



NYA RAMBERGSVALLEN
A NEW STADIUM FOR BK HÄCKEN

A Thesis Project by Andreas Mellberg



CHALMERS

Nya Rambergsvallen

A new stadium for BK Häcken

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Cover image: “Sneak peak into the stadium”

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ABSTRACT

The aim of this thesis project is to investigate how to go about when designing a sports venue for a club which, previously, has had problems drawing the large crowds.

How can you use architecture to attract new visitors? What is required and what can you do without when designing within reasonable economic boundaries?

The methods were, to a large extent, based around the human scale and the actions of the individual; I observed pedestrian movement patterns and developed choreographies for different scenarios and the project evolved from that.

The result is a relatively stripped down, and conceptually uncompromising, structure which uses familiar forms and materials to create something new in the area and which attracts people in its surroundings by allowing them to hint what goes on inside in carefully directed views.

ACKNOWLEDGEMENTS

First of all a big thanks to my tutor and examiner Morten Lund for showing me the path (and for making me leave said path at times) through this entire experience. And also to my reviewers Gert Wingårdh, Claes Caldenby and Fredrik Olsson.

Special thanks to BK Häcken for providing the initial documents and contacts to get me started with the project and to Göteborgs Stad Idrotts- och Föreningsförvaltningen (City of Gotheburg, Sports and Recreation Dept) for providing additional documents and plans of the current arena and the complex negotiations for a new one.

And finally I would also like to thank William McDonough and Michael Braungart for writing the interesting, inspirational and generally thought provoking book *Cradle to Cradle*.

Andreas Mellberg, Gothenburg 2015

BK HÄCKEN, THE OLD AND THE NEW

In 2009 BK Häcken, one of four major football clubs in Gothenburg, took their first step into their, hopefully, bright future when they moved into their new headquarters Gothia Park Academy. The top modern four-pitch training facility was a necessity if the club was to establish itself as a Swedish top football club. At the time of completion they were playing in the second division and had never played more than two consecutive seasons in the top one, Allsvenskan, so their plan was grand to put it mildly. Part two in this plan would naturally be to replace their old, and to a great extent obsolete, stadium Rambergsvallen (built in 1935). This idea has existed for a long time since Rambergsvallen has a long list of short-comings; accessibility, sponsor and event facilities, restrooms, spectator capacity and poor sight-lines just to mention a few.



Gothia Park Academy. Photo: Bert Leandersson

One reason why it has taken so long for BK Häcken to realize their plans with a new stadium is the issue of funding. It has been argued that they are one of the wealthier football clubs in Sweden and therefore ought to be able to afford to fund the project themselves. A vast majority of the club's assets comes from owning and organizing Gothia Cup, the world's biggest youth football tournament - an annual event attracting over 1500 teams from all over the world - and this does indeed generate significant sums. The only problem with this is that all revenues from the tournament is earmarked to be re-invested in the tournament and as a result of this a new stadium would have to be funded by either revenue from tickets/sponsorships or external investors (The City of Gothenburg being the most likely one). However in 2009 the average attendance at BK Häcken's home games was a mere 2,000 people

and the City of Gothenburg, dealing with tax-payer's money, were basically only willing to make investments of a magnitude that matched the needs of today - not to invest in a future that may or may not come.

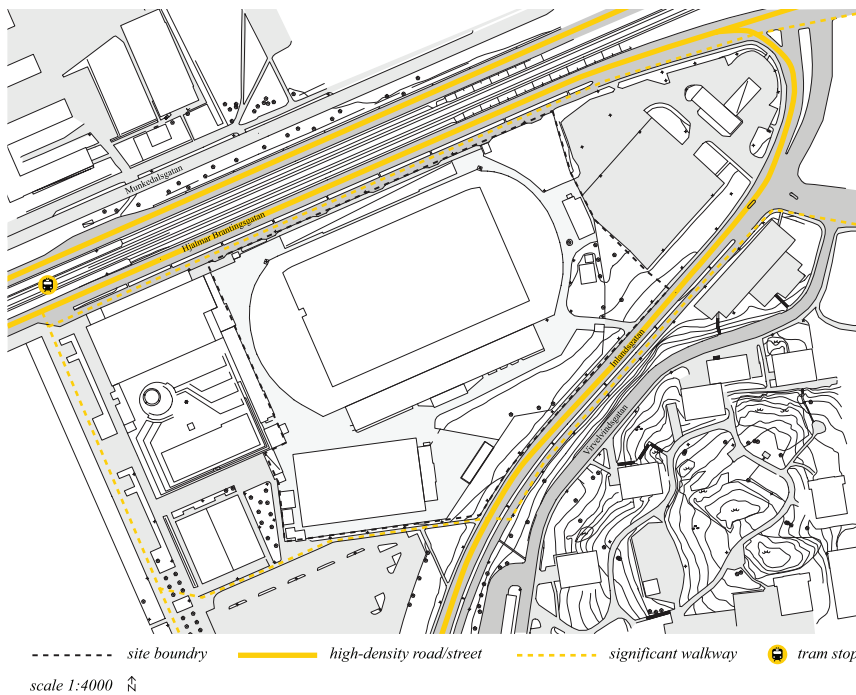
The lengthy mail correspondence between the club and the city suggested that the municipality on one hand understood the club's predicament and on the other hand didn't quite understand why a simple refurbishment of Rambergsvallen wouldn't do the trick. However, over time it would boil down to them possibly being willing to fund at least a portion of the project but it would, of course, have to be in a form where they would get the biggest return on their investment.

So if BK Häcken would want the City of Gothenburg to chip in their stadium design would have to be both affordable and reasonable when it comes to scale and function.



Rambergsvallen Stadium, 2009. Photo: Wikimedia Commons

THE SITE



The City of Gothenburg, Sweden, is a city divided by its vast harbor. Much of the city is on the mainland, south of the harbor, while the island of Hisingen is located north of it. Urban Hisingen is mainly focused along the water between the two large bridges that connects the island to the city on the other side and in a number of, more isolated and residential oriented, enclaves a little farther inland.

Rambergsvallen is located on, what you could describe as, the edge of urban Hisingen. Of course the city doesn't literally end there, but it shifts from a medium to low density urban sprawl with an increase in green areas; most noticeably the Ramberget Park which is located a few hundred meters due south from the stadium.

The site is virtually surrounded by roads and consists of the football stadium and an indoor ice rink, and is flanked by a public bathhouse, a fast food restaurant and a gas station.

The bathhouse offers one of few outdoor pools in Gothenburg and remains quite popular all year round while the ice rink suffers from both low utilization and various maintenance needs. The restaurant and gas station enjoys a steady flow of customers, as such establishments tend to do.

Hjalmar Brantingsgatan to the north is a medium traffic road that connects the large residential areas of Biskopsgården and Länsmansgården to the central parts of Hisingen and after that Gothenburg City Center. The road is also the second largest connection between the two bridges (and the tunnel) connecting Hisingen to the rest of the city. Gothenburg tram lines 5, 6 and 10 run on tracks between the east and west bound car lanes.

Inlandsgatan is a relative small street that connects Hjalmar Brantingsgatan with the various residential areas to the south, but more importantly (in this context) also connects it to the larger Lundbyleden - Hisingen's main thoroughfare. It has therefore come to act as a short cut through aforementioned residential areas and sports a higher traffic volume than it otherwise would.

The site is still located in an area with relatively little action, but together these two streets supply it with a high number of people passing by on a daily basis.

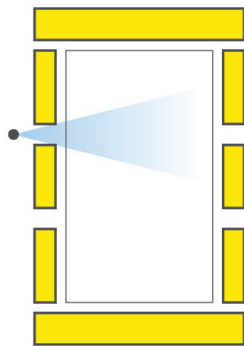
THE CONCEPT

Size

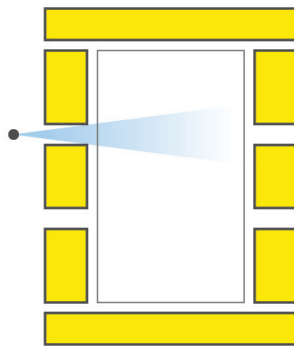
In order to apply concept, first we have to address the issue of scale. Football stadiums, of course, come in all sizes and shapes; ranging from a few dozen spectators on a grassy mound to the massive roofed 100,000 spectator arenas like Wembley Stadium in London or AT&T Stadium in Dallas. According to both BK Häcken and the City of Gothenburg a seating capacity of anything from 7,000 to 10,000 people is a reasonable size for a club like this and, with attendance average (ca 2,000), record attendance (ca 8,000) and plausible future growth in popularity and attendance taken into account, one would have to agree. So let's set the size to just short of 10,000 seats.

Utilizing the strengths of the site

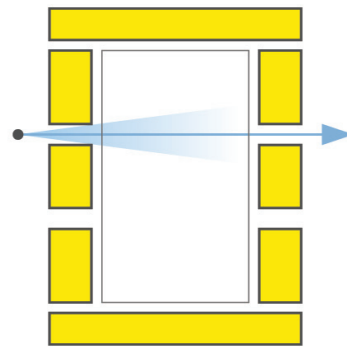
With so many people passing by the site on their way elsewhere the first step in developing a concept would have to be to make passers by curious and wanting to visit (assuming that existing fans would find their way there anyhow - you don't not have to preach to the choir). Apertures in the stands of the stadium would allow passers-by to catch glimpses of what's going on inside (pic. 1) and hopefully make them want to come in or, at the very least, come back.



Pic. 1



Pic. 2

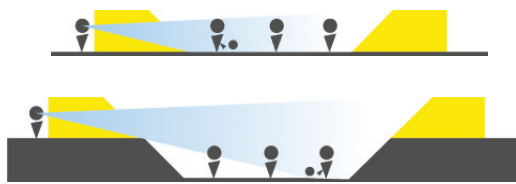


Pic. 4



These apertures would have to be deep enough (pic. 2) to partially shield the view so that it wouldn't be an alternative to stand outside and watch rather than pay admission to sit inside.

By lowering the pitch (pic. 3) the view would still just be a momentary glimpse but offer a more easily grasped view of the game from an angle familiar to us from both live games and television. In addition a hole-in-the-ground design would evoke a sense of anticipation and hopefully desire to explore in much the same way an old ruin would. And which football club wouldn't want their home stadium to be the Coliseum?



Pic. 3

Carefully aligning the apertures on opposite sides would, together with the lowered pitch, create unobstructed sight-lines through the structure (see previous page, pic. 4). With the depth that we added to the apertures this is only visible only when standing right in front of one. The close, perceived, interior of the stadium and the distant, yet distinct, focal point utilizes the effects of what is known in art and design as negative space, where you emphasize something by not showing it. In this case it's even a double negative as the view on the other side of the stadium is emphasized by the stadium itself (and the narrow sight line) and vice versa. Another example of this is landscape artist Michael Heizer's 1969 aptly named artwork Double Negative in the Nevada Desert.

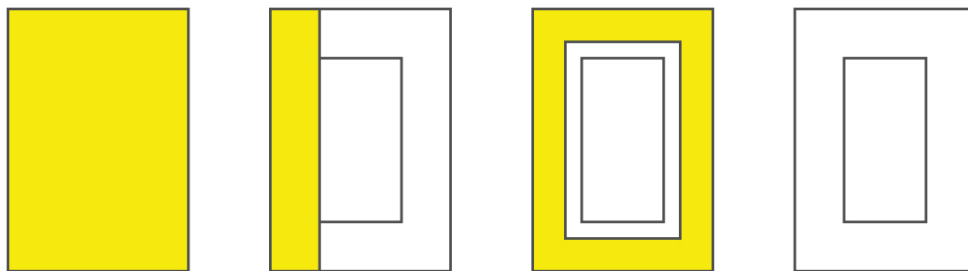


Left: The Coliseum, Rome (photo: Lush Wallpapers), right: Double Negative by Michael Heizer (photo: Kari Kjosnes)

To further heighten the effects of the apertures they are made to completely divide the stands, as opposed to just being wide doorways. This allows for greater views of the audience on the opposite side, which in it's own sense is just as big an attraction as what goes on down on the pitch as it is the one aspect of the game you can't enjoy to the same extent if you watch a football game on television. Also the facades facing the street is kept as closed and minimalistic as possible in order to emphasize both the apertures, the hole-in-the-ground effect and the "modern ruin" analogy.

Additions

As mentioned in the previous chapter (BK Häcken, the old and the new) economic feasibility is of the utmost importance to the club and potential investors. The single most expensive feature of any stadium is the roof. Somewhat simplified the different roof options are full coverage with retractable roof over the pitch, roof over all stands, roof over one or just a few sides of the stadium, roof over the top stands and last and least - no roof (pic. 6)



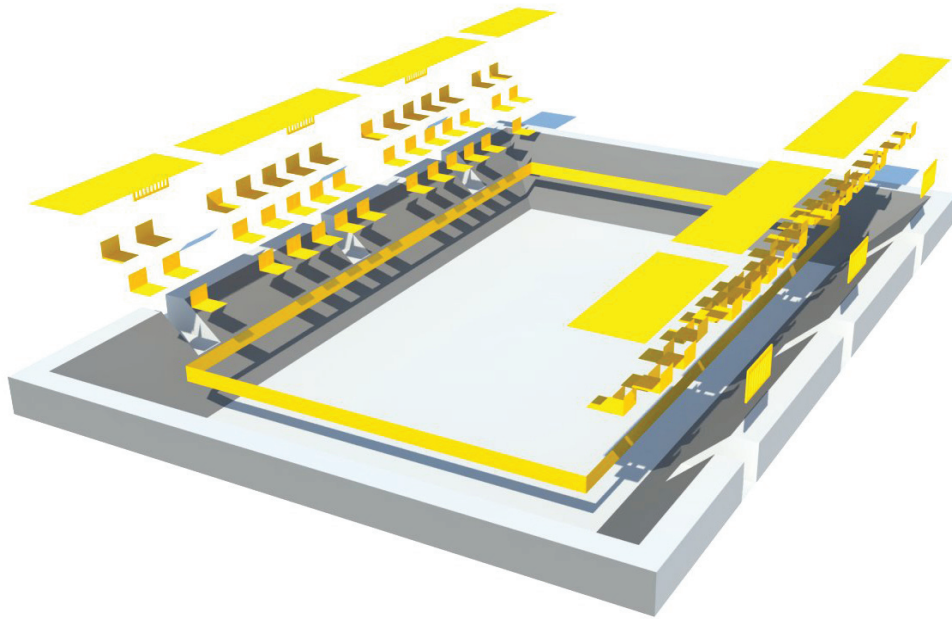
Pic. 6. Roof variations

Keeping in mind that BK Häcken is a team that today has relatively few spectators, that the stadium should be cost efficient and that it's feasible that the roofing could be added at a later stage the most reasonable option would be the Option C - roof over the uppermost tiers of the stands.

Arenas and theaters of the ancient world (most notably the Coliseum in Rome) would often have textile roofs mounted on the top of the stands or on the back wall. Then, of course, to shield the spectators from the sun, but with modern technology the same principles could be applied to also shield against rain; a high-end awning of sorts.

Arguably this type of solution works poorly, and would perhaps even have to be retracted, when the rain is combined with wind, but in an arena where the wind tends to move in a circular fashion together with the limited size of the roof in this example you would get limited shelter even with a fixed roof. Add to that the factor that during a regular season there would only be an average of less than one match played in the stadium per week and we'll see that this solution should, statistically, be equally functional to a fixed roof of the same size at most games.

With this as a starting point, the concrete structure that is the tiers, the underlying facilities and the back of the stands (with whatever we place there) is kept as a separate unit, and everything else - seats, roofs, railings, gates etc - are added onto, rather than integrated into that structure. (pic. 7) Once again - a hint towards ruins and historic landmarks where you make the site more accessible to visitors by making carefully considered additions like railings, pathways and so forth on or around the old structure, not by rebuilding it.



Pic. 7



Sun screens on the Coliseum, Rome (photo: Wikimedia Commons)

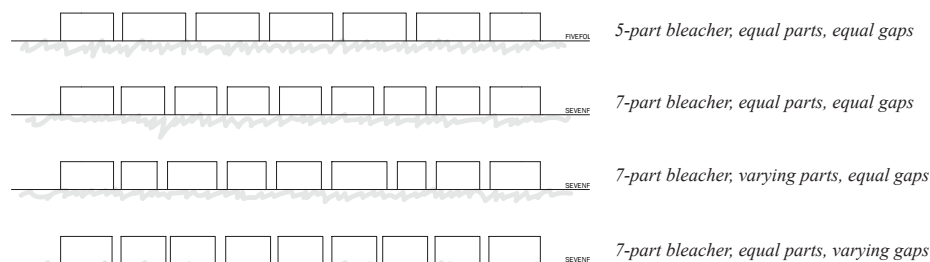
METHODS OF DESIGN

The project started with me working with the design of BK Häcken's new Headquarters and Training Facility Gothia Park Academy at the office where I did my internship. I heard that they had dreams of a new football stadium and acquired their program from them. The project caught my attention and the Gothenburg Parks & Receptions department was kind enough to lend me plans of the existing stadium and also copies of the mail correspondence between the club and the City of Gothenburg - a solid foundation for any project.

Step 1: As I wanted the project to be both economically feasible, sustainable and to keep an industrial feel to keep with the spirit of Hisingen and the closeness to the harbor, I started out by reading the book *Cradle to Cradle* by William McDonough and Michael Braungart.

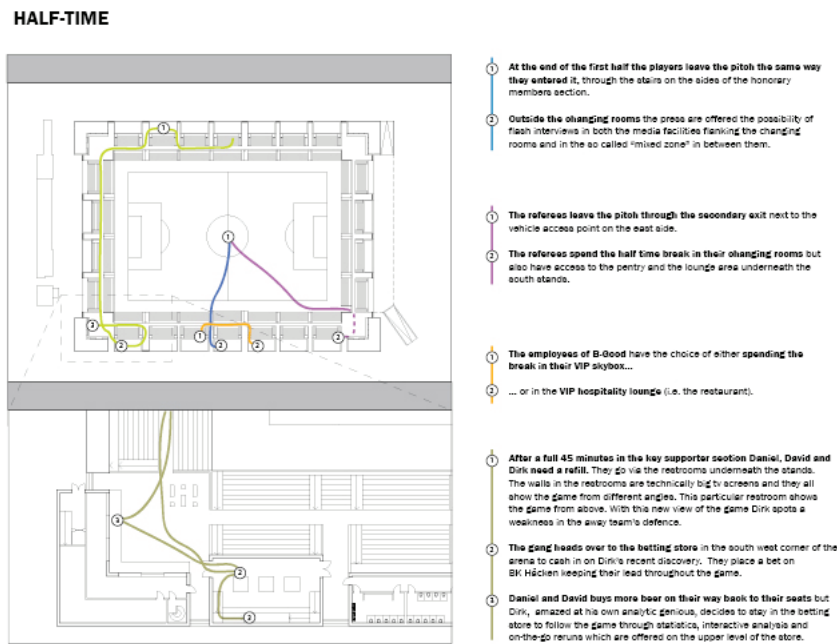
From this a whole range of ideas sprouted - everything from designing with shipping containers to utilizing the massive Eriksberg Shipyard Gantry Crane as a means to pull a retractable roof over the arena. Most of the ideas proved to be more symbolic in nature, and were discarded as they would never be able meet the economy or sustainability criteria I had set up. The ideas from the book did however survive in many of the details of the project (see page 20).

Step 2: Having gone over the program and the conditions of the site again the idea of apertures and sightlines was born. To explore this further I made a series of clay models in various scales. This resulted in the lowered pitch, the varying aperture widths and, of course, the general scale of the structure (the pitch itself was obviously fairly fixed size-wise already to begin with) and how many apertures were optimal and so forth (pic. 8). The medium of clay was, probably, also the seed from which the analogy of the modern ruin initially sprung.



Pic. 8. Facade variations

Step 3: I then sat down and thought up a number of different scenarios, or choreographies, based on what I wanted from the experience. Patterns of how people (both spectators and participants) would move around and what they would see when took form. A football arena is after all, in a sense, a theater of sorts. (pic. 9)

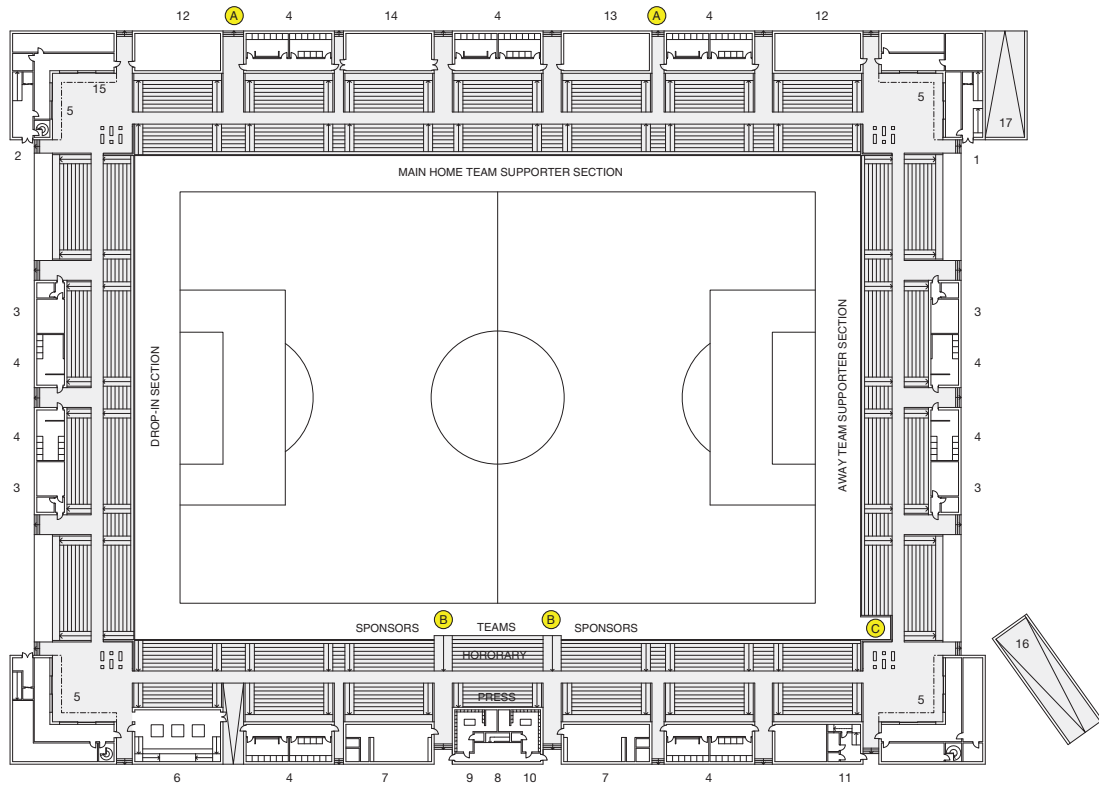


Pic 9. Example of a choreography work-flow

Then the more detailed plans were developed from these patterns.

Note: parallel to the rest of the design process I also got interested in different technical solutions (which are not included in detail in this report) regarding the future of live broadcasting etc. It is not architecture per se, but it is present in the underlying textures of various technical solutions in the stadium (for instance in how one is able to follow a game even when visiting the lavatories or the bar etc).

FLOOR PLANS - ENTRANCE LEVEL



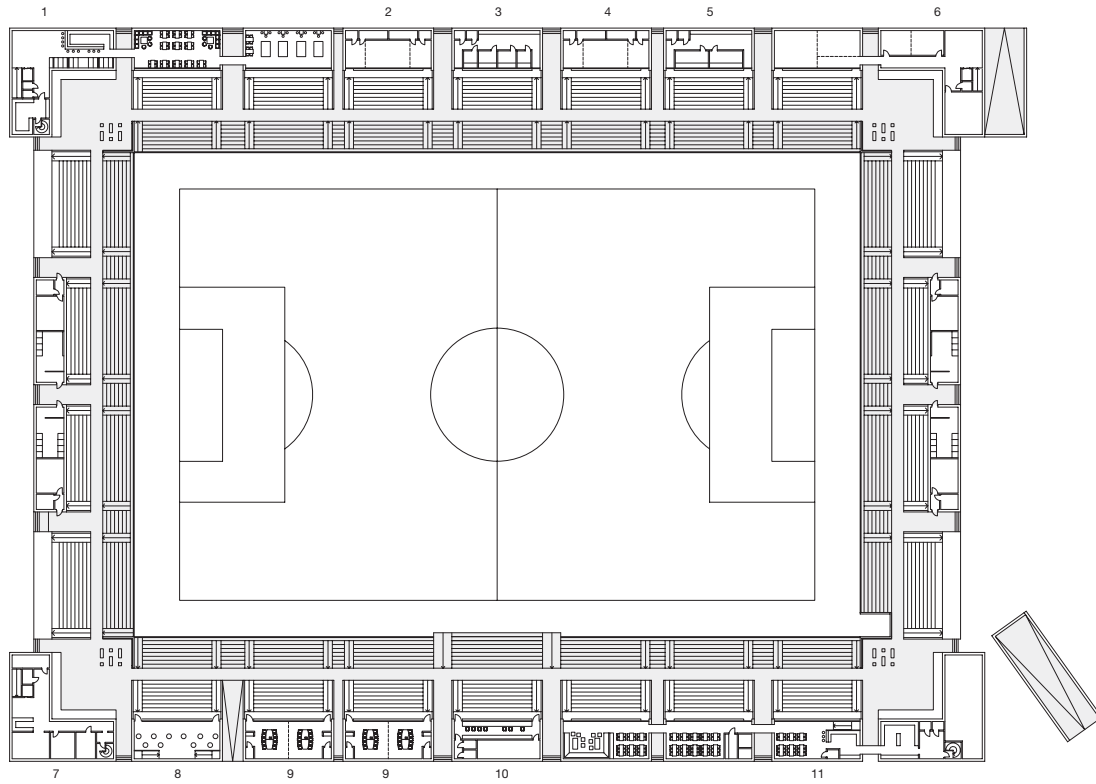
A ENTRANCE APERTURE
DIFFERENT WIDTHS TO CREATE
DIFFERENT TYPE OF VIEWS DEPENDING
ON WHICH ONE YOU LOOK IN THROUGH.

B PLAYER ENTRANCE
THE PLAYERS ARE PRESENTED AND
ENTER THE PITCH VIA THE STAIRS IN
THE MIDDLE OF THE STANDS RATHER
THAN COME MARCHING OUT OF A DOOR
PITCH-LEVEL AS THE ROUTINE USUALLY
GOES.

C VEHICLE ACCESS
A GATE THROUGH WHICH LAWNMOWERS
AND OTHER VEHICLES USED FOR EVENTS
OR THE OCCASIONAL AMBULANCE CAN
ENTER THE PLAYING FIELD

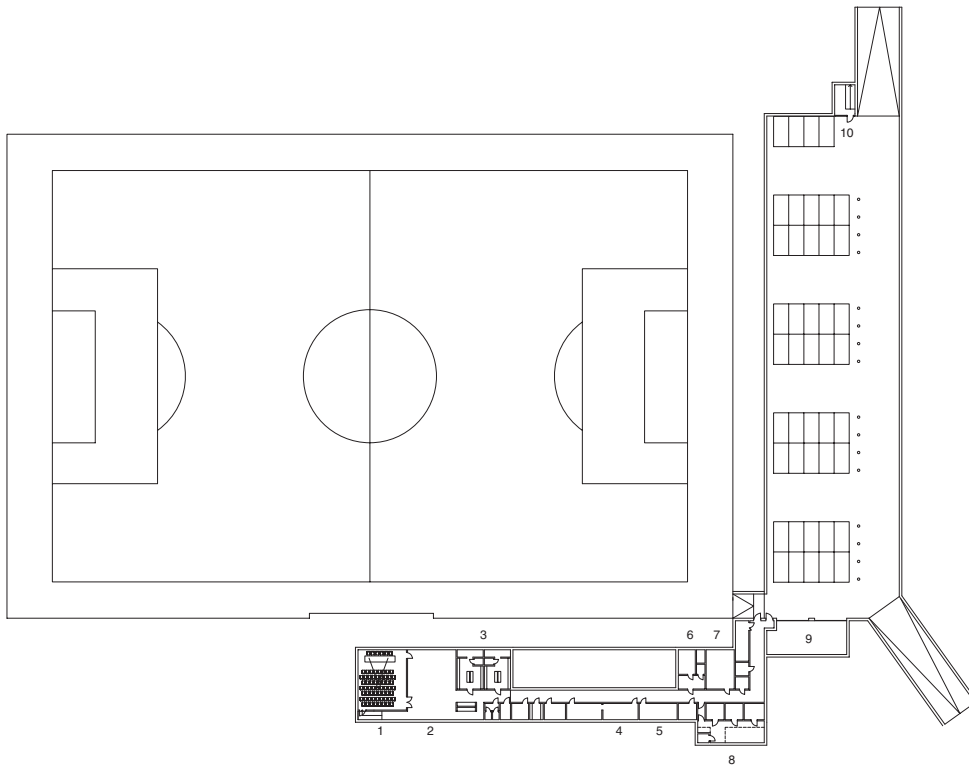
- 1 CONFERENCE ENTRANCE
- 2 PUB ENTRANCE
- 3 STADIUM HOST
- 4 LAVATORIES
- 5 SNACK BAR
- 6 BETTING SHOP
- 7 MEDIA
- 8 MIXED ZONE
- 9 HOME TEAM
- 10 AWAY TEAM
- 11 RESTAURANT ENTRANCE
- 12 STORAGE
- 13 MEDIA TECH
- 14 CHILD CARE
- 15 SOUVENIRE SHOP
- 16 GARAGE ENTRANCE
- 17 GARAGE EXIT

FLOOR PLANS - UPPER LEVEL



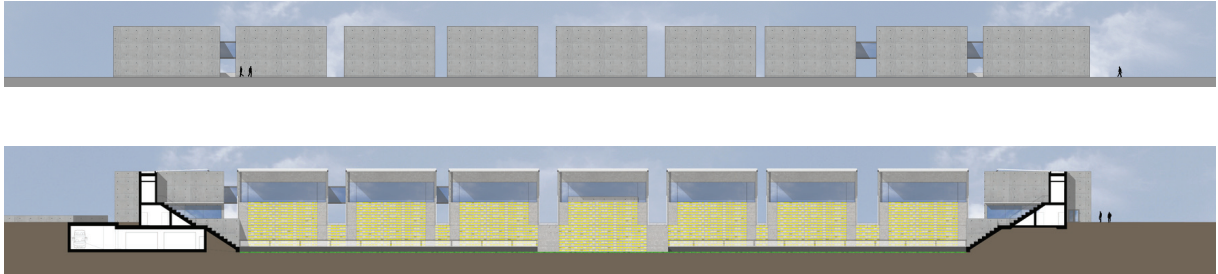
- 1 PUB
- 2 TV STUDIO
- 3 COMMENTATORS
- 4 FLEXIBLE STUDIO
- 5 TV PRODUCTION
- 6 CONFERENCE FACILITIES
- 7 OFFICES
- 8 BETTING LOUNGE
- 9 VIP SKYBOX
- 10 MATCH SECRETARIAT
- 11 RESTAURANT

FLOOR PLANS - BASEMENT LEVEL



- 1 PRESS CONFERENCE ROOM
- 2 PLAYER'S LOUNGE
- 3 ALT. DRESSING ROOMS
- 4 MATCH OFFICIALS
- 5 REFEREE
- 6 DOPING CONTROL
- 7 PHYSICIAN
- 8 RESTAURANT STORAGE
- 9 TRACTOR GARAGE
- 10 EXIT TO GROUND LEVEL

ELEVATIONS AND SECTIONS



Facade and long section. View from the north.

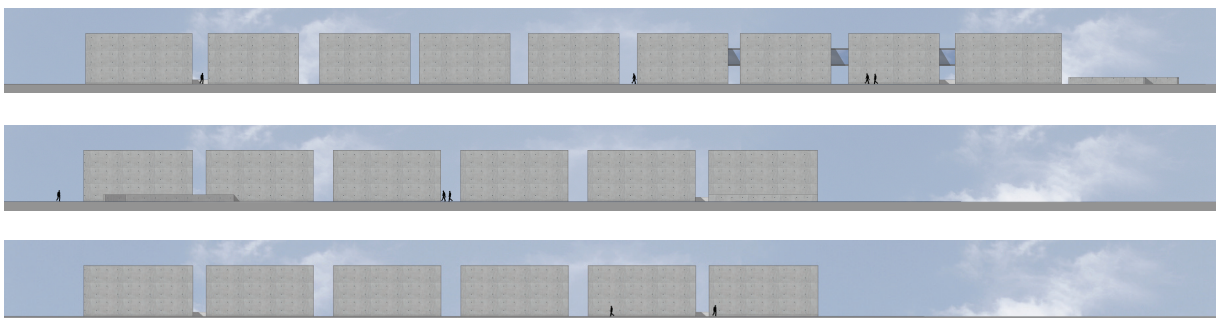
As shown in the elevations the exterior of the stadium is virtually windowless. The few elements that are not just concrete are a few doors and the glassed bridges that allows for the pub, the restaurant and the conference facilities to use more than one section.

This approach was chosen to heighten the tension between the inside and the outside; to maximize the effect of the passer-by who looks in through one of the aperture and catches a glimpse of what's inside. And, when designed properly, none of the functions in the arena stood to lose from this approach. Everything works just as well with windows only facing the pitch.

On the other hand one could argue that it's the gaps between the concrete blocks that are the windows seeing how the *inside* of the building isn't necessarily *indoors*.

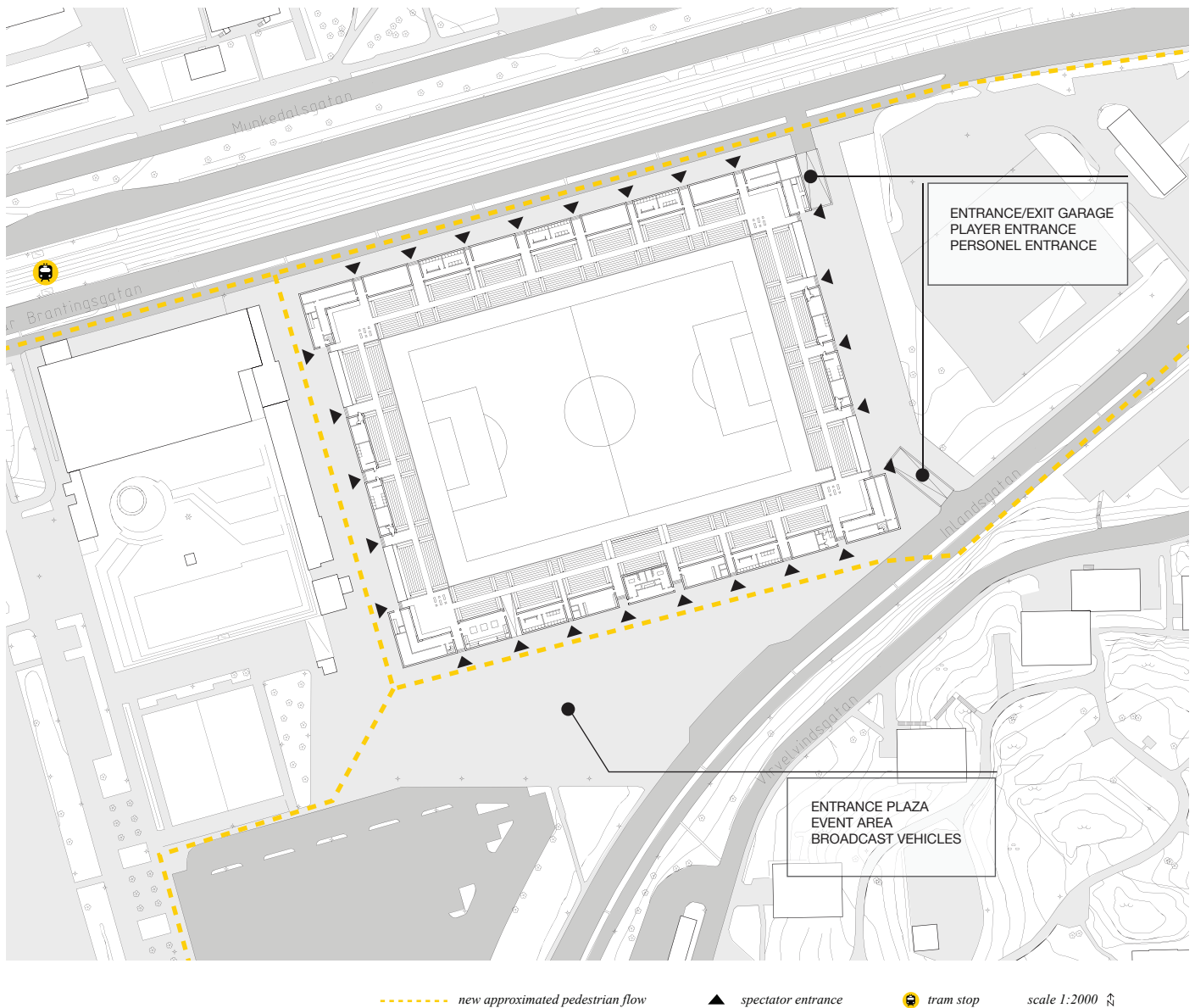


Cross section. View from the west.



Facades as seen from the south, east and west, respectively.

SITE PLAN



With the old skate rink removed down new possibilities open up for the New Rambergsvallen. First of all you now get an entrance plaza to the south of the arena. Previously there has been enough room to meet up your friends, but anything more than that had to go elsewhere. Now there is sufficient room for sponsor events, food trucks, bouncy castles or whatever you fancy having there to heighten the experience of going to a BK Häcken football match.

The entrance plaza also doubles as parking for extra broadcast vehicles for international fixtures.

Most other media vehicles, player buses and cars of match officials use the garage underneath the east stands. The players enter directly from here into the stadium via the basement level underneath the south stands and up to their respective locker rooms. The garage is also where maintenance vehicles (lawnmowers, small tractors etc) are kept and through which ambulances and other vehicles can reach the pitch.

Another perk of the new layout is how people move around the arena. With today's layout people are removed by quite some distance from it, having to round the Lundbybadet Bath House to reach the south entrance from the tram station on Hjalmarbrantingsgatan. Now people are able to walk right next to the stadium, and will probably do so as new desire lines are likely to form as new possible shortcuts open up for pedestrians and bicyclist in the area.

These new walkways are of gain both to the neighborhood itself, making the tram stop more accessible, and for the arena which gains in accessibility and visibility. It's easier to advertise itself when people actually see it, and can look inside.

THE DESIGN

At the current Rambergsvallen people never were that close to the actual stadium. There was either a distance between the perimeter and the building or, on the north side, a tall wooden fence separating you, as a passer-by, from what's inside.

With the new design you are now able to walk right up to the stadium and with the variable width of the apertures and the transparency of the building, as discussed in Chapter 3: The Concept, you get different views and different type of views depending on which aperture you're looking in through. When passing the entire length of the structure you get to experience a (slow) slide show of the action inside.

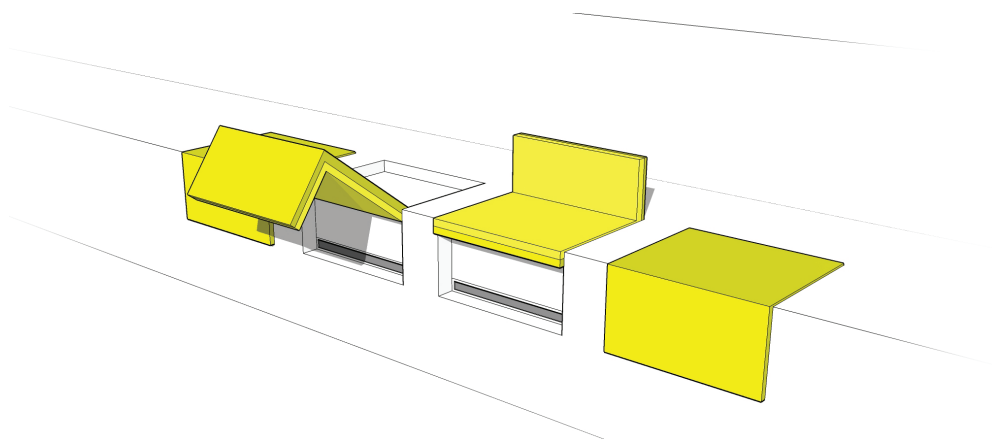
This effect works both ways, in a sense. When seated in the arena you get just a hint of contact with the outside world. While you can see all the apertures you can only look out through one or two of them because of their depth and since you see them all from an angle and not directly ahead. But in the event of, for instance, an ambulance arriving at the arena you can follow it's blue, flashing lights aperture-by-aperture as it drives round the outside of the structure.

The different apertures can of course be closed or opened to allow for different uses of different parts of the arena.

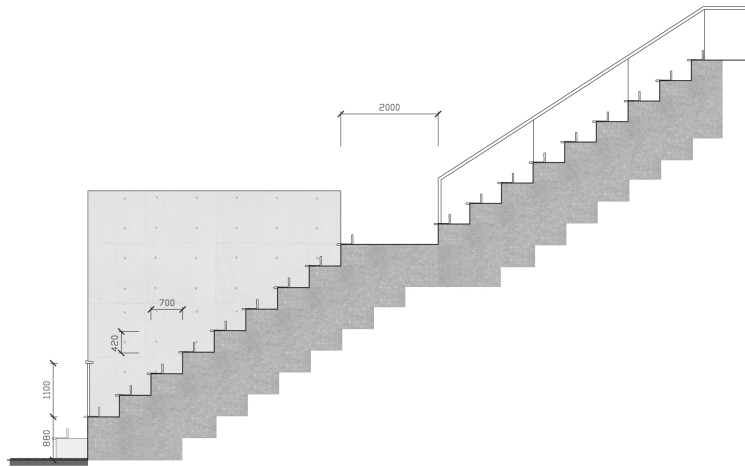




The angle of the bleachers are calculated for maximum gradient without there being danger of falling down and where you're still able to climb them without using the stairs. When 10,000 people are to vacate a stadium a lot of them tend to take the more direct route down the bleachers than in orderly lines horizontally and then down the stairs in orderly lines. To further assist this the New Rambergsvallen have fold away chairs where the back of the seat is neatly folded down against the bleacher when not used. As a bonus the seat itself is also protected from the weather. The construction is simple pull-lift design (pic. 10).

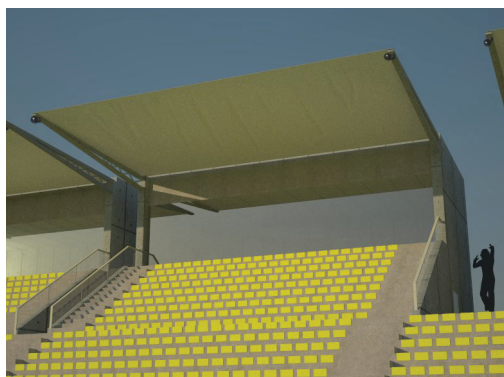
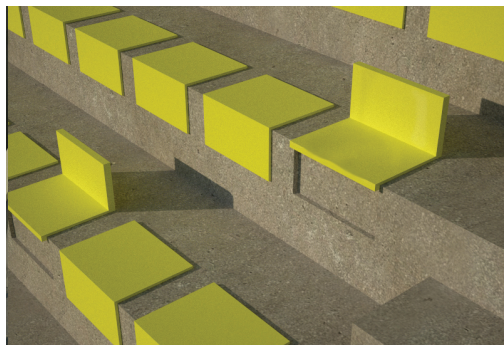
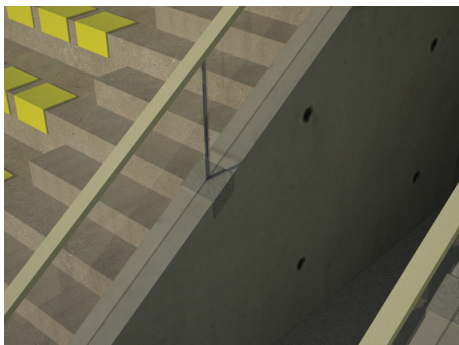


Pic 10. Stadium seat design



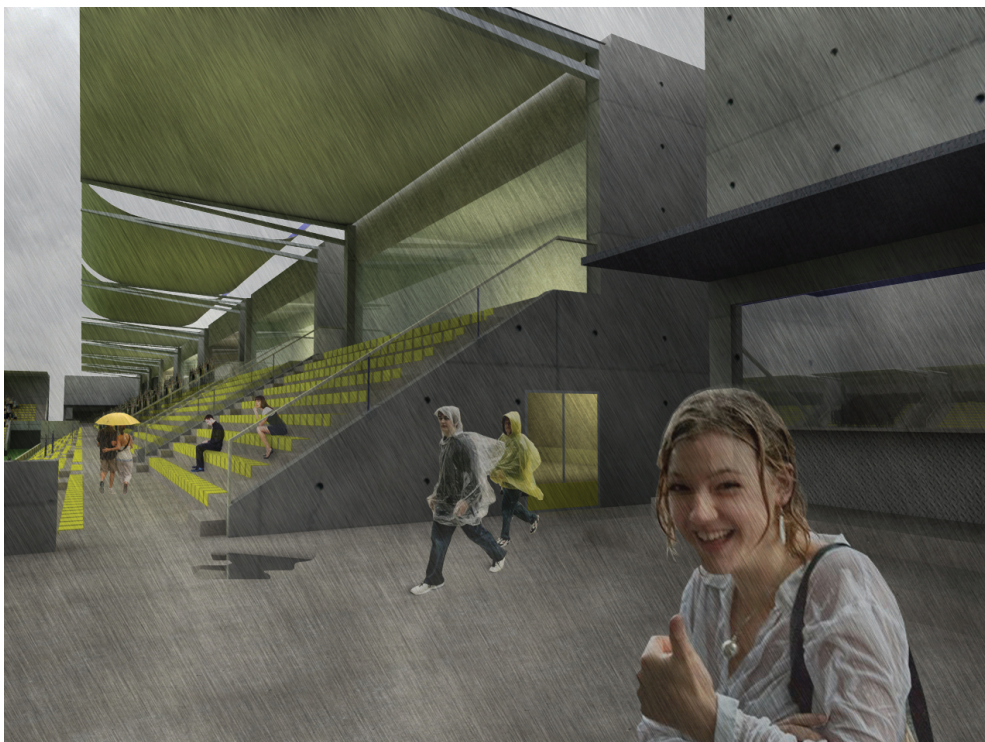
Pic. 11. Optimization of bleacher slope

The design is a continuation of the basic design idea of the addition of objects. Everything from the chairs to the railings to the simple awning-type roofs are designed with this in mind. The gates outside the entrance apertures are simple reclaimed sliding gates from the harbor container lots, mounted on the outside of the concrete structure (pic. 11).





As previously mentioned the roofs are just meant to protect the spectators from either sunshine or the occasional light-to-medium rainfall without too strong winds. In order to protect against an actual rainstorm the roof would have to be significant and would therefore break the budget by quite a bit. So in order to be able to focus on other qualities the roofs are kept at a minimum (with the option to be replaced by a bigger roof construction in the future). Until then, you might want to consider buying a poncho at the snack bar.



If you examine the floor plans you will notice that the section for honorary members continues down closer to the pitch than the other sections of the arena. This is because the teams are seated at the front rows of this section, rather than having separate bus shelter type construction for this. There are two reasons for this. Primarily it is a measure to make the team and home team supporters feel like one. In many larger stadiums the relationship spectator-player isn't much different from that of watching the game on television. The positive sides of having a smaller stadium should be utilized as much as possible. For player comfort there is the possible to erect a temporary roof over the team benches in case of bad weather.

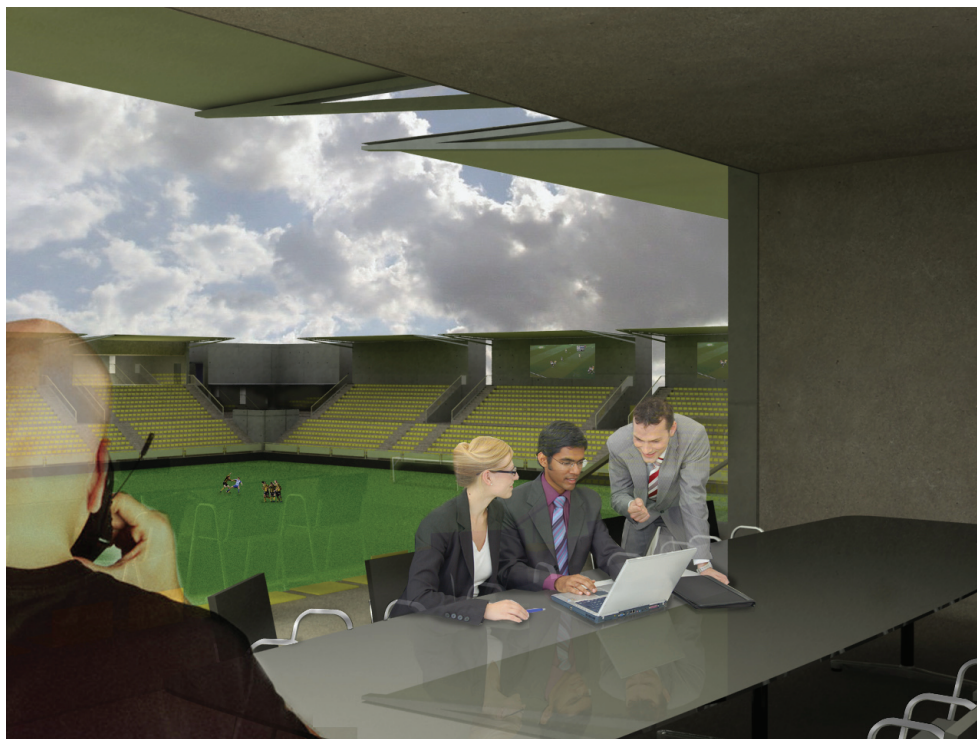
The other reason is an extension of the first; with the locker rooms for the two respective teams being located at street level at the back of the stands we now have the possibility to create a more interesting player entrance. Instead of the teams marching out through a door and onto the pitch they are now presented one-by-one coming down the stairs amidst the audience - more similar to when ice hockey players enter the ice or when boxers are presented. To ensure player safety the seats in this section of the arena is dedicated to honorary members, sponsors and the media.



The media of course have special needs at a venue like this one. They need special seats with tables and the possibility to quickly report news, a mixed zone for interviews, tv studios, commentator booths and a place for press conferences - among other things. Somewhat simplified all the parts of this that require direct, and on-the-spot, contact with the teams are on the south side of the arena (seats, interviews, press conferences) and the broadcasting side of things are on the north so that both commentators and the home viewers, through the main television camera, are able to see the teams on the other side and what goes on around them.



One of the main issues with the Rambergsvallen of today is the very limited opportunities for combining a football game with other activities. The only hospitality facility at the club's disposal is located in the nearby public bath Lundbybadet. With the new design you get both rentable skyboxes and a larger conference facility with adjacent seats on the bleachers outside in order to extend the operating hours of the arena. The two restaurants have a similar effect; they can work both in a hospitality function or simply to attract people earlier on game days or work separately from the football on any given night of the week.



As many people leave their seats during the game, either to relieve themselves from their pre-game refreshments or indeed to go have a new drink in the pub the New Rambergsvallen has taken measures for them not to miss out on any of the action. Digital projections create back-drops in both the lavatories and in the pub and ensure you don't miss that important goal or nasty tackle.

The only place where you, as a spectator, is not able to follow the game first hand, is in the child care on the north side of the arena.



LIFE

But what about when there isn't a game in progress? While it is, of course, desirable that the place is jam packed seven days a week that is simply not going to happen. With an average of one home game per week there are six days that you have to keep the structure alive with, more or less, off-topic activities.

The places that are able to draw people's attention on football free days are of course the conference facilities, the pub, the restaurant and to some extent the souvenire and betting stores.



In addition to, or in combination with, that there is the odd youth or cup match, other clubs that could lease the stadium and so on and so forth. But the activities don't all have to be inside the stadium for the place to be part of the community. There are countless buildings that are appreciated, even loved, by people who have never set foot in them and are considered an essential part of their respective town.

The building could even interact with people. With a circumference of around 500 meters, almost solely made up of raw concrete it would be naïve to think that the New Rambergsvallen wouldn't be subject to graffiti. One solution would be to constantly wash and remove the graffiti, but a less costly one would be to allow actual graffiti artists to paint over the elements that are unwelcome; gang-signs, profanities etc. To this you could add football-relevant art, or pieces of a more straight forward "Next game" nature that would serve as advertisements or just leave it as what it is; a half-kilometer of art (pic 12).



Pic. 12. Variations on graffiti cover-ups

THE RESULT

Regardless of what one choose to do about the likely graffiti this is what you get; an almost windowless structure that, at a first glance, appears to be closed and unwelcoming. But once you realize that it is the apertures that are the windows it becomes a slightly mysterious, yet inviting living structure that can be filled with life that contrasts to the naked and rather industrial exterior. A building that, even at a relatively small scale (for a stadium), has a sense of monumentality that echos past events and future achievements that will hopefully invite people to enjoy it in their own way.

The result lies, not so much in the building itself, but in the way it directs the experience of the passer-by or visitor to heighten the attraction of itself and the events that it hosts.



