

REBIRTH OF SCANDINAVIUM



Main Perspective
 New Tram Station Café Main Entrance A Pub/Restaurant Main Entrance B Tickets/Information

Chalmers University of Technology
 Department of Architecture
 Master Thesis in Architecture
 ARKX03 Autumn 2012
 Rebirth of Scandinavium
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The city of Gothenburg wish Skånegatan to be developed into an even stronger event area with a high concentration of all-day events. What is missing is a modern and efficient multi-purpose arena that meet all the wishes of sports federations in terms of audience capacity, communications and logistics.

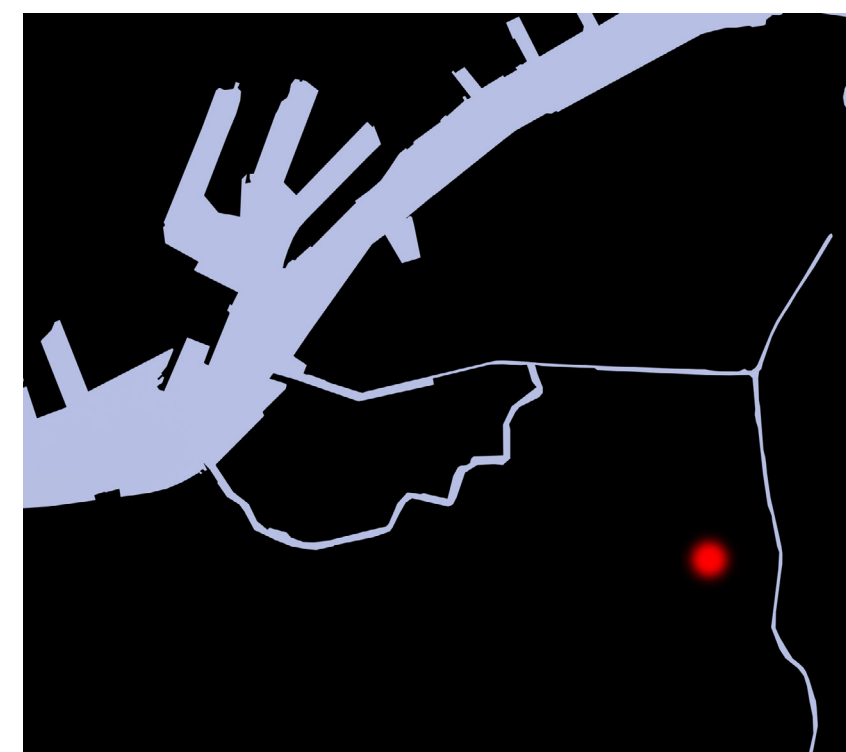
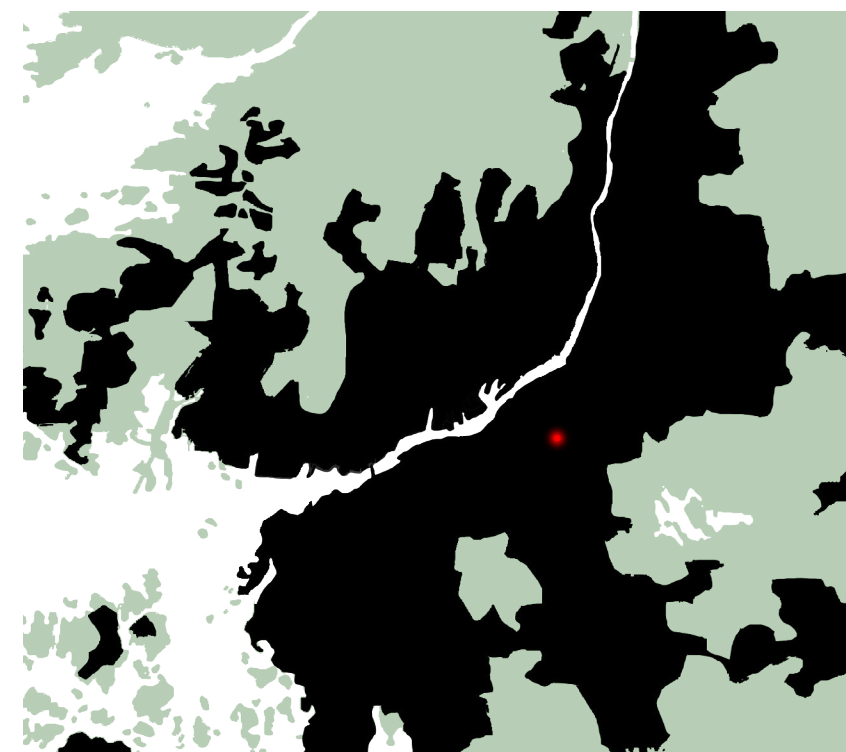
The idea around the event route is questionable - whether various events and facilities generate added value to each other. To gather more full-day facilities in one place creates a vacuum in the urban environment and today Skånegatan is a badly integrated city street.

The city wants a new stadium that will be part of a larger context - together with the Swedish Exhibition, Gothia Towers and Scandinavium. Several architects and city planners would like to see a new stadium along Skånegatan on current Burgård high school. An arena that allows for more vibrant urban spaces with commercial activity at street level, a pleasant promenade and a more city-like structure. Investigations have been made with regards to alternative locations. Four plots were under investigation - two of which proved to have better conditions than the other: the location of the current Burgården high school and Valhalla bath. The Valhalla IP and ICA Focus plot was dropped early in the investigation.

GotEvent advocates the Valhalla bath option where the strong points are the link to the Swedish Exhibition and current Scandinavium. The weaknesses are the retracted position, the difficulty for commercial operations and communications at Vallhallavägen.

Burgårdens highschool area has a stronger place in the urban space and allows for a well integrated urban arena and viable commercial activity at ground level. The weaknesses are communication and less synergy to the Swedish Exhibition Centre and the existing Scandinavium.

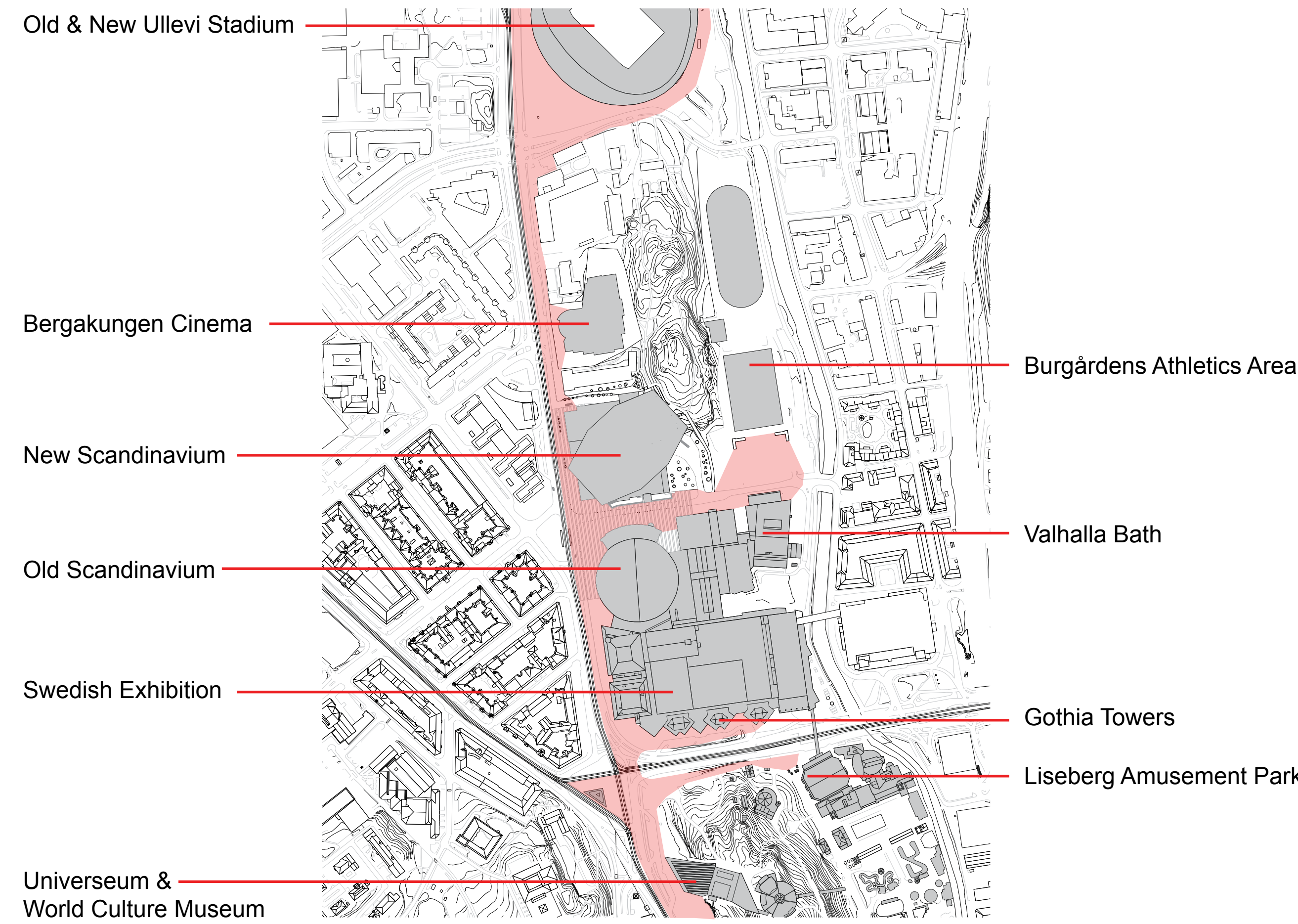
Gothenburg



View Heaven 23

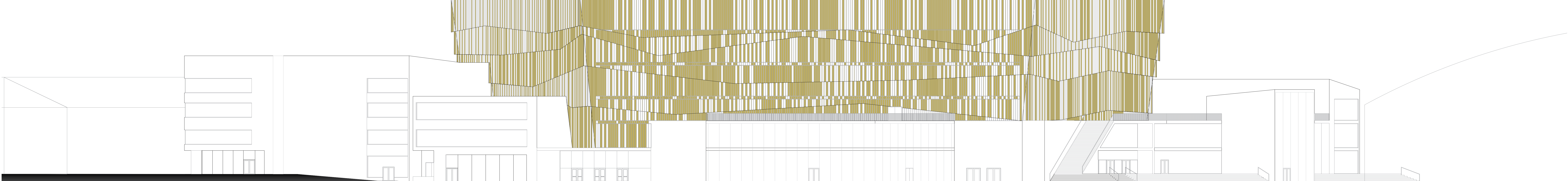


The Event Path
 Scale 1:5000
 0m 500m

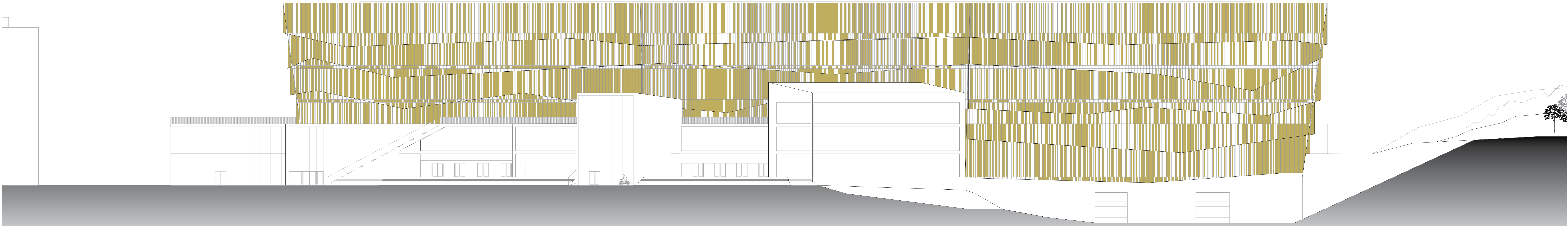


Situation Plan
 Scale 1:1000
 0m 100m





Facade South-West
Scale 1:200



Facade South-East
Scale 1:200
0m 20m

Grandstand Typology

There are two dominant arena structures; entre plan in the lower or upper part of the lower grandstand.

Typology 1
The advantage of having a public ground floor at the top of the lower grandstand facilitates a floor separating public spaces and business logistics. The downside is the expensive investments in ramps and height differences create accessibility problems.
Example: Small / Large Sports Palace, Rome, Oakland-Alameda County Colliseum, Oakland, Torino Ice Hockey Stadium, Turin.
This typology has been selected for this arena.

Typology 2
The advantage of having a public ground floor at the bottom of the lower grandstand, is accessibility and access to larger areas of commercial activity on the ground floor. The downside is operational logistics.
Example: JS Dorton Arena, Raleigh; Oita Stadium of Sports Park Oita, Oita; Lasasarre Football Stadium, Bilbao.

Diagram Grandstands
Typology 1

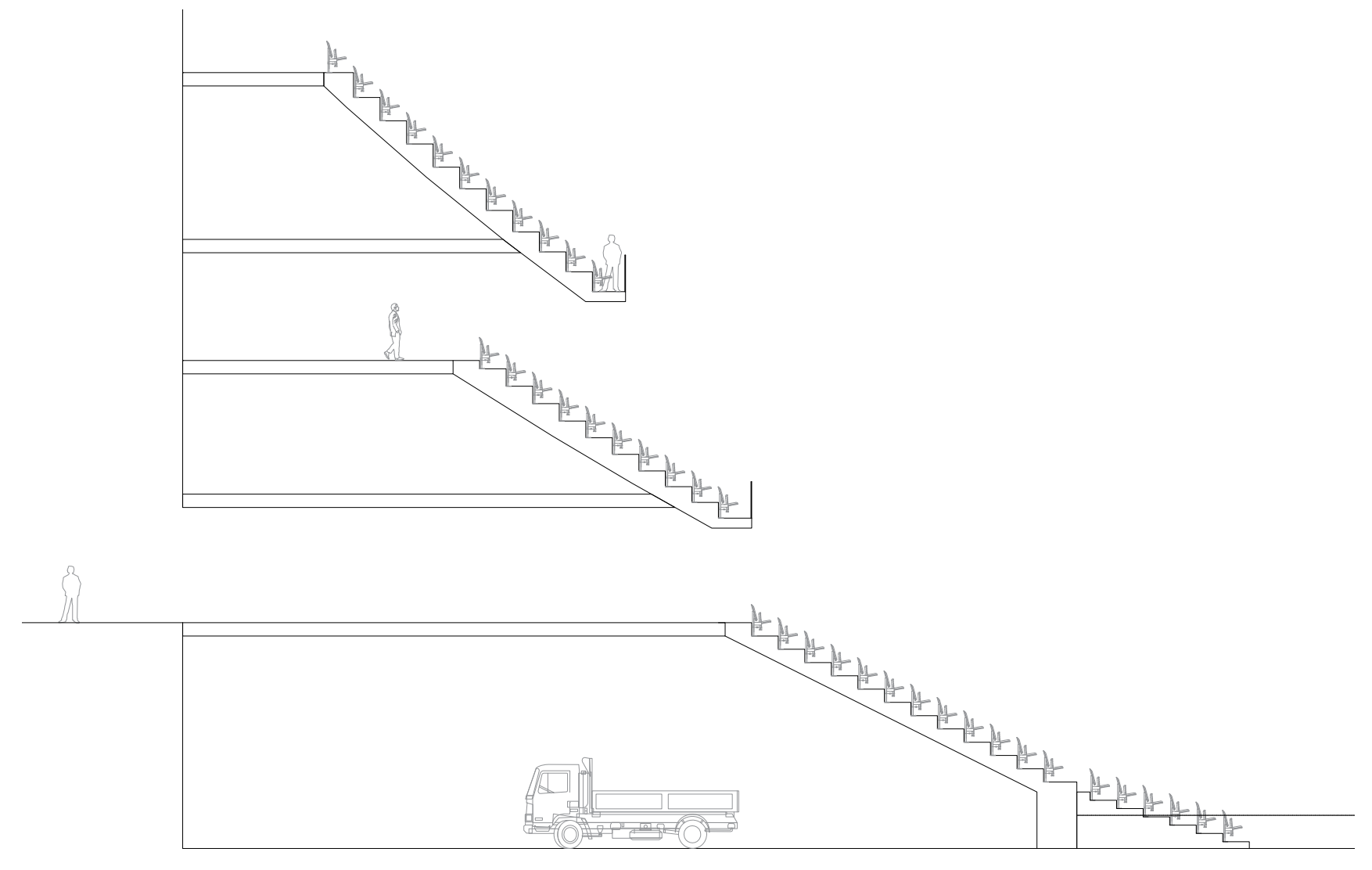
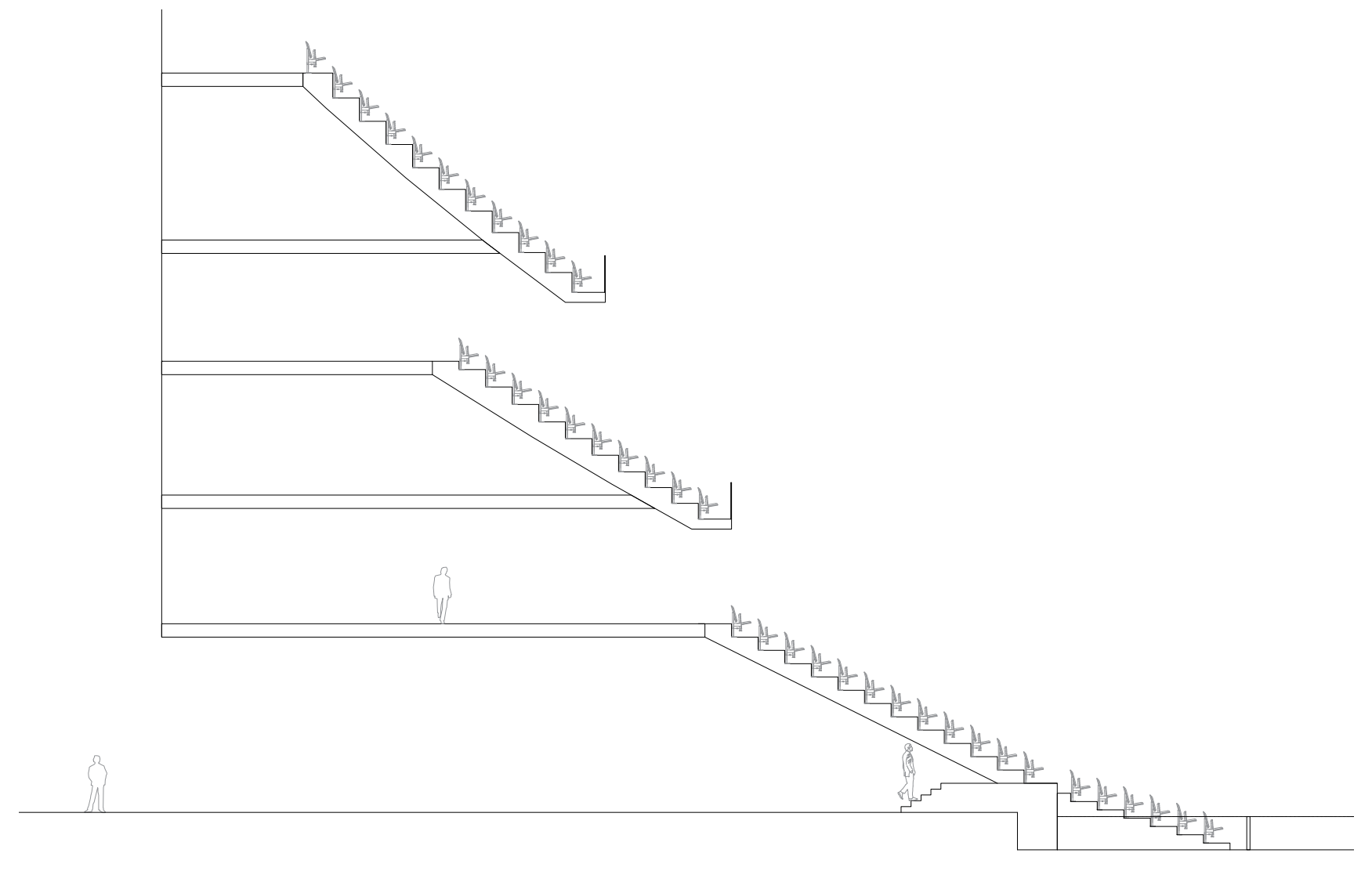


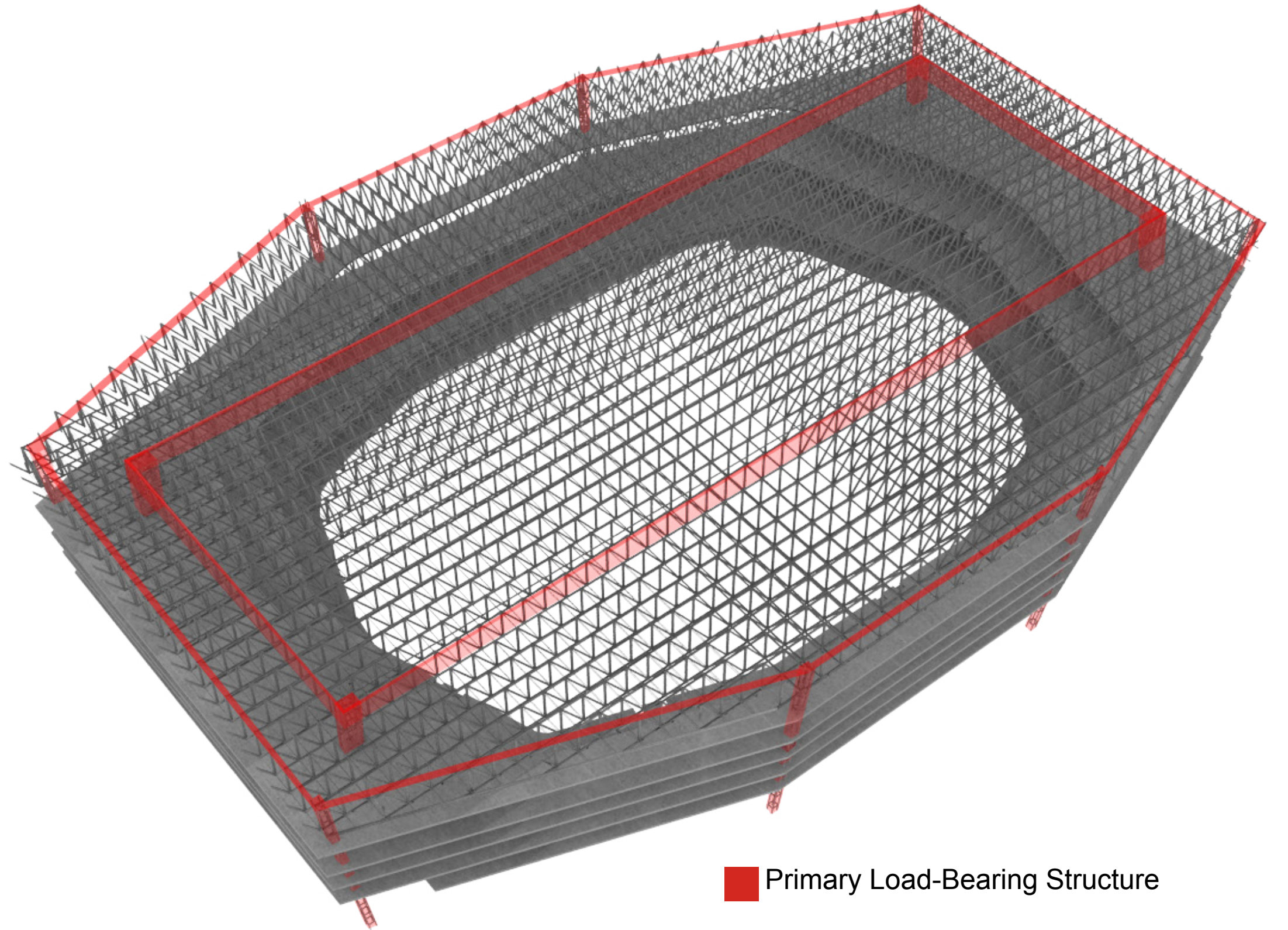
Diagram Grandstands
Typology 2



Roof Structure

The stadium's roof structure is a latticework to create generality and flexibility when load capacity of rigs is the same all over the ceiling. Space truss a clamping height of 4.5 meters to cope with distances up to 100 meters.

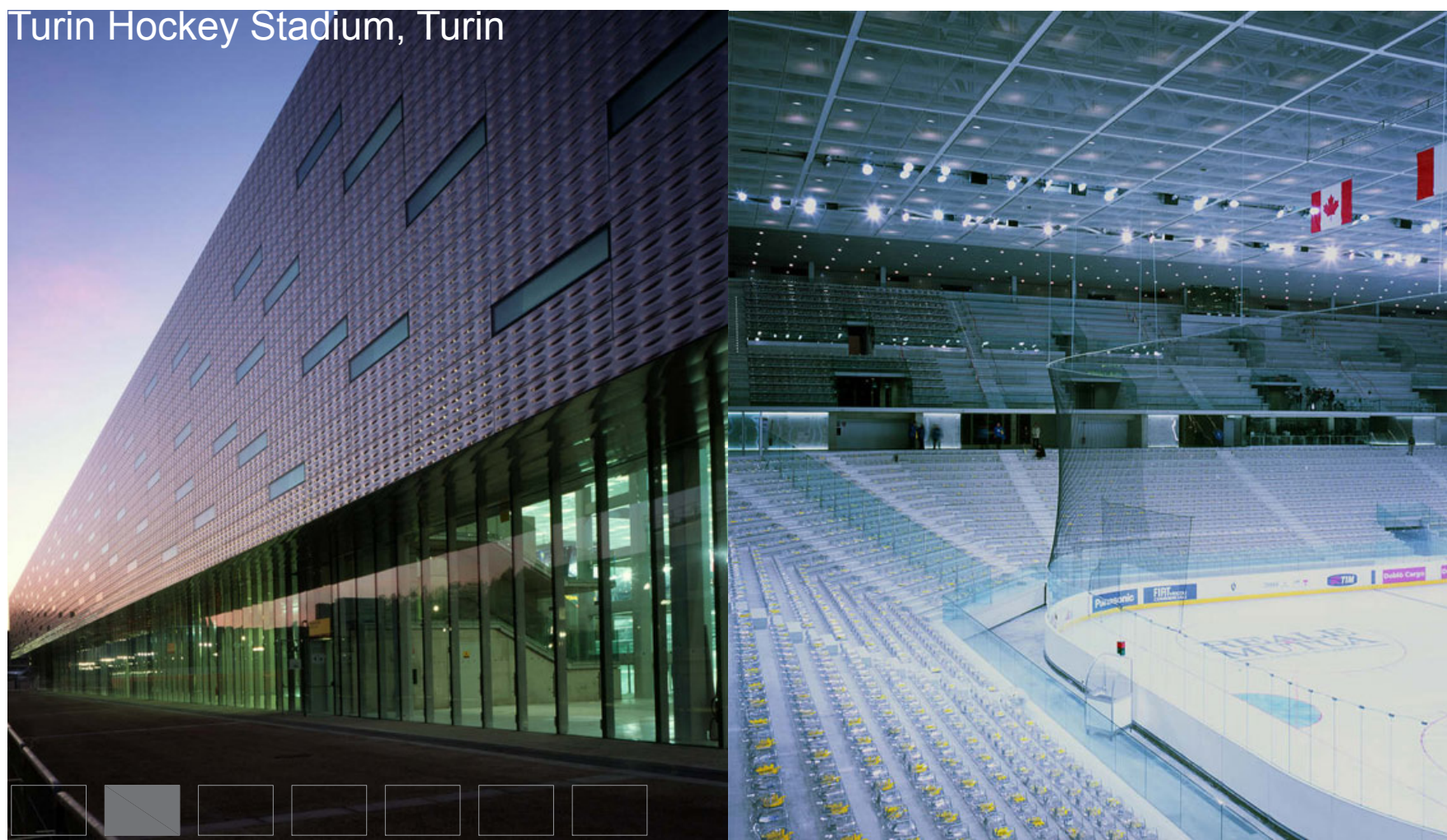
Pillars & Latticework



Primary Load-Bearing Structure

Structure

Space Latticework & Flexible Arena Floor



Appearance

Different Shapes In Different Light



Integration

Arena in the city

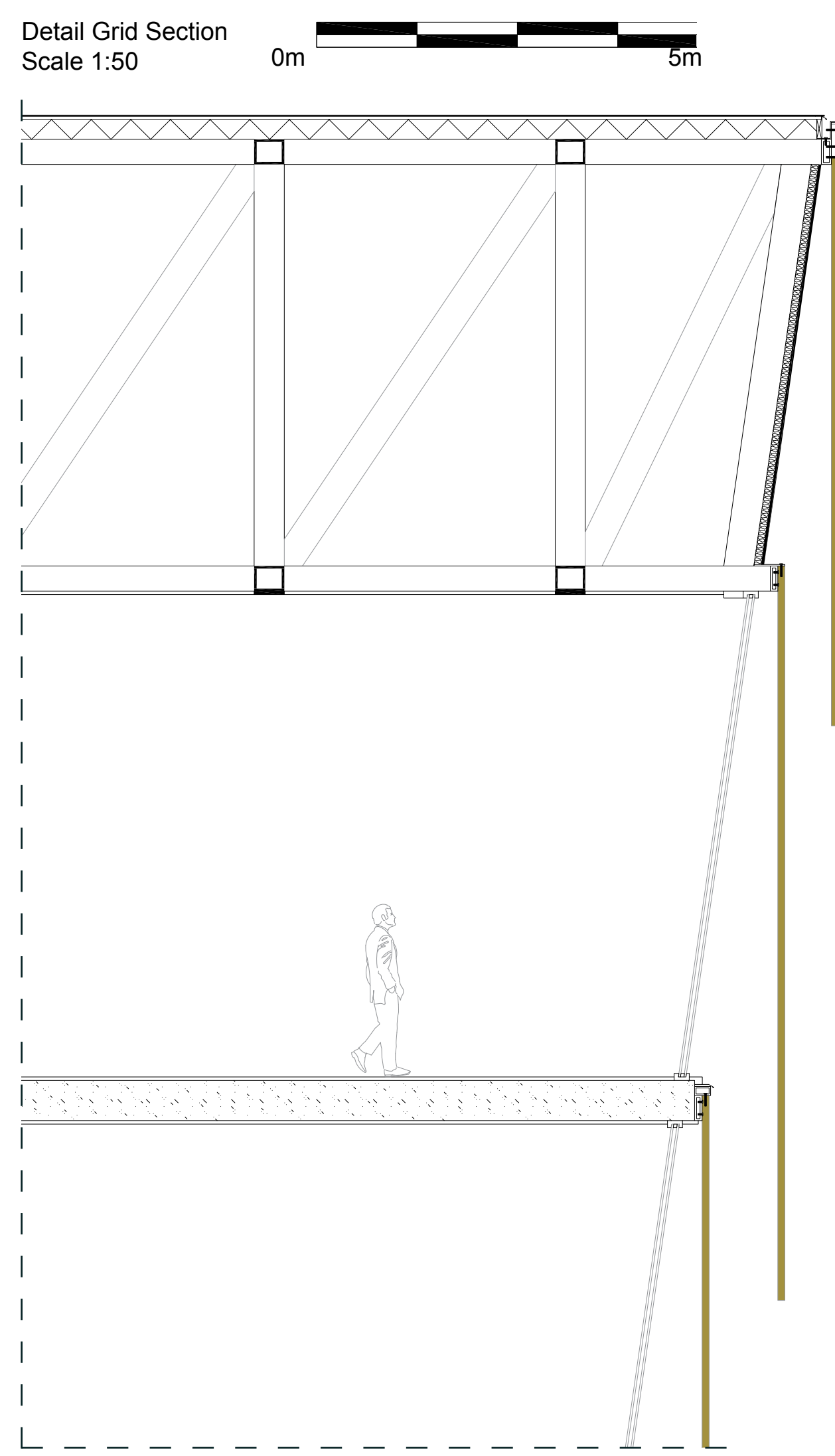


Facade

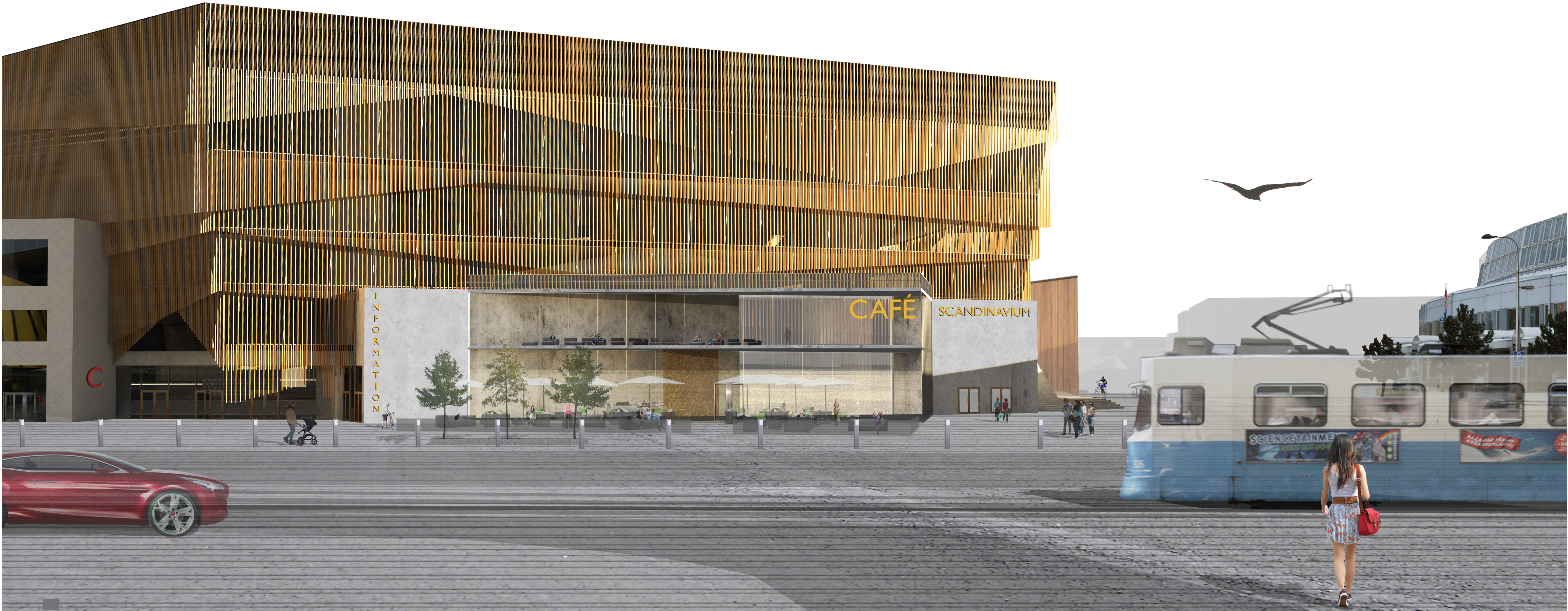
New Scandinavium has got an expression that deliberately breaks with the old Scandinavium more industrial and modest expression. It has features large open glazed sections, varying facades and and exclusive materials.

The octagonal arena room has a facade that strongly violates its surroundings. From the gently sloping walls, a diverse and evolving grid of brass oxidized aluminum. During the day the facade unites into a shining whole, while during the night it reveals the inside of the stadium through the fully glazed scene. The different layers of grids brings a feeling of depth and breaks down the scale.

The dimensions of the grid is 50 mm x 50 mm and are placed on CC 300 mm.

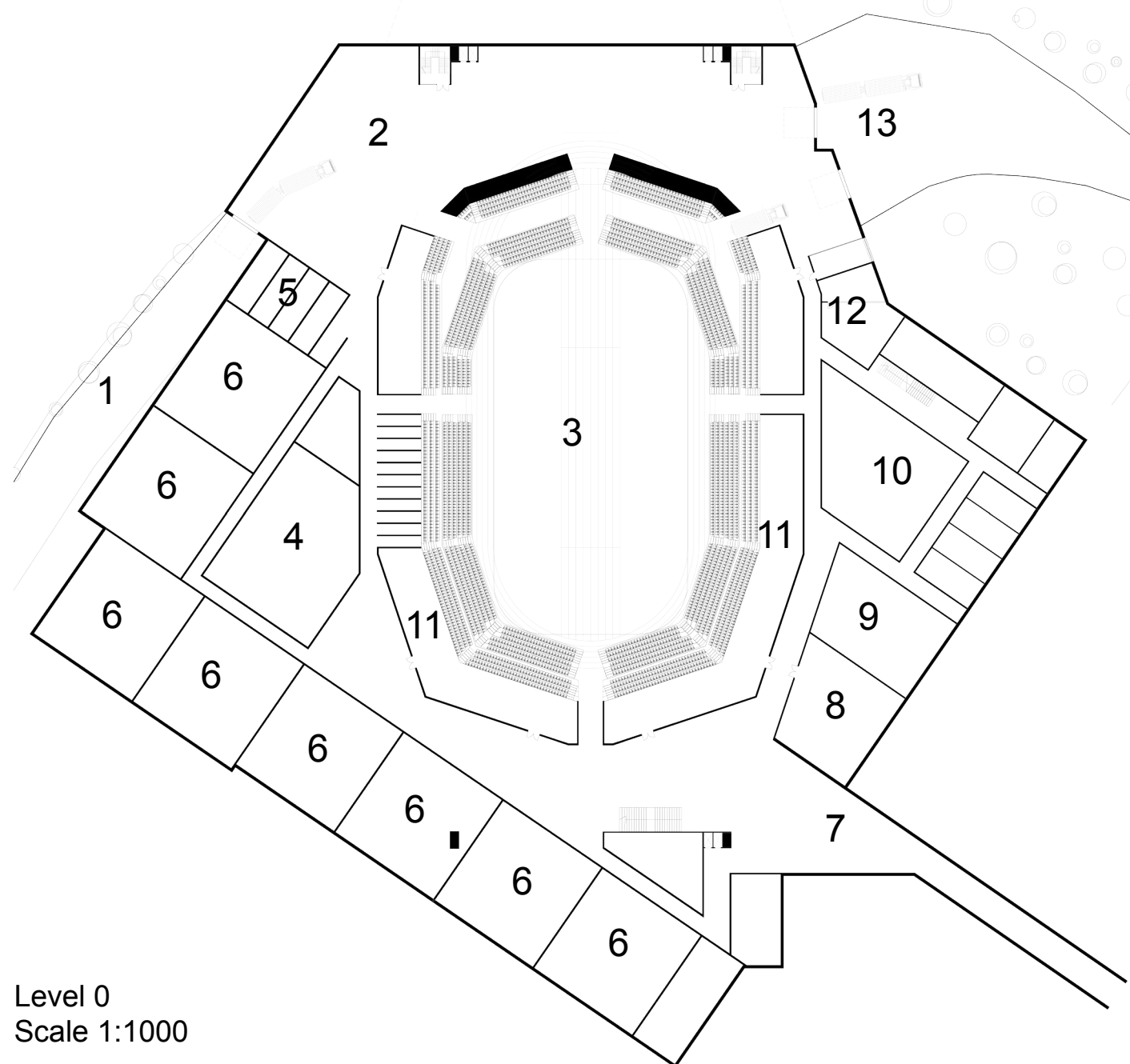


Perspective from the Square



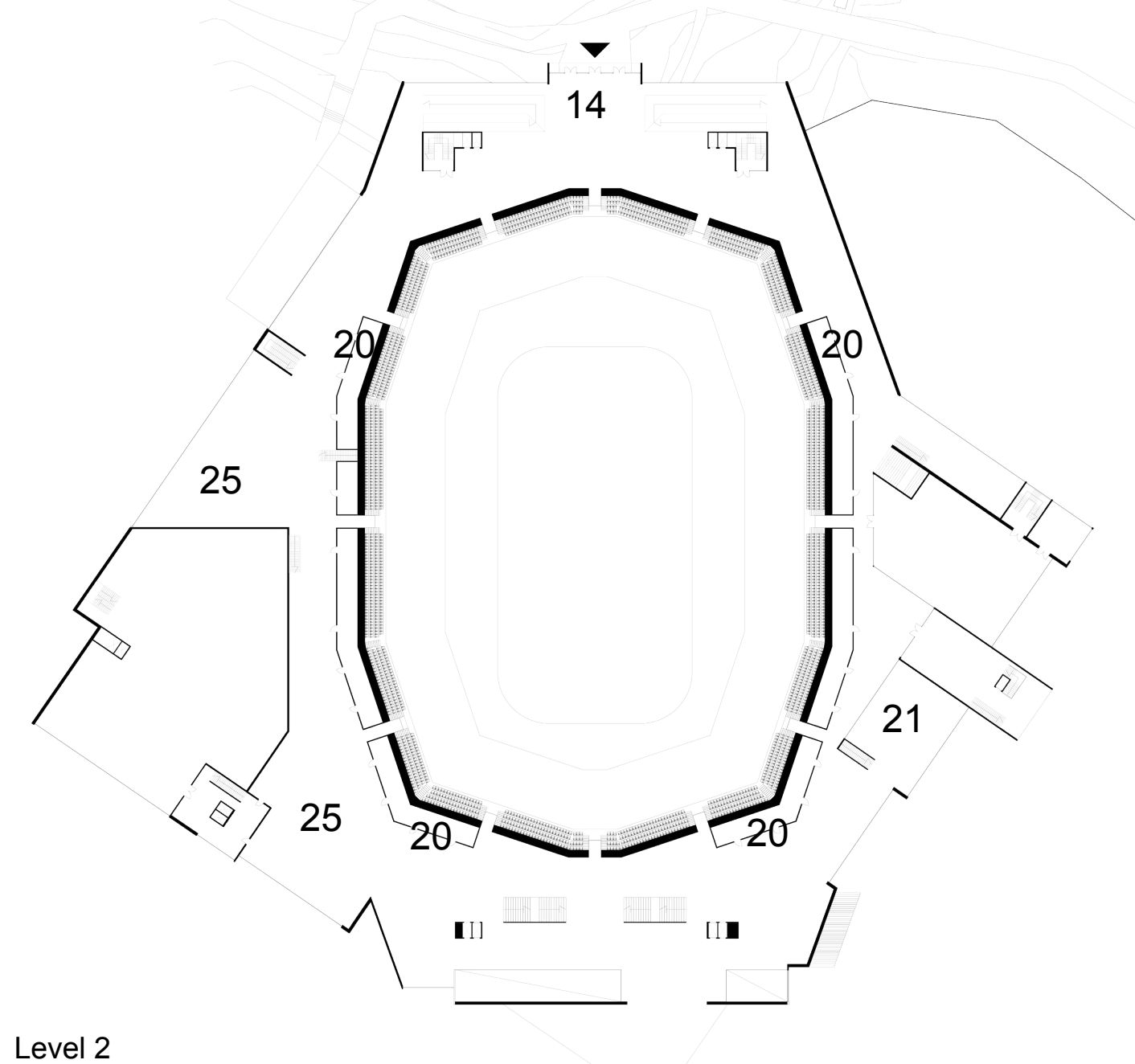
Activity

- 1 Entry Logistics
- 2 Free Space
- 3 Arena Pit
- 4 Gym
- 5 Loges
- 6 Dressing Rooms
- 7 Tunnel to Old Scandinavium
- 8 Staff Rooms
- 9 Medical Room
- 10 Media/Press Conference
- 11 Storage
- 12 Security
- 13 Exit Logistics
- 14 Visitors Entrance
- 15 Grande Promenade
- 16 Tickets/Information
- 17 Supporter Shops
- 18 Café
- 19 Pub/Sportbar
- 20 Restroom
- 21 Restaurant
- 22 Kitchen
- 23 Store
- 24 Hotel Foyer
- 25 Food
- 26 Balcony
- 27 Outdoor Seating



Level 0
Scale 1:1000

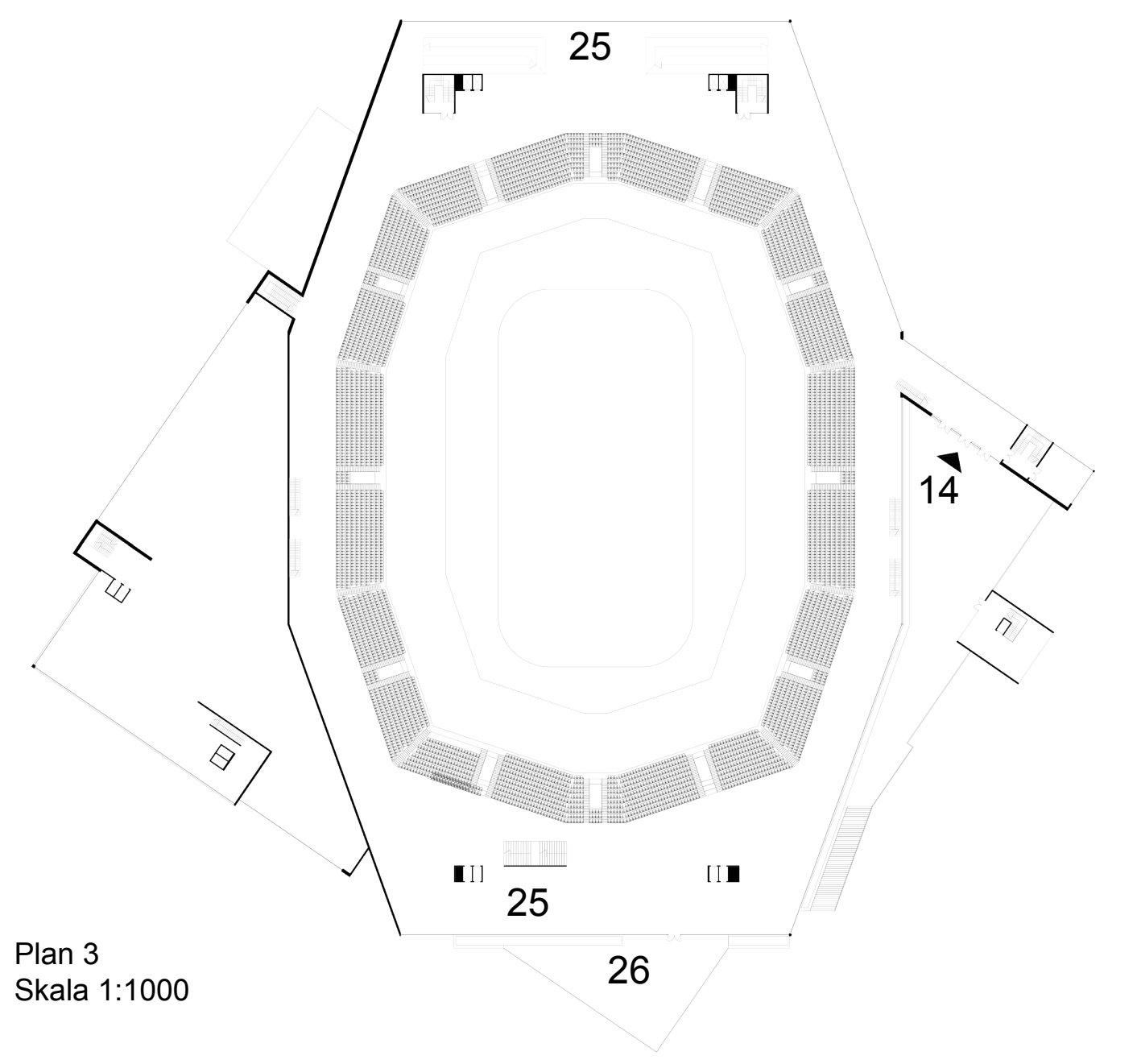
The plot has a gentle slope to the southeast and the natural height difference makes it easier for an underground arena bowl that separates the internal logistics of the visitors. This means that the ground floor is level with the top of the first grandstand. Choosing a sunken arena bowl means that the entire complex will be lower and thus better proportion to the site. It also provides a sheltered loading for trucks.



Level 2
Scale 1:1000

The area is designed to handle large flows of people and crowds during major events - an area that for the most part is completely deserted. Lanes of traffic, along Skånegatan and Valhallagatan, can be turned off and be used as gathering points of people during the event. Through a varied facade, and meeting points in several levels the monolith feeling is broken up. The area outside the stadium has nice city proportions and create a node in the city.

The area is bound together visually paving, narrowed lines and is lined with bollards and trees. The tram stop Scandinavium is moved to a more central location, the separation fence is removed and the tram tracks integrated into square structures arising in the meeting between Skånegatan, Valhallagatan & Berzeligatan. The eastern part of the square is, during the afternoon and evenings the focus of the public areas. The west side may, nevertheless, benefit from its improved surrounding which brings better conditions for a vibrant street level towards the square.

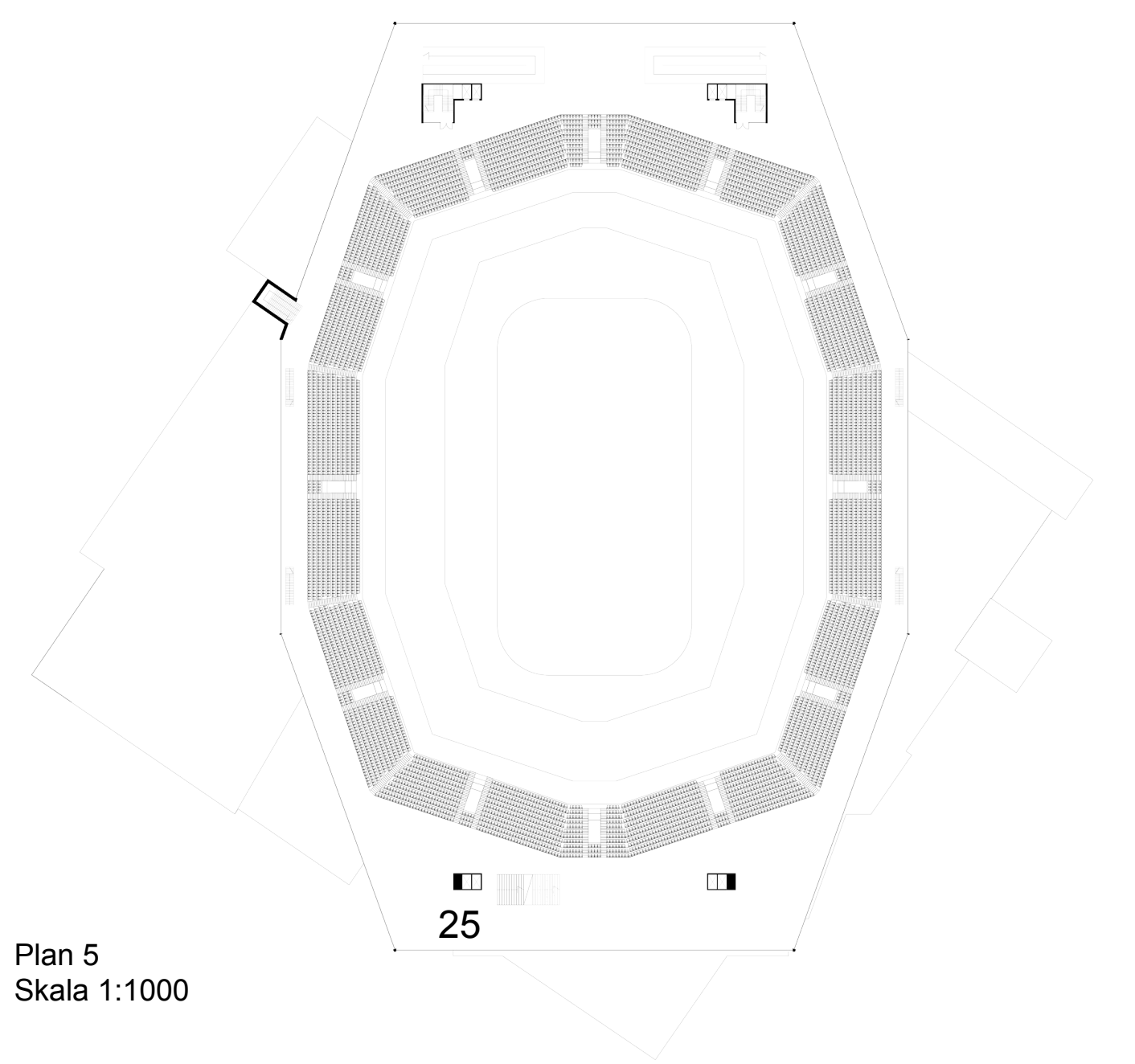


Plan 3
Skala 1:1000

At ground level there are public businesses such as hotels, restaurants, cafes, pubs, shops, which are more or less independent from the stadium.

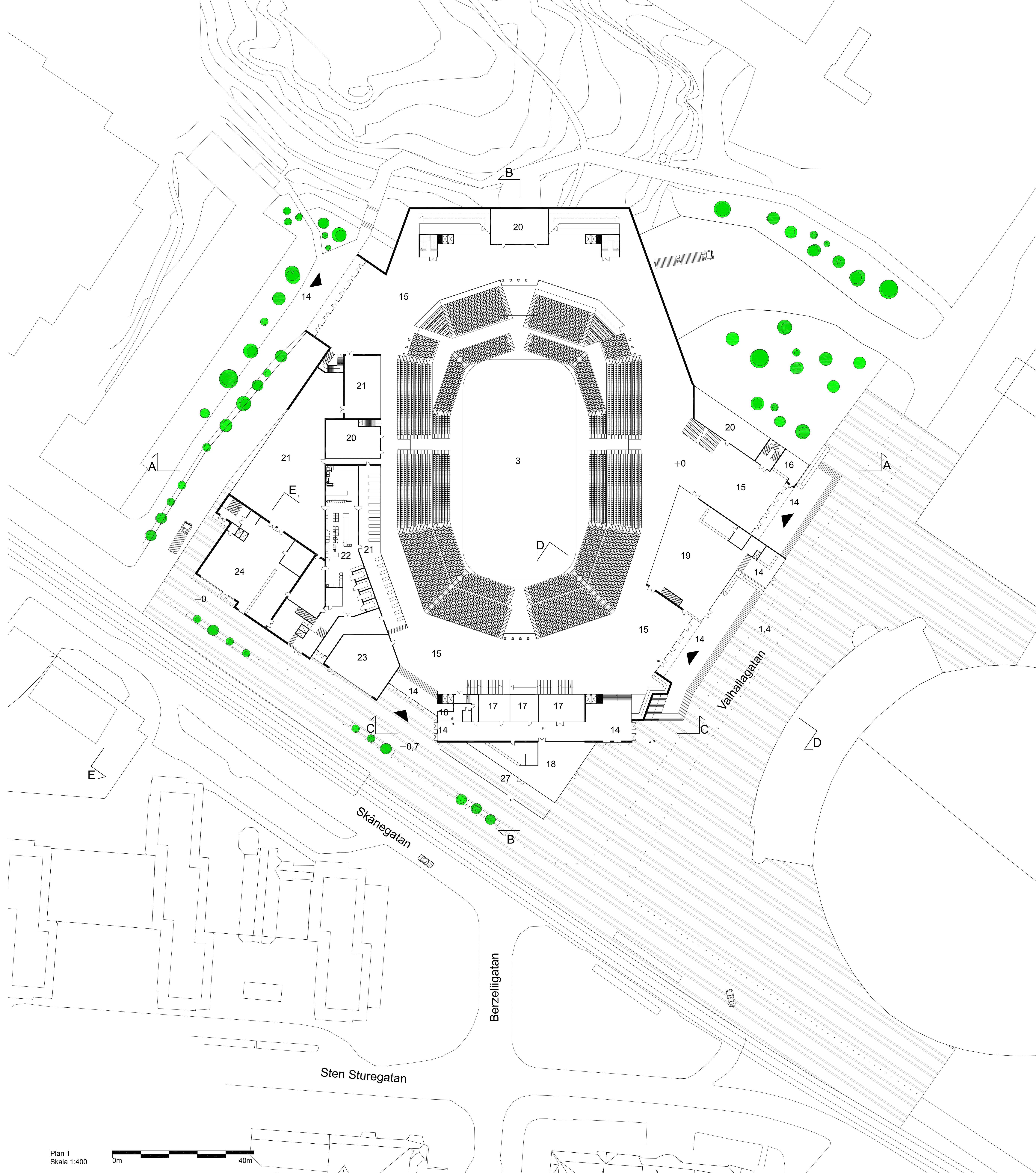
New Scandinavium becomes part of a larger event cluster, together with Gothia Towers, the Swedish Exhibition and old Scandinavium - GotEvent will be able to host all the major sports championships, Indoor Athletics, Ice Hockey World Championships, Gothenburg Horse Show and major concerts.

New and old Scandinavium is connected by underground passage during Valhallagatan to ensure weatherproof transport (7).

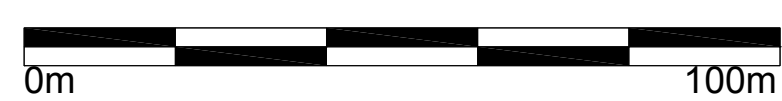


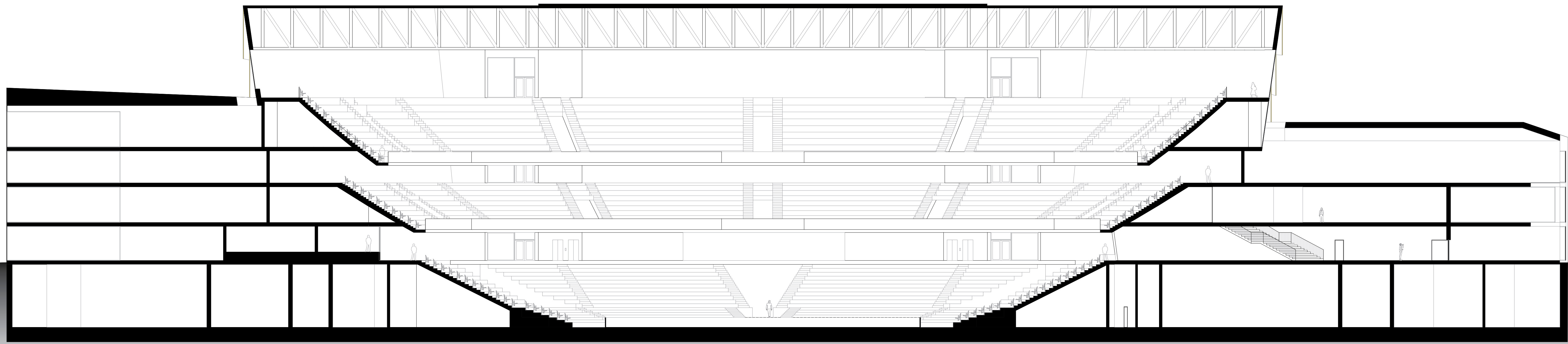
Plan 5
Skala 1:1000

- Sources of Information
- FramtidaArena – Underlag till Förstudie, Delutredning Infrastruktur & Område; SWECO; 2011-02-24*
 - FramtidaArena – Underlag till Förstudie, Bildbilaga; SWECO; 2011-04-20*
 - FramtidaArena – Deluppdrag Trafikutredning, Underlagsmaterial; SWECO; 2011-04-15*
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 - Stadia – A Design and Development Guide; Geraint John, Rod Sheard, Ben Vickery; 4th Edition 2007*
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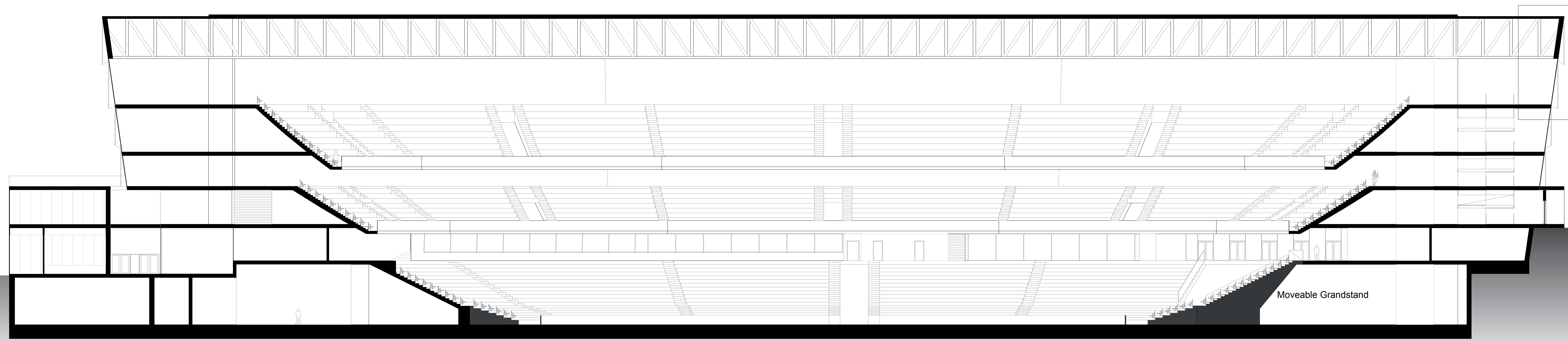


Plan 1
Skala 1:400

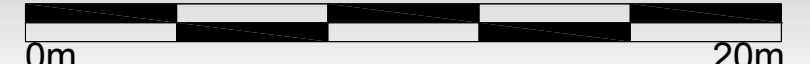




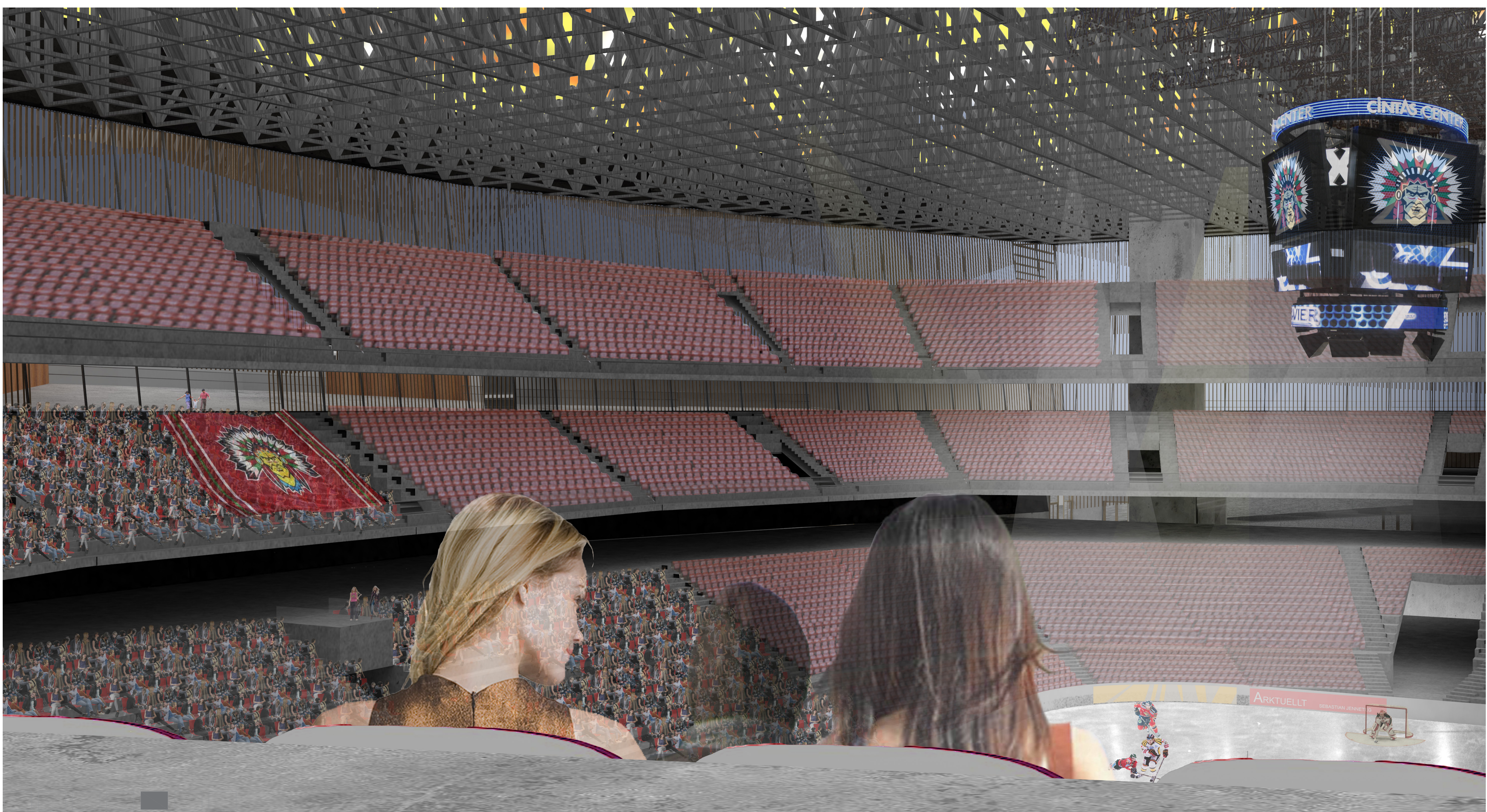
Section A-A
Scale 1:200



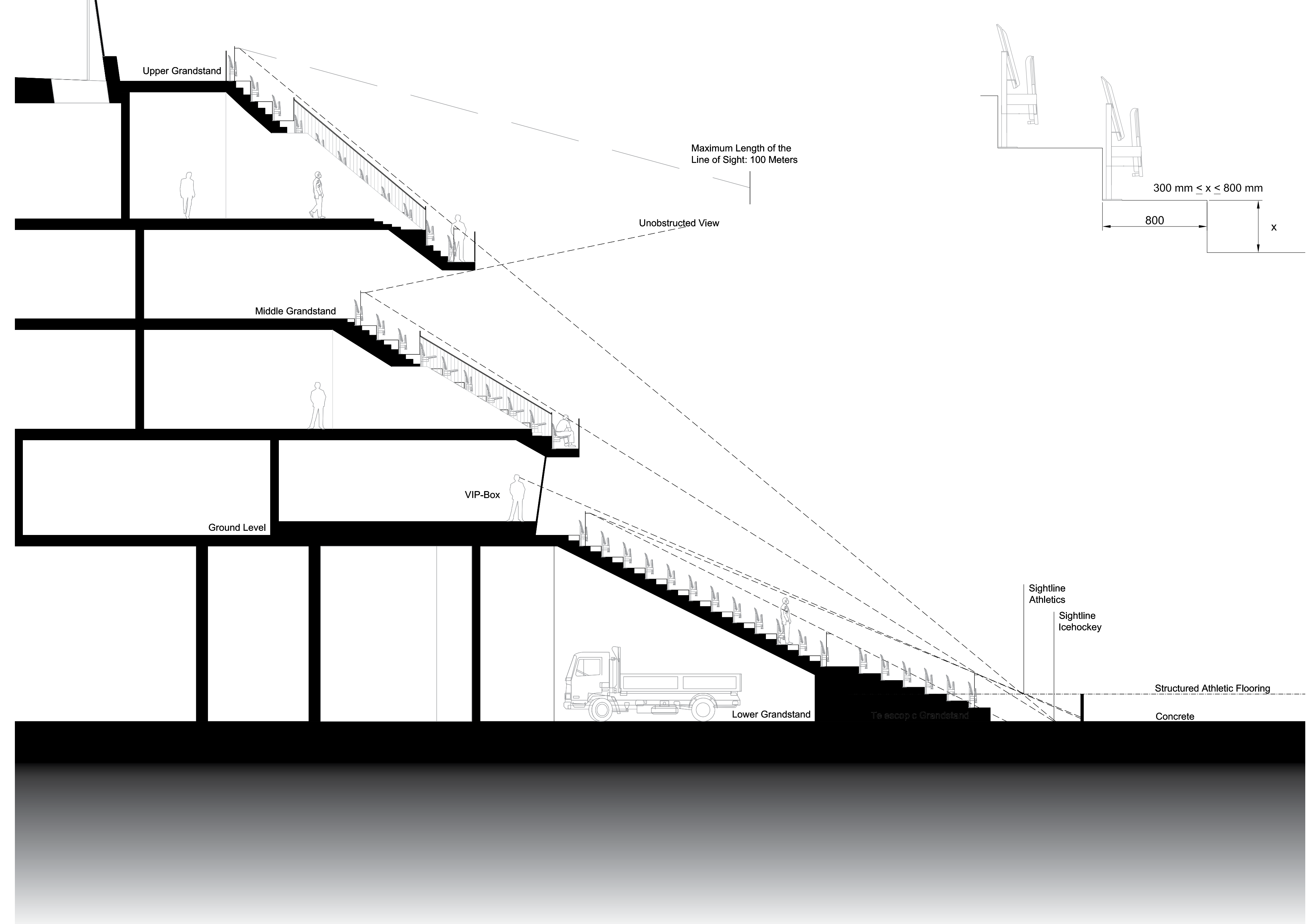
Section B-B
Scale 1:200



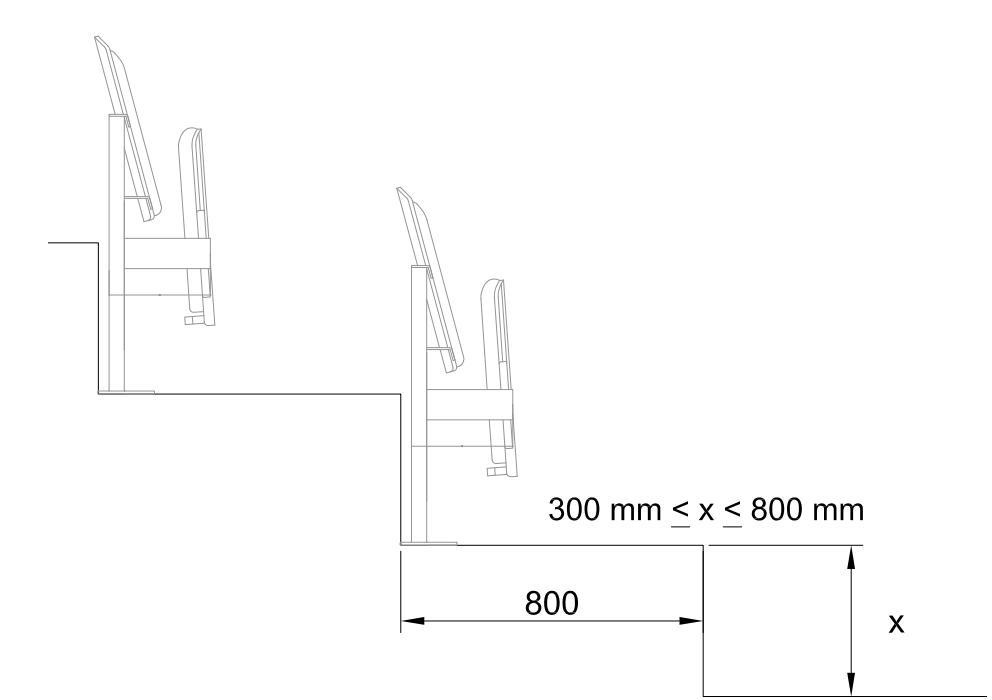
Interior Perspective, Level 3



Section Grandstand & Sight Lines
Scale 1:100



Detail Grandstand
Scale 1:20

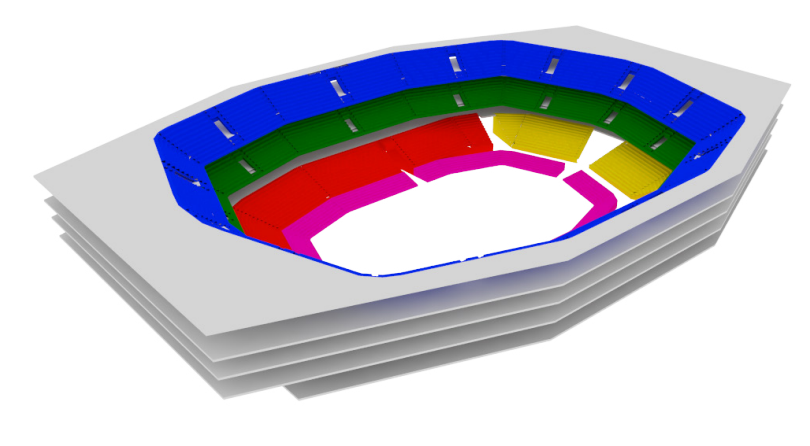


Sightline Athletics
Sightline Icehockey

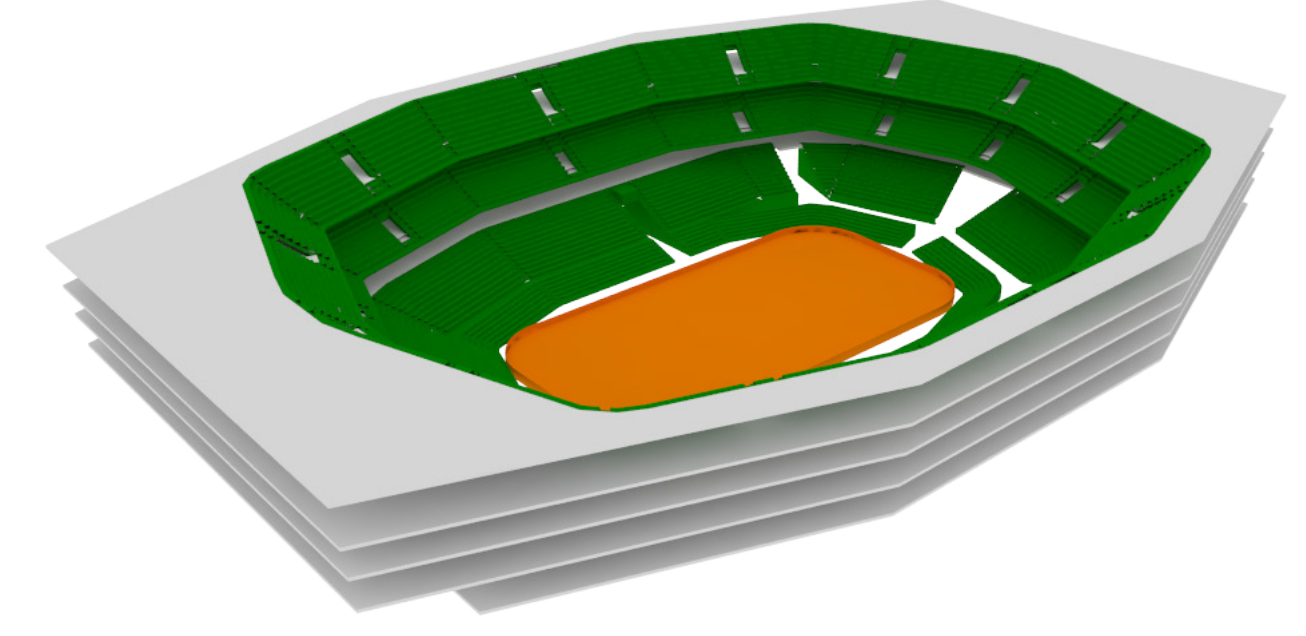
Structured Athletic Flooring
Concrete

Number of Seats

Flexible Grandstand	872
Telescopic Grandstand	1 868
1st Grandstand	3 516
2nd Grandstand	4 912
3th Grandstand	6 164
Σ	17 352

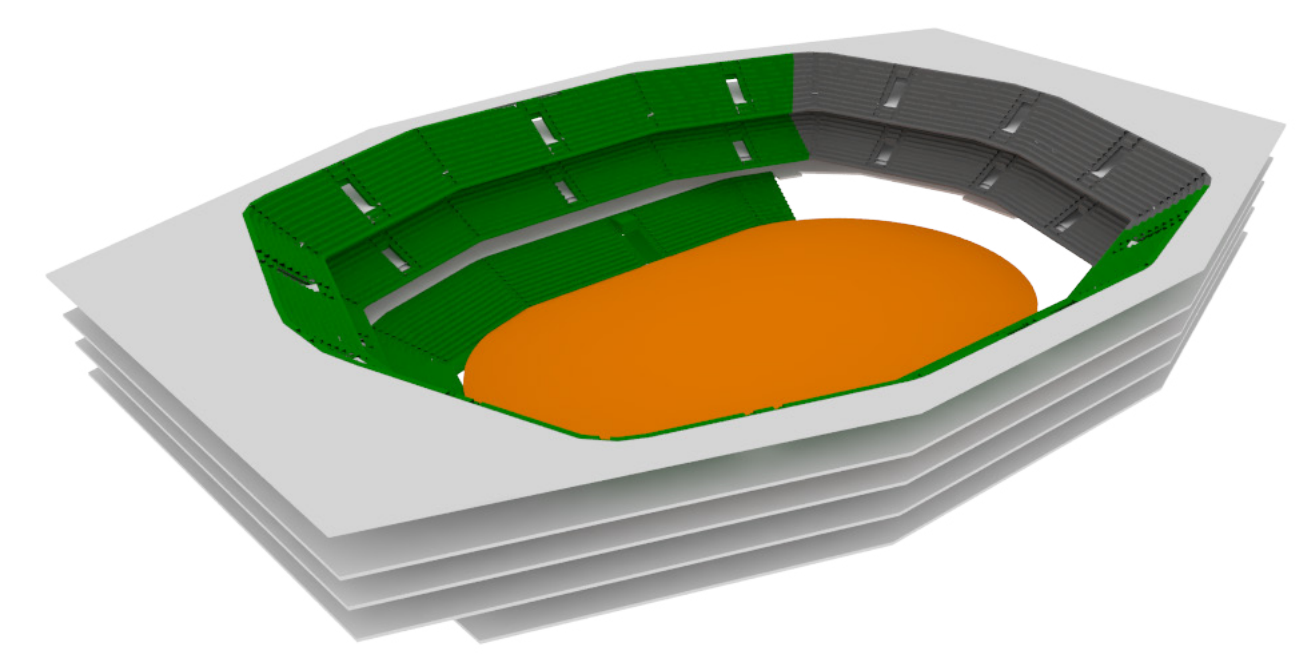


Hockey Audience Activity Area Nonactive Area



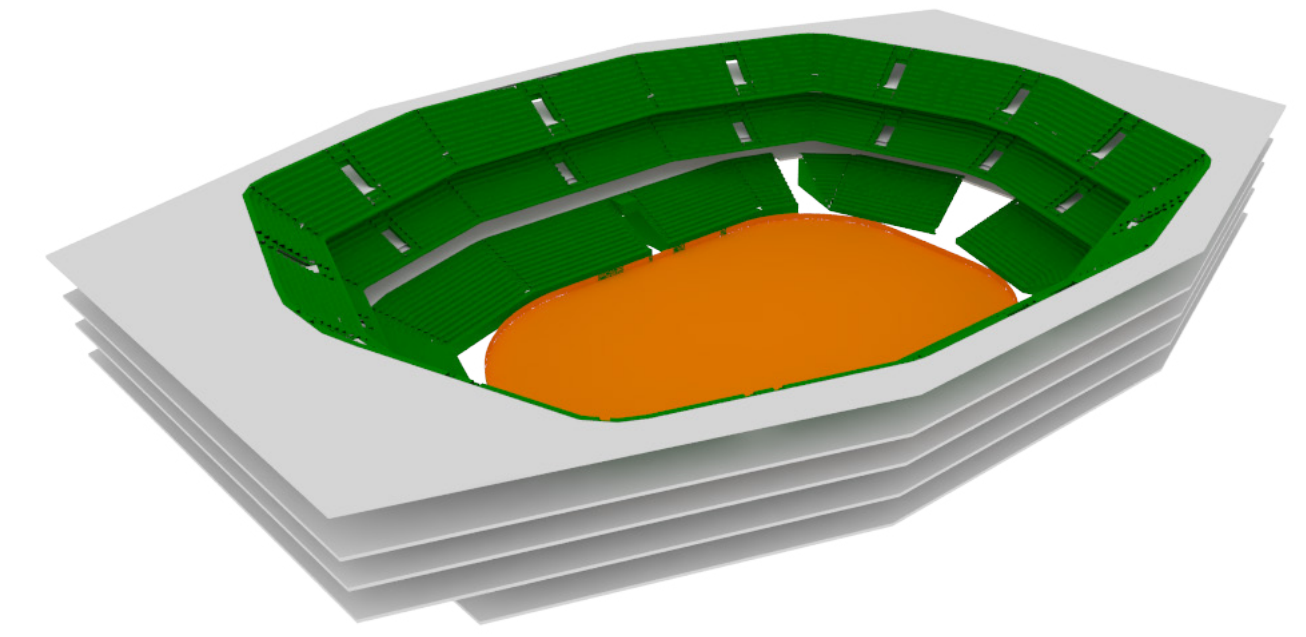
Activity Area:
60x30 m²
Audience Capacity:
17 352

Indoor Athletics



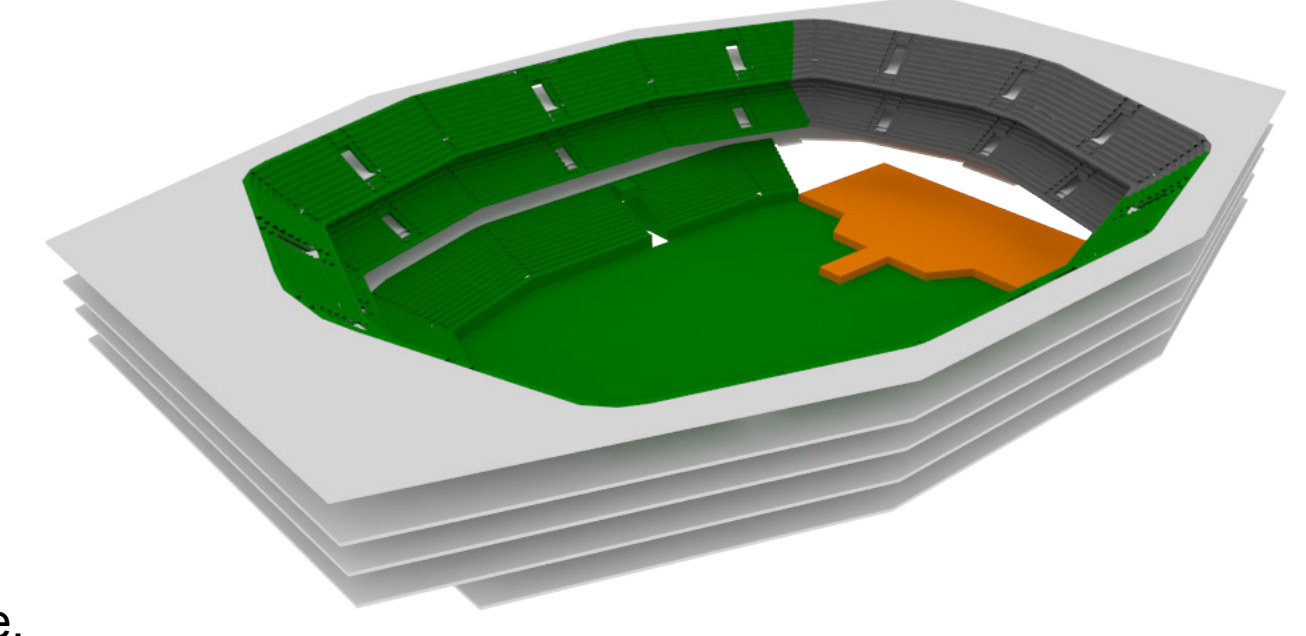
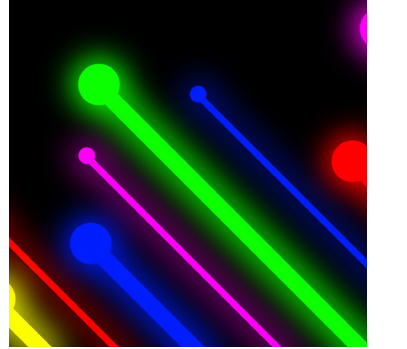
Activity Area:
94x47 m²
Audience Capacity:
12 440

Gothenburg Horse Show

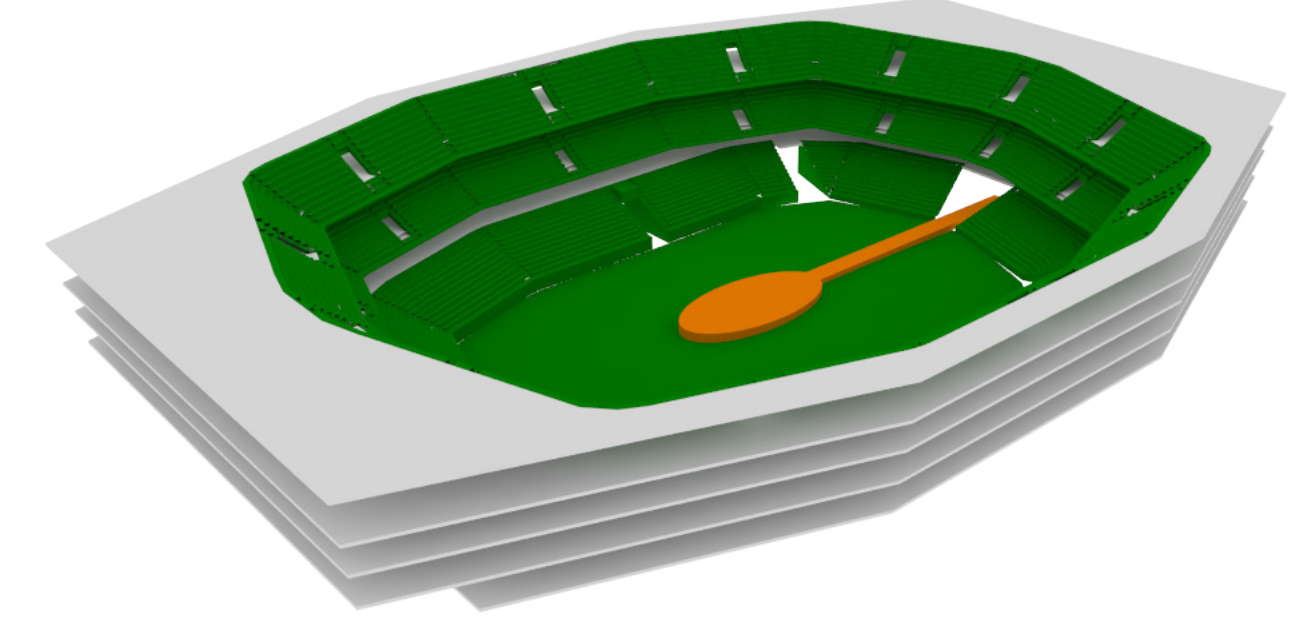


Activity Area:
80x49 m²
Audience Capacity:
15 484

Concert

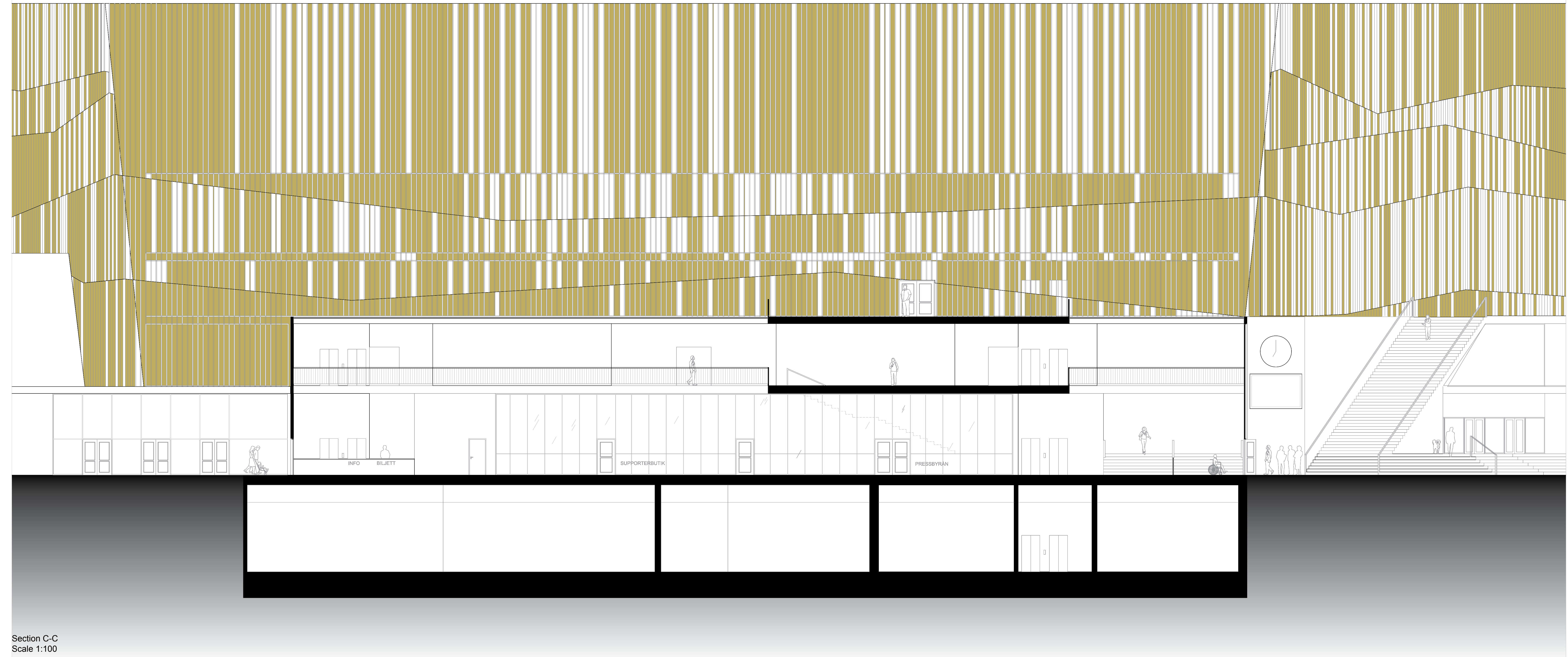
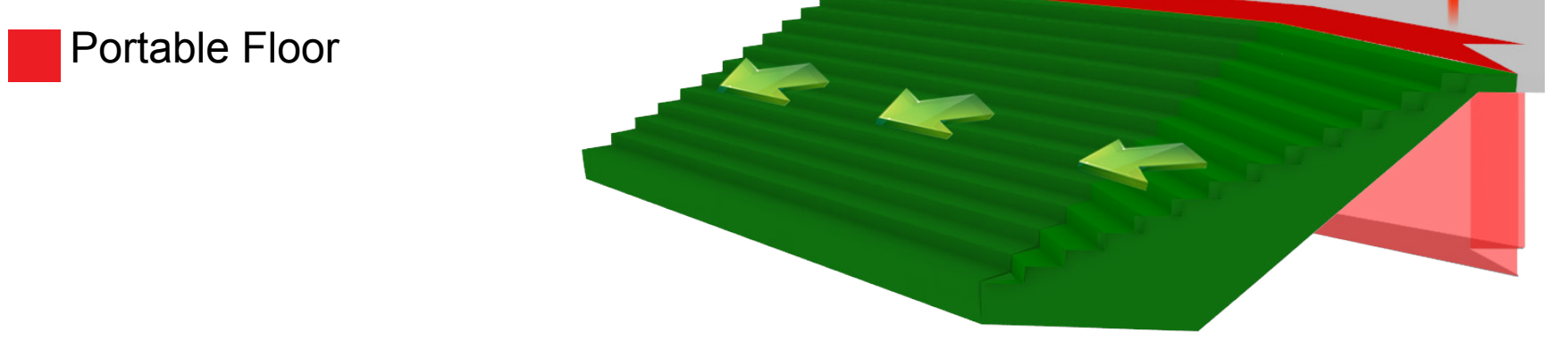


Activity Area:
Flexible
Audience Capacity:
Stage at the Short Side,
12 440 + 2800 m²
Stage in the Centre,
17352 + 3000 m²

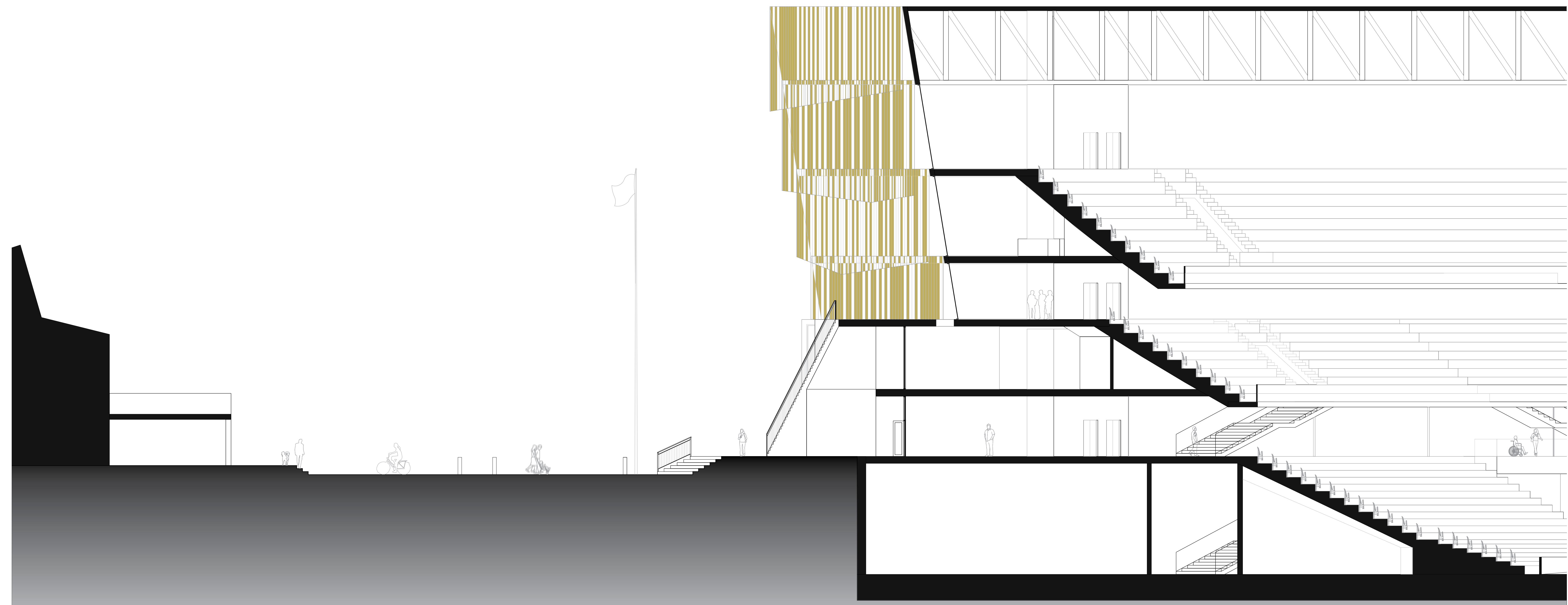


Crowd Density:
Seated Audience,
2 people/m²
Standing Audience,
3,5 people/m²

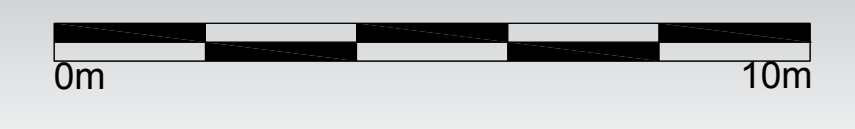
Mobile grandstands create a flexible and adaptable stadium



Section C-C
Scale 1:100



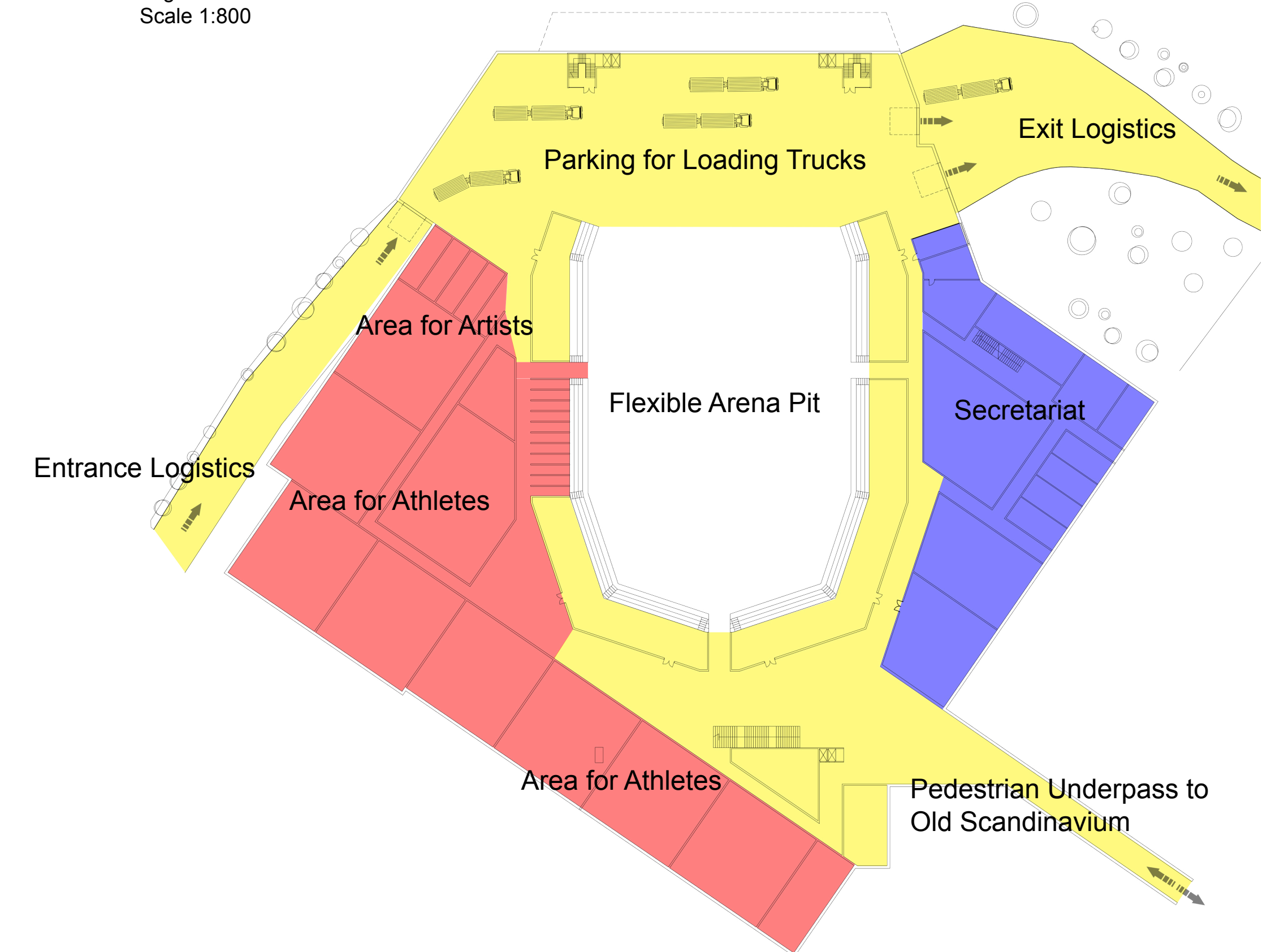
Section D-D
Scale 1:100



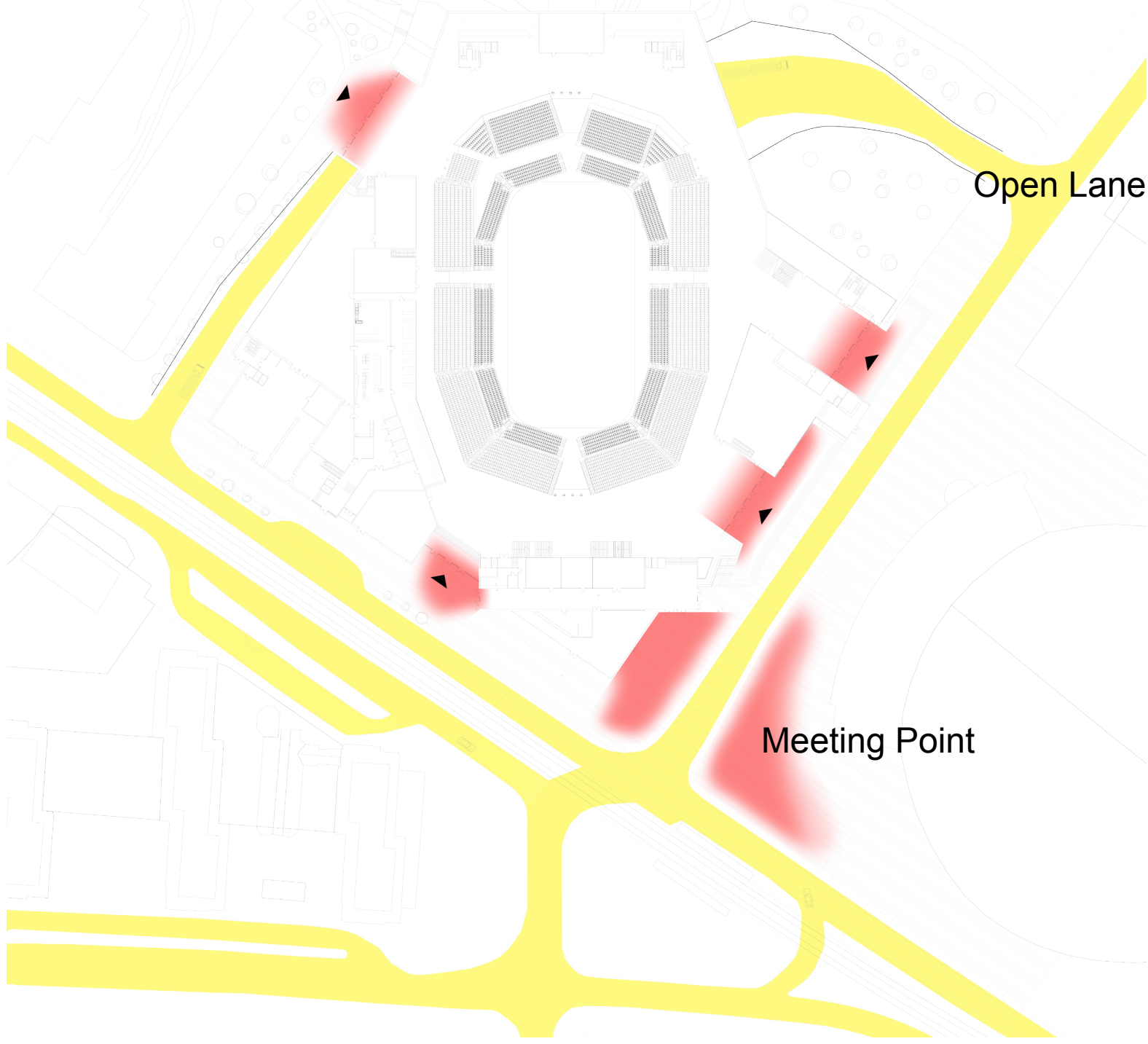
Logistics

The arena is planned to organize various kinds of events. The basement is largely divided into three sections: an area for sports practitioners, a secretariat area for those who work in the arena and a logistics area.

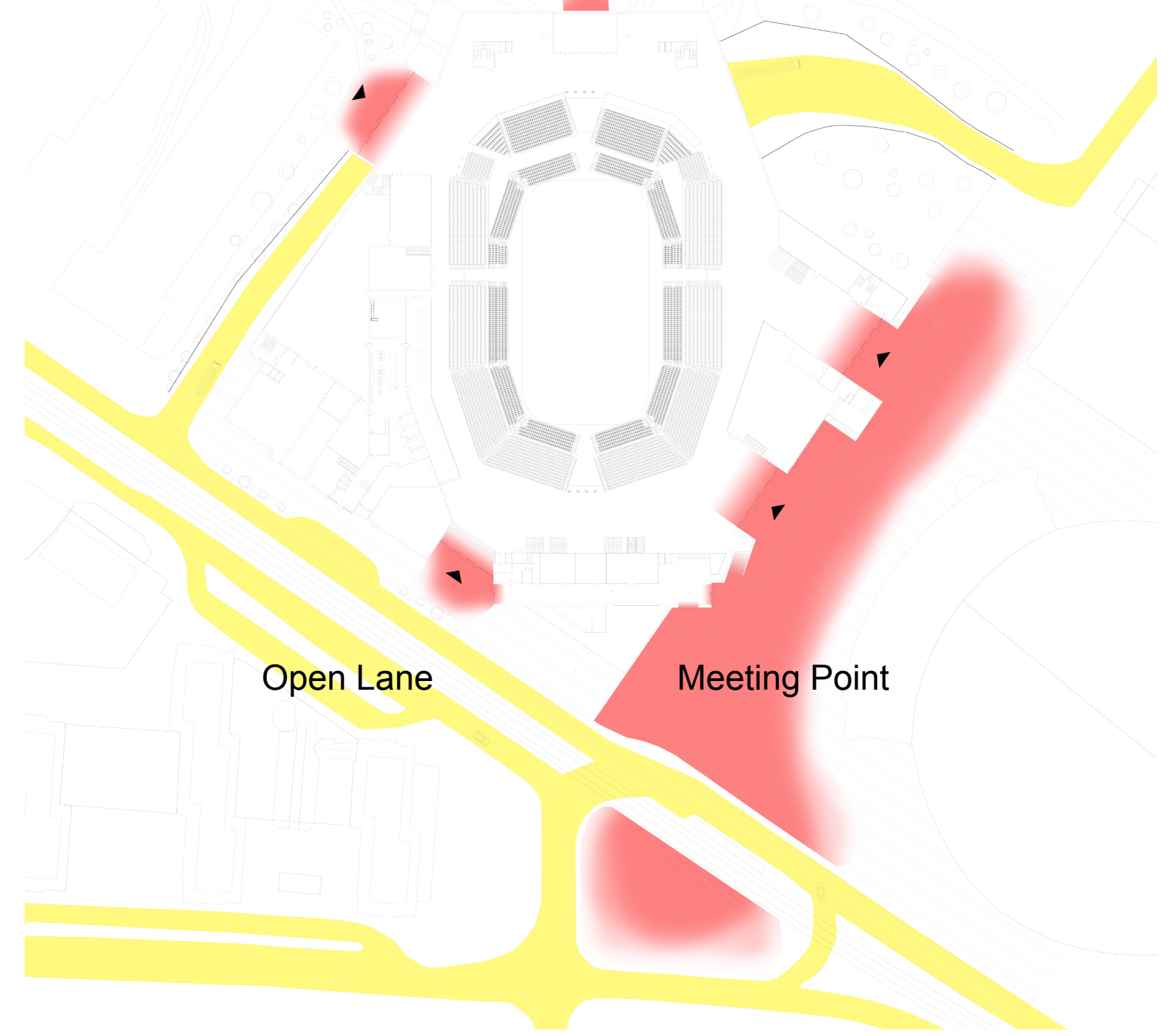
Logistics Level 0
Scale 1:800



Smaller Event



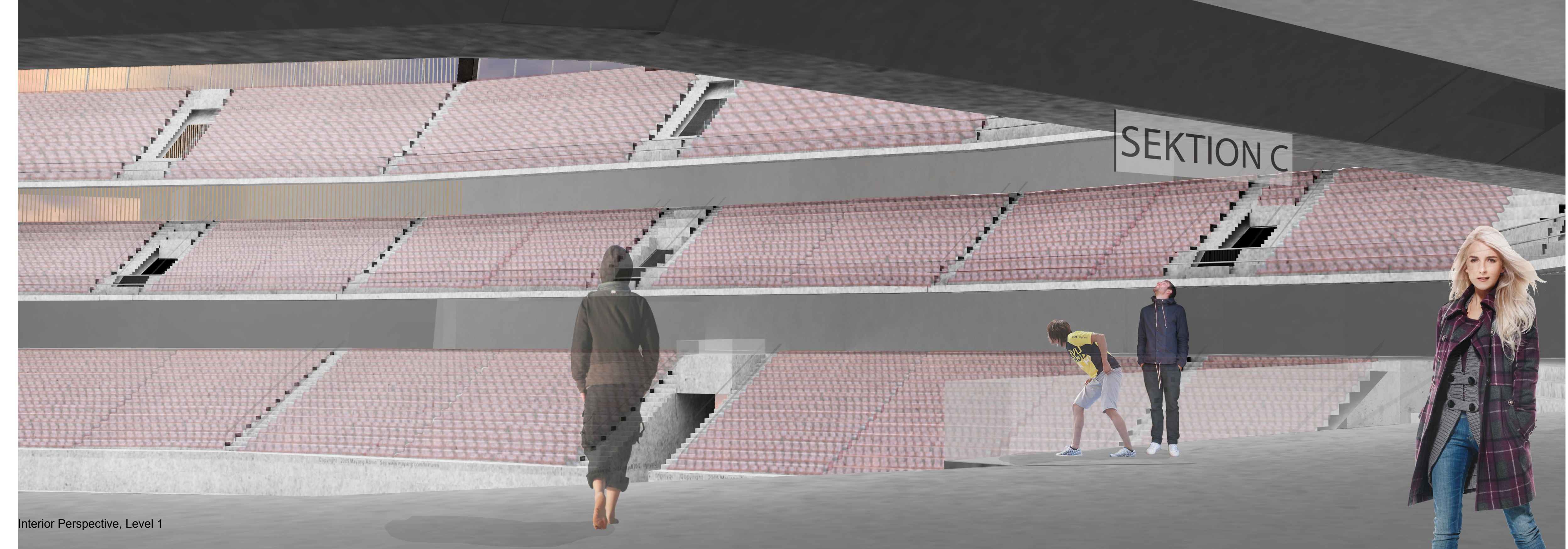
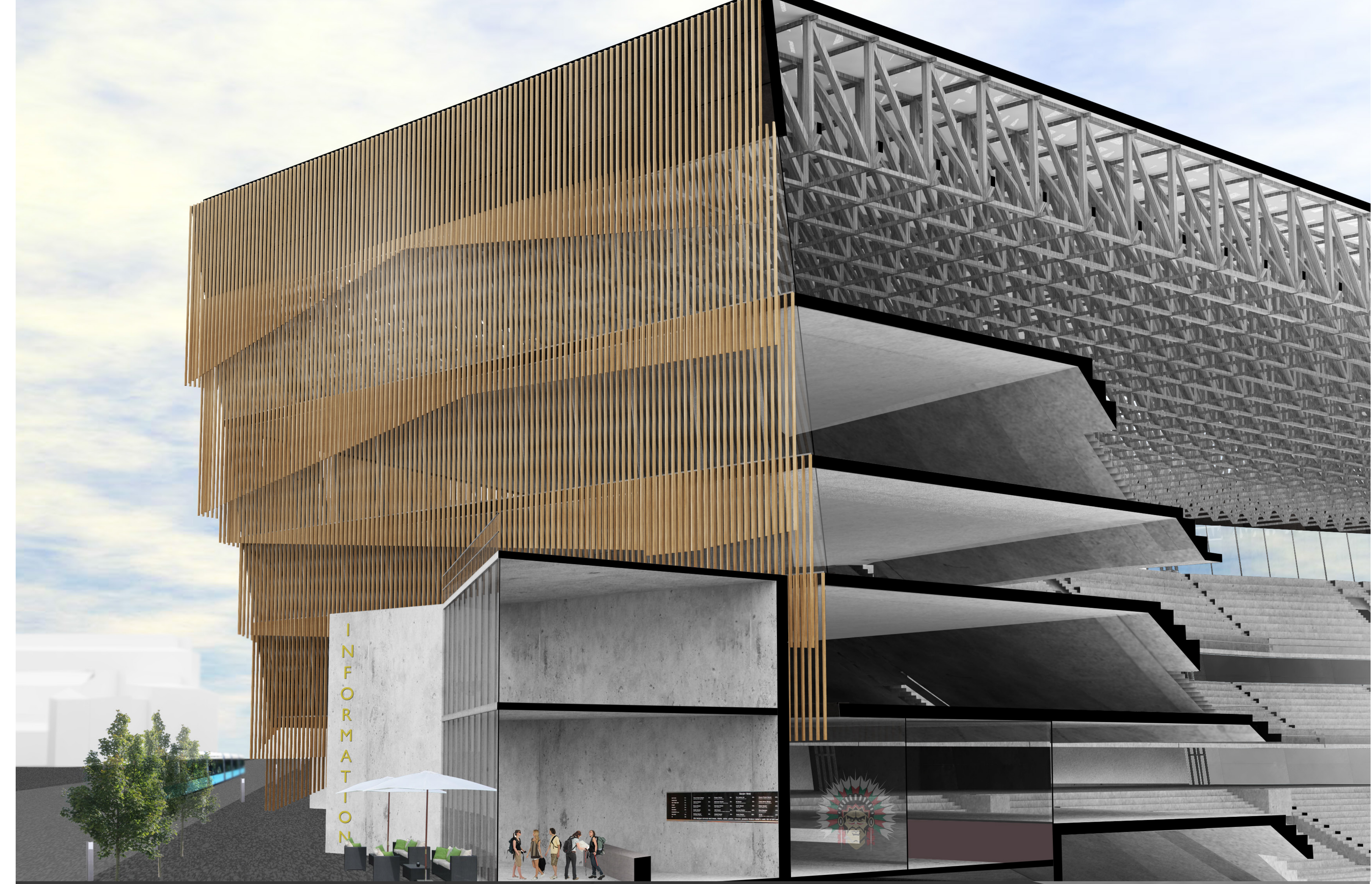
Larger Event



Section E-E
Scale 1:100



Interior/Exterior Perspective



Interior Perspective, Level 1

Facade West
Scale 1:400

