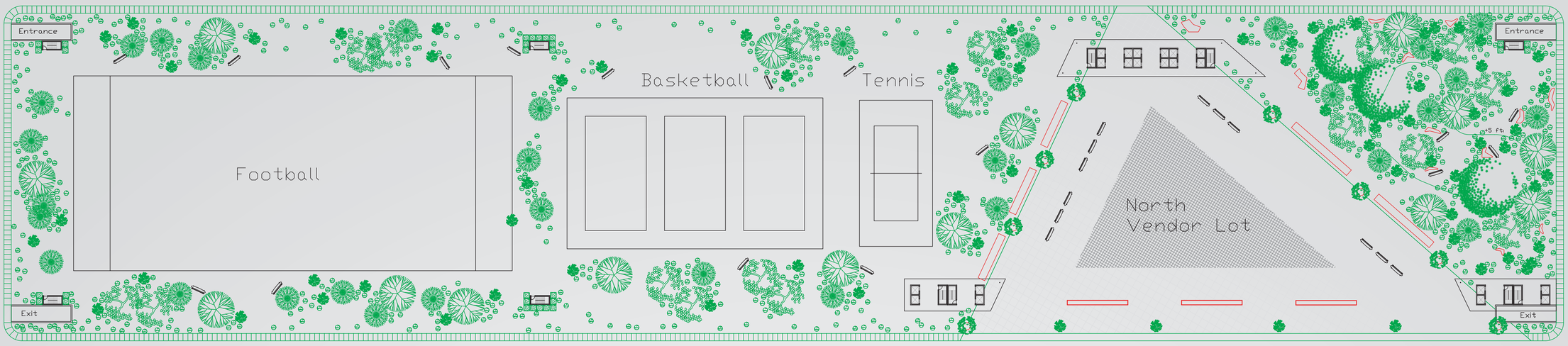
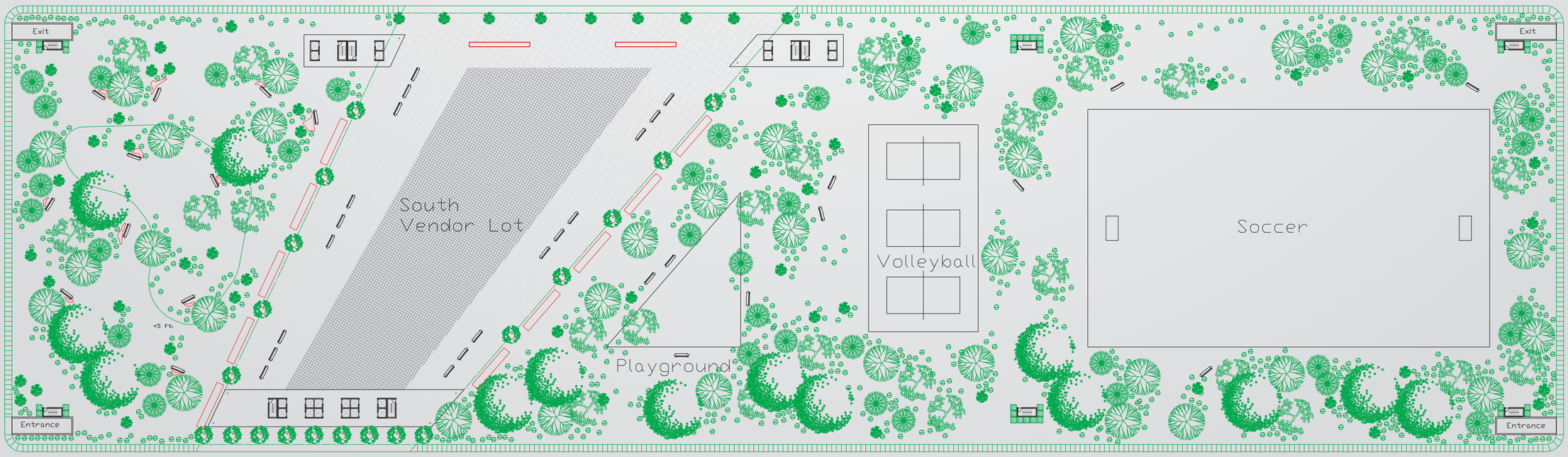
Site & Landscape Plan





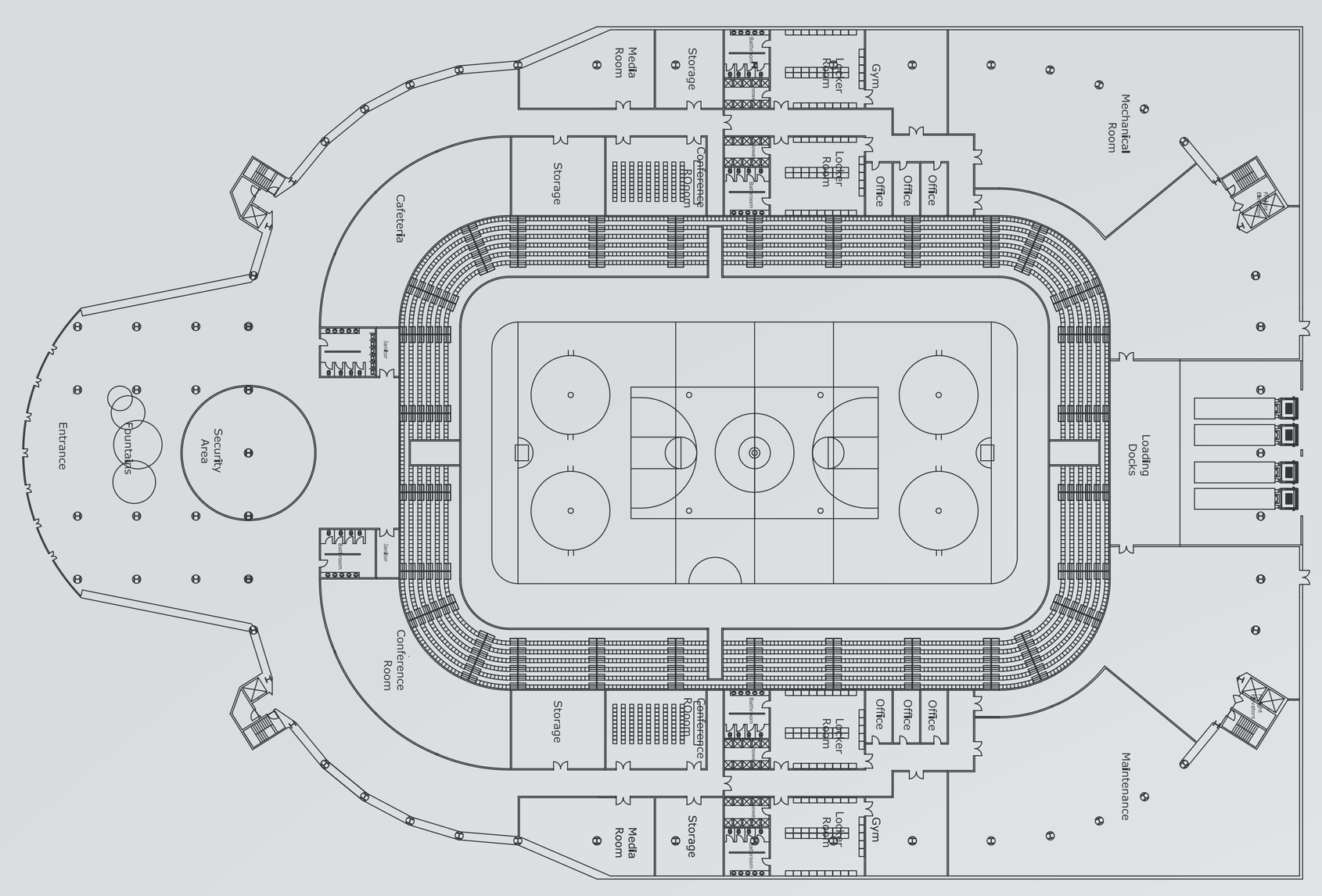
Scale 1 : 500

Shown: First floor of stadium

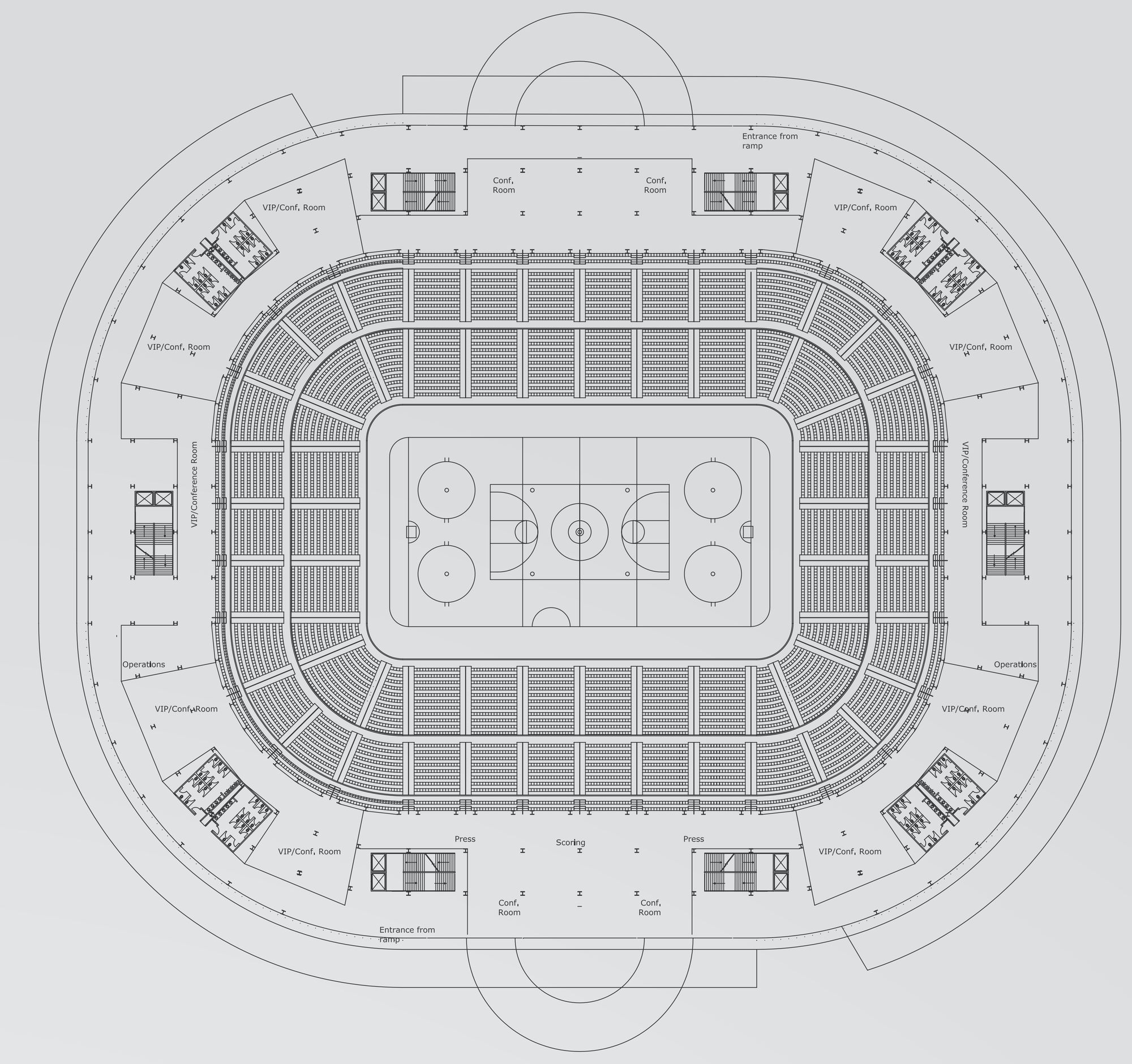
IPRO - 335 Design of a Stadium

December 1, 2006

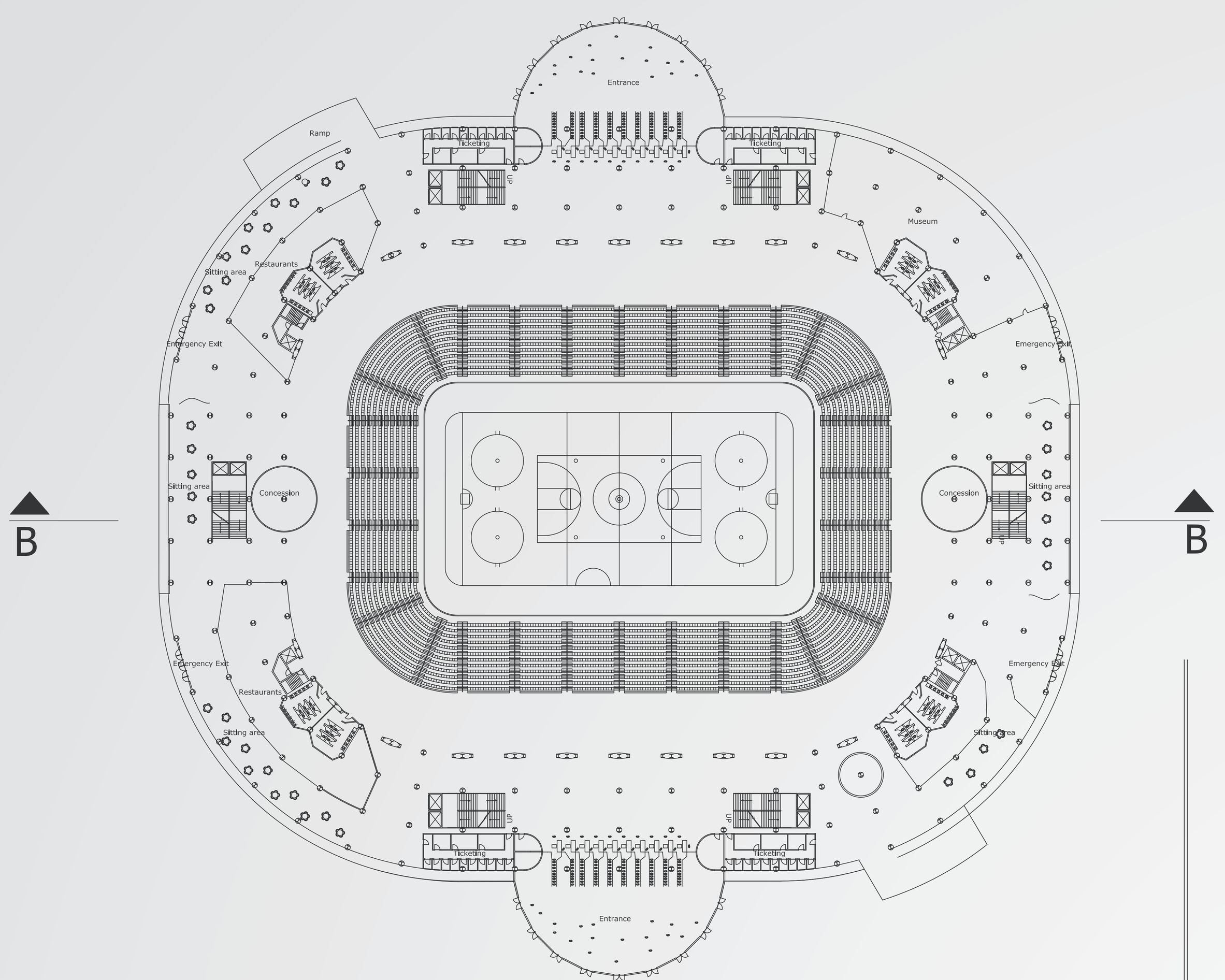
THE NEW UNITED CENTER



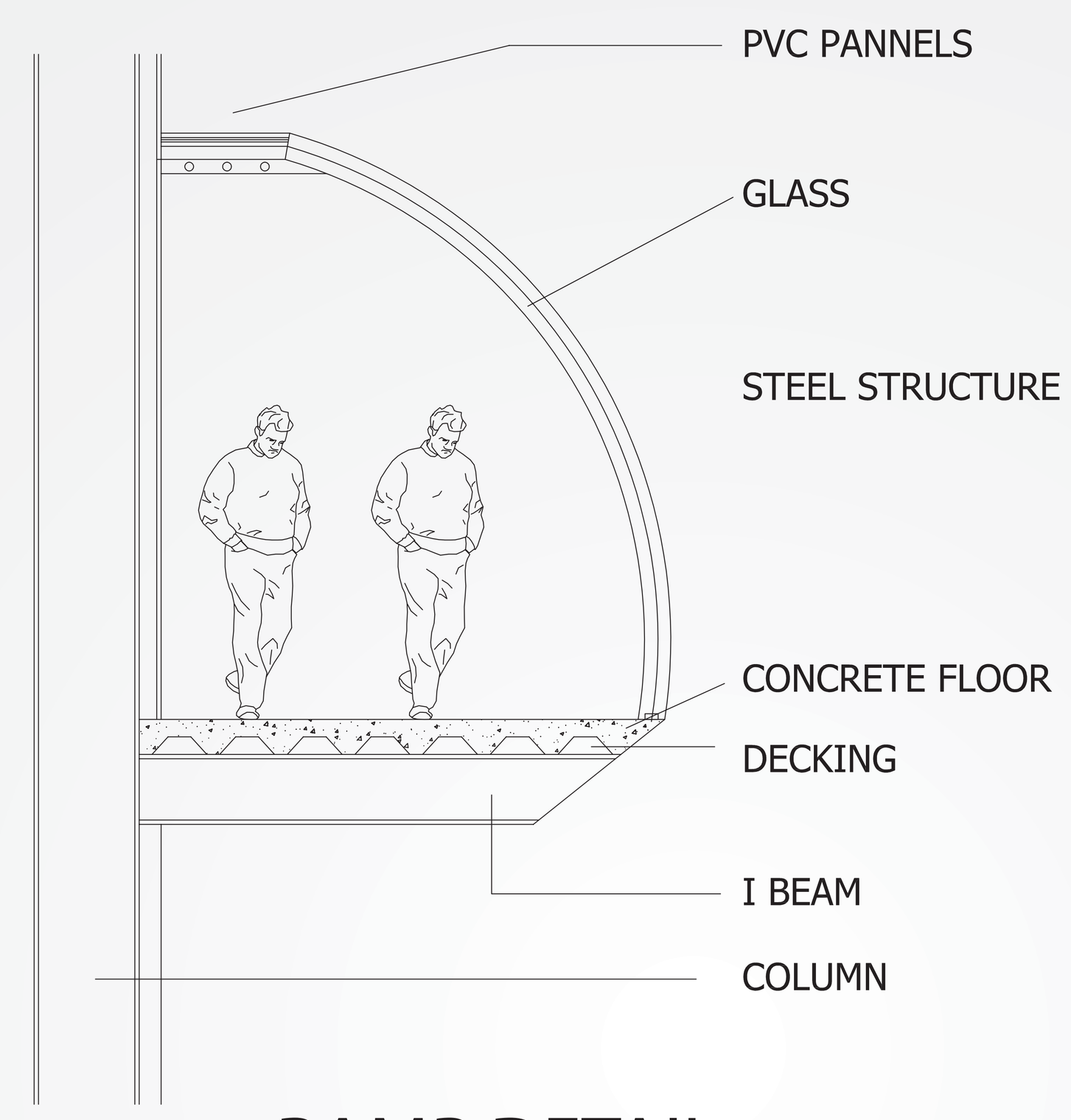
Basement Floor (lobby/locker rooms)



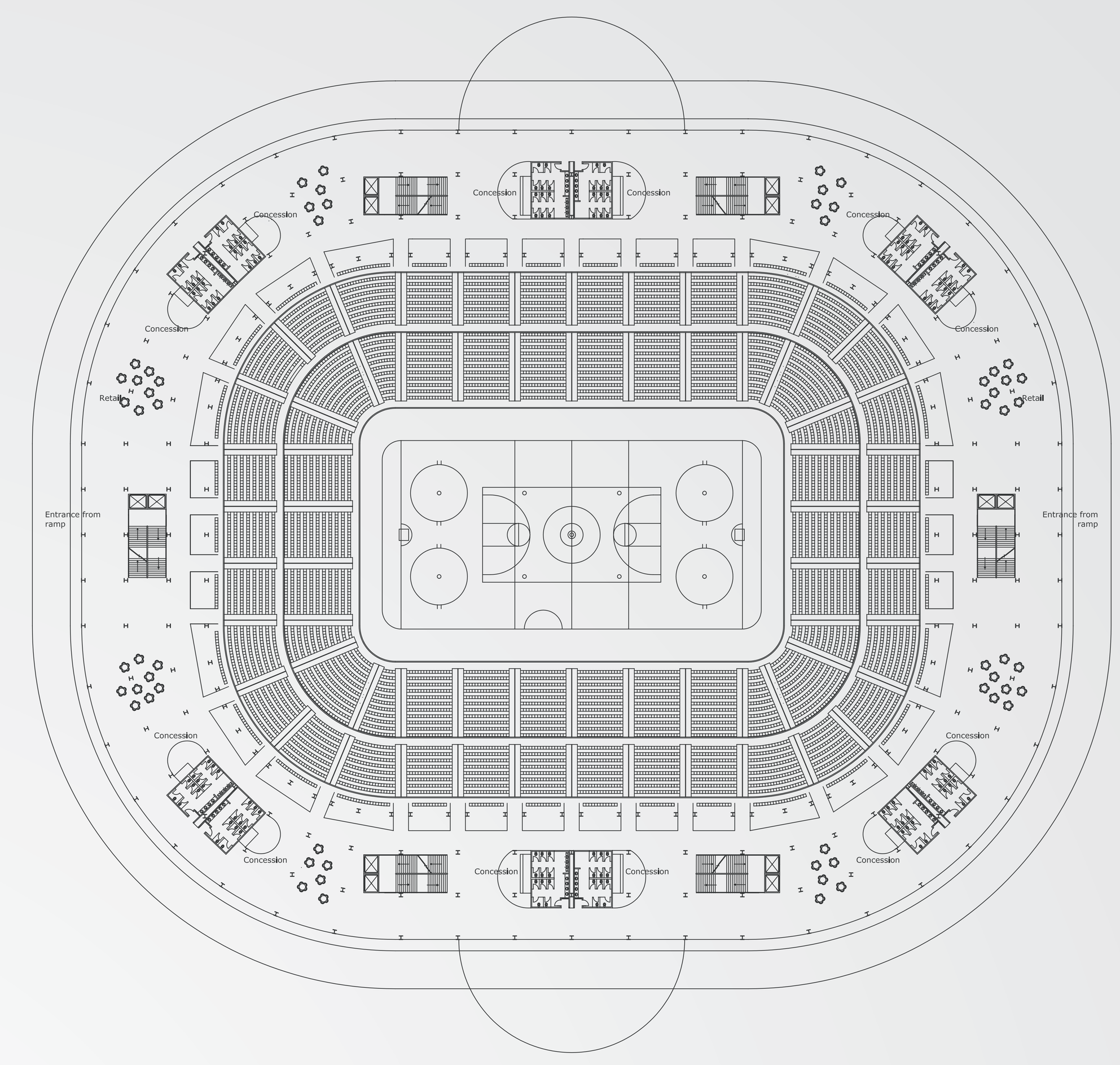
Third floor (vip rooms)



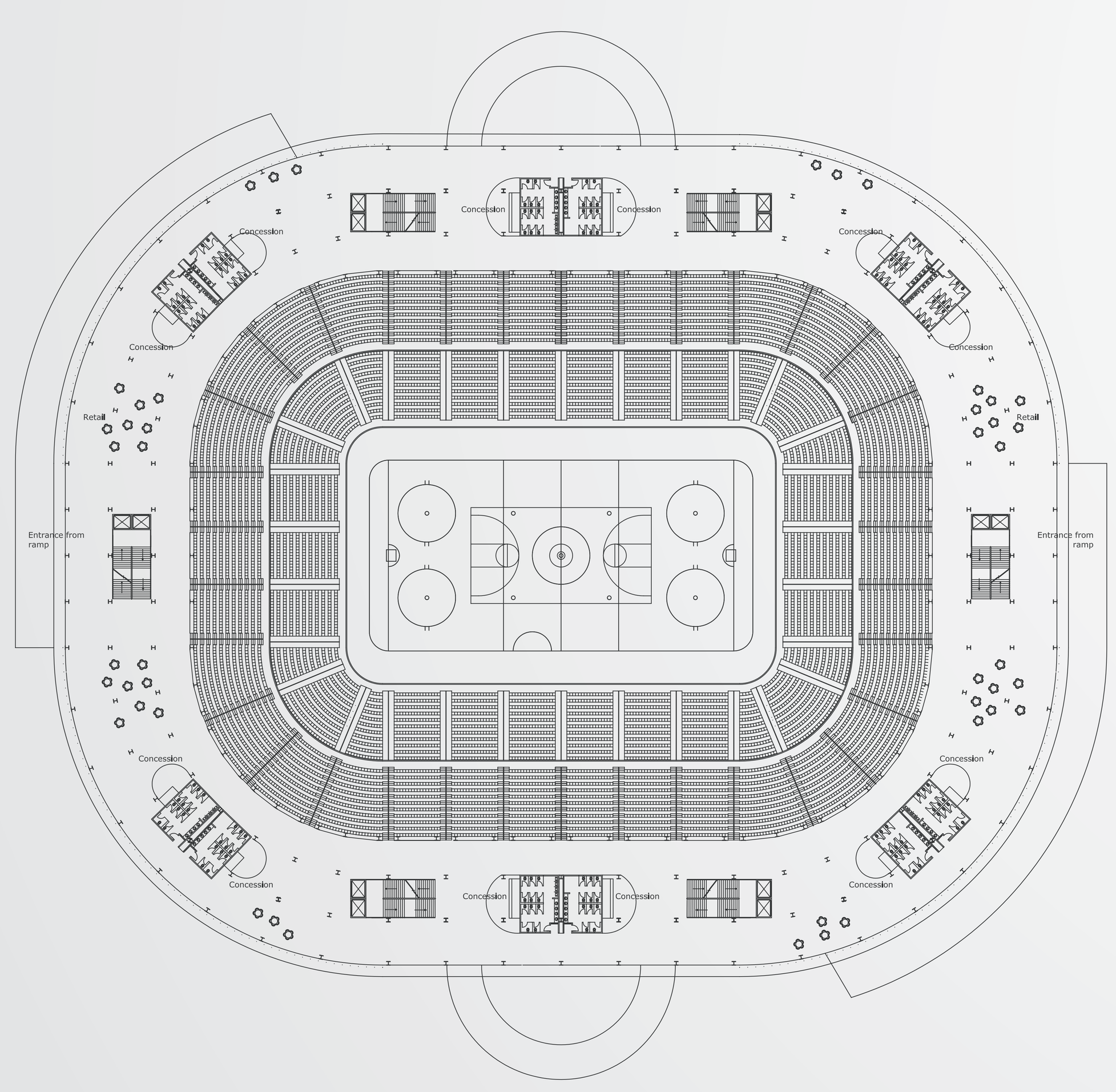
First floor (lobby/museum)



RAMP DETAIL

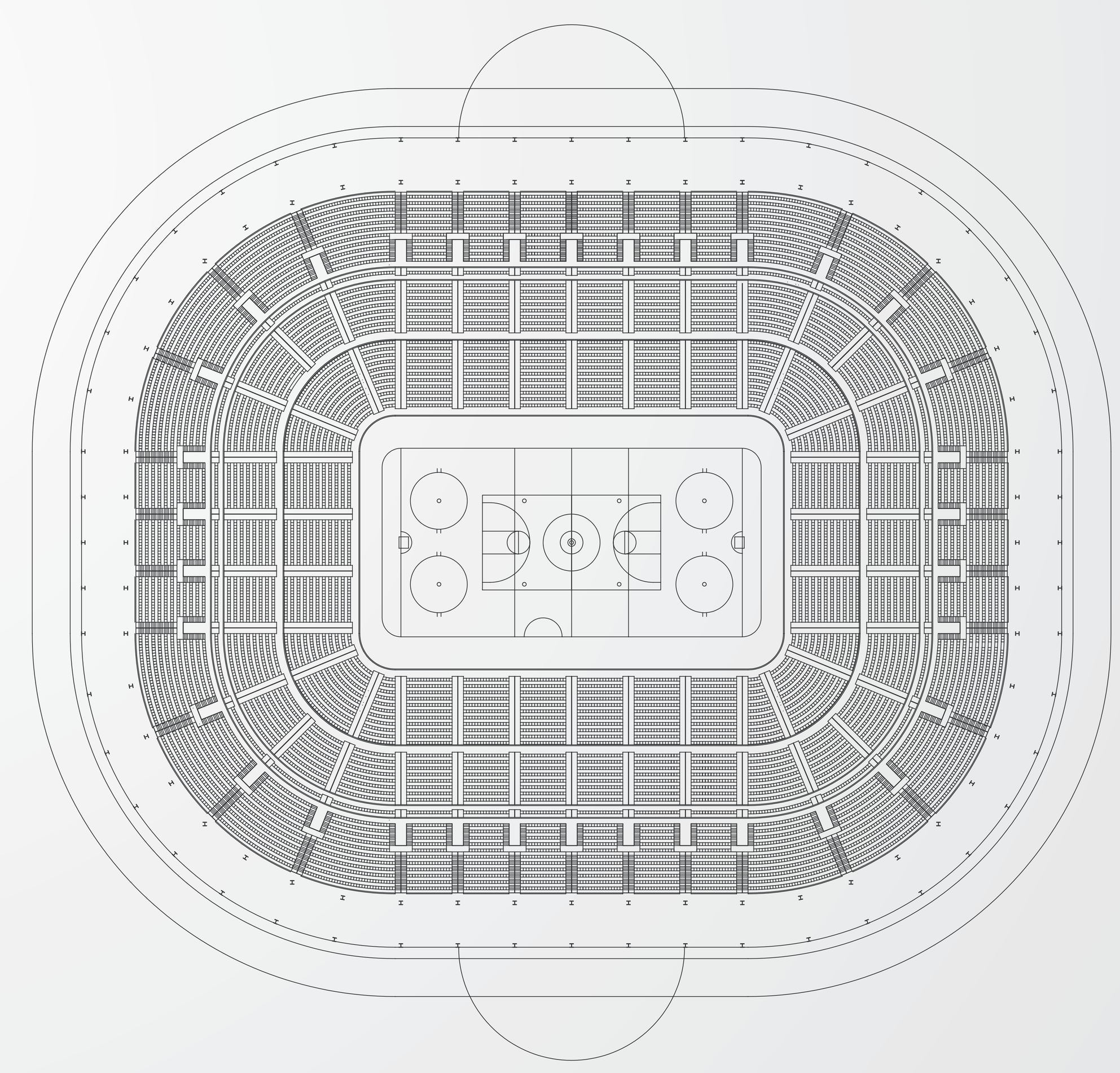


Fourth floor (access level)

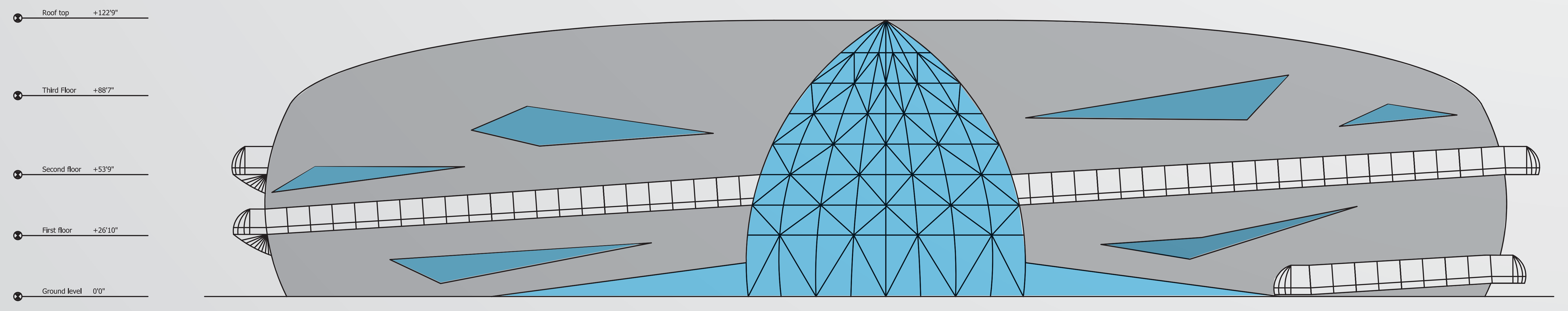


Second floor (tier)

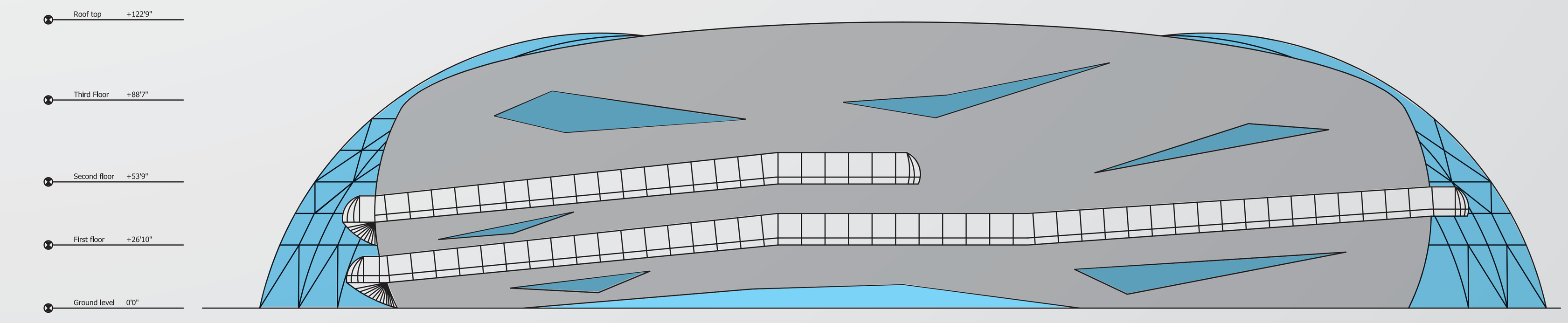
SCALE 1/64″= 1′-0″



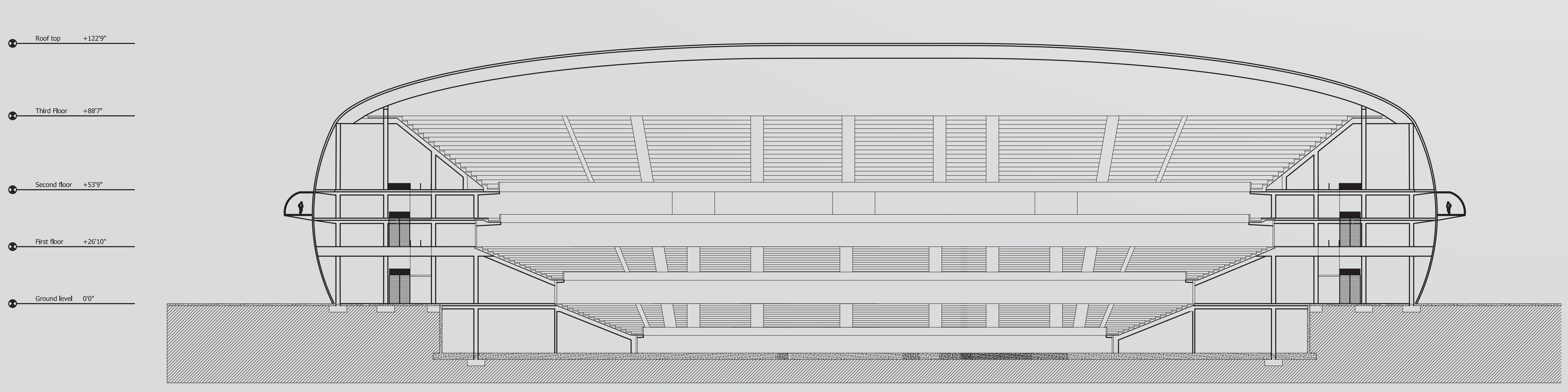
Fourth floor (tier)



FRONT ELEVATION

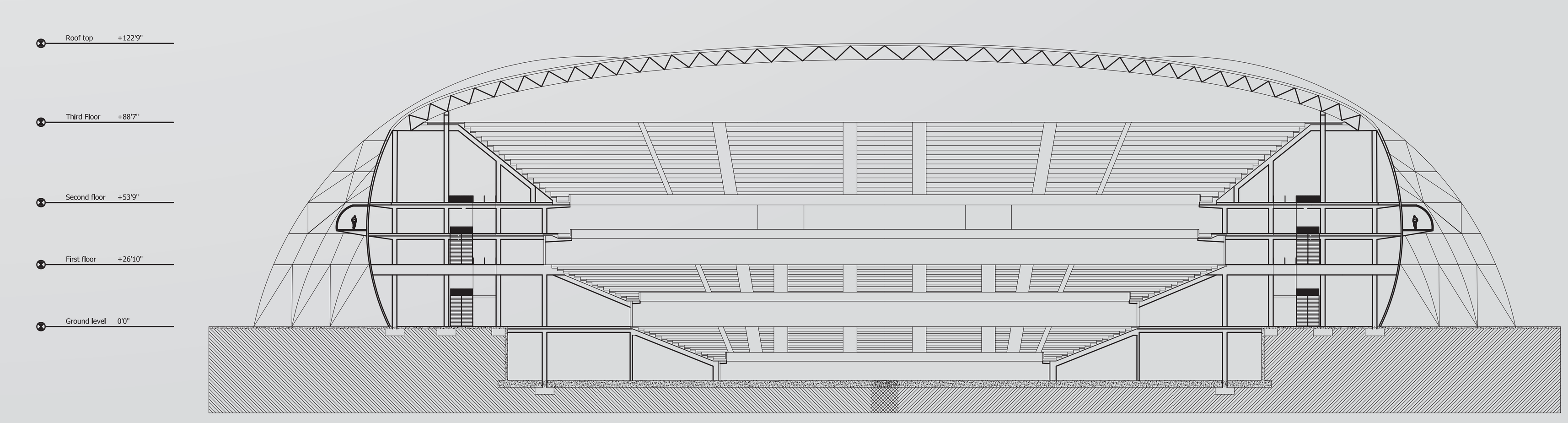


SIDE ELEVATION



SECTION B-B

SCALE 1/24″= 1′-0″

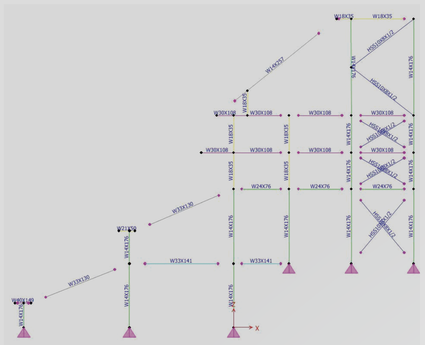


SECTION A-A

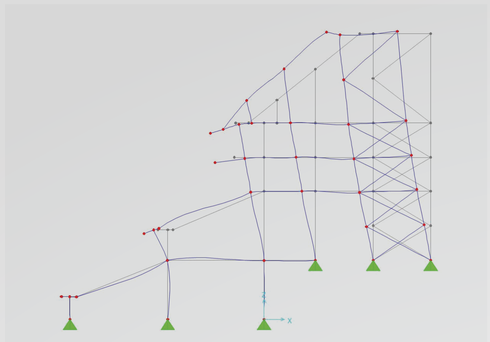
IPRO-335 Design of a Stadium

Structural Analysis and Design

Frame Analysis

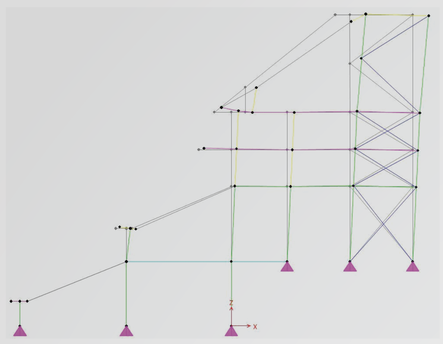


Braced Frame

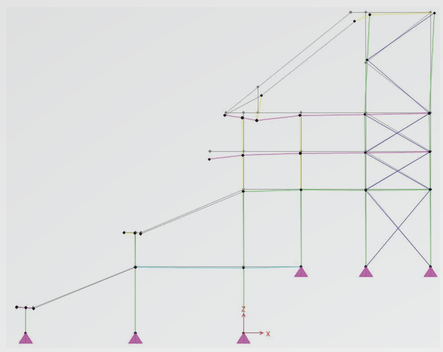


Deformed Frame – Seismic Loads

Braced Frame – Seismic Loads



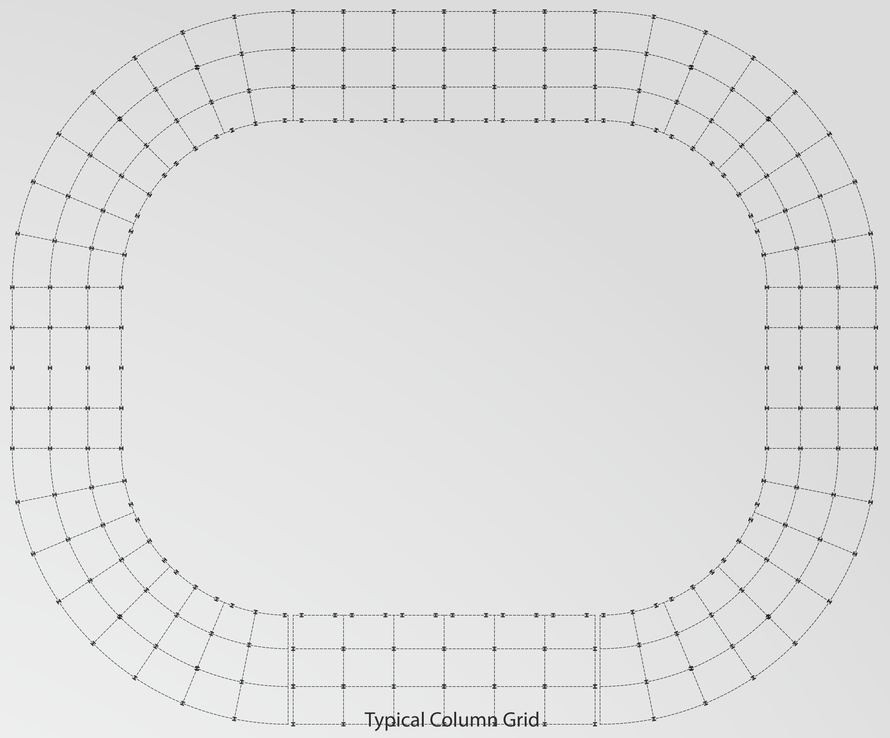
Time History Analysis



Deflections Cased by Combo 2

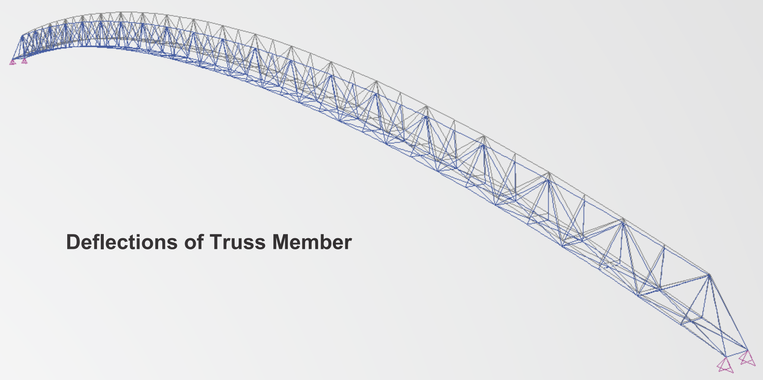
Push Analysis At Step 15

Column Grid



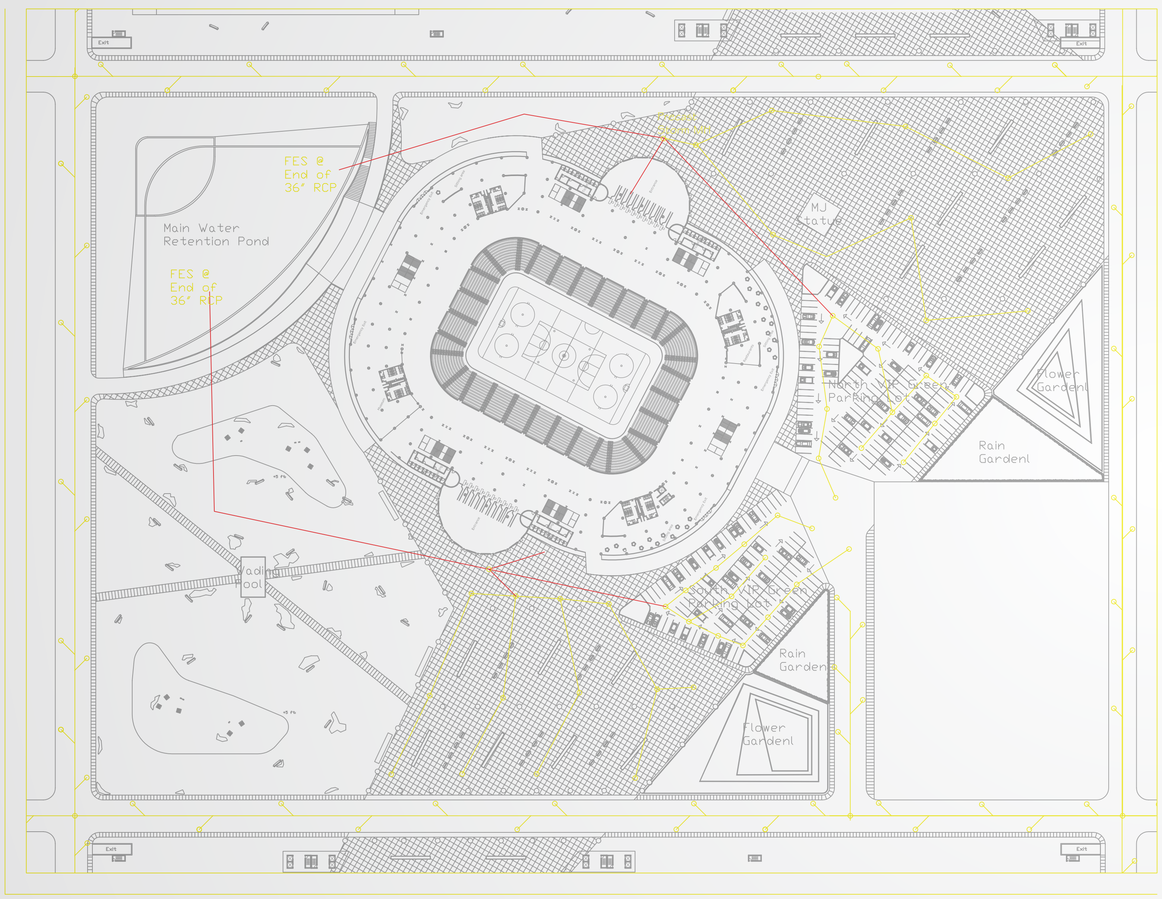
Typical Column Grid

Not to scale



Deflections of Truss Member

Drainage Design



The designs for the retention basin, which collects the rain water from parking garage, paved areas on site, and arena roof. This water is to be used for irrigation purposes or for other mechanical uses in the arena.

Mechanical Systems Design

Plumbing Design

Efficient Plumbing Model			
Fixture	Model	% water saved	weighted % savings
Water Closet	Kohler 4405 L	20	13.9
Urinal	Kohler K-4915	50	9.8
Drinking Fountain	Haws 1011HPSMS w/ Filter Model 6426	0	0.0
Shower head	Ecotech Low Flow Showerhead	60	1.2
Lavatory	Geberit Electronic Faucet 115.736.21.1 w/ 5 gpm aerator	75	5.4
		Total Savings	30.1

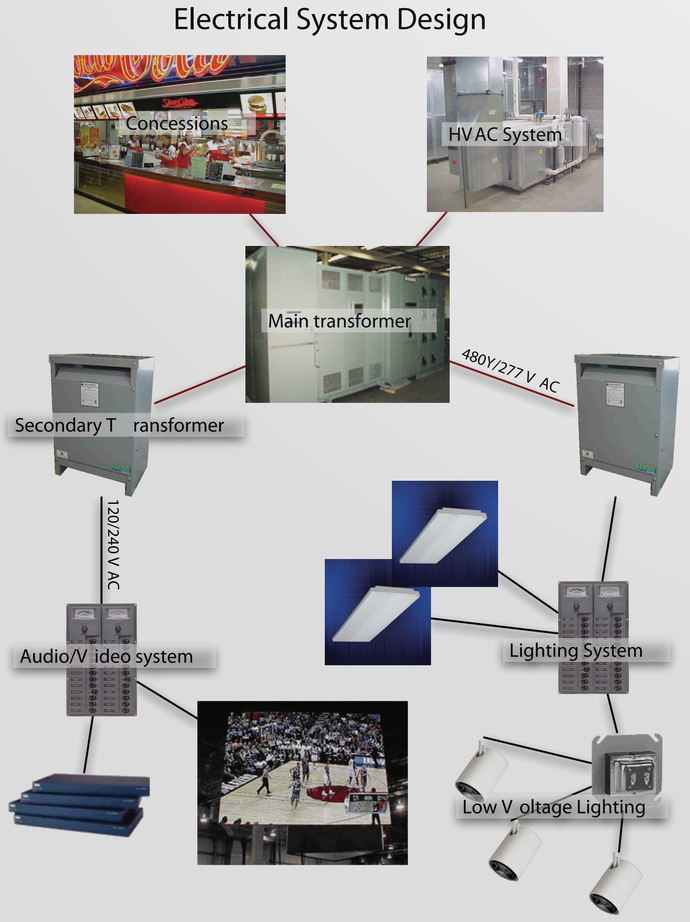
The percent water saved derives from the difference between gallons per minute or gallons per flush for the fixtures selected, and ADA recommended values. Total savings may be considerably higher if compared to outdated plumbing systems not complying to ADA standards.

Weighted values are from the relative water load previously calculated in the spring of 2006.

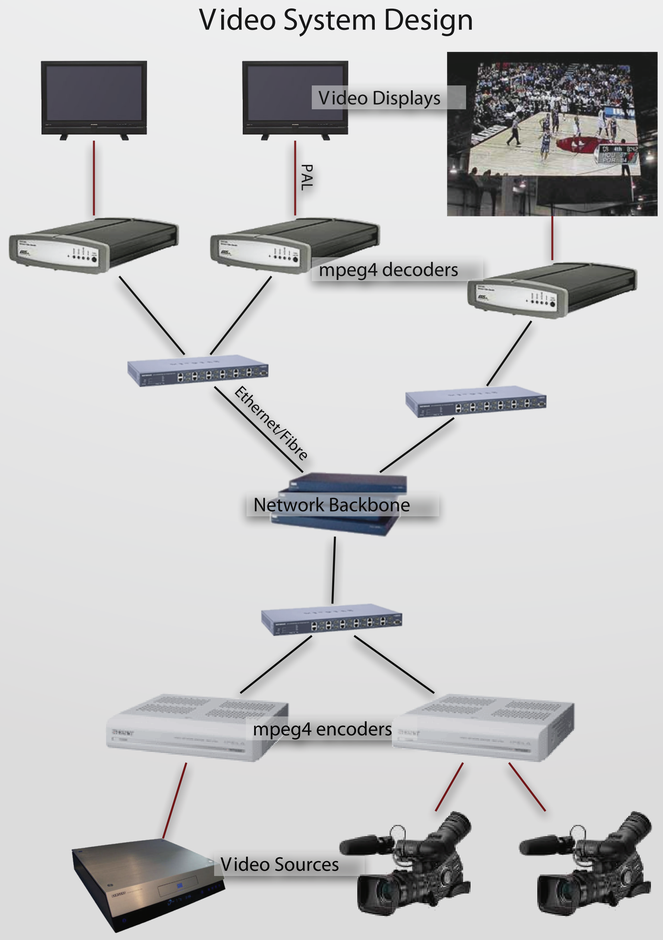
Cost was not given heavy consideration when selecting each piece of hardware.

Electrical Systems Design

Electrical System Design



Video System Design



HVAC Design

Figure 1: Centrifugal fan that is used for many industrial applications

Figure 2: A sample of duct work in a high volume setting

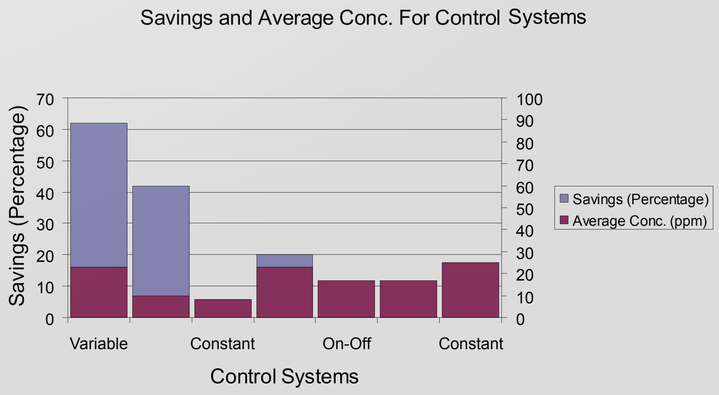


Figure 3: Savings of using variable fan control systems compared to other types.