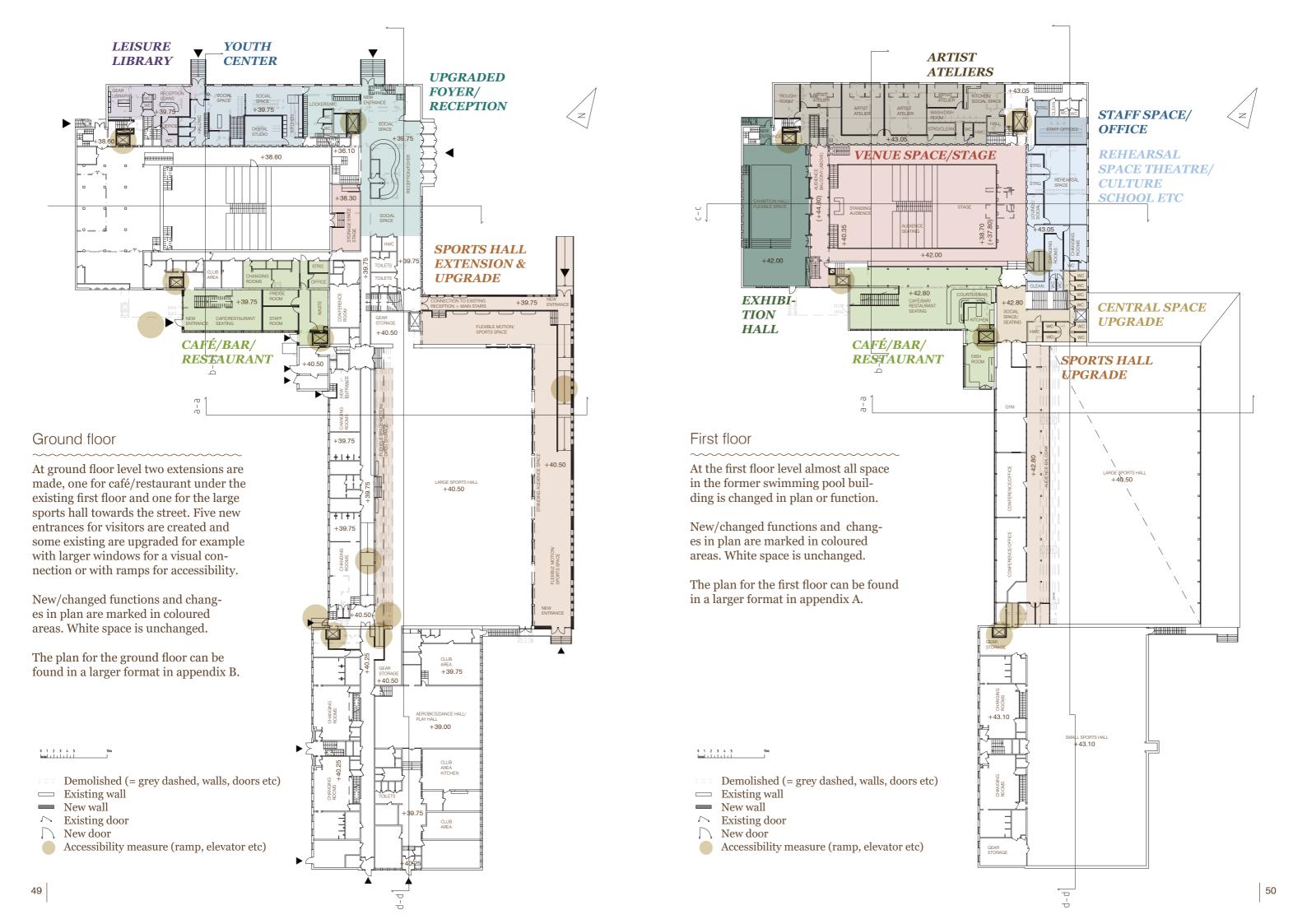
Some changes can be seen in the exterior, but most changes are in adapting the plans to suit new functions. Parts of the reception/foyer along with some toilets and storage space, office space etc is unchanged along with most parts of the basement.

- Reception/foyer space is updated and opened up, walls between corridor and open space in foyer is removed. Toilets and lockers for visitors is added by new elevator.
- New entrance from north to existing reception/foyer space
- New elevators in three places, two of these are larger
- Venue space in former large pool room, approx. 590 sqm, with in additional 45 sqm of audience balcony.
- Exhibiton hall in former small pool room with dedicated entrance from northeast, approx. 215 sqm
- Café/restaurant in former gym space and added ground floor space with a new accessible entrance from the southwest, approx. 390 sqm
- Youth Center in former women's changing area, approx. 165 sqm. The Youth center includes a new entrance from the north, social spaces, kitchen, toilets, digital studio, activity rooms in former exercise rooms in basement (approx. 240 sqm) and new stairs connecting to the basement level.
- Leisure Library ("Fritidsbank" in Swedish) is ad-

- ded in parts of former women's changing space, approx. 75 sqm. The space includes reception and loans counter, showroom/library space, office, toilets and large storage spaces in basement. The library shares entrance with the Youth Center.
- Artist ateliers in former men's changing rooms and relax area, approx. 275 sqm. The space includes hall, kitchen, cleaning, social space, 4-6 ateliers, storage space and toilets.
 New atelier windows are added in facade.
- Rehearsal space for theatre/culture school/dance etc in former men's changing space, appox. 185 sqm. The space includes lounges for ensembles/artists/bands, changing rooms, toilets and storage space.
- Staff space and offices in former mens changing, approx. 45 sqm.
- New toilets are added in former kitchen/ cafeteria space, next to social space for seating in the heart of building connecting to main stairs, audience balcony in sports hall, café/restaurant and venue space.

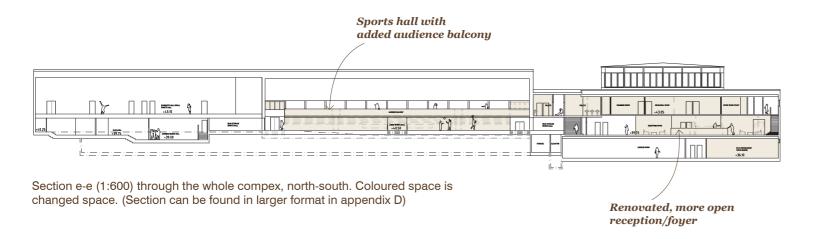


Changed/new functions



New sports hall toilets in former extension kitchen space Café/restaurant space witchen space October 12.100 October 12.10

Section b-b (1:600) through the whole compex, east-west. Coloured space is changed space. (Section can be found in larger format in appendix D)



OUTDOOR SPACE & CONNECTIONS

New entrances, windows, extensions and openings announces the buildings to their surroundings better than the existing introvert situation. Five new entrances (orange triangles) are created towards directions where there are none today, activating the immediate surrounding public space around the buildings. Some of the existing entrances (white triangle) are changed to have window doors and/or adjoining new windows.

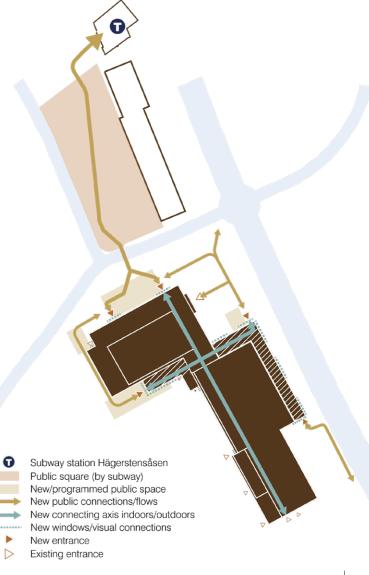
New outdoor areas are reprogrammed (yellow areas) to be space to be used for more than just parking. One example of this is the space toward the northwest where parking is proposed to be replaced by new stairs connecting to the public square, seating possiblities, bicycle parking and space for basketball or other sports outside of the Youth Center.

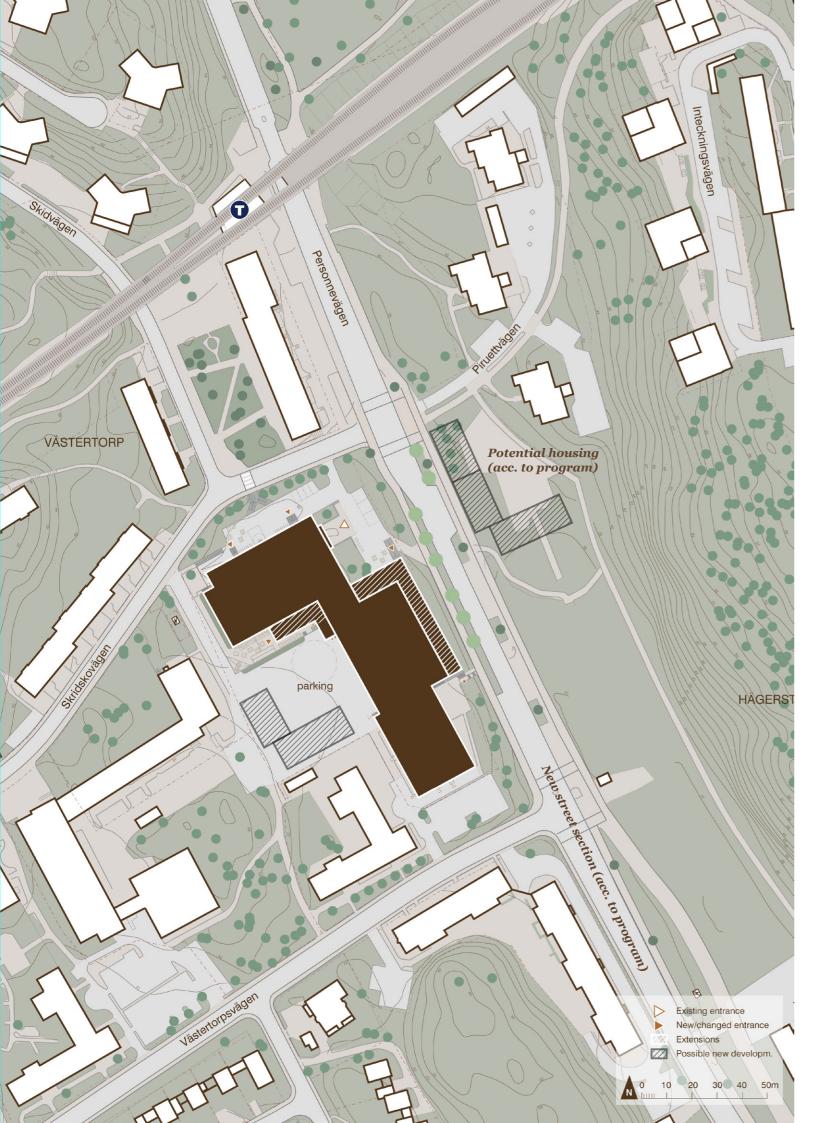
By adding extensions with open interfaces (blue dashed line) towards the surrounding area and street, the buildings connect better to their surroundings and activates the closest outdoor space.

The north facade is the one that is proposed to change the most. This facade is very introvert to-day, with only small, high set windows perforating the walls. Because of this being the natural direction one comes from if coming from the subway a new, more open interface of this facade is proposed which announces, welcomes and makes navigating easier for visitors. A new pedestrain crossing and stairs connecting the street level down to the buildings entrance level, along with open entrances and the adding of larger windows.

Inside the buildings new interior connections (blue arrow lines) create two main axis that connects through the buildings and further towards the outside. These create better navigation opportunities and clearer flows of people.

(Read more about exterior changes adn see elevations on pages 45-46)





ACCESSIBILITY MEASURES

As presented in the building analysis chapter and mentioned throughout, the existing buildings lack accessibility both in physical terms and visually/experienced. Measures have been made within both of these aspects.

Physical accessibility measures

As has been stated, the buildings are made up of several levels within each floor making it inaccessible for people with mobility impairments. This is also one of the stated reasons for the buildings being deemed obsolete and not up to the standards and requirements of today. However the issue of inaccessibility can be solved by finding ways of adjusting the building with ramps, elevators and in some

places extensions to make space for these measures. Proposed changes would make it possible for people with mobility impairments to access all parts of the buildings, with the exception of a few ground level spaces in building A. If the measures would be carried out in reality, at least one, maybe two, of the proposed new elevators could be neglected and the majority of the spaces would still be accessible. However, elevators have been proposed where deemed fit from an equality perspective and for better flows in the building.

Ramps, indoors and outdoors, have been added to make accessible where they have been needed and they have been possible to implement without too large impact on the overall existing structure and plans.

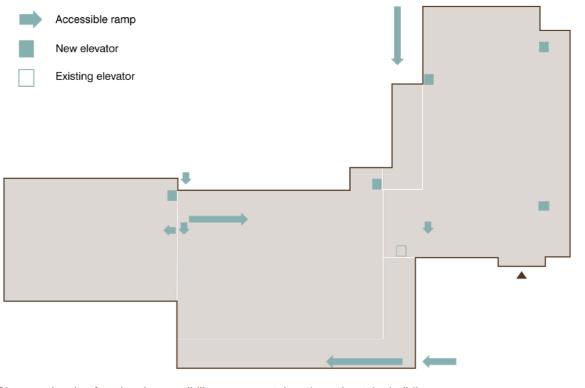


Diagram showing functional accessibility measures taken throughout the buildings. These can be seen in detail in the plans for the different levels.

Visual accessibility & connections

The experience when visiting and using the existing buildings are, among others, confusion as to how to navigate and find one's way. Measures have been proposed to connect spaces, visually open up and showcase different entrances, existing and new, to simplify movements within and around the building. These measures are proposed both for an added feeling of safety while moving around as well as elevating the experience of the buildings and connecting to its urban surroundings.

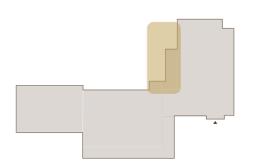
Five new entrances are proposed in total, where most of them are dedicated entrances to specific functions and parts of the buildings, such as the Youth Center and the Café/restaurant. In the northwest facade, which is the one facing the subway and local square, two new entrances are proposed, along with added windows, to open up this rather closed facade toward a direction that many visitors approach the buildings from.

By some of the existing entrances new windows are proposed to open up, visually connect indoors and outdoors and simplify navigation.

New, additional stairs as well as new connections throughout the buildings are proposed where these can simplify movements and flows, as well as visually connect spaces. Through these measures two main axes can now be read in the plans connecting buildings and function to one another, promoting interaction among visitors when their paths cross. In the intersection of these axes one can find a social space for sitting as well as the café and toilets.

New entrance Updated/changed entrance New connection New stair connection

Diagram showing functional accessibility measures taken throughout the buildings. These can be seen in detail in the plans for the different levels.



CAFÉ/RESTAURANT EXTENSION

General description

Type of measure: Adaption and alteration of existing space for reuse + transforming building and connecting outdoor space through an extension and outdoor seating area.

New function: Café/bar/restaurant (includes kitchen, dish room, counter/bar, seating on two floors, delivery area, waste & recycling room, fridge room, changing rooms, staff room, office, storage)

Area: approx. total area of 390 sqm (approx. 155 sqm within added ground floor) + approx. 140 sqm outdoor seating space.

Functional areas mean a maximum capacity of approximately 175-200 guests indoors and 100 outdoors.

By adding a ground floor extension underneath the existing gym extension from 1992, a space for a café and/or restaurant is created. This part of the building faces southwest and what is today the main parking lot, but has potential to be so much more.

Creating a café with outdoor seating and a new entrance towards the back of the buildings activates this rather neglected side of the plot, which also happens to be the sunny side. The café space also becomes the heart of the complex and a social meeting space in the buildings, between the sports functions and the culture and arts functions. The café space has visual and physical connection to the venue space yet is possible to seal off to have other opening times if needed.

Existing windows, interior pillars, floorings (mosaic and wood) and wood and glass doors can all be preserved.

Changes

- Removal of first floor gym space new function as café/restaurant/bar
- Added ground floor existing pillars built into new wall
- Hole in slab to make room for stairs
- Changed outdoor space and ground levels for accessible entrance, outdoor seating and deliveries - excavation needed
- New entrance from outside
- Interior stairs between ground floor and first floor and between café and venue space
- Added elevator for accessibility
- Indoor seating, with visual connection to venue space (former large pool) and outside
- New facade with windows at ground floor
- Some green space for vegetation around the outdoor seating area

Motives

- A café/restaurant is an essential supporting function in order to offer food/drinks in connection to venues, exhibitions and sports activities and would contribute to the area
- Makes longer visits possible
- Adding a ground floor under the existing first floor connects the building and activities to the ground, makes accessibility possible and activates the building at eye level

Values & heritage

- Original flooring (mosiac)
- Original interior teak doors and windows
- Original windows in wood

Materials



Overlay of existing floorings, patch with new where needed



Ceiling tiles in wood wool



New interior walls and stairs in CLT



New outer walls in wood and bio-based insulation (existing pillars built in)



Slab in Koljern (foamglass) elements



Facade in lime plaster in matching ochra tone



Windows and doors with wooden frames



Ground work and outdoor area in concrete with recycled aggregate and/ or recycled concrete/stone tiles



Since the extension is merely an elongation of the existing first floor to meet the ground, the design corresponds to the materiality, proportions and rythm of the existing first floor facade. Windows are in ribbons along the whole of the south facade. The entrance gable facade is made up of taller windows and a wood and glass door to connect indoor and outdoor space, activate the facade and adjoining space and convey an open and welcoming feeling.



Original mosiac flooring - to be preserved



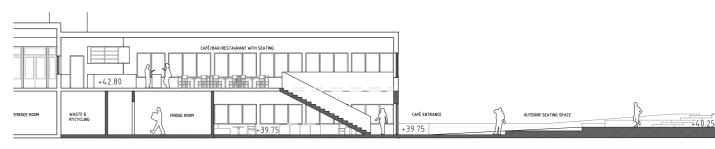
Original mosiac flooring & wooden windows - to be preserved



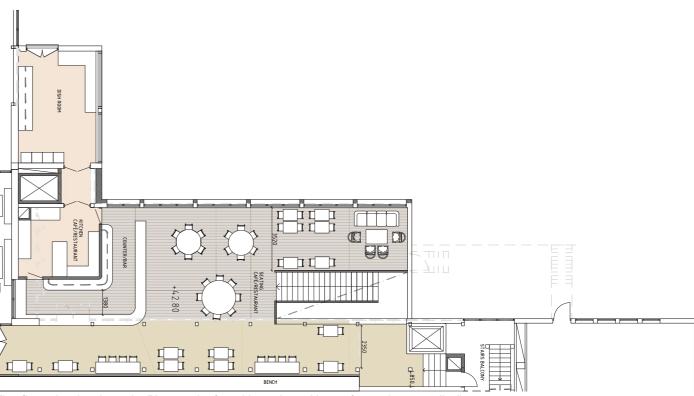
Wooden flooring (not original) - to be preserved



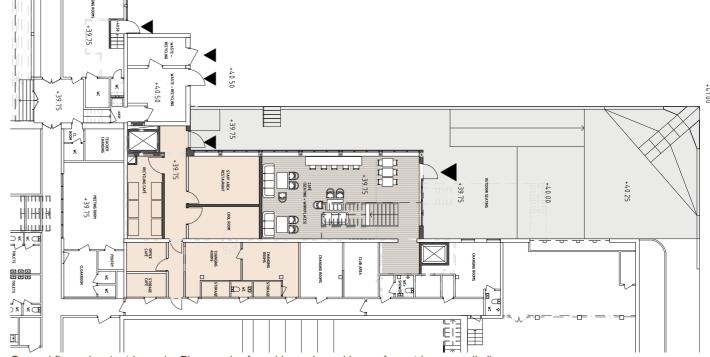
Original wooden windows (seen from pool) - to be preserved



Section b-b (part of section, not in scale. Section can be found in a larger scale in appendix D)



First floor plan (not in scale. Plan can be found in scale and larger format in appendix J)



Ground floor plan (not in scale. Plan can be found in scale and larger format in appendix I). Coloured areas part of café function.

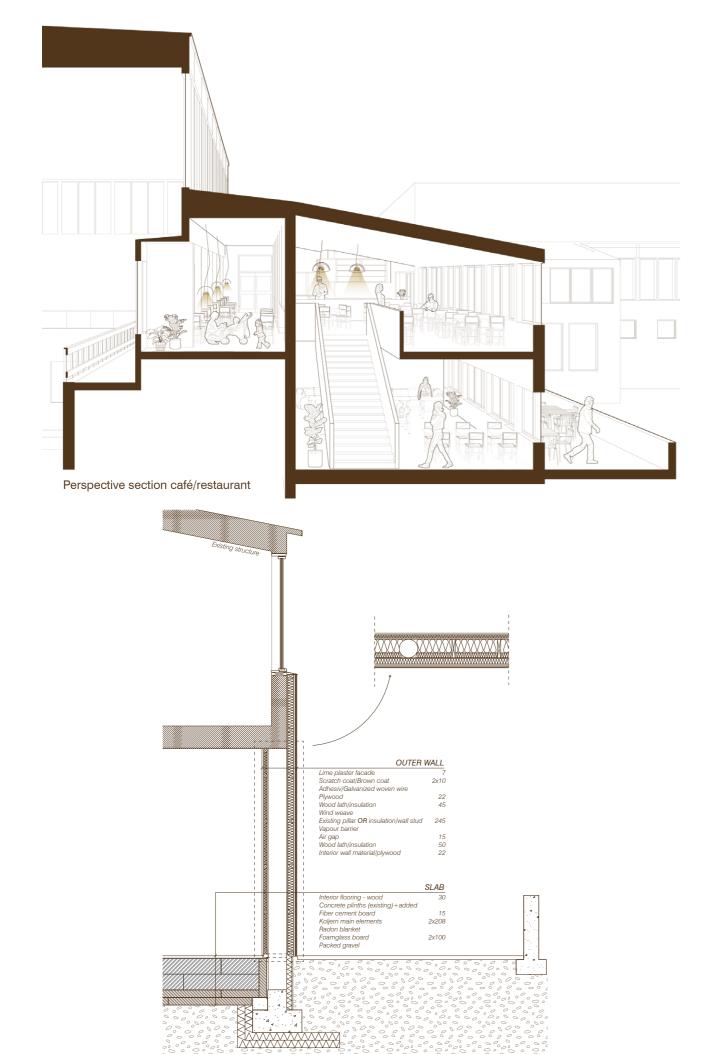
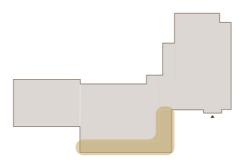




Photo montage/3D-model of what the extension could look like from the existing parking space at the back of the building/south



Current situation



EXTENSION & TRANSFORMATION OF SPORTS HALL

General description

Type of measure: *Transformation of building by adding an extension* + *alteration and renewal of existing interior space*

New function: Extension to sports hall with dedicated, accessible entrance and with flexible space for different activites.

Area: approx. 415 sqm + transformed area from audience stands to flexible space for sports/activities of approx. 87 sqm

The large sports hall is deemed obsolete in accordance to current ways of buildings sports halls. Today sports halls are built with a lot more space surrounding the actual court, making it airier, easier to use and more flexible for a broader variety of activities and events.

An extension to the sports hall is proposed in order to make the hall accessible and better connected to the street and public space as it gains a dedicated accessible entrance from the street side and an open interface. The extension along with demolition of the existing audience stands adds flexible space for movement, more in accordance to present ways of building halls. The changes makes parallell activities and social gatherings possible due to added and complementing space around the actual pitch/hall floor.

The extensions also adds an indoor connection to the main entrance and reception area, the main stairs up to the audience balcony and the proposed café and cultural functions.

To make an extension like this would be a great way to investigate how existing, older sports halls can be transformed to be more functional and more alike halls built today, without tearing down old ones to replace with new.

Changes

- Existing audience stands are demolished to make space for added flexible space around the pitch/hall floor.
- An audience balcony is added as an extension of the existing open hallway/ mezzanine on the first floor
- Existing boards in original window placements are taken down and windows reinstalled in original place.
- Some storage for gear is reduced to make space for accessibility ramp/connection between extension and existing
- Existing outer wall is perforated to make openings that connects to the new extended space
- Stairs are removed to solve accessibility and ramps added where needed
- Extension with two entrances, one of which is accessible, is added to the ground floor

Motives

- Simple building with no need for sewage etc which makes is less costly.
- Possibility to make a full scale project where an older hall is transformed to better match modern needs and how halls are built today.
- Open interface towards street, activating the surrounding public space with connections between indoor/outdoor space where the buildings today are set back and introvert, creating a feeling of insecurity.
- Make the hall more than just a hall, but a gathering, social and active space for many parallell activities, users and spectators.

Values & heritage

- Ribbon windows (dormant value because boarded up)
- · Original audience stand
- · Original interior doors and windows in wood
- Original wood panelling ceiling
- Original (acoustic) brick interior gable walls
- · Function and seperate space legible in exterior
- Fully booked, full-size sports hall with space for audience

Materials



New linoleum flooring in varying colours



Original wood panel ceiling preserved



New interior walls and balcony in CLT New structural outer walls in CLT



Slab in Koljern (foamglass) elements



Facade in lime plaster in matching ochra



Windows and doors with wooden frames (painted white exterior)



Outdoor stairs/ramps in concrete with recycled aggregate and rails in aluzink

Design

The sports hall extension will become the part of the buildings that passers-by and visitors from the main road see or encounter first. This makes it important that the interface is open, clear, welcoming and accessible. This is done through a generous number of windows, especially around the entrances. The windows follow the size and rythm that can be found in the adjoining facades, with some smaller, square windows and larger, vertical windows.

Exterior materiality follows that of the rest of the buildings, with lime plaster facades in some matching shade of ochra together with wooden windows frames and dark sheet metal roof. The interior on the other hand is proposed to be mostly in wood, with linoleum floors in varying colours.



Sports hall with original wood panelling - to be preserved



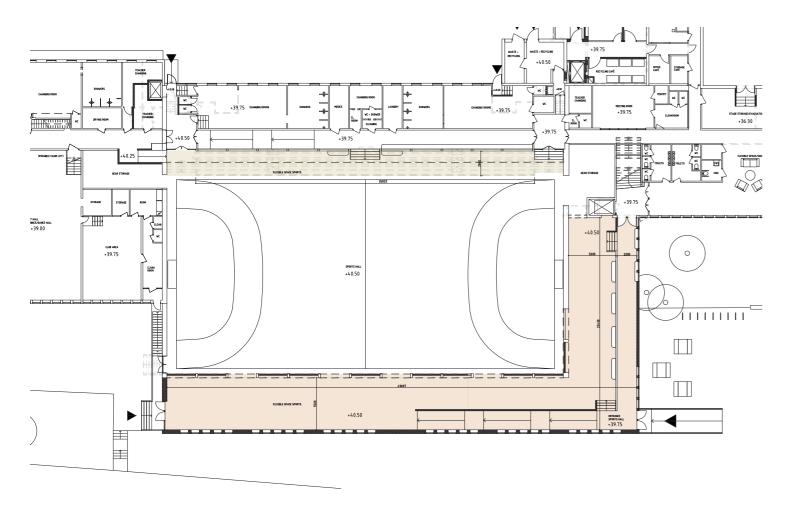
Original acoustic brick gable walls - to be preserved



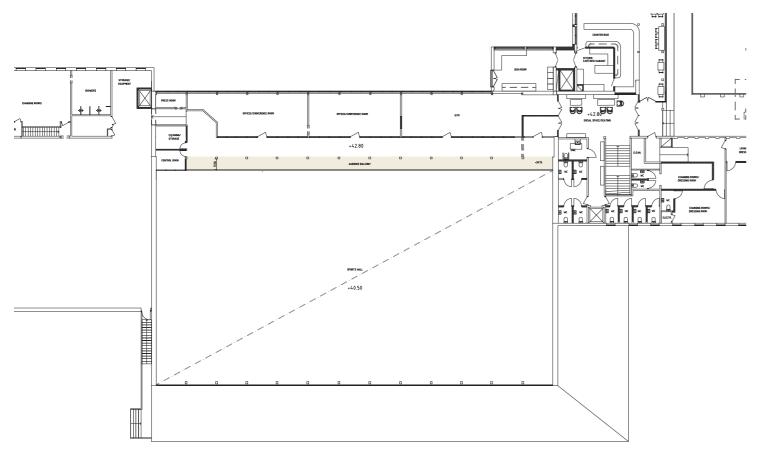
Original audience stands - to be replaced and space transformed



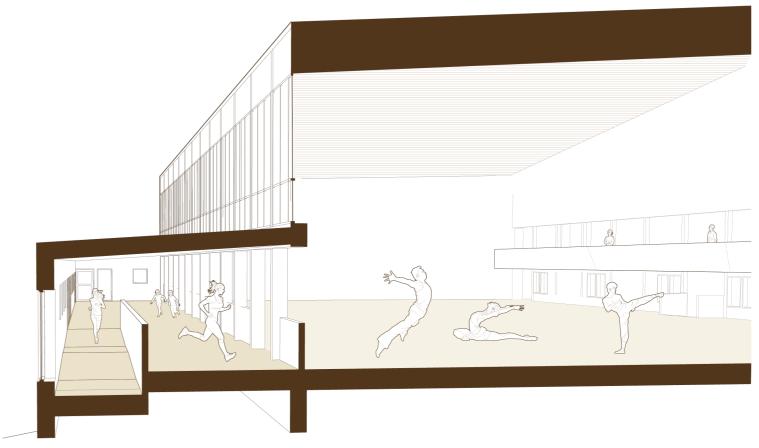
Original open korridor overlooking the hall - to be preserved and extended with balcony space at same level



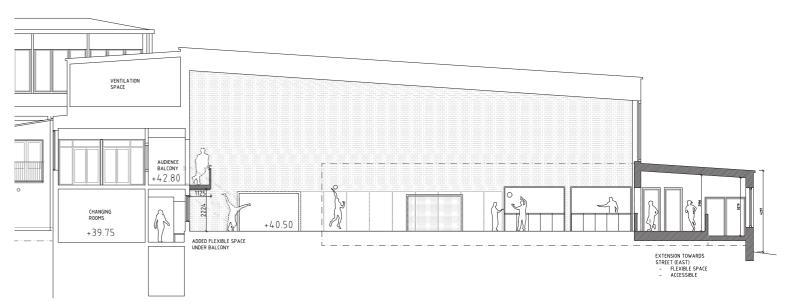
Ground floor plan large sport hall with extension 1:400 (A4) (Plan can be found in larger format in appendix K)



First floor plan large sport hall with roof of extensionshowing and audience balcony 1:400 (A4) (Plan can be found in larger format in appendix L)



Perspective section sports hall extension and updated stports hall (audience balcony in favour of audience stands)



Section a-a through large sports hall av proposed extension 1:200 (A4) (Section can be found in larger format in appendix F)

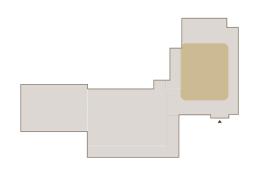




Photo montage/3D-model of what the extension could look like from the sidewalk/main street



Current situation

VENUE SPACE IN LARGE POOL

General description

Type of measures: *Adaptive reuse of existing space with minimal changes.*

New function: *Venue space with stage in former pool with space for seated and/or standing audience*

Area: approx. 590 sqm + 45 sqm added audience space on balcony.

Functional areas mean a maximum capacity of approximately 450 people.

New use is being proposed for the large pool area as it is deemed obsolete and very complicated and costly to renovate for continued use as a public pool. At the same time, it is the swimming pool rooms of the buildings that pose the highest architectural, historical and social value. To be able to read the former use of the space in the future is desireable, to preserve the collective memory of the building once being a public swimming pool.

Because of the historical depth obtained in keeping large parts of the pool area intact, minimal changes and adjustments are wanted while still being able to use the space for another function. From a sustainability point of view this is also desireable as less virgin materials and resources are needed.

The area of Hägersten, which Västertorp is a part of, lacks spaces for arts and culture. This is why a space for events is proposed where the large pool is redesigned as a stage with space for audience. The goal is to create a flexible space that can be used for a lot of different venues such as cinema, theatre, dance, orchestra, exhibitions, seminars, lectures and so on. Audience can both be seated or standing and a balcony at the back of the room is added for extra audience space. The plateau-structure proposed inside the pool is made up of wood and can either be used to sit on directly or to put chairs on for a more formal seating.

Changes

- Existing pool is drained but negative space kept intact (with the exception of evacuation doors from stage and from parquet)
- Added railing along the whole pool (potential to integrate acoustic measures within/on)
- Two stairs from main floor ascending down into the shallow end of pool
- Horisontal plateaus for seating in slope of pool
- Stage in the deep end of pool, approx. 8,9 x 12,5 m
- Removal of acoustic tiles in ceiling acoustic tiles to be placed behind original wood panel ceiling instead
- Added wood balcony for extra audience space with two stairs in far end of room
- Lighting, sound, screening and blackout systems installed (not studied)
- Painting of all walls except the one with the mural

Motives

- Possible function that does not demand transformation of the whole space but rather an insertion of a new function into the existing structure. Historical layers will continue being evident.
- Other venues in local area are to close (lost license etc) and venue space is needed
- Relatively easy to adapt space for this new function, without damaging historical and architectural values inherent in the existing space. The measures are almost completely reversable if other function is needed/wanted in the future, with the exception of some attachment points for stage, railing and audience structures and evacuation doors in pool walls.

65 DESIGN PROPOSALS DESIGN PROPOSALS 66

Values & heritage

- Ribbon windows in lantern roof
- Original wooden details benches, rails etc
- Original mosaic flooring and details
- Original interior doors and windows in wood
- Original wood panelling ceiling (currently behind acoustic tiles)
- · Original artwork mural and steel wall hanging
- Overall compostion of the room/space

Materials



Original mosaic flooring



Original wood panel ceiling reinstalled with acoustic tiles behind



Stage, audience plateaus in pool, railings and audience balcony in wood and CLT

Design

The room and its interiors are almost fully preserved. Some tiles need to be removed in order to anchor railings, stage, audience plateaus and balcony in the concrete slab structure. The additions to the room will intentionally differ from the existing interior as it will look more contemporary. The added elements are all proposed in wood and/or CLT as they are easy to assemble, relatively light in weight, structural and a renewable material.

Non-original tiles (like the brown marbled tiles at the bottom of the walls) are removed and walls painted in a subtle colour to not take focus off of the events/screenings. The original mural is kept intact, as well as elements such as the concrete trampoline, original woodwork, artwork and pool ladders.



Swimming pool with original mural & trampoline - to be preserved



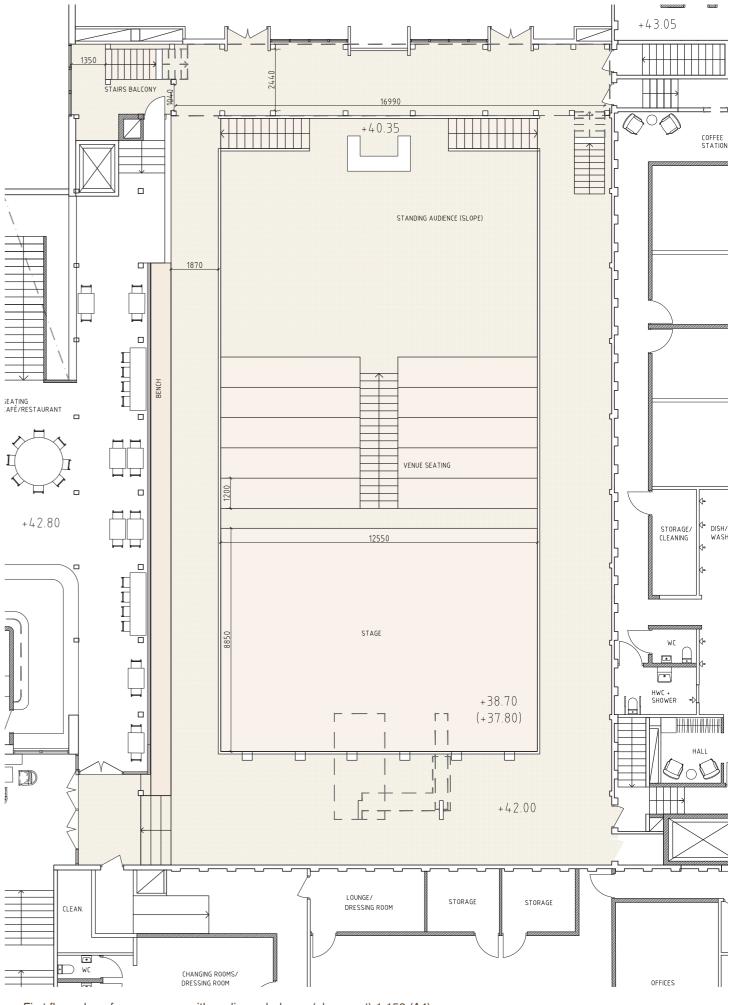
Original ribbon windows along lantern ceiling - to be preserved



Original mosaic flooring - to be preserved



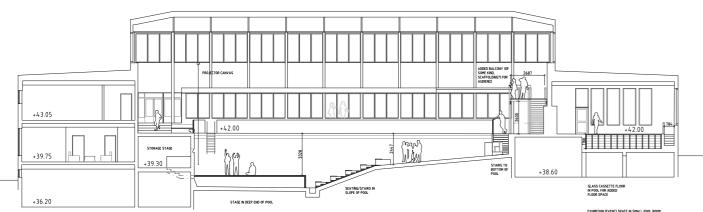
Original teak rails, benches, doors and windows, to connecting spaces - to be preserved



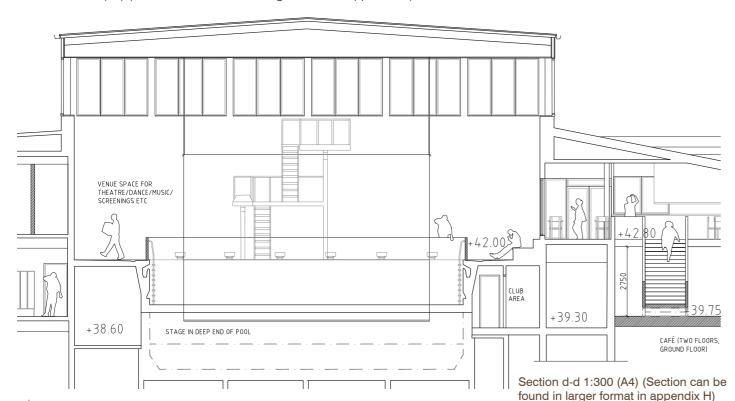
First floor plan of venue space with audience balcony (above cut) 1:150 (A4)

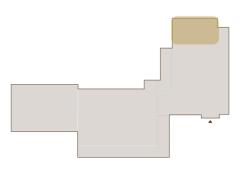
DESIGN PROPOSALS 68





Section c-c 1:300 (A4) (Section can be found in larger format in appendix G)





EXHIBITION SPACE IN SMALL POOL

General description

Type of measures: *Adaptive reuse of existing space with minimal changes.*

New function: *Exhibition hall*

Area: approx. 215 sqm including entrance space.

Functional space for a maximum capacity of approximately 150 people.

As Västertorp is an area with a history of housing artists and a large number of "artist residents" where ateliers and living space is combined, it seems suiting that there shoul be a space for local artists to exhibit their art. This is not the case today.

The existing small pool area is redesigned, with minimal changes, to work as an exhibition space mainly, but could also function as a flexible event space.

By building a cassette floor in glass in the small pool, the negative volume that once made up the pool is being leveled with the rest of the floor in the room to create one coherent floor. This makes the space more useful while the addition at the same time leaves the pool intact as a legible layer of what the space originally was for.

Changes

- Glass cassette floor installed in small pool to level with surrounding floor to create one large coherent floor space
- Removal of acoustic tiles in roof to expose original wood panel ceiling
- Added railing along narrow side pool which is kept intact as an exhibition space
- New entrance door and dedicated entrance hall where existing evacuation door and original cast-in-place concrete stairs remain
- Painting of all walls i subtle colour

Motives

- Due to the local area as a historical place for artists to live and work along with it being the area in Stockholm with the most public art, it seems suiting to have a space for also exhibiting art
- Very little change needed to adapt the space for it to be suitable to function as an exhibition hall
- An exhibition hall is quite unprogrammed, making it work as a flexible space for other events as well - such as book/music releases or smaller seminars/events
- Can work seperate from rest of building and have other opening hours because possible to seal off

Values & heritage

- Vertical, tall windows with wooden frames
- Original mosaic floor
- · Original interior doors and windows in wood
- Original wood panel ceiling

Materials



Original mosaic flooring



Original wood panel ceiling reinstalled with acoustic tiles behind



Railing along pool in CLT



Glass cassette flooring

Design

The small pool room is kept intact in most ways. Floors are preserved, walls are painted in subtle colour. Some tiles are removed to anchor the railing along the narrow side pool in the concrete slab structure.

The existing evacuation door is replaced by a door with a glass window. From the entrance hall a tall window and glass door are installed to crete a light and welcoming entrance situation for the new exhibition hall.



Swimming pool with original mosiac - to be preserved



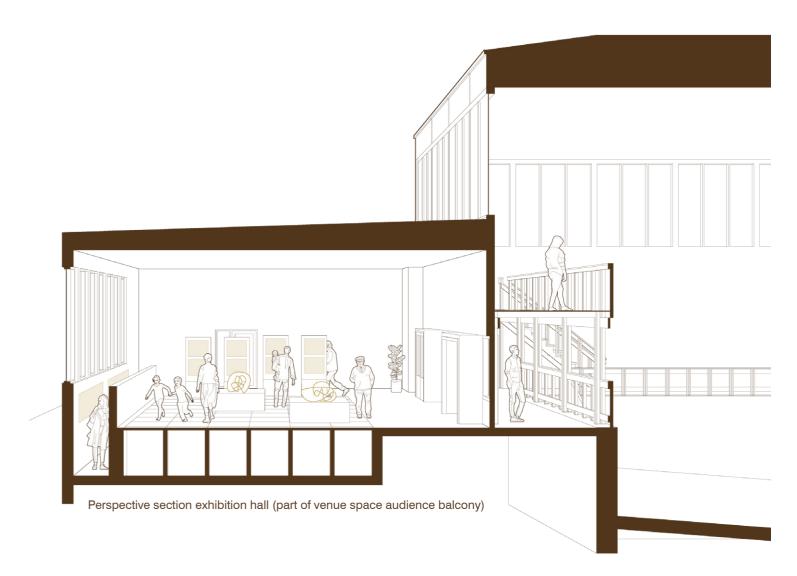
Original vertical windows along west facade - to be preserved



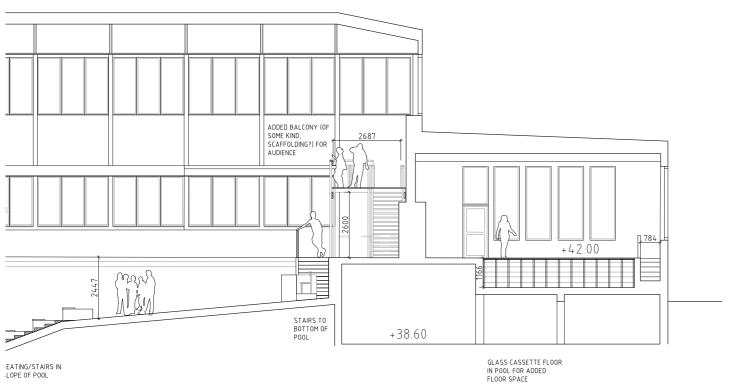
Original windows and narrow side pool - to be preserved



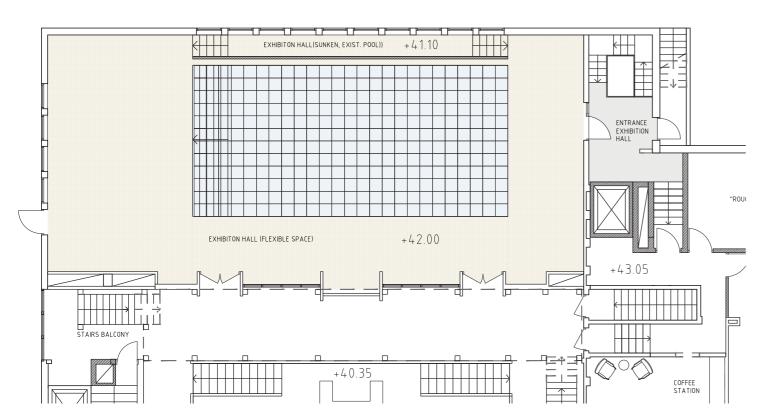
Original teak doors, windows and other details - to be preserved



71 DESIGN PROPOSALS 72



Section (part of) c-c 1:150 (A4)



First floor plan of exhibition space 1:150 (A4)

CHAPTER FOUR

CONCLUSIONS & REFLECTIONS

In this chapter answers are given and discussed to the leading questions asked in this thesis. The chapter also presentes reflections and concluding thought concerning the project.

ANSWERS & CONCLUDING THOUGHTS

Research questions

How can the public swimming pool and sports facilities in Västertorp be **transformed and reused** to **revitalize the buildings** and meet **contemporary needs and functions** while also **contributing meaningfully** to the local area's social and **sustainable development** to avoid future demolision?

How can changes and transformation of the buildings be made in a **resource efficient** and **sustainable way**, while also respecting the existing buildings' **inherent architectural** and **heritage values**?

Subquestions

How can **design proposals** for **transformation** of the existing buildings and a **new program** for **reuse** contribute to a **broader offering** of functions and activities in **correspondence to local needs**?

How can solutions for transformation, retrofitting and upgrading of the buildings **solve existing deficiencies**, make them more **functional**, **accessible** and **connect better** to their surrounding urban context?

(can be found on page 6 in document)

Answering the research questions

The result of this thesis project is the proposed changes to the existing Västertorps sim- och idrottshall to make it into a local hub for sports and culture in Västertorp, Stockholm. All proposals involve transformation and adaptation, to different extents and in varying scales. Some proposals, or parts of proposals, are rather subtle and pragmatic, while others are more creative, with larger gestures. Joint together the proposals expose the potential to adapt and find an alternative future for this public building threatened by demolition.

When studying the existing buildings, it becomes clear that they are more complex than need be. Even if this complexity along with introvercy is part of the buildings' original character, it makes them less suitable as public buildings of today. The buildings have a lot of potential to be changed, transformed and reused without having to undergo very extensive or complex work. Even small-scale and low-invasive interventions have the potential to improve the attractiveness and functionality of the buildings, while still respecting inherent heritage values. The presented proposals can therefore be seen as a wide scope of different actions and changes that could be made, in parts or as a whole, to make the buildings up to date and better suited as a public hub for the local community.

By dealing with the dysfunctionalities and shortcomings of the existing buildings, such as lack of accessibility, feelings of insecurity, lacking connections to the urban surroundings and the fact that the facilities do not meet the requirements or standards of today, the given proposals showcase that there are possible ways to overcome these. To implement measures for adaptation and transformation of the existing buildings gives the heritage and social values of these buildings leverage. These values do not magically appear but

develop over time and should thus be treasured. Treasured also because quite a small number of buildings in the urban fabric can boast with having these values. Because of this an interior approach to adaptation (Plovoets, Cleempoel, 2019) has been promoted, where "soft values", collective memory, public continuity and atmosphere has been considered in what solutions have been proposed.

The initial investigations that the municipality has made concerning what needs are present in the local area of Hägersten/Västertorp happened to suggest very suitable functions and activities, as many of these where possible to fit into the buildings and suggest in a proposed new program. To fit these functions into the existing buildings is a good example of a programmatic approach to adaptive reuse (Plevoets, Cleempoel, 2019). Hence, the suggested program corresponds to what the municipality has concluded is needed, making meaningful contribution to the local area possible.

In addition to proposed functions in line with the municipality's statements, I found there is a general shortage of sports halls in the city of Stockholm. This led me to propose a way to try to modernize, transform and extend the existing large hall to better suit needs and requirements of today, a broader range of activities and become a more attractive and functional space for users and visitors. By doing so the sports hall can be preserved and functional for most activities it is used for today, and hopefully for more in the future.

Many solutions within the suggested proposals are building and/or site specific and would have been made in other ways for other situations, while many of the ideas could be applied more generally in a broader context and discourse of sustainable transformation. However, since the studied building types are common and many more were built during the same time period, several ideas for transformation and adaptation should be applicable in a broader context, even if the detailed solutions would look different. Studied reference projects already show that similar projects concerning pools have been made (Designboom, 2024; SO!, 2024). The idea to extend and adapt the sports hall however, could be applicable to other existing sports halls, with similar deficiencies and shortcomings as the ones in this project with the studied reference program (White arkitekter, 2020) as a guide.

All of the project's joint proposals have the possibility of contributing meaningfully to the local area's social and sustainable future as development continues in and around the site. The proposed changes of the buildings and the site also strive to improve the connection between these and the surrounding public space, so that the buildings exterior better mirrors that of what is happening and taking place inside and feel truly public.

Lastly, this thesis project and its concluding proposals, show that there are plenty of creative, simple, attractive and locally requested ways to adapt and transform Västertorps sim- och idrottshall in order for it to not be demolished and that the ways in which proposals are suggested could be and inspiration to other, similar situations elsewhere. Urban planners, architects, politicians, stakeholders and the public all need to start evaluating and acting differently considering the existing built environment. When it comes to buildings, demolishing should be seen only as a last resort if there is no feasible way to adapt or transform the existing, and there usually is.



Children playing on the statue "Efter badet" outside the

75 CONCLUSIONS & REFLECTIONS CONCLUSIONS & REFLECTIONS 76

Addressing & impacting sustainability

This project, if carried out in reality, would target a few of the UN:s Sustainable Development Goals (UN, 2024) directly, and some more indirectly.

This project, and others like it, could have a direct positive impace on goals 11 and 12 of the UN:s SDG:s.





(44. UN, 2024)

For SDG 11 - Sustainable Cities and Communities, a project like this could have a direct positive impact due to factors and aspects such as

- Sustainable and responsible use of resources; not demolishing buildings to build new, but instead using the exisiting and improving this to prolong the life of the buildings
- Saving a local building of public importance with cultural and architectural values
- A city is more than just housing as the city
 of Stockholm grows more public service and
 functions are needed, where these buildings
 could help answer to these growing needs.
 This hub for sports and culture for the use of
 the community could correspond both to present exising needs but could also be changed to
 suit the future needs of the local community.
- Public service and functions being accessible to all due to proximity to public transport and an open and mixed offering of activities for all in the facilities
- Social historical depth in the area is protected and showcased if existing buildings are not torn down, especially public ones.

For SDG 12 - Responsible Production and Consumption, a project like this could have direct poitive impact due to factors and aspects such as

- Reuse and transformation of the already built environment, not turning functional buildings inte waste in order to build new
- Offering a meaningful space for after school/ free time activities (Youth Center & sports halls) to excercise, move, learn, interact etc instead of more resourse wasting part itme activities/ hobbies more focused on consumption

- Offer a Leisure Library where one can borrow gear to try/do different sports and leisure activities, showcasing circularity and sustainable lifestyle choices as well as more equal opportunities to practice different or expensive sports
- Possibility for municipality to showcase the opportunities inherent in saving/ transforming and reusing existing buildings in their stock even when the initial purpose and use of these is deemed obsolete.
- Updating existing facilities for sports to show that even though they are not perfect in accordance to standards of today or competition standards, they work for most day-today activities. Giving value to the "imperfect" and showing that this is also woth saving and that small changes can be beneficial to large overall ones.

Indirect positive impact

In addition to direct positive impact, a project like this could have indirect positive impact on the following goals, for example due to

- Offering free and accessible space for sports/culture for everyone.
- Offer space for group activities and activities that contribute to health and well-being, which could indirectly promote healthier lifestyles and the risk of using tobacco, alcohol and drugs.
- Offer space for meaningful, social and physical activities that indirectly can have a positive impact on learning and education. The project could also offer physical space to do homework etc after school, before activities.
- To offer space that promotes activities for youth and children could promote gender mixed social interactions and friendships among children/youth can indirectly lead to respect for one another and for girls and women to have equal right to all parts of society and learn this from a young age.
- To mix spaces for sports and culture under the same roof also promotes children/youth to get in contact with the other, mixing traditionally "boy coded" and "girl coded" activities.
- To mix activities in the same hub states that all is equally worth. For people to have a space to go to for meaningful activities and to be in a space of social interactions, where community and connections can be promoted outside of school and family could be a stepping stone to encourage to seek oneself outside

naturally given domains and do things and meet people one would not otherwise meet.

Possibility in project for municipality to take climte action. To take a stanse and reuse/transform instead of demolishing and building new. A chance to start a journey to try and learn which can then be implemented in policies and decision making further on.















(44. UN, 2024)

Indirect negative impact

The project could also have indirect negative impact, addressing goal 7 and 15. For example in terms of using a building with old and inefficient energy systems and a poor energy efficiency. However, this is a factor that can be improved in a larger renovation.

To not demolish and build new, more land-efficient buildings could indirectly lead to other, less suited land being used for building instead.

Concluding comments & reflections

The buildings addressed in this thesis project have good potential to continue on existing in the future, if there is a will to think new and take sustainability into account. The longer the project progressed, the more I feel saddened by the thought that they might be demolished if no new use can be found for them and them be valued differently, not only from a monetary point of view.

This project showcases that it is possible to make room for, adapt and transform these buildings to suit existing needs of the local area, needs that have already been identified by the muncipality. Because of the buildings being so well located and accessible to the public along with the buildings' heritage values and the community's love for them, there is potential for a successful adaptation and/or transformation project.

The load-bearing system is in good condition and the buildings could be made more general to better suit other and more flexible needs. To reuse and prolong the life of existing buildings instead of building new usually saves up to 50-75% of emissions (UNEP, 2023), something that should be taken into account.

Looking specifically at the sports halls it could be a great opportunity to try to think outside the box, adapt and transform the existing to better suit the needs of today. Most sports and activities taking place in the halls do not require them to be perfect. The important thing is that they are there, accessible and free to use for everyone. Many halls today lack character and has a void of expression, they are merely a functional space. Whereas the existing have many values and could be developed and transformed. As in all other parts of society and consumption there is a need to rethink our norms and the status quo. Instead of evaluating and just making decisions based on economy here and now, we need to start using more comprehensive methods with a much longer horizon to evaluate the actual value of a building and the environmental impact of different alternatives.

The issues concerning the lack of accessibility are evident in these buildings. However, accessibility issues are often neccessary to address in transformation and reuse projects as requirements and standards have changed. So to state that as a reason for not adapting the buildings is a weak argument, according to me. Instead one can see this as a possibility to learn more and find creative ways to adapt and work around the problem to find attractive solutions.

Personally, this project was a challenge do to the fact that it was the first time I have done a tranformation/reuse project. Especially having to do with the time consuming analysis and understanding of the present building (without full access to it and lack of drawings), but also doing a project will less "design" and more problem solving with smaller solutions, no large gestures and cool proposals. It makes the project harder to "sell" and to represent. However, it has been very educational for the future where I hope I will get the chance to work more with projects like these and that transformation and reuse will become more common than building new.

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79 80

Images

If not stated otherwise photographs, diagrams and other image material is the auther's own/created by the author.

The image sources are listed below according to number stated in image in report. If image name occurs, this is also listed.

Arhagen, Maja (1958) , Stockholms Stadsmuseum *Image: 16. SSMDIA004301*

Assemble Studio (2024)

Images: 11-13

Designboom (2021)

Image: 9

Ek, Mattias (2017), Stockholms Stadsmuseum *Images:*

3. SSM_10024249S

4. SSM_10024271S

15. SSM_10024354S

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21. SSM_10024319S

22. SSM_10024300S

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31. SSM_10024254S

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38. SSM_10024279S

39. SSM_10024245S

40. SSM_10024240S

41. SSM_10024294S

42. SSM_10024296S

43. SSM_10024293S

E:son, Åke (2024) Moderna Museet/Arkdes

Image: 14

Kon, Nelson (2016), Archeyes

Images: 5-6

Stockholms stad - Bygg- och plantjänsten (1966)

Images: 1-2, 26-27.

SO! (2024)

Image: 10

UN (2024) Image: 44

White arkitekter (2020) Framtidens idrottshall

Images: 7-8

Student background

Kimberly Disley started her studying within urban planning but has since then also studied architecture. She therefore has two Bachelor's degrees, one within each field. Kimberly has worked mostly within planning, both municipal and at a private office, but is currently at her first architecture position at an office called Vardag arkitekter in Stockholm.

This thesis project marks the end of her studies and the start of her career as a fully fledged architect with a master's degree. A career where she hopes to get to work with a more sustainable future within architecture where transformation and reuse of existing buildings become the matter of course.



Bachelor

Spatial planning

BTH, Blekinge Institute of Technology 2012 - 2015

Architecture

KTH, Royal Institute of Technology 2018 - 2021

Master

Architecture and Planning Beyond Sustainability Chalmers University of Technology 2016 - 2017 2024

- Sustainable development and the design professions
- Planning and design for sustainable development in a local context
- Design Systems
- Architectural heritage and urban transformation

Sustainable Urban Planning and Design KTH 2018

• Contemporary Urban Theory

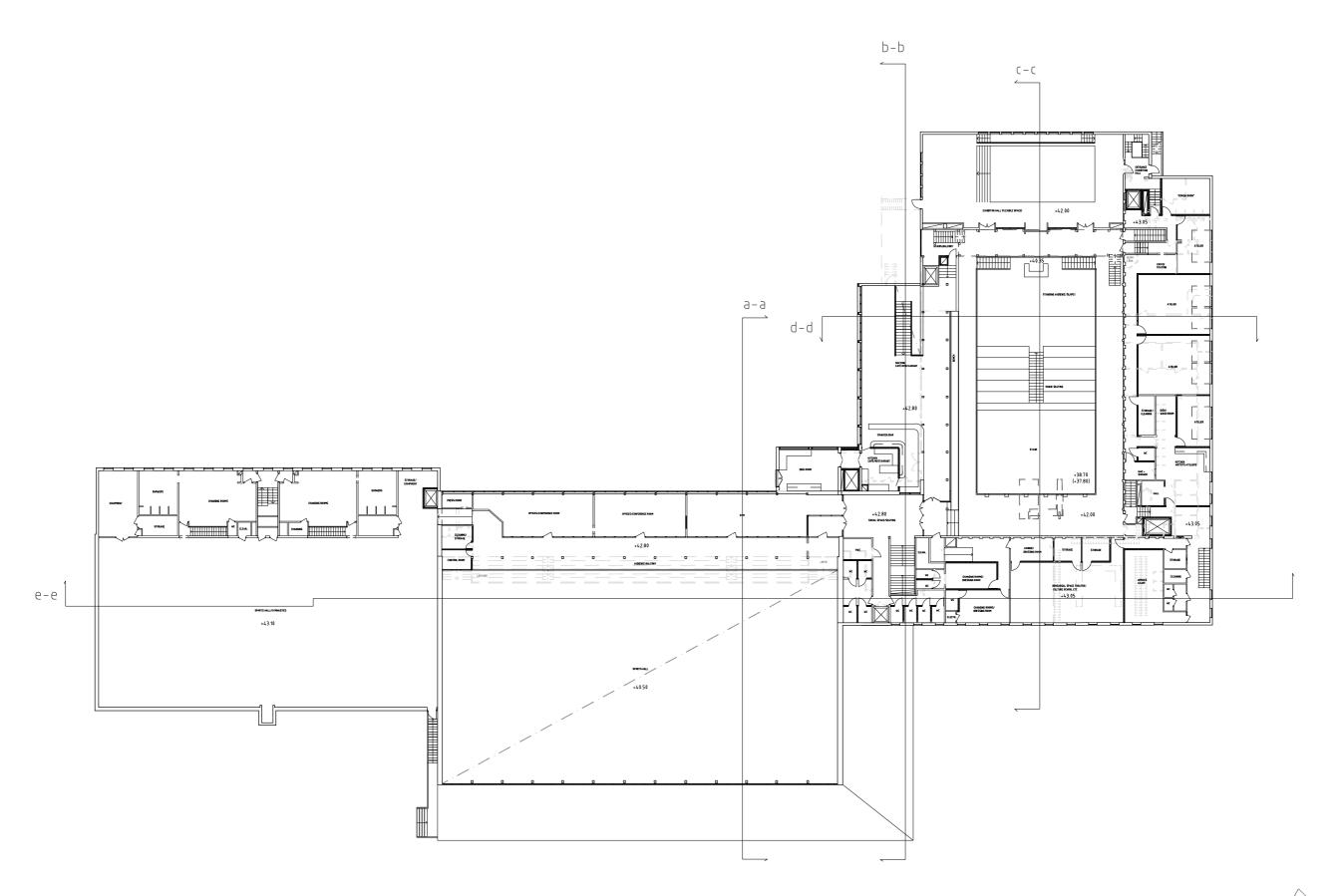
Internships and work

- Vardag arkitekter, current
- Urban Minds, 2017 2022
- AL Studio, internship, 2017
- City Planning Office at Municipality of Tyresö, *internship*, 2015 2016

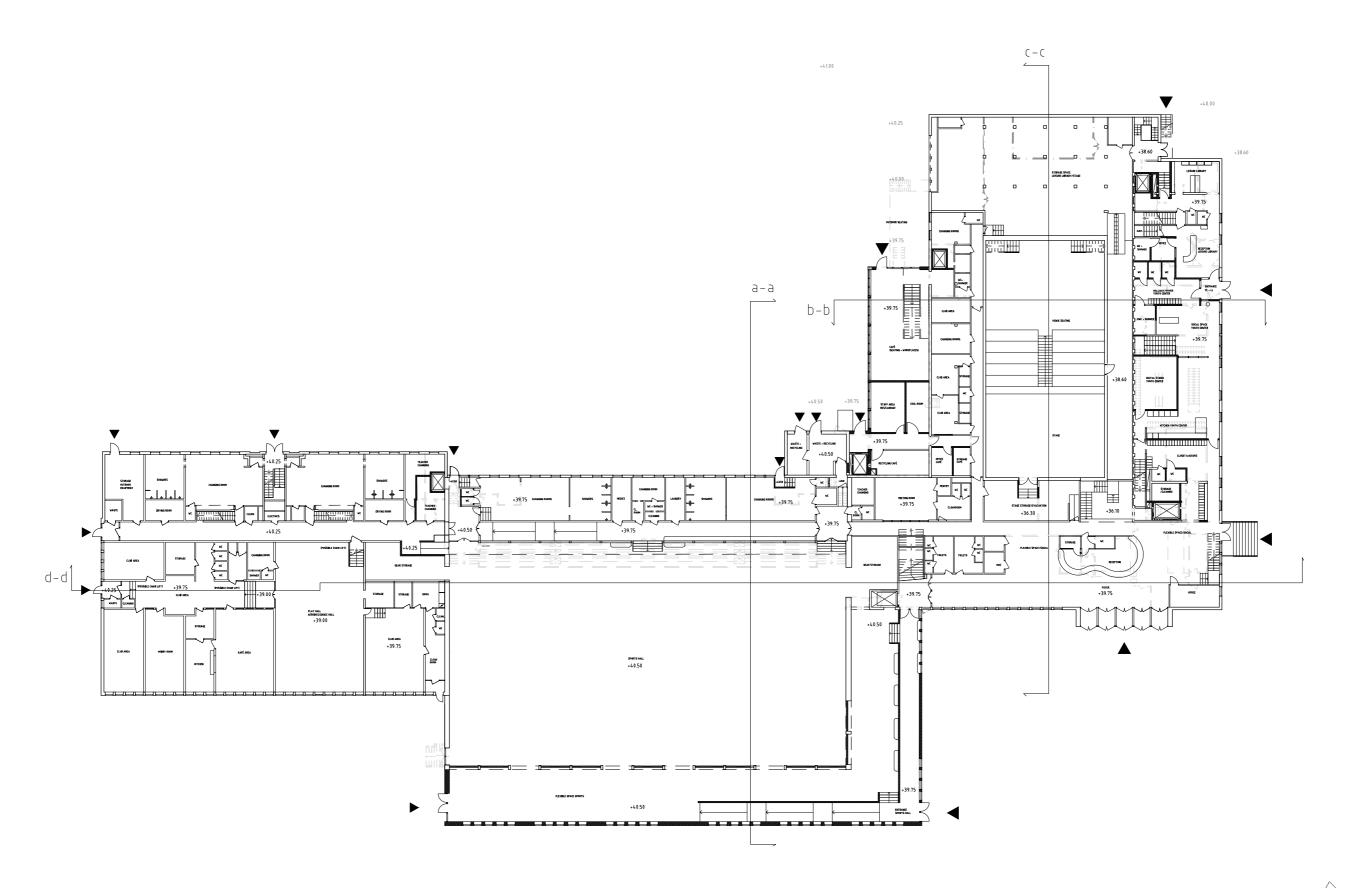
APPENDICES

- A. Plan First Floor, 1:400 (A3)
- B. Plan Ground Floor, 1:400 (A3)
- C. Plan Basement, 1:400 (A3)
- D. Plan First floor (Building B & C), 1:300 (A3)
- E. Plan Ground floor (Building B & C), 1:300 (A3)
- F. Sections b-b & e-e, 1:300 (A3)
- G. Elevations facades, 1:300 (A3)
- H. Section a-a, 1:100 (A3)
- I. Section c-c, 1:150, (A3)
- J. Section d-d, 1:150 (A3)
- K. Plan Ground Floor Café, 1:150 (A4)
- L. Plan First Floor Café, 1:150 (A4)
- M. Plan Ground Floor Sports Hall, 1:200 (A3)
- N. Plan First Floor Sports Hall, 1:200 (A3)

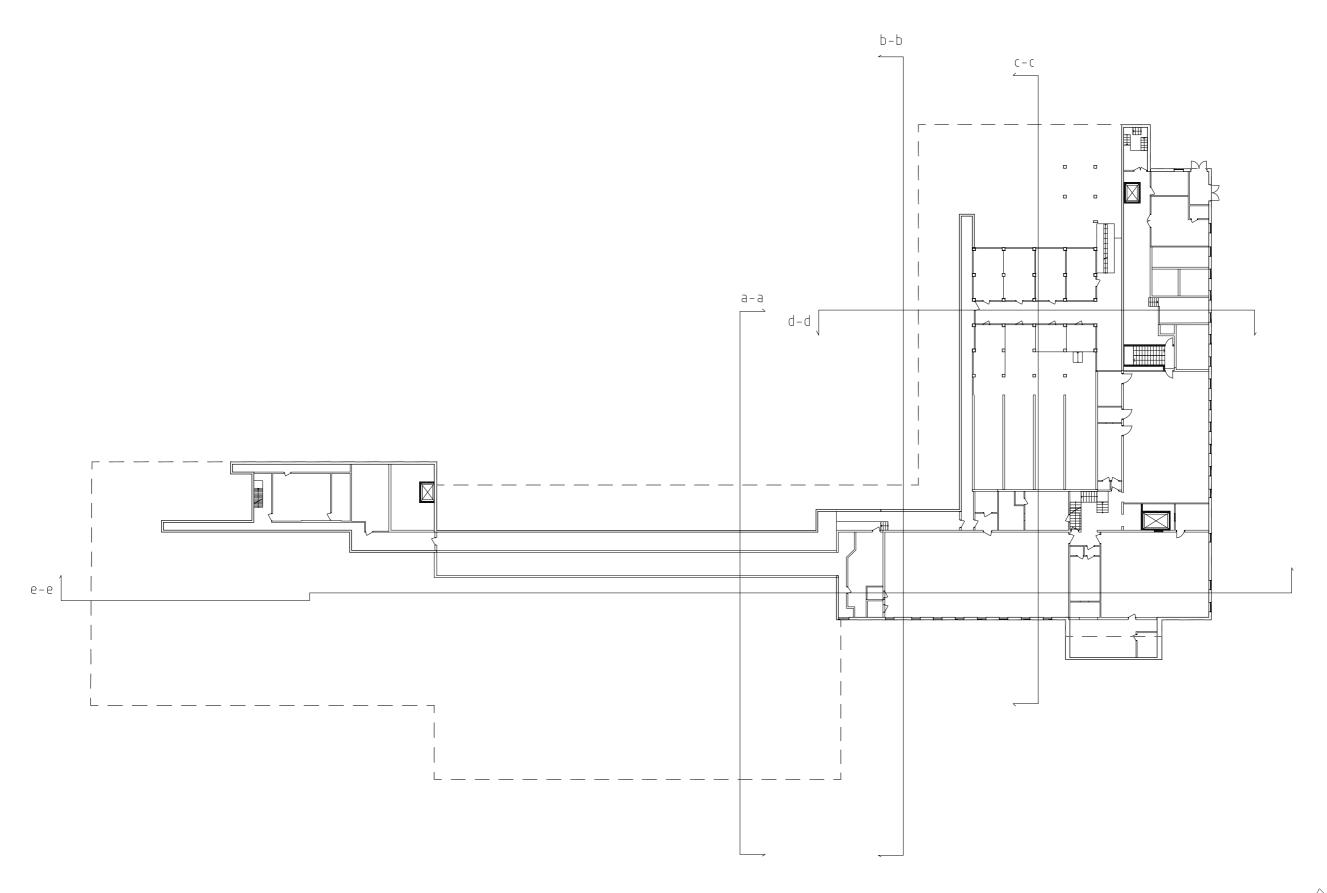
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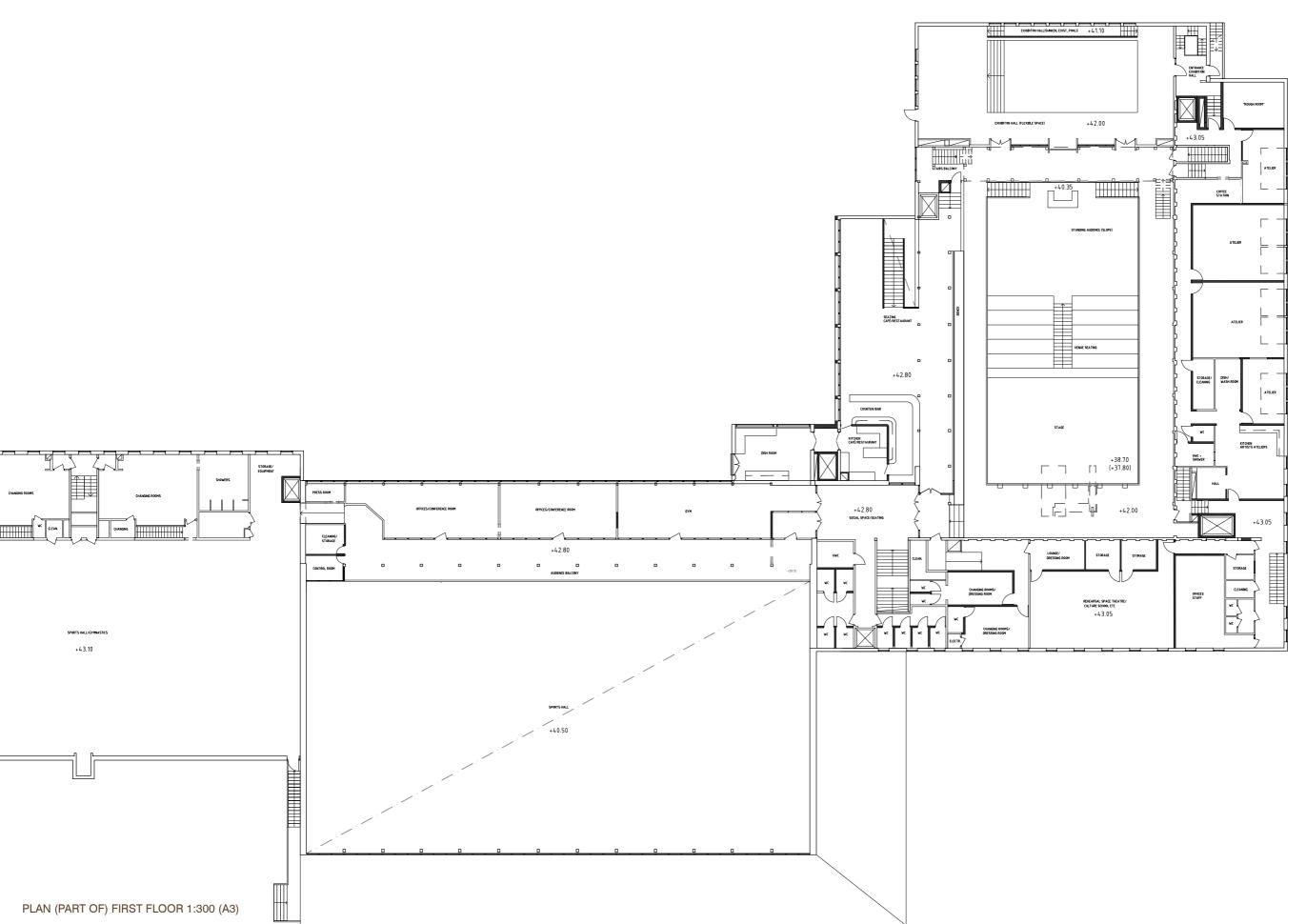






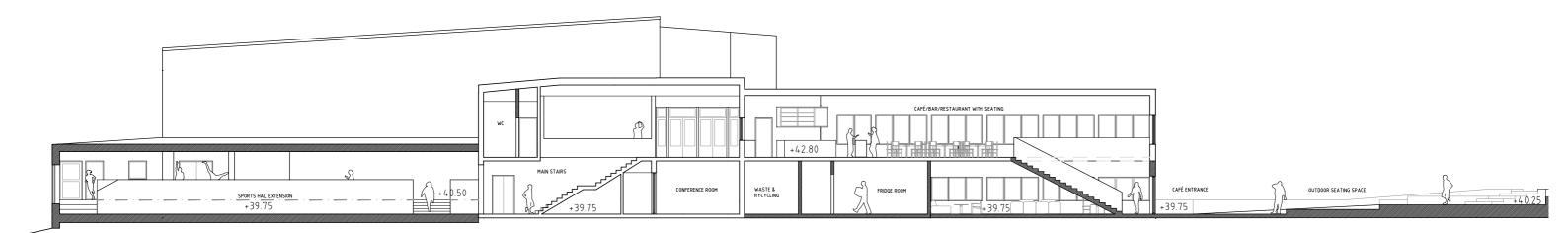




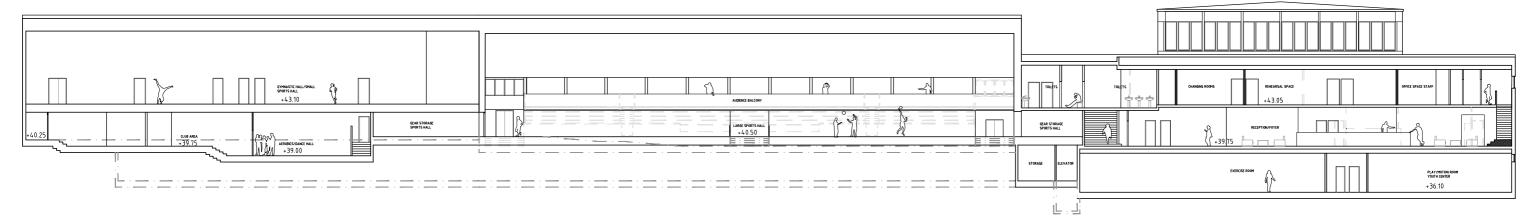


APPENDIX E

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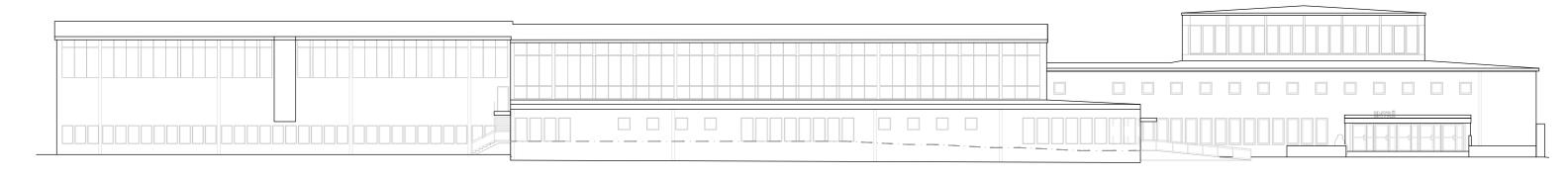


SECTION b-b THROUGH BUILDINGS, EAST-WEST 1:300 (A3)

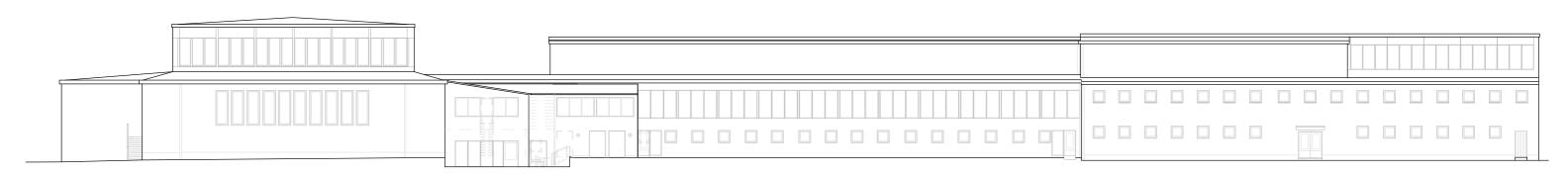


SECTION e-e THROUGH BUILDINGS, NORTH-SOUTH 1:300 (A3)

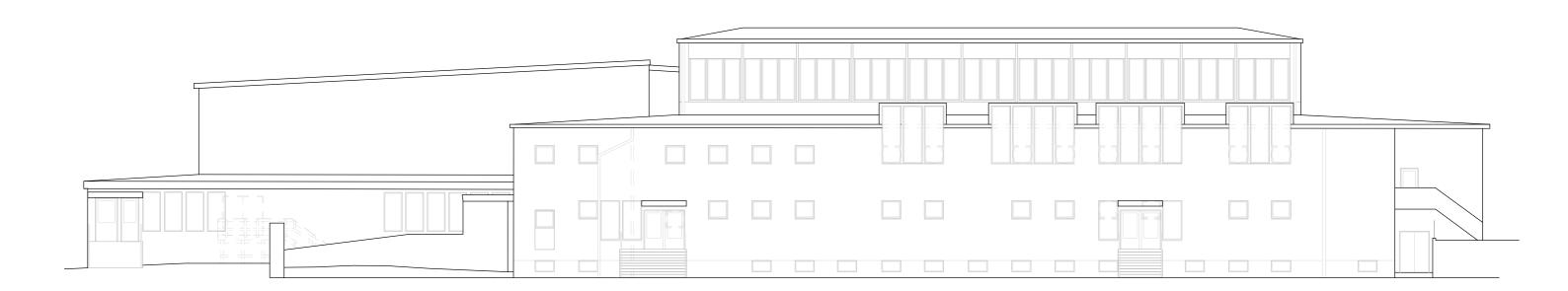
0 1 2 3 4 5 10m



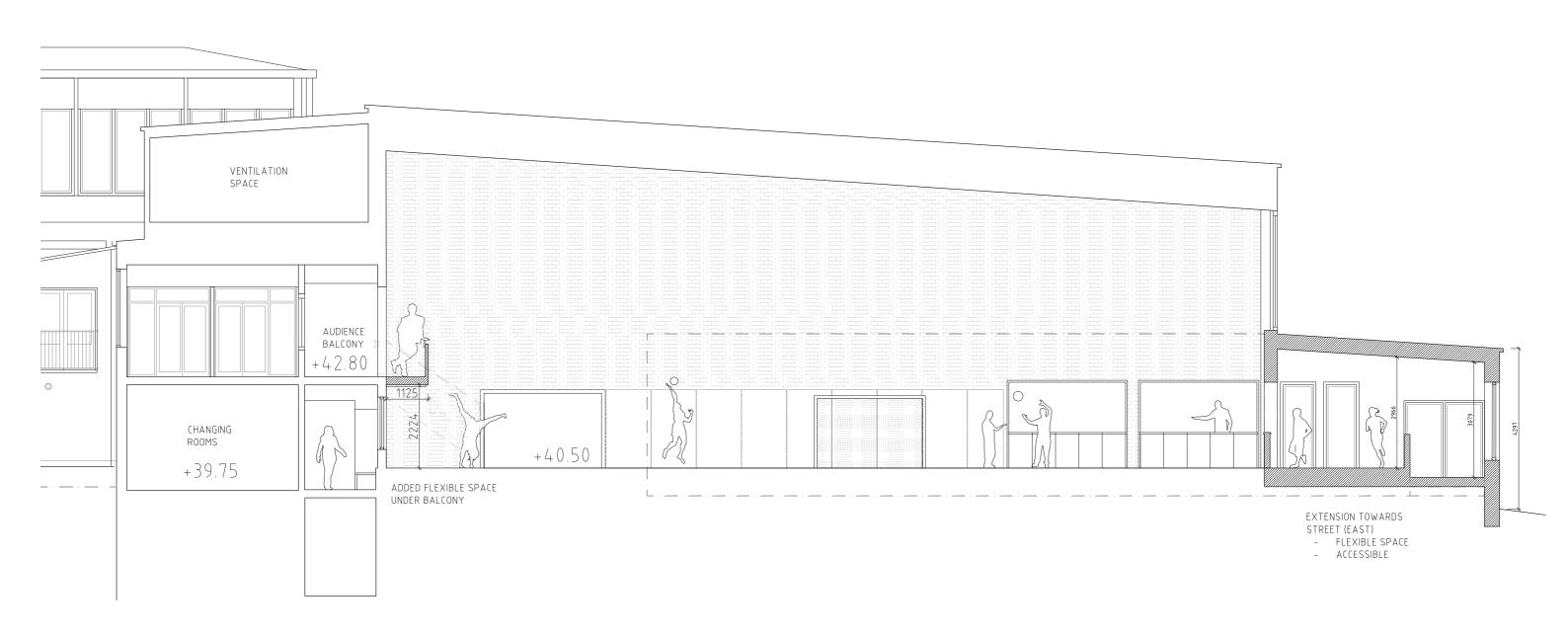
ELEVATION EAST FACADE 1:300 (A3)



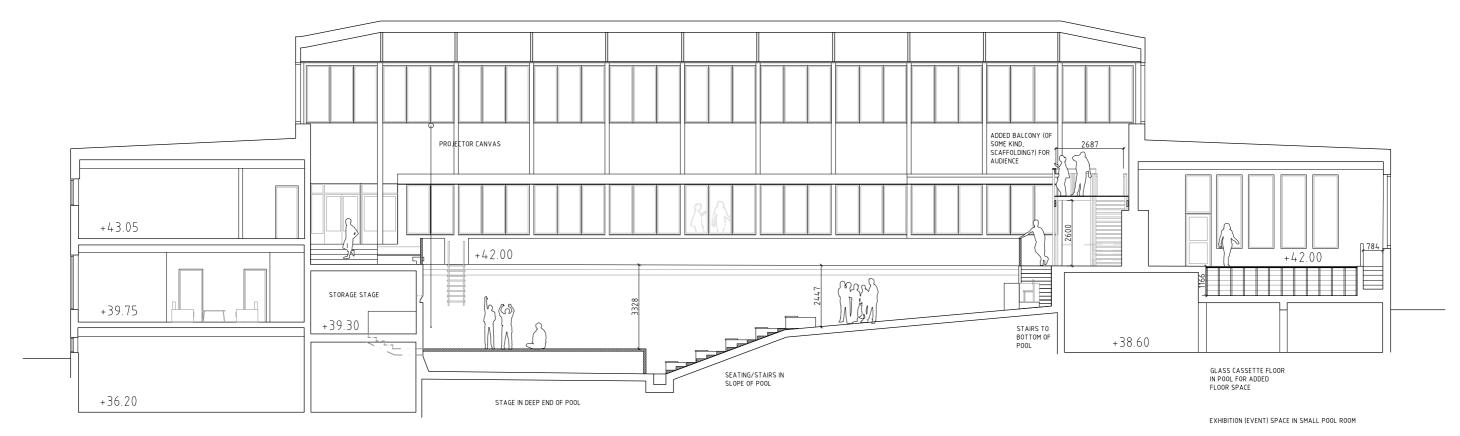
ELEVATION WEST FACADE 1:300 (A3)



ELEVATION NORTH FACADE 1:200 (A3)



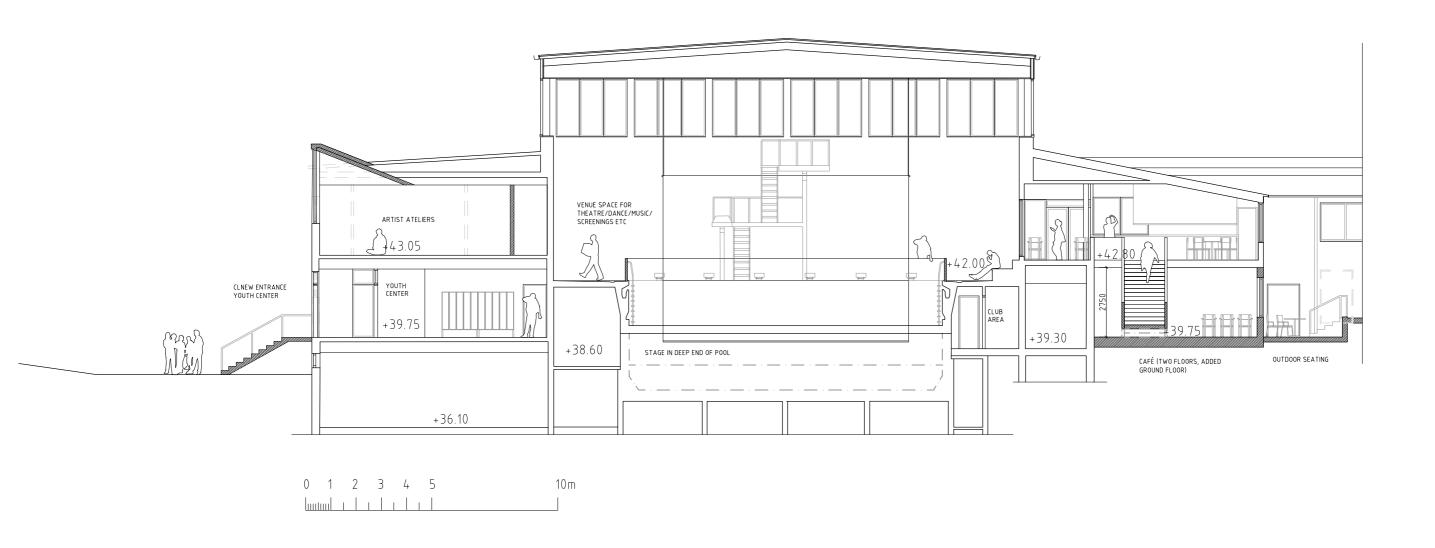
SECTION a-a, THROUGH LARGE SPORTS HALL WITH NEW EXTENSION AND AUDIENCE BALCONY 1:100 (A3)

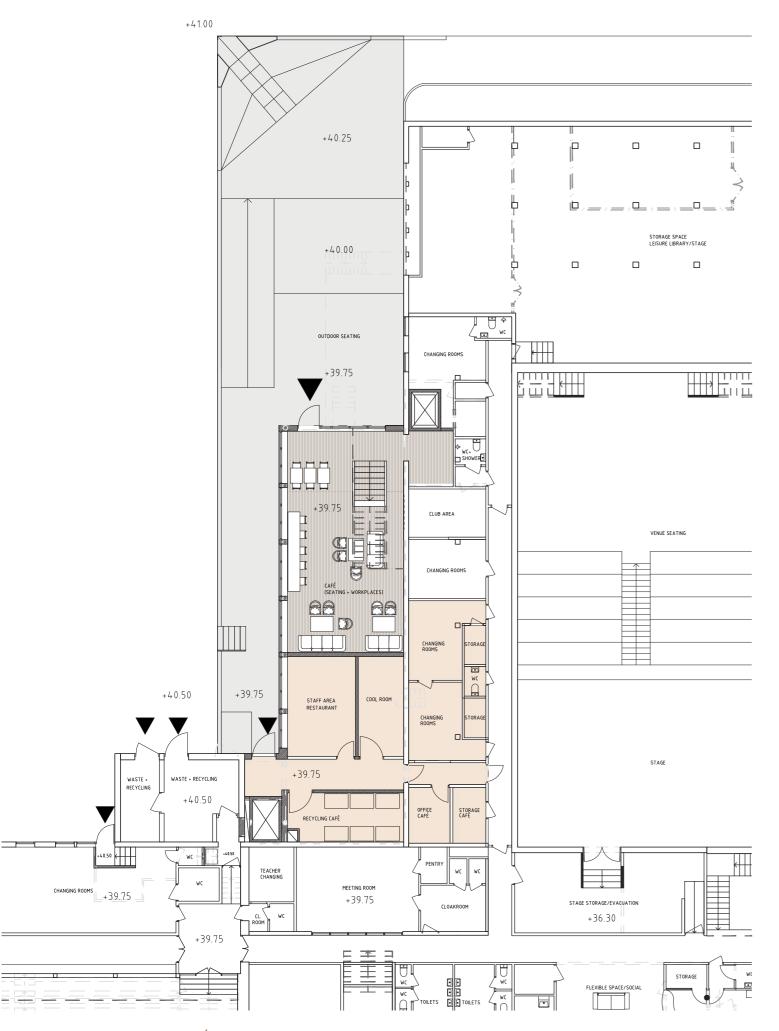


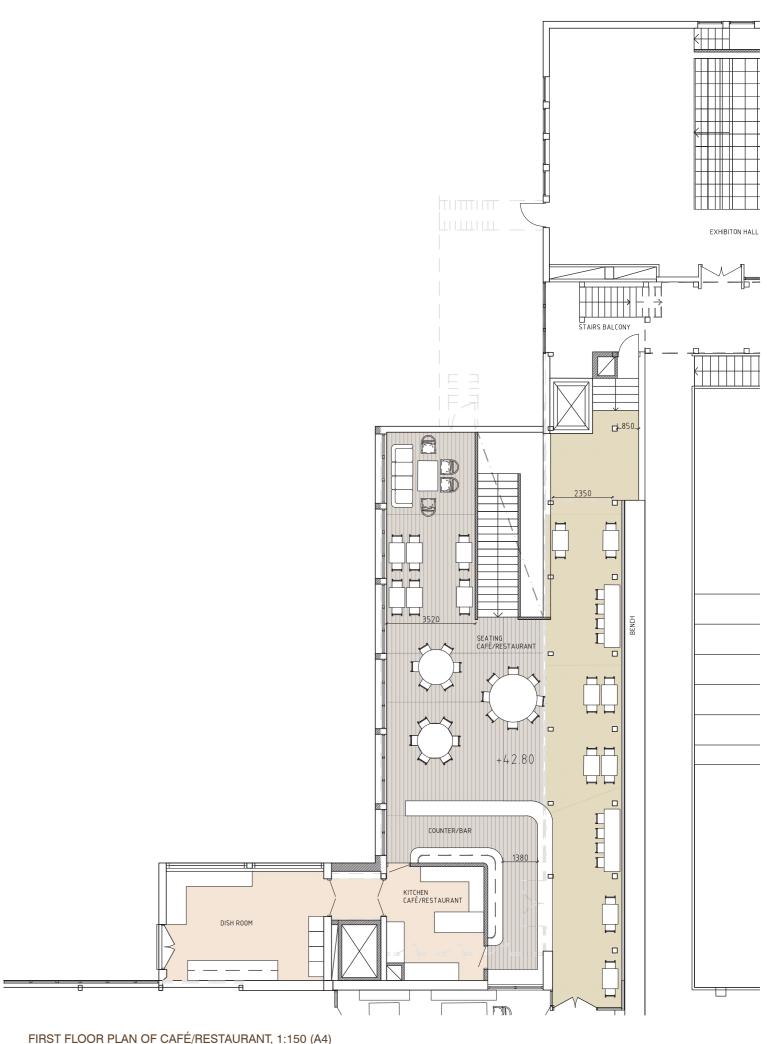
EVENT/STAGE/THEATRE SPACE IN LARGE POOL ROOM



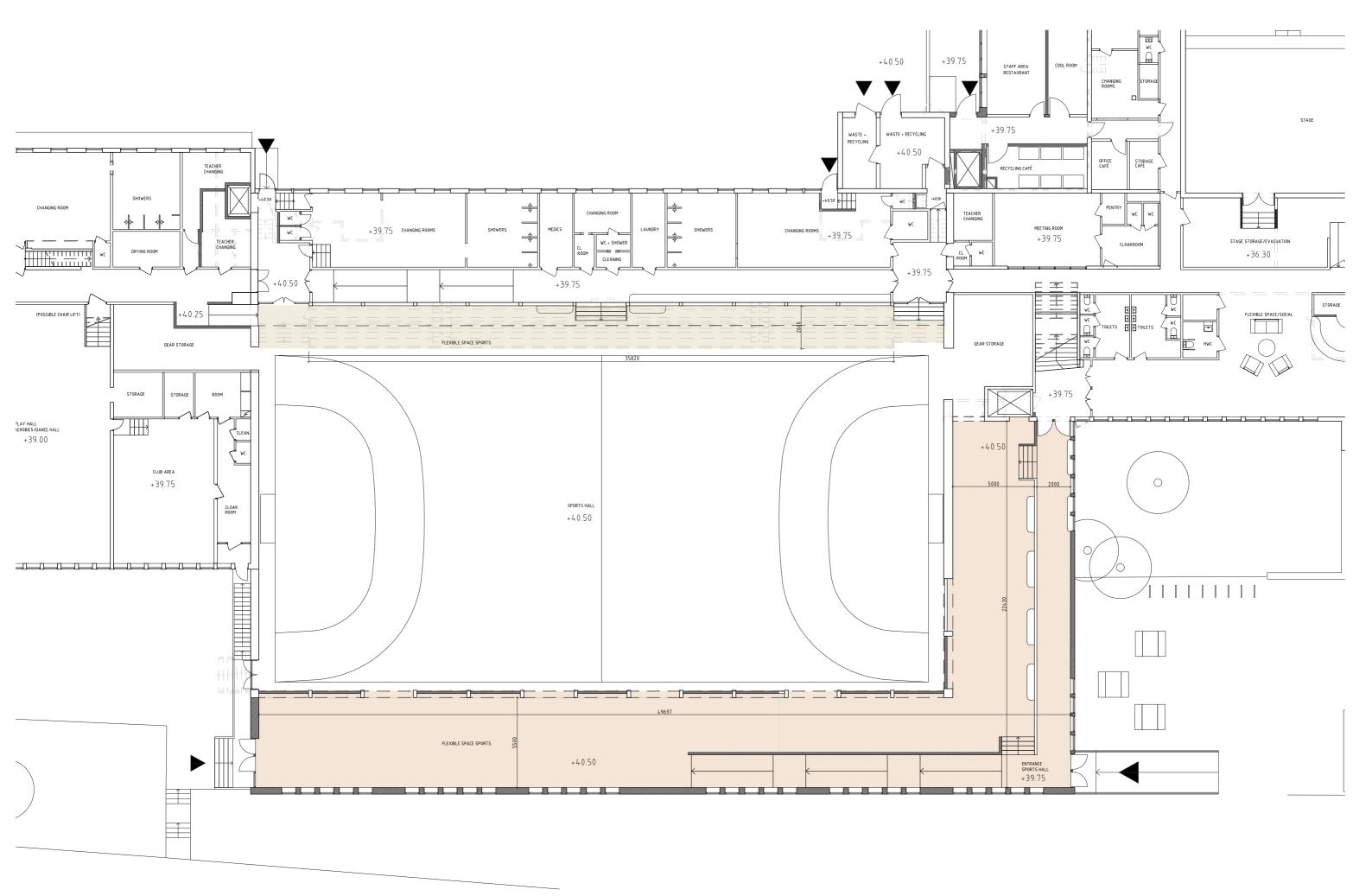
SECTION c-c THROUGH VENUE SPACE WITH STAGE IN POOL AND AUDIENCE BALCONY + EXHIBITION SPACE, 1:150 (A3)

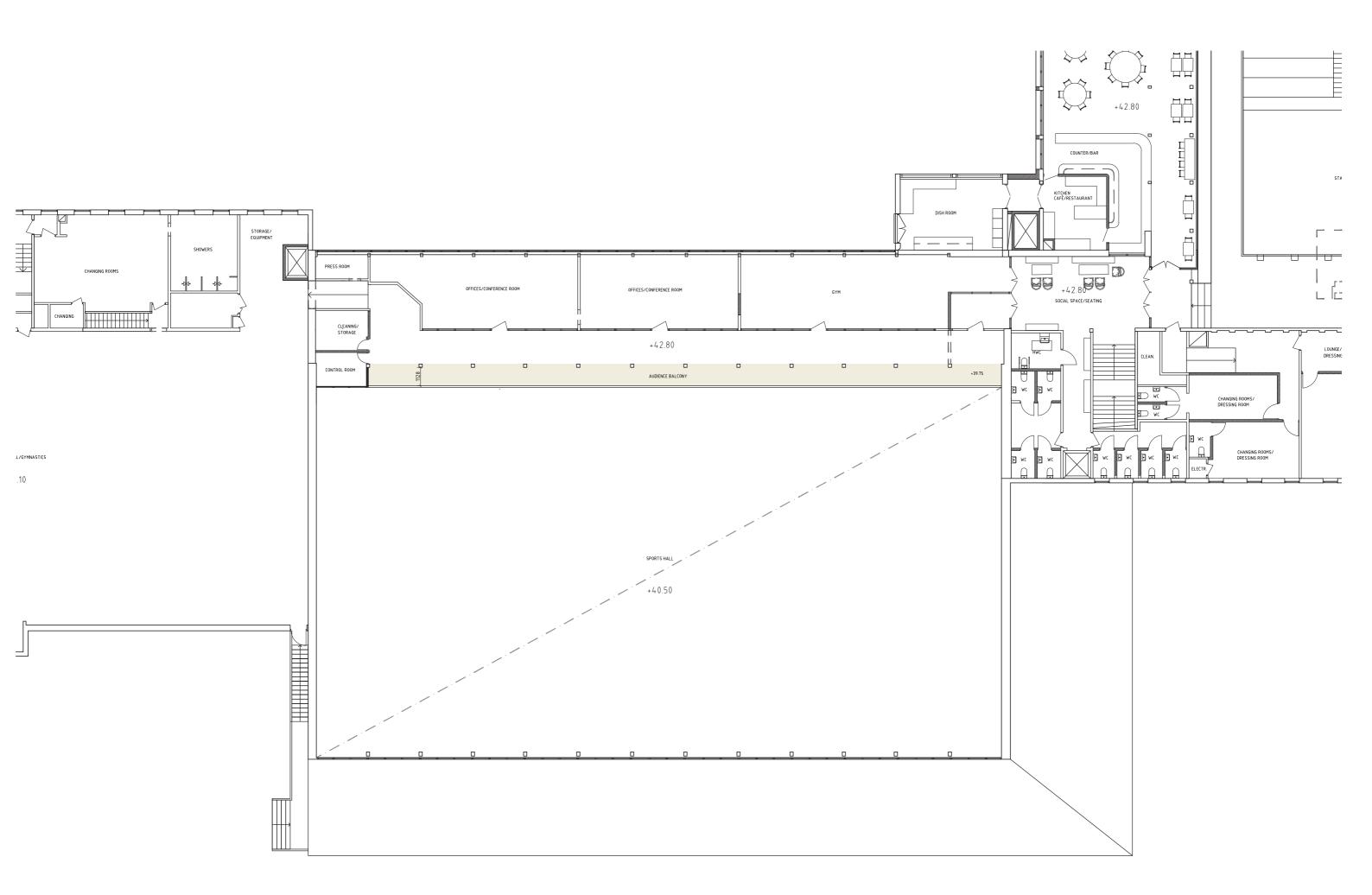






GROUND FLOOR PLAN OF CAFÉ/RESTAURANT, 1:150 (A4) APPENDIX K





FIRST FLOOR PLAN OF LARGE SPORTS HALL AND EXTENSION 1:200 (A3)

