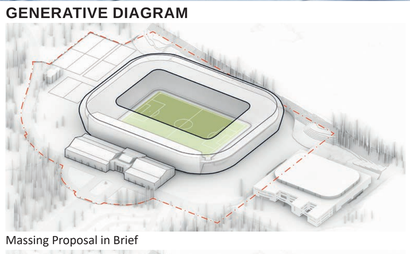
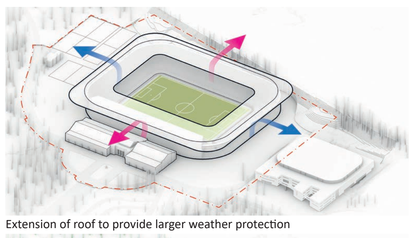
SKOVENS ARENA
NEW STADIUM IN AARHUS

ARRIVAL FROM STADION ALLÉ

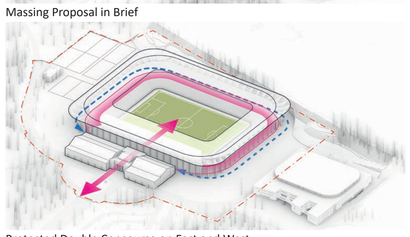
GENERATIVE DIAGRAM



Massing Proposal in Brief



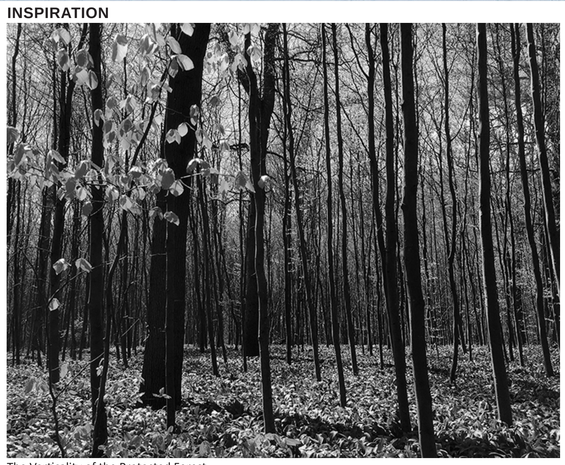
Extension of roof to provide larger weather protection



Protected Double Concourse on East and West

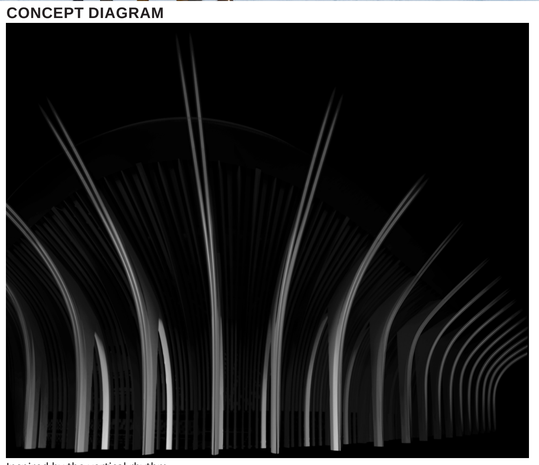
The stadium as an extension of vertical Forest

INSPIRATION

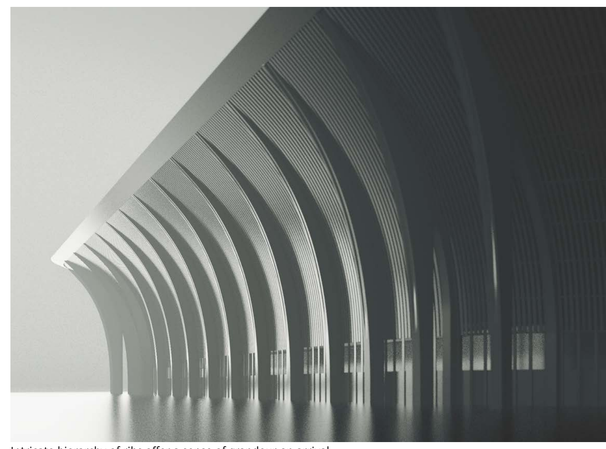


The Verticality of the Protected Forest

CONCEPT DIAGRAM



Inspired by the vertical rhythm



Intricate hierarchy of ribs offer a sense of grandeur on arrival

CONCEPT

The New Aarhus stadium is inspired by its context and club legacy, aiming to become a new catalyst for fans and the local community, a new identity for the club and a new landmark on the national and international football fraternity.

CONCEPT AND INSPIRATION: Inspired from the vertical rhythm of the 47m tall trees, the proposal sees this new stadium as an extension of the forest with the continuation of verticality in its form with colonnades and wooden ribs befitting its context. These vertical gestures flow from the forest towards the landscaped plaza, further onto the colonnade in the external and internal concourse. Together with the intricate hierarchy of ribs in the facade and roof, it subdivides the large horizontal volume into a human scale to the stadium whilst at the same time offering a sense of grandeur on arrival for the fans in the plazas all around.

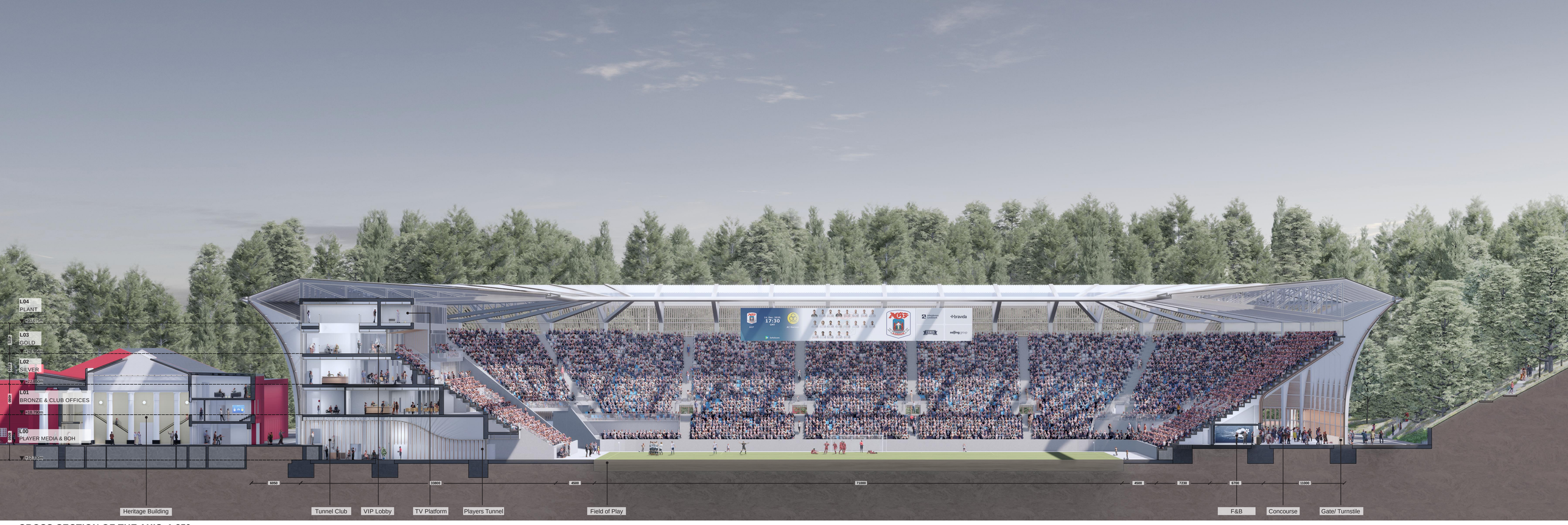
SHELTER AND FLEXIBILITY: The roof design maximises weather protection and shelter to increase the comfort level around the whole stadium, in the outer circulation ring as well as at concourse level. This allows the proposal to offer a sheltered 360 degree public circulation independently from the event schedule; an added offer to the local community, the park complex users and the city of Aarhus.

PROGRAM AND WAY FINDING: Visual identity and visual connectivity to the surroundings are paramount to the proposal. The transparent roof and gaps within the ribs, reveal glimpses of the surrounding forest and the permeable colonnades blurs the boundary between different programs.

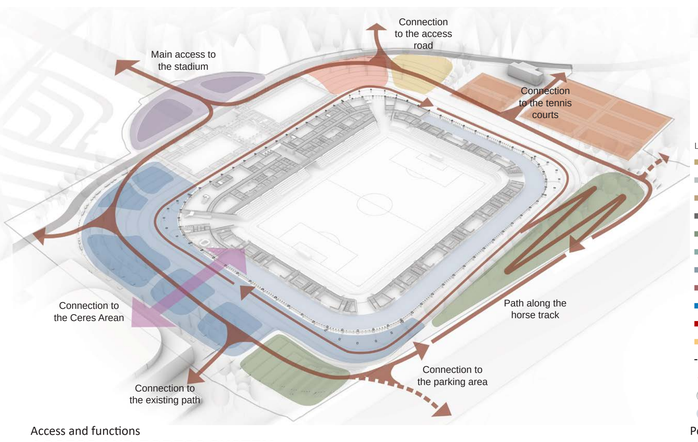
The east and west side feature open colonnades that acts not only as an intuitive wayfinding system marking the main entrances to the stadium, but also as a permeable interface between public and stadium programs; allowing for the two to expand into one another maximising the potential offering on different event modes, day time and seasons. The proposal aims for an immediate reading of its programs, using the different quality and design features in order to have an intuitive circulation system to maximise functionality and user experience.

INTERIOR: The interior of the stadium is compact, following optimised sight lines and acoustic and light parameters, providing both an intimate atmosphere and enhancing the fans experience. Flexibility in use and possible expansions / capacity are all integrated into one complete solution. The aesthetics of the interior compliment the façade and the natural surroundings and vice-versa.

BIRD'S-EYE VIEW OF THE STADIUM AND ITS ROOF PLAN

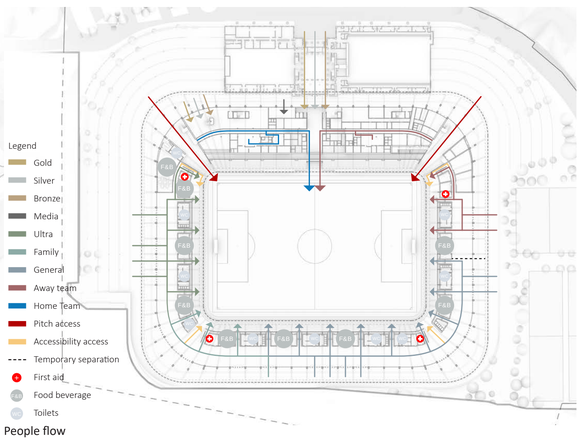


CROSS-SECTION OF THE AXIS, 1:250



Access and functions

ACCESS AND EGRESS SYSTEM

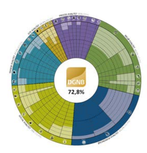


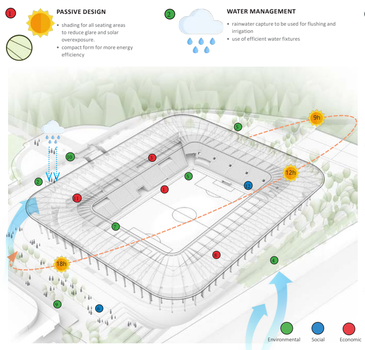
People flow

Our approach to sustainability is a holistic assessment of the project and sustainable solutions has been a vital part of our design process and will continue to be an important focal point going forward.

Our solution for a new stadium in Aarhus is not only focused on the actual stadium site but takes the local area and overall use of the surroundings into consideration. The sustainable solutions presented is therefore not only defined by the Voluntary Sustainability Class or the environmental impact of embodied carbon, but also by applying social context to the use of the site and focusing on biodiversity and the interaction with the forestation of Kongelunden to integrate the new stadium and the area around it in its surroundings.

Our approach includes evaluation of the sustainability of the project in a relative scale via the DGNB system. The DGNB system also includes the documentation of the projects compliance with the 7 relevant topics from the Voluntary Sustainability System (VSS).





PASSIVE DESIGN
- shading for all seating areas to reduce glare and solar overexposure.
- compact form for more energy efficiency

WATER MANAGEMENT
- rainwater capture to be used for flushing and irrigation
- use of efficient water fixtures

SELF -SUFFICIENT ENERGY PRODUCTION
- efficient electric systems for services to reduce energy consumption
- potential integrated PV on roofs

LOW EMBODIED CARBON MATERIALS
- using less carbon-intensive materials: natural, local, and recycled materials
- using hybrid-natural-wood finishings
- reusing existing materials on site

PROMOTING BIODIVERSITY
- existing greenery and trees will be integrated into the design
- protecting and increasing habitat for wildlife
- adding more trees and greenary to capture more Co2

SUSTAINABLE COMMUNITIES
- The design of the new stadium creates areas all around the stadium for social interaction
- Safe and quiet outdoor areas are created for the public to use
- clear access roads

MATERIALS&WASTE MANAGEMENT
- providing ways to reuse materials
- producing less waste which will conserving natural resources
- Modular construction systems to ensure that easy disassembility, reusability and recyclability.

INNOVATION
- Advanced environmental analytics were used to evaluate the impact of the sun and create a shading envelope that could protect those seating inside the stadium reducing 70% of direct sunlight

EFFICIENT ENVELOPE
- efficient thermal insulation to reduce heat loss through building envelope
- high efficient windows design for lower thermal loses in colder months
- The building envelops were calculated to optimise solar gain

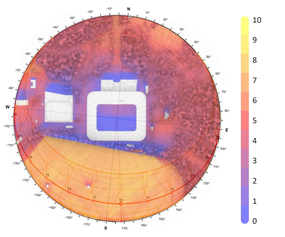
GREEN TRANSPORT
- encouraging using electrical vehicles
- bikes & electrical scooters lanes

OUTDOOR THERMAL COMFORT
- Trees to mitigate strong wind and improve outdoor comfort
- using material that will reflect energy and reduce the Urban Heat Island effect.

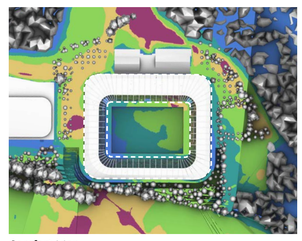
DE-POLLUTING TECHNOLOGIES AND ECOLOGIES
- green terraces for air purification, biodiversity and evaporative cooling

Sustainability Strategies

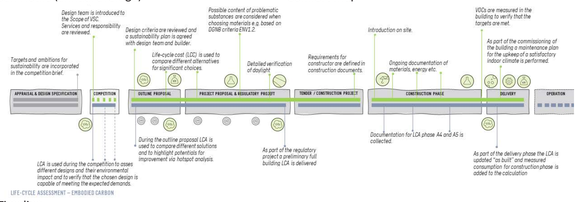
WIND & SOLAR DIAGRAM



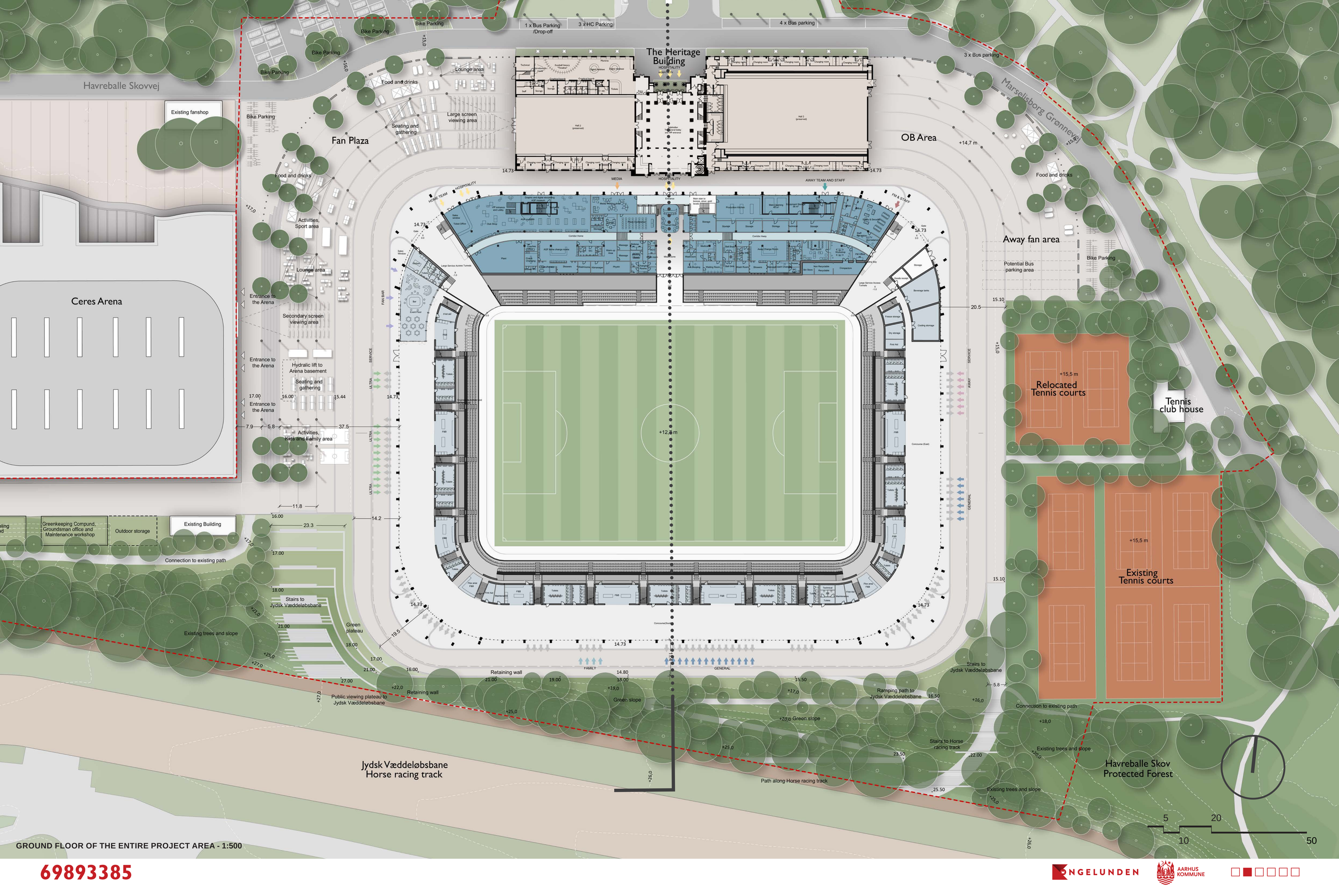
Sun Hours (annual average)



Comfort Map



Timeline

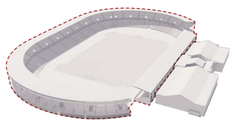


GROUND FLOOR OF THE ENTIRE PROJECT AREA - 1:500

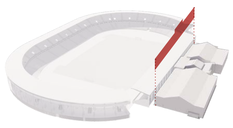
KONGELUNDEN AARHUS KOMMUNE

FAN PLAZA AND CONNECTION TO STADIUM

LOOKING FROM SOUTHWEST TO SOUTHEAST, SHOWING SPACE AND SCALE BETWEEN THE NEW STADIUM AND JVB

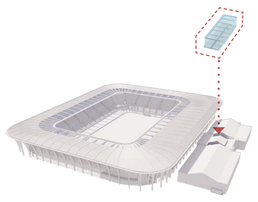


1. Existing bowl is removed



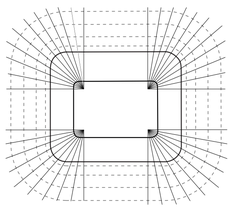
2. Heritage building south facade restored to original

3. New stadium construction



4. Glass bridge connection and landscape(Optional)

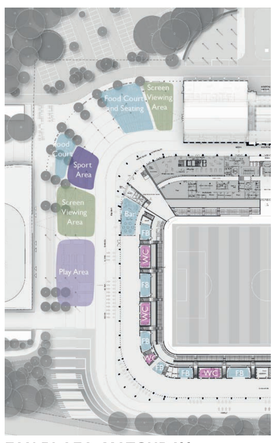
PROJECT PHASES



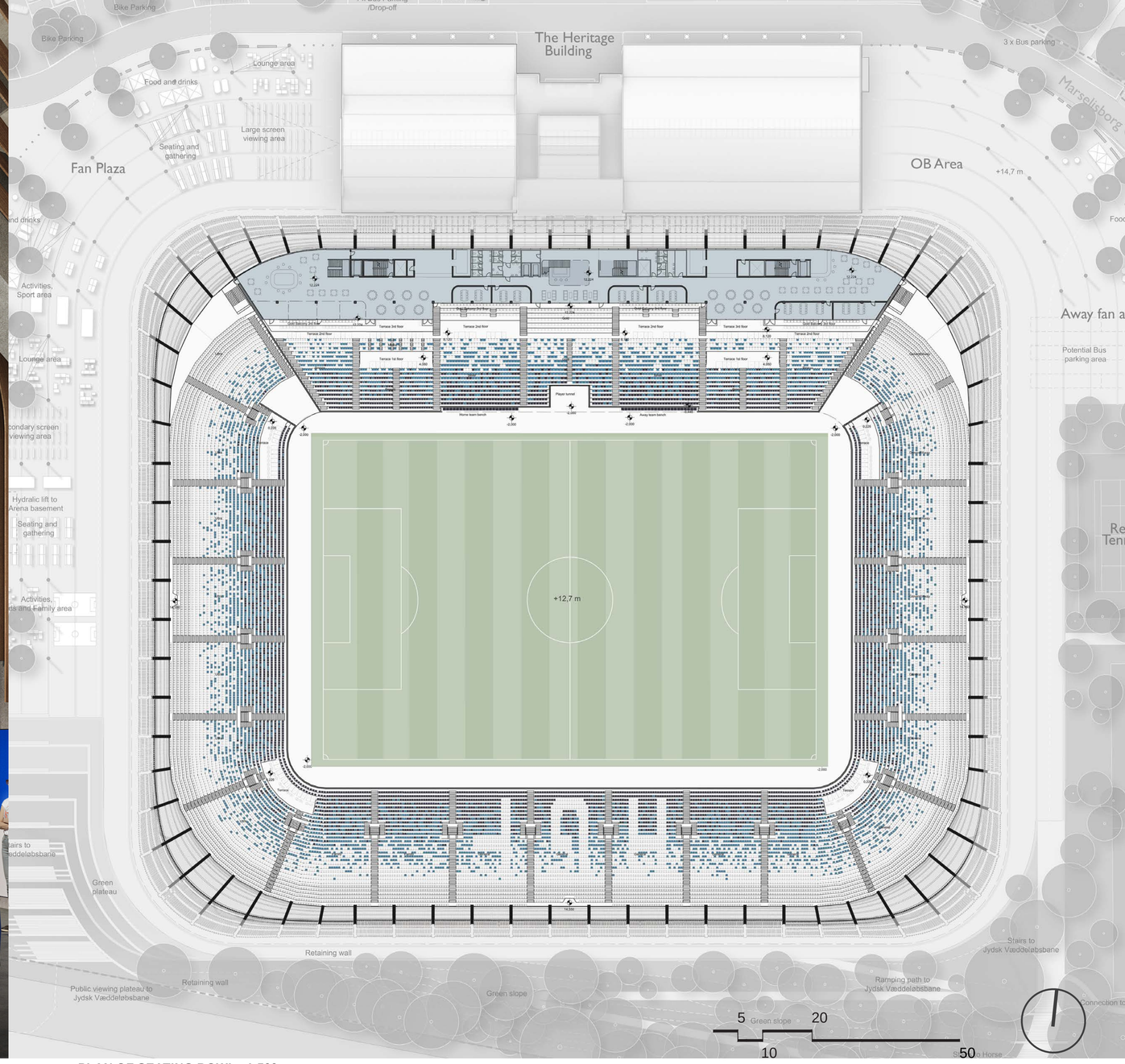
LANDSCAPE CONCEPT

The landscape follows the lines of the stadium's iconic roof curvature creating a grid and markings in the pavement like raindrops in the water. The grid ties the individual buildings into a classical order creating a hierarchy for organizing the surrounding landscape elements. The spatial grid is translated into vertical elements by the clear architectural rhythm of the neoclassical heritage building, the structural columns of the new stadium, and the poles and trees in the landscape.

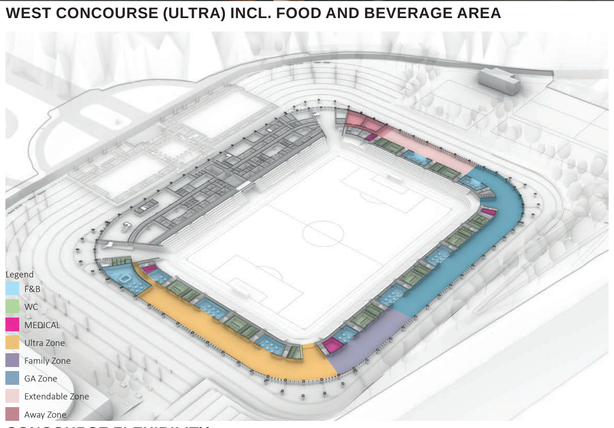
CONTEXT AND CONNECTIONS


Food Court
Food Court Seating Area
Screen Viewing Area
Sport Area
Green Viewing Area
Play Area
Bar
Food Court
Food Court
Food Court

WEST CONCOURSE (ULTRA) INCL. FOOD AND BEVERAGE AREA

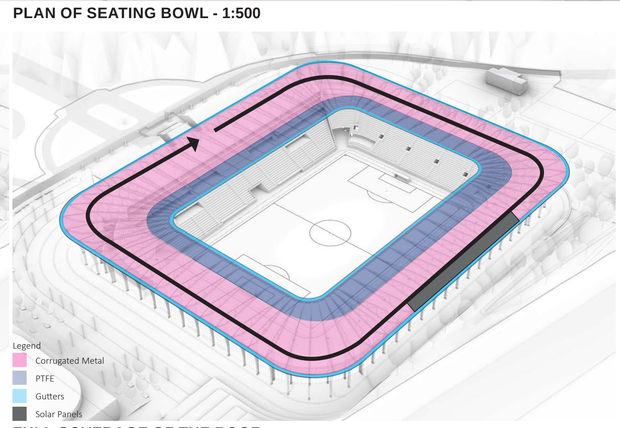


PLAN OF SEATING BOWL - 1:500

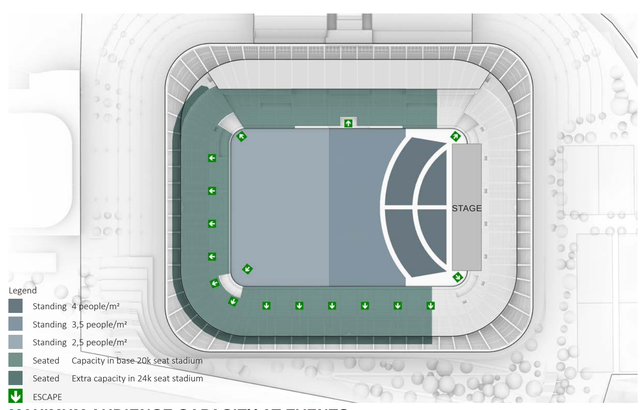


CONCOURSE FLEXIBILITY

SEATING ZONE OVERVIEW

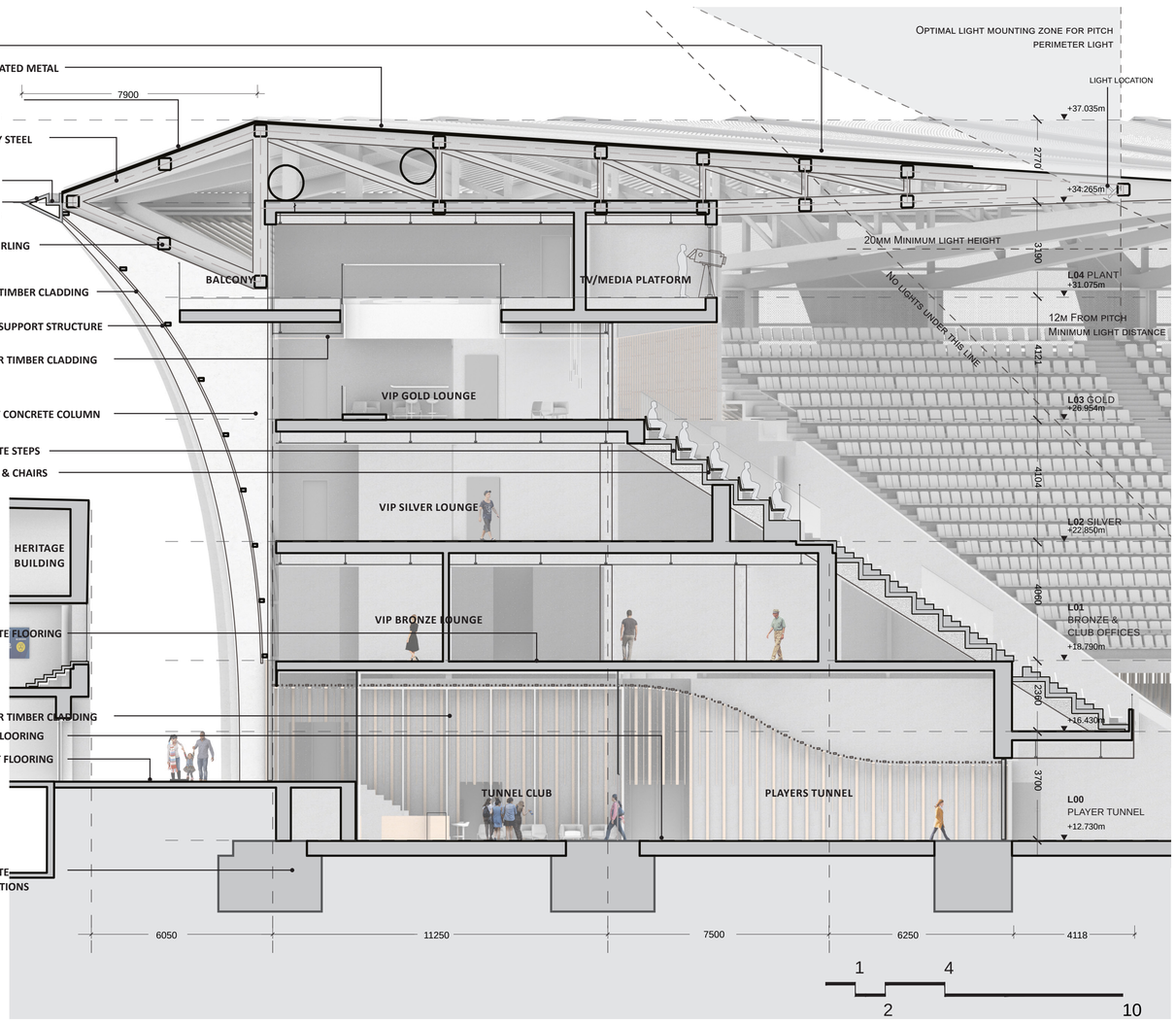


FULL COVERAGE OF THE ROOF

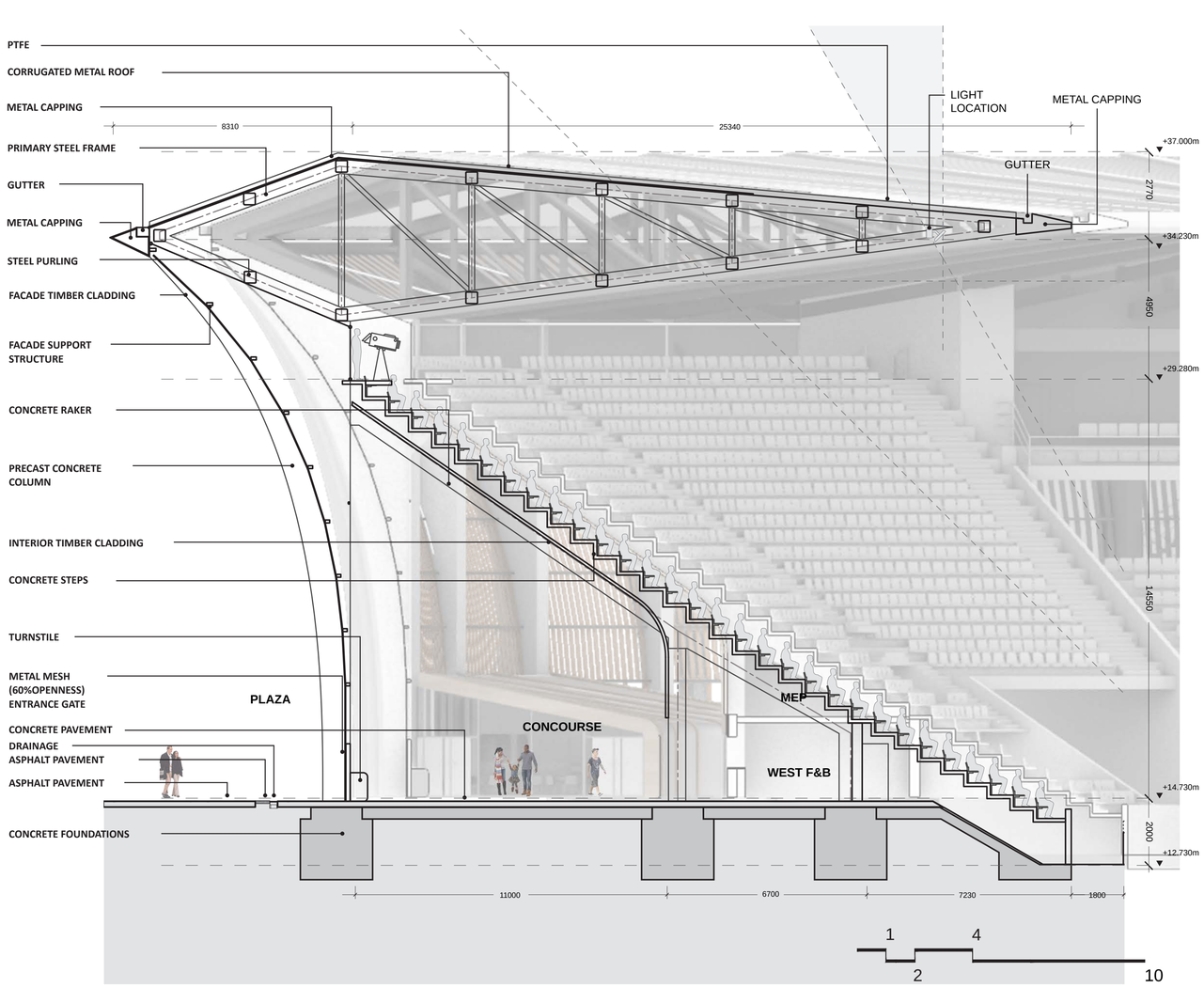


MAXIMUM AUDIENCE CAPACITY AT EVENTS

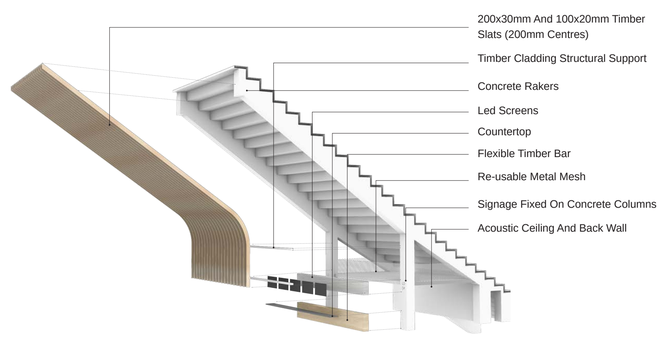
THE STADIUM EXPERIENCE



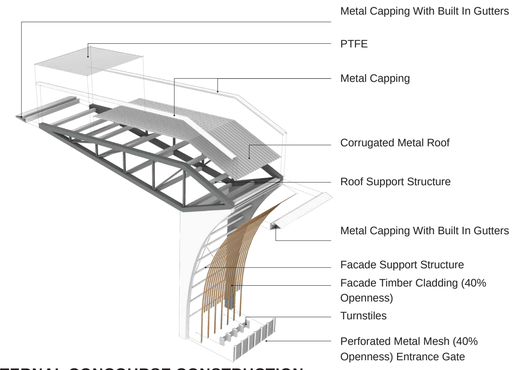
STADIUM BOWL - MAIN STAND SECTION - 1:100



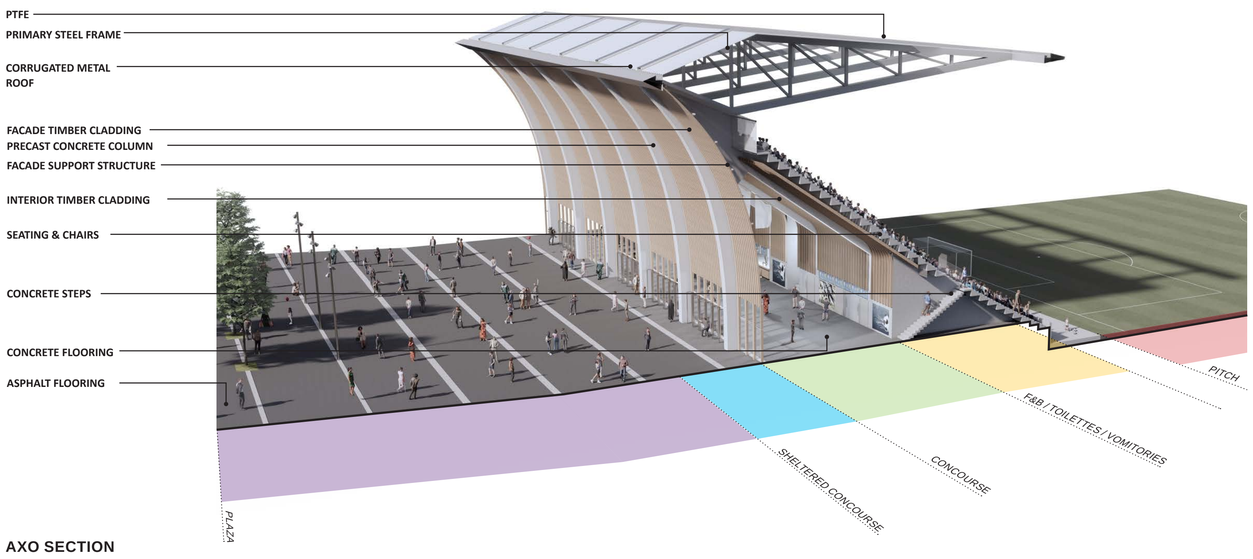
SECTION THROUGH FAÇADE/CONSTRUCTION (WEST STAND) - 1:100



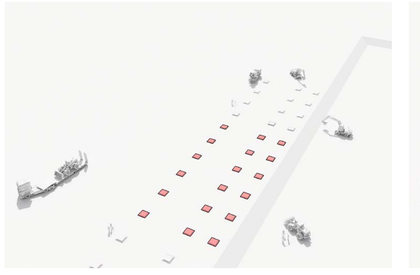
EXTERNAL FACADE AND ROOF CONSTRUCTION



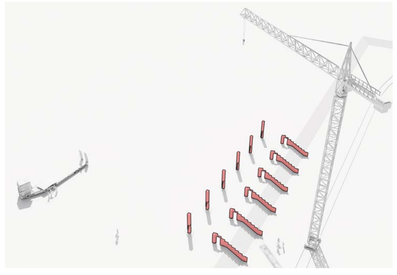
INTERNAL CONCOURSE CONSTRUCTION



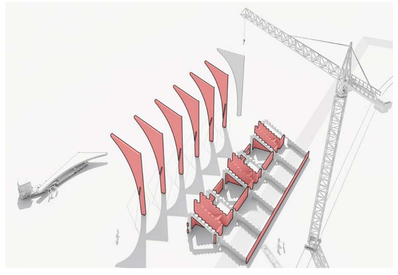
AXO SECTION



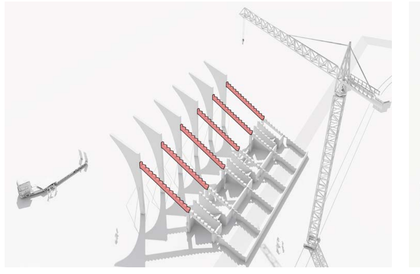
1. FOUNDATIONS AND FOOTINGS



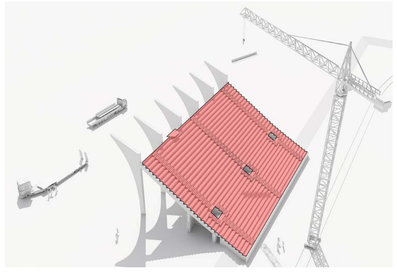
2. WALLS AND COLUMNS TO SUPPORT LOWER RAKES



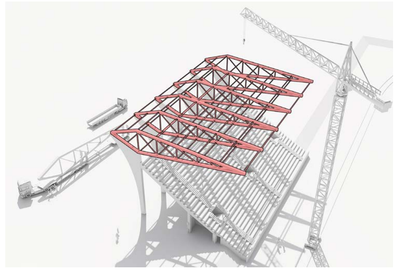
3. MAIN COLUMNS AND REMAINING WALLS



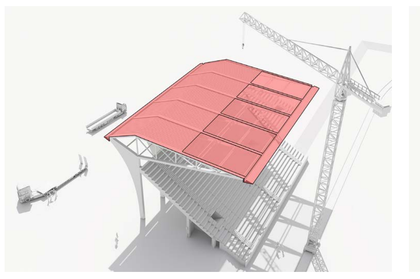
4. RAKER BEAMS



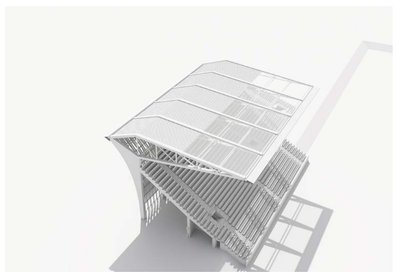
5. RAKER L-ELEMENTS



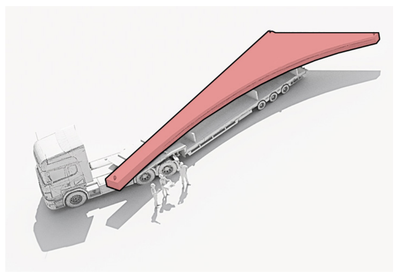
6. ROOF TRUSSES



7.ROOFING

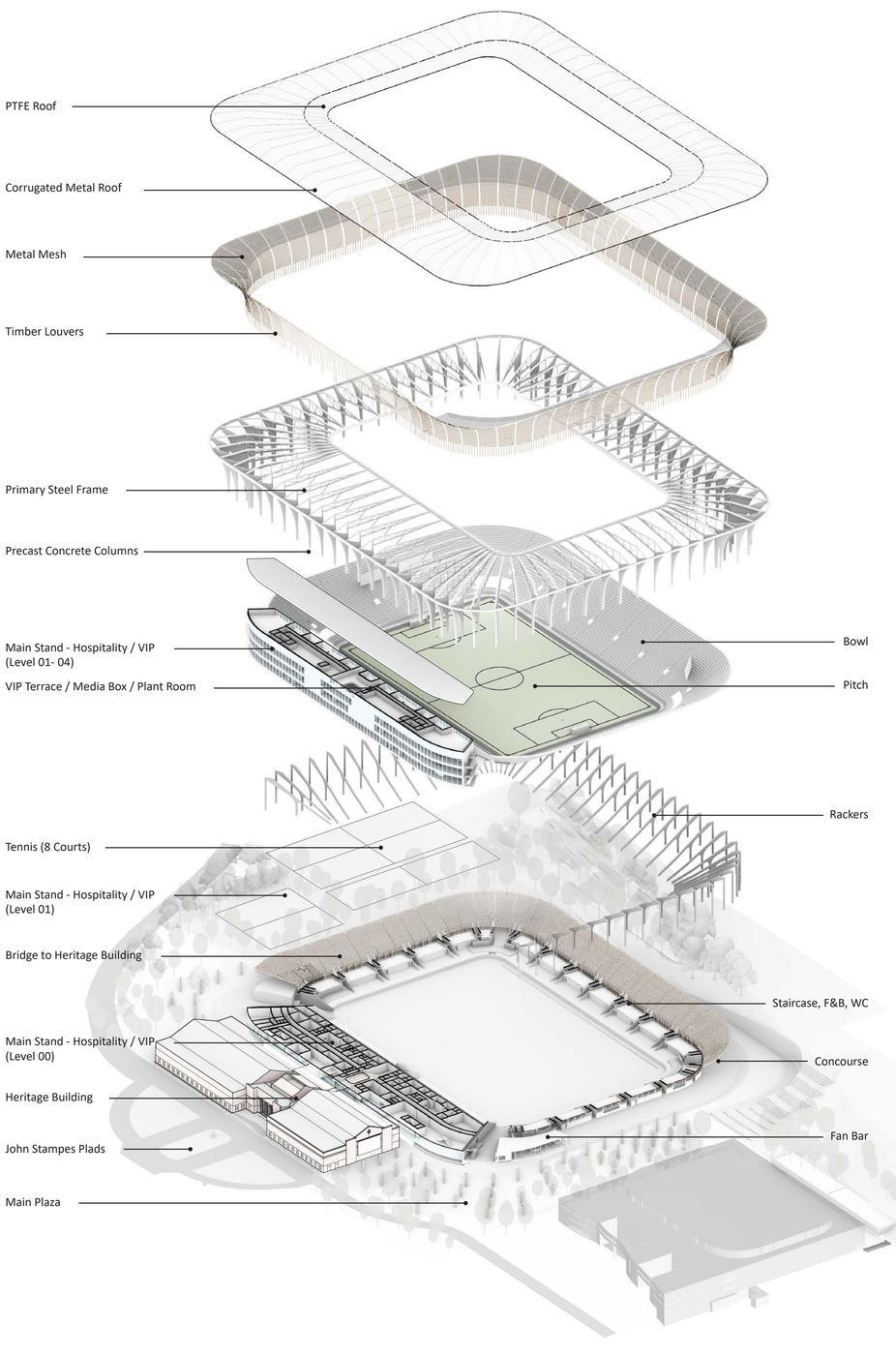


8. FINISHING, SEATS AND FACADE



CONSTRUCTION TRANSPORTATION

CONSTRUCTION SEQUENCE

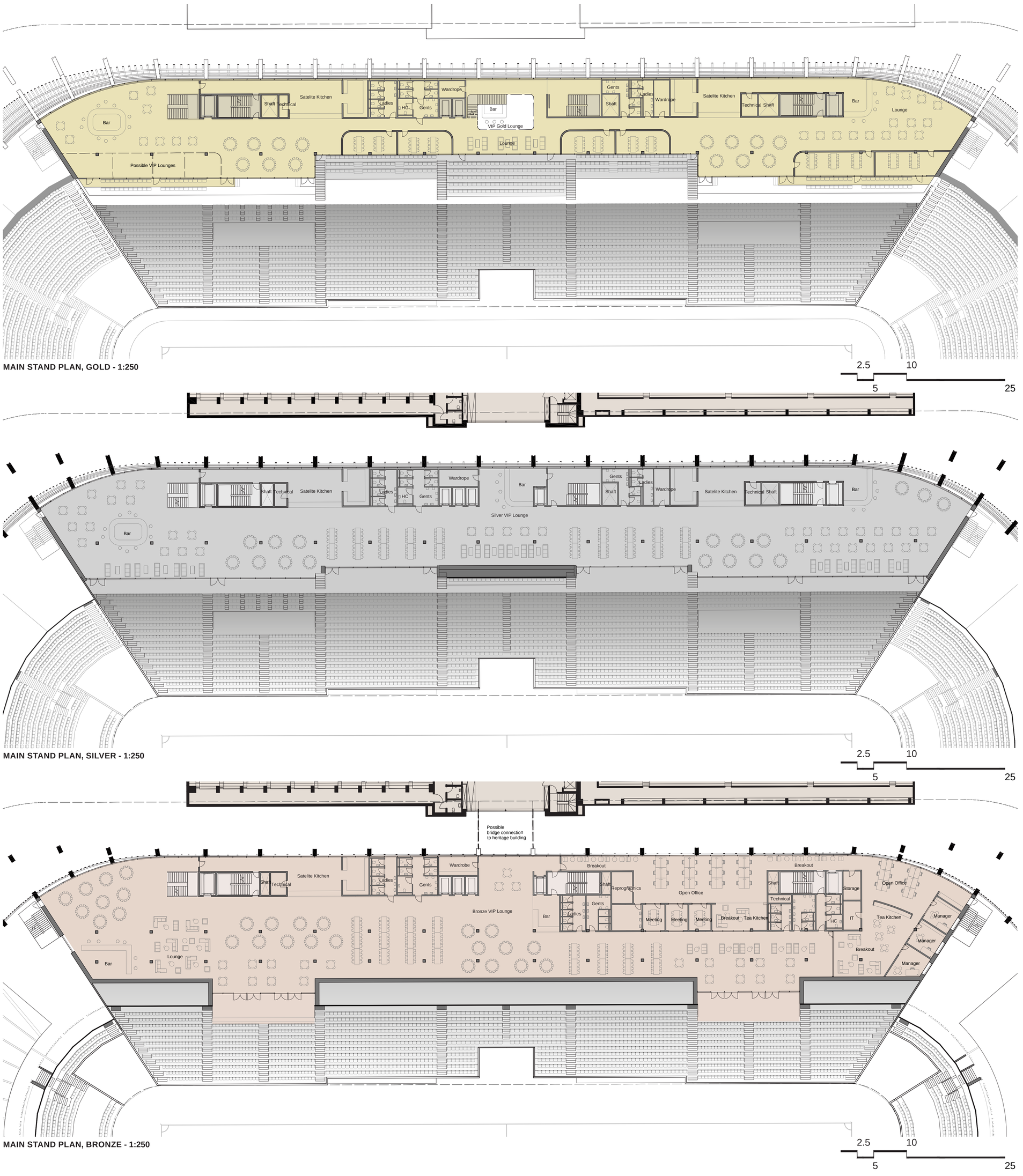


EXPLODED AXO DIAGRAM

TUNNEL VIEW

69893385

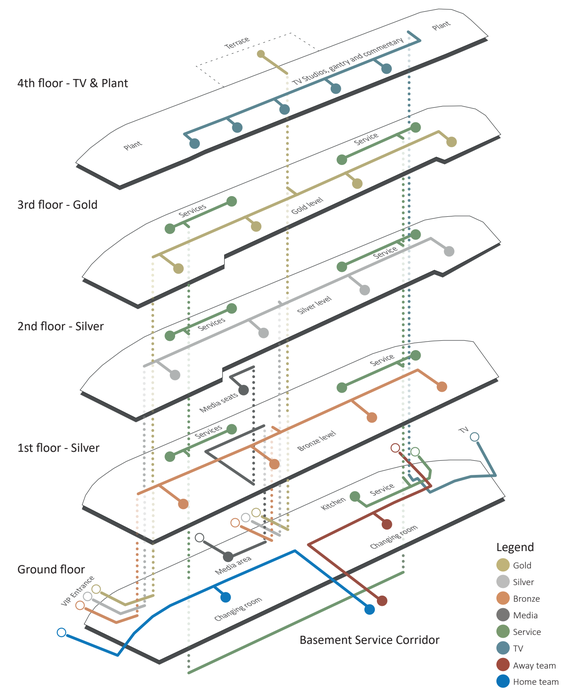
HOSPITALITY AREA - SILVER OR GOLD, INTERIOR WITH VIEW TO PITCH



MAIN STAND PLAN, GOLD - 1:250

MAIN STAND PLAN, SILVER - 1:250

MAIN STAND PLAN, BRONZE - 1:250



VERTICAL CIRCULATION DIAGRAM - NORTH STAND

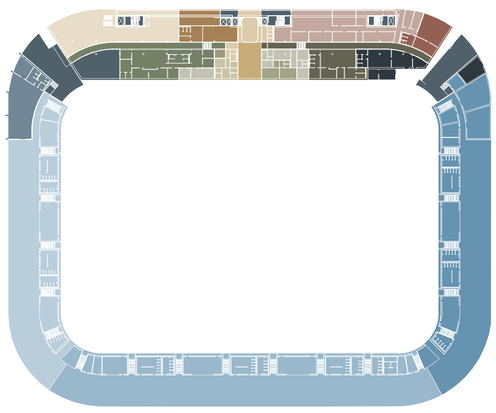
DEPARTMENT	AREA
Away Team	343 m²
Bronze	1980 m²
Catering	510 m²
Circulation and Archillary	761 m²
Doping	71 m²
East Stand	1986 m²
Fan Bar	289 m²
FM	249 m²
Gold	1834 m²
Home Team	443 m²
Media	208 m²
Medical	165 m²
Mixed Zone	109 m²
Office	635 m²
Officials	61 m²
Plant	1625 m²
Referee	12 m²
Security and Safety	150 m²
Silver	2195 m²
South Stand	2445 m²
Tunnel Club	153 m²
TV	364 m²
VIP entrance and lobby	505 m²
West Stand	1730 m²
Total	18,824 m²

4TH FLOOR

3RD FLOOR

2ND FLOOR

1ST FLOOR



GROUND FLOOR

PROGRAMME SCHEME

69893385