HEIGHT ACT CONCEPT PLANS

RFK CAMPUS STADIUM

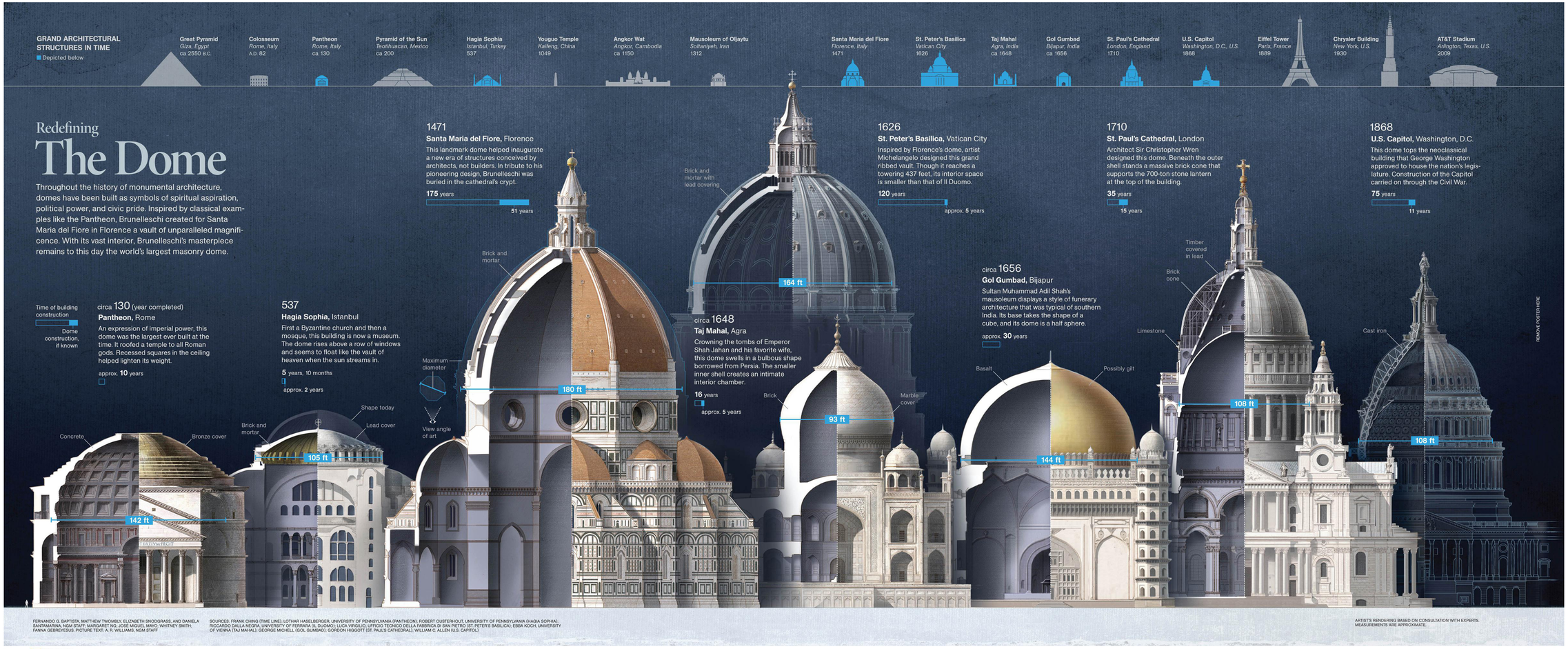
DECEMBER 31, 2025

HKS

EVOLUTION OF THE DOME

Dome forms and materials have evolved significantly over time, beginning with various forms of masonry and concrete. Today's domes span farther than ever with the use of steel and steel cables. Each of these domes over time are compriside of similar elements - structural ribs to cover the column-free space below and a shell to make the dome weathertight.

The structural ribs historically beared weight on a solid bearing wall as at the Pantheon in Rome. However, over time, the structures evolved to extend the ribs to the ground, allowing more free-flowing movement around the base of the dome. This evolution can be seen below in the graphic depiction of domes from National Geographic.



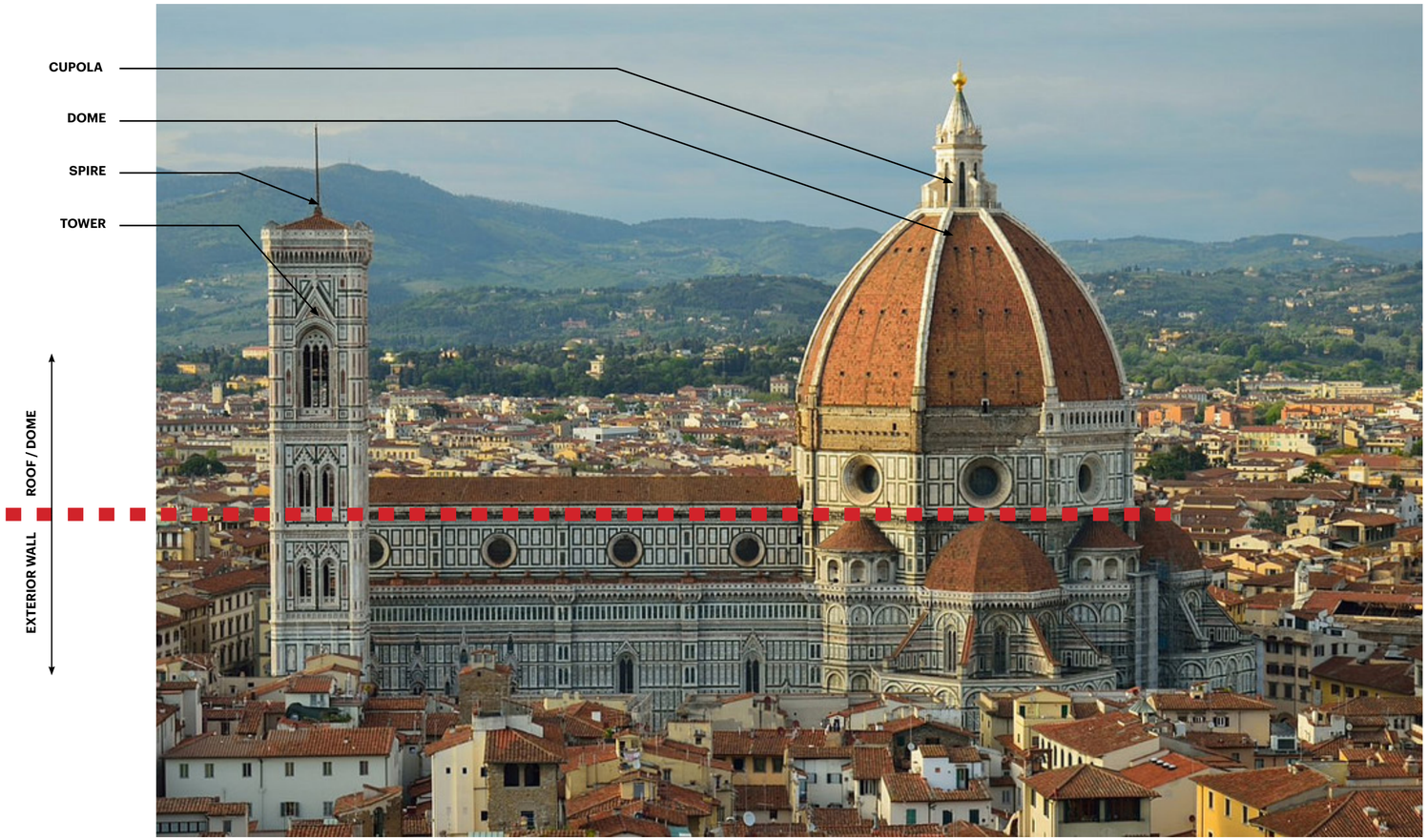
FERNANDO G. BAPTISTA, MATTHEW TWOMBLY, ELIZABETH SNODGRASS, AND DANIELA SANTAMARINA, NGM STAFF; MARGARET NG, JOSE MIGUEL MAYO, WHITNEY SMITH, FANNA GEBREYESUS, PICTURE TEXT: A. R. WILLIAMS, NGM STAFF

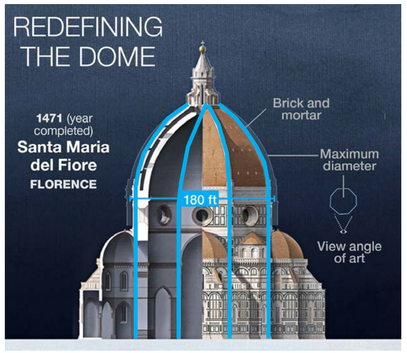
SOURCES: FRANK CHING (TIME LINE); LOTHAR HASELBERGER, UNIVERSITY OF PENNSYLVANIA (PANTHEON); ROBERT OUSTERHOUT, UNIVERSITY OF PENNSYLVANIA (HAGIA SOPHIA); RICCARDO DALLA NEGRA, UNIVERSITY OF FERRARA (IL DUOMO); LUCA VIRGILIO, UFFICIO TECNICO DELLA FABBRICA DI SAN PIETRO (ST. PETER'S BASILICA); EBBA KOCH, UNIVERSITY OF VIENNA (TAJ MAHAL); GEORGE MICHELL (GOL GUMBAD); GORDON HIGGOTT (ST. PAUL'S CATHEDRAL); WILLIAM C. ALLEN (U.S. CAPITOL)

ARTIST'S RENDERING BASED ON CONSULTATION WITH EXPERTS. MEASUREMENTS ARE APPROXIMATE.

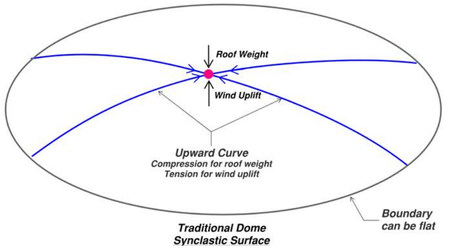
NATIONAL GEOGRAPHIC

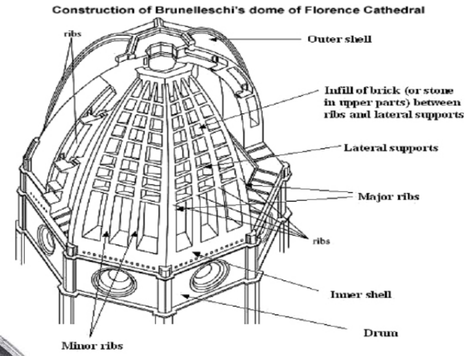
TRADITIONAL DOME ELEMENTS

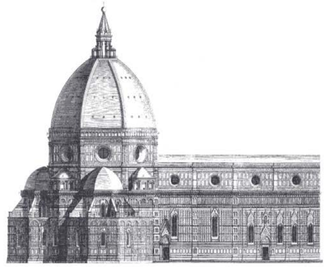


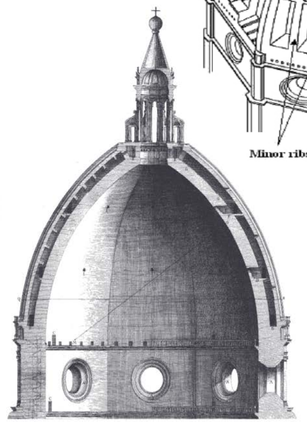


EXTENT OF MAJOR STRUCTURAL RIBS



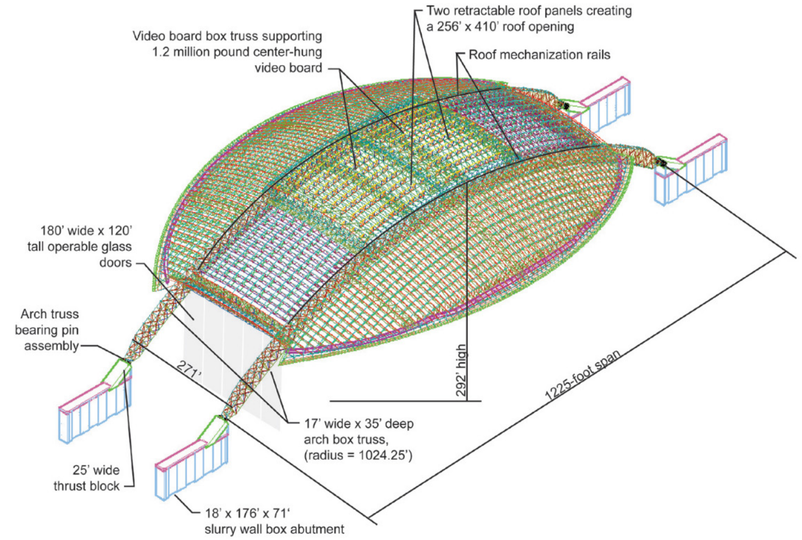






EVOLUTION OF THE DOME

Since the Height Act was established in 1910, dome structures have evolved significantly to create large, open, column-free environments. Seen here are four examples of dome structures constructed since 1910. Dorton Arena, constructed in 1952, consists of a hyperbolic paraboloid roof shape constructed of two steel arches connected by steel tension cables. In 1964, Cassell Coliseum at Virginia Tech created a large open space for it's arena floor using concrete and laminated wood arches with steel tension rods. Also in 1964, the Astrodome used a steel lamella dome to create the first indoor major league baseball park. In 2009, AT&T Stadium opened with the longest single-span roof structure in the world by using a pair of steel arched box trusses to create the dome that covers the stadium seating bowl.



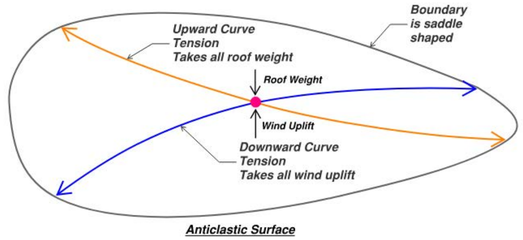
2009 - AT&T Stadium; Steel Arched Box Truss Dome

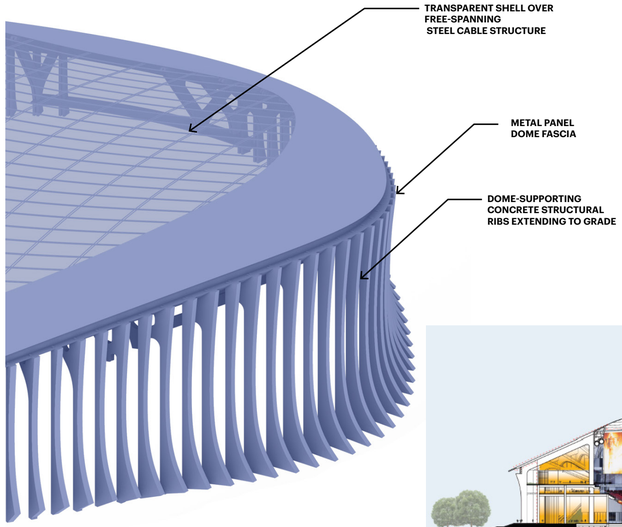
1952 - Dorton Arena; Hyperbolic Paraboloid Dome

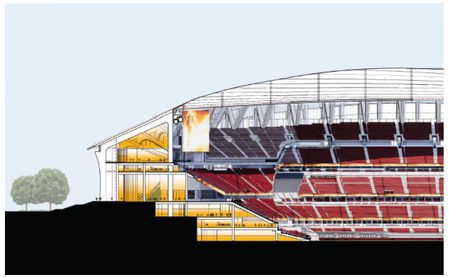
1964 - Cassell Coliseum; Free-Spanning Concrete and Laminated Wood Dome

1964 - Houston Astrodome; Steel Lamella Dome

RFK CAMPUS STADIUM DOME ELEMENTS



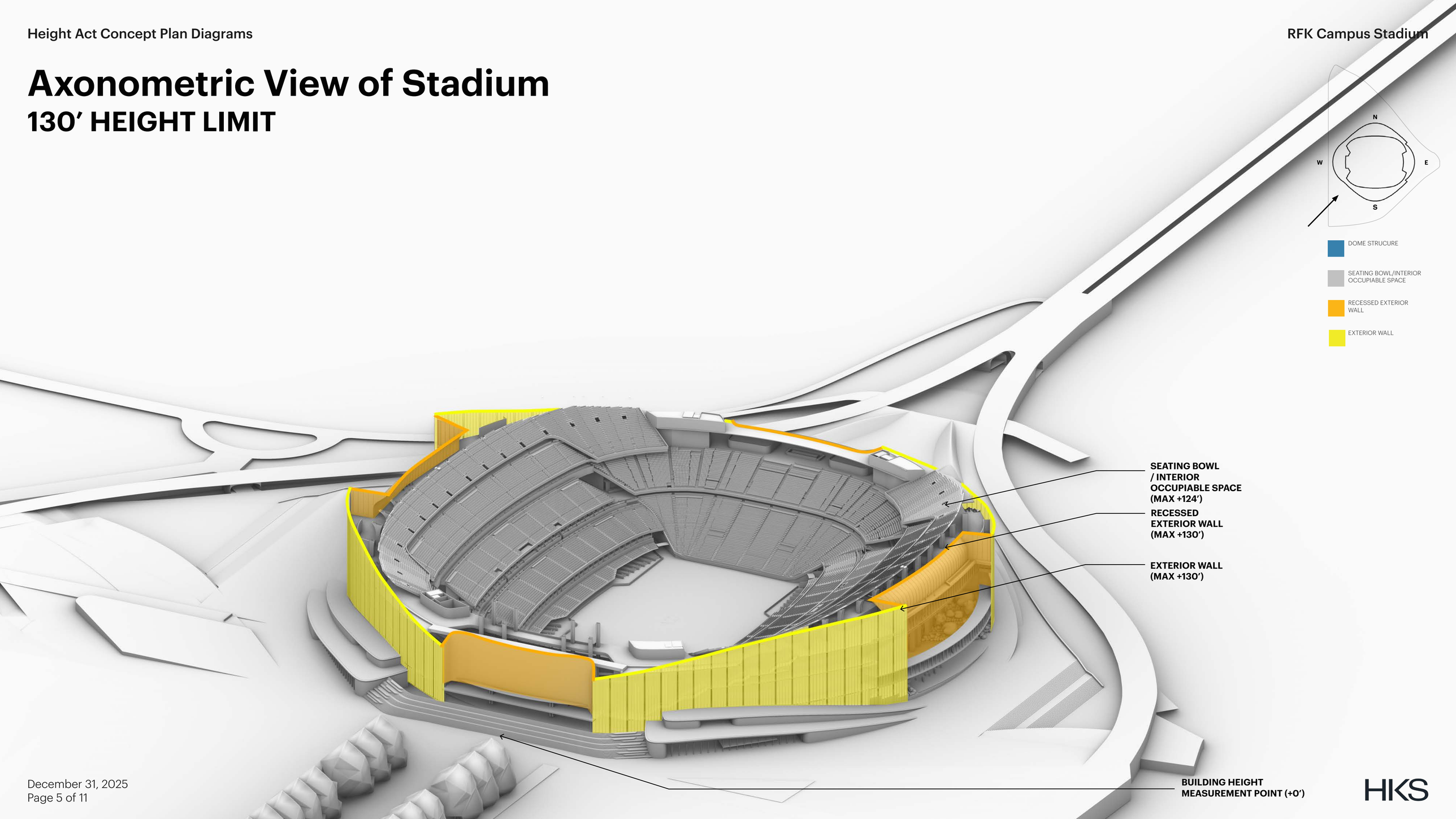




HKS

Axonometric View of Stadium

130’ HEIGHT LIMIT

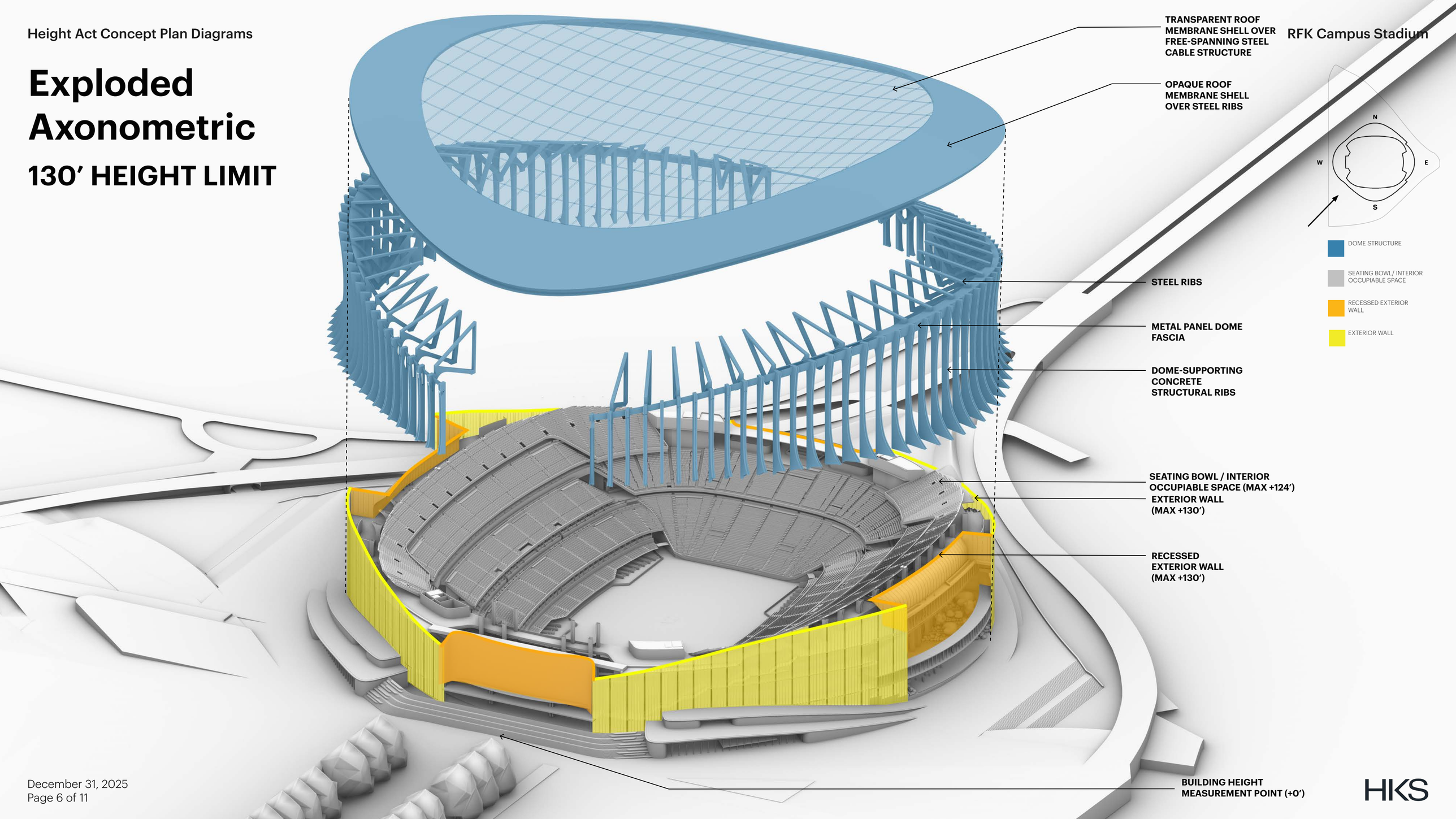


HKS

Exploded Axonometric

130’ HEIGHT LIMIT

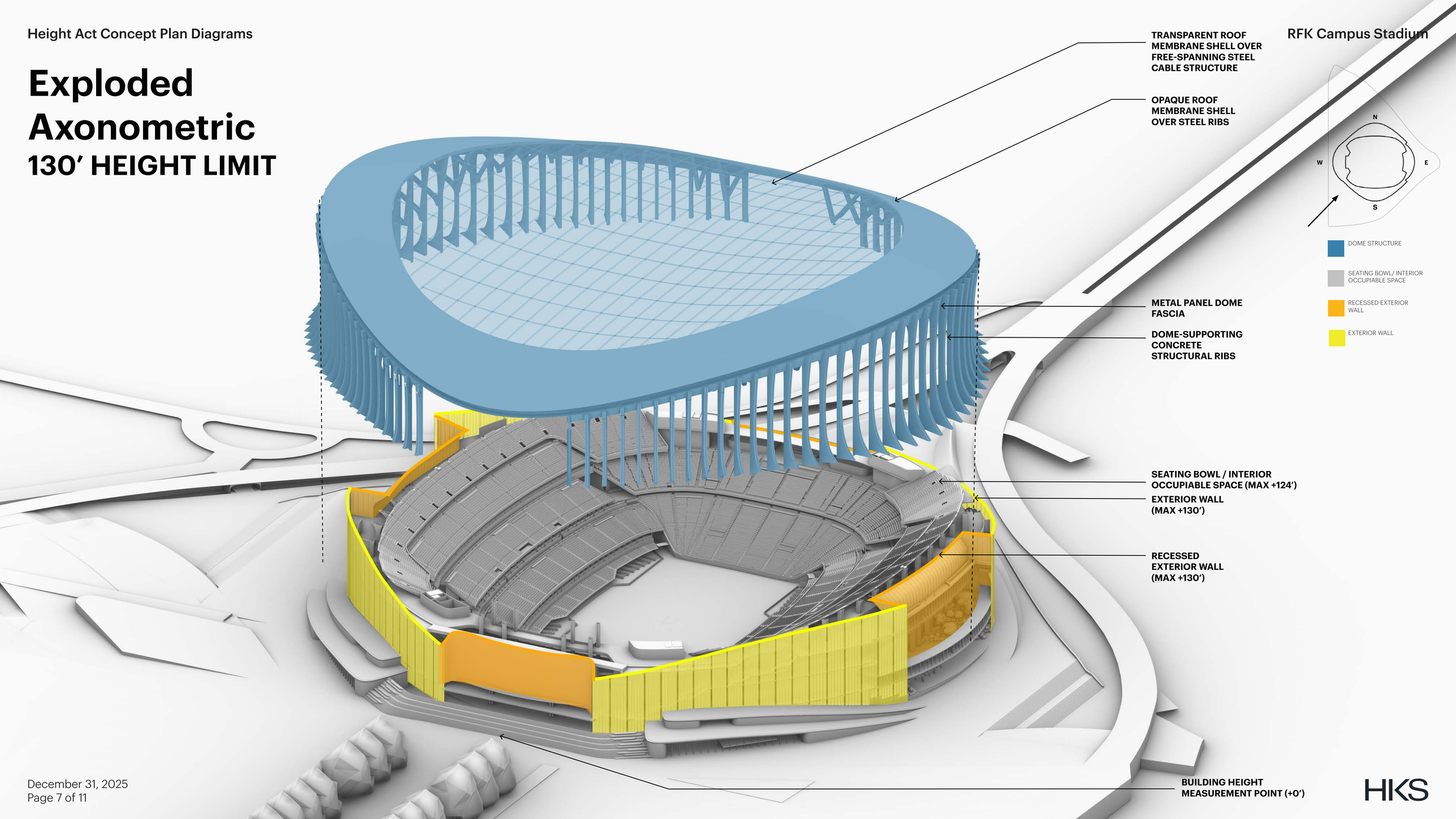
RFK Campus Stadium



HKS

Exploded Axonometric
130’ HEIGHT LIMIT

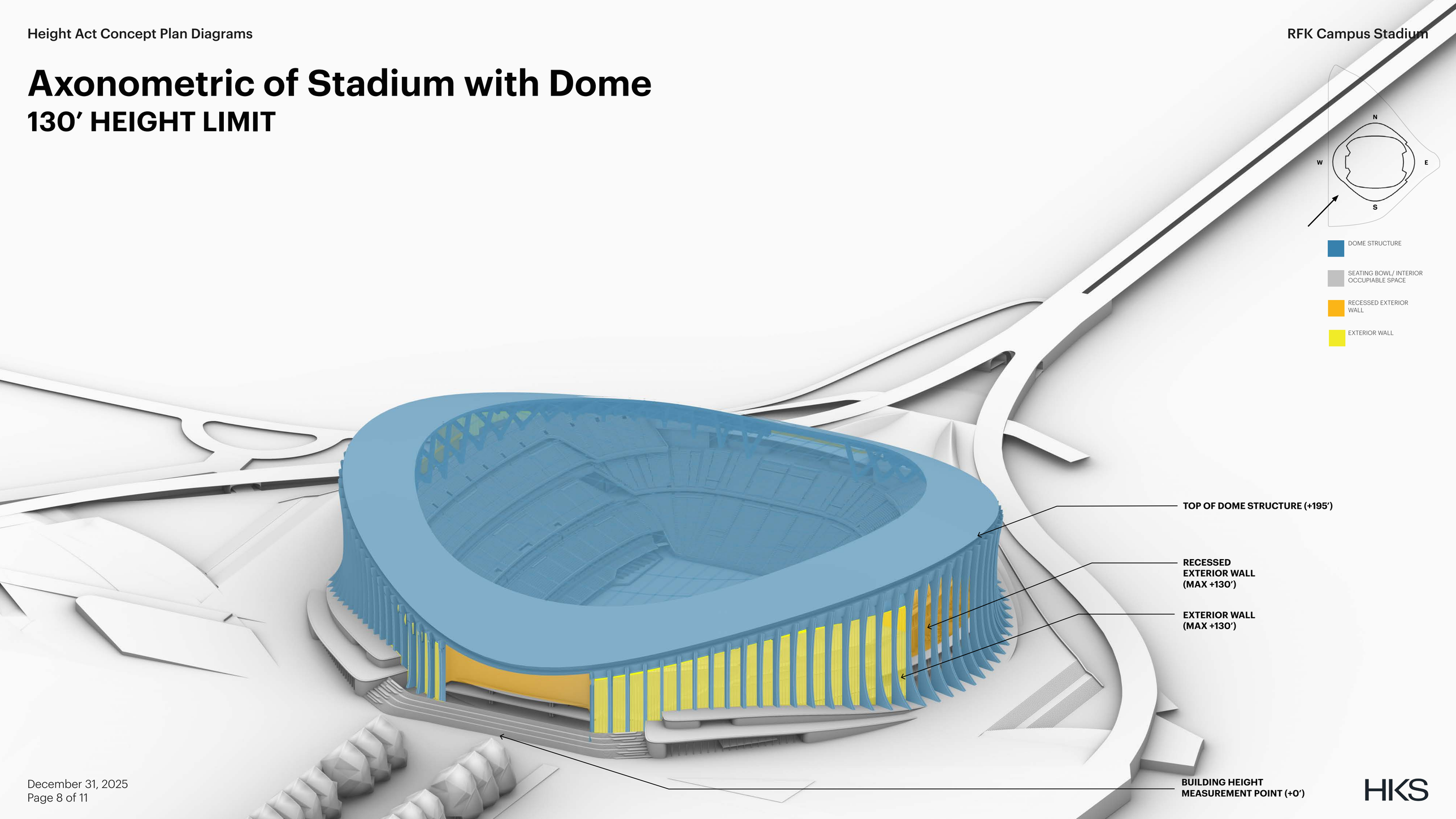
RFK Campus Stadium



HKS

Axonometric of Stadium with Dome

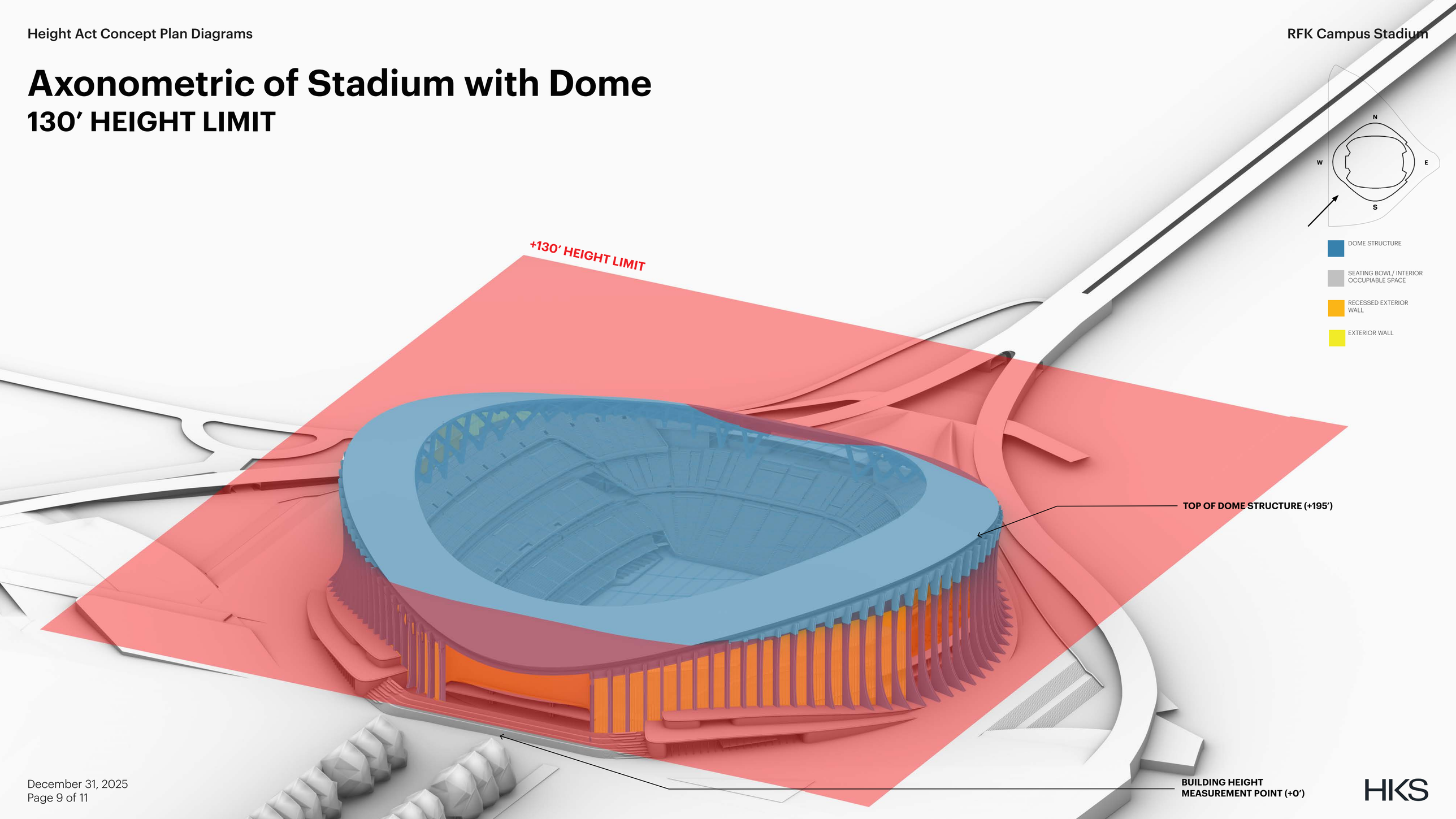
130’ HEIGHT LIMIT



HKS

Axonometric of Stadium with Dome

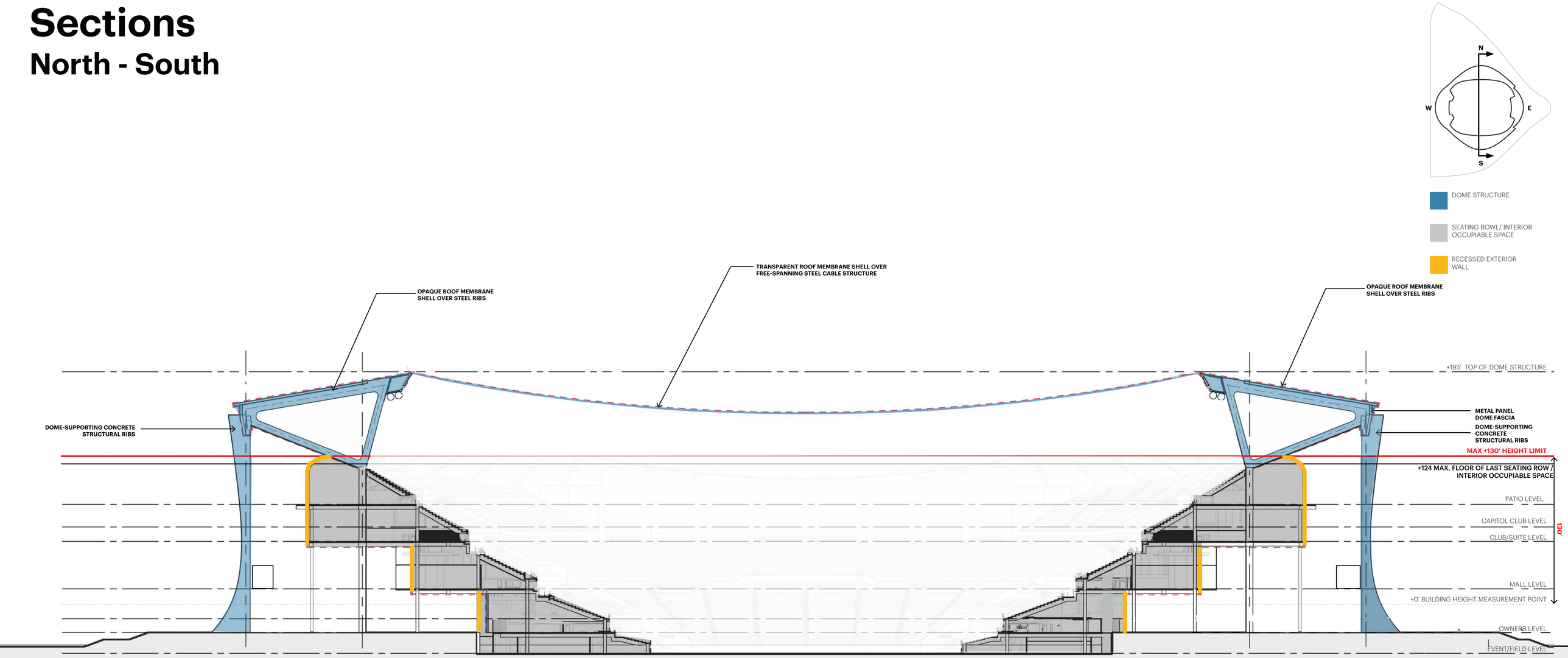
130’ HEIGHT LIMIT



HKS

Sections

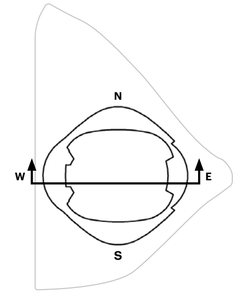
North - South



HKS

Sections

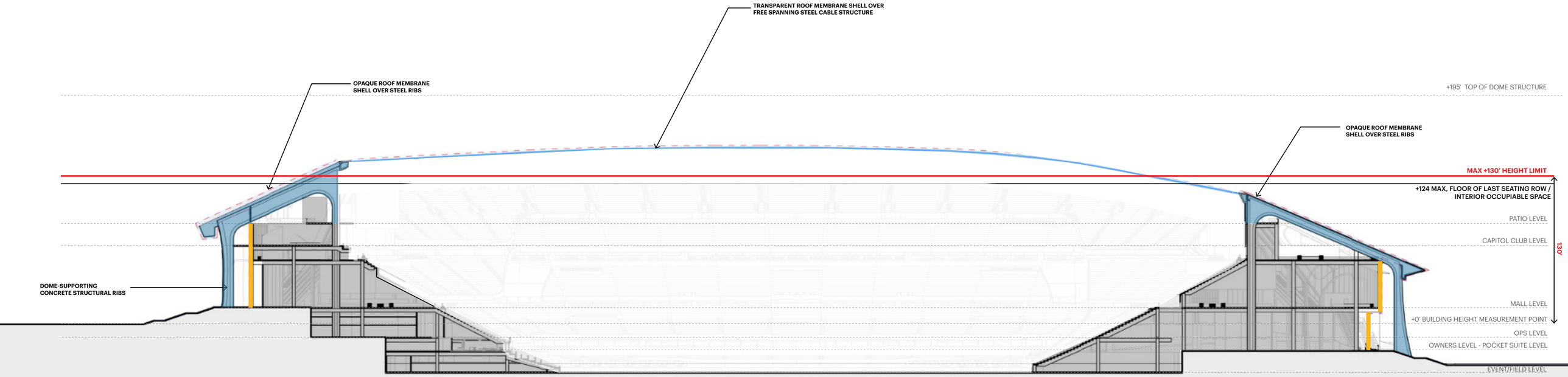
East-West



DOME STRUCTURE

SEATING BOWL/ INTERIOR OCCUPIABLE SPACE

RECESSED EXTERIOR WALL



HKS