

Arizona Arena

ICE IN THE DESERT



Over the last 20 year, hockey has seen a 230% increase in players throughout the nation, making it one of the fastest growing sports in the United States. Arizona is one of the leading states for this increase. With the increase in players, a facility is needed to provide youth players a space to practice and play on ice with off ice training options as well.

Along with youth players, the University of Arizona hockey team is in need of a new facility. This ACHA division I program has shined, consistently being a top 20 team in their respective division. This success has given them as reason to make a jump to NCAA Division I hockey, the highest level of hockey before the professional level in America. To make this jump, the team needs a new facility that is held to the NCAA division I standards for both players and spectators.

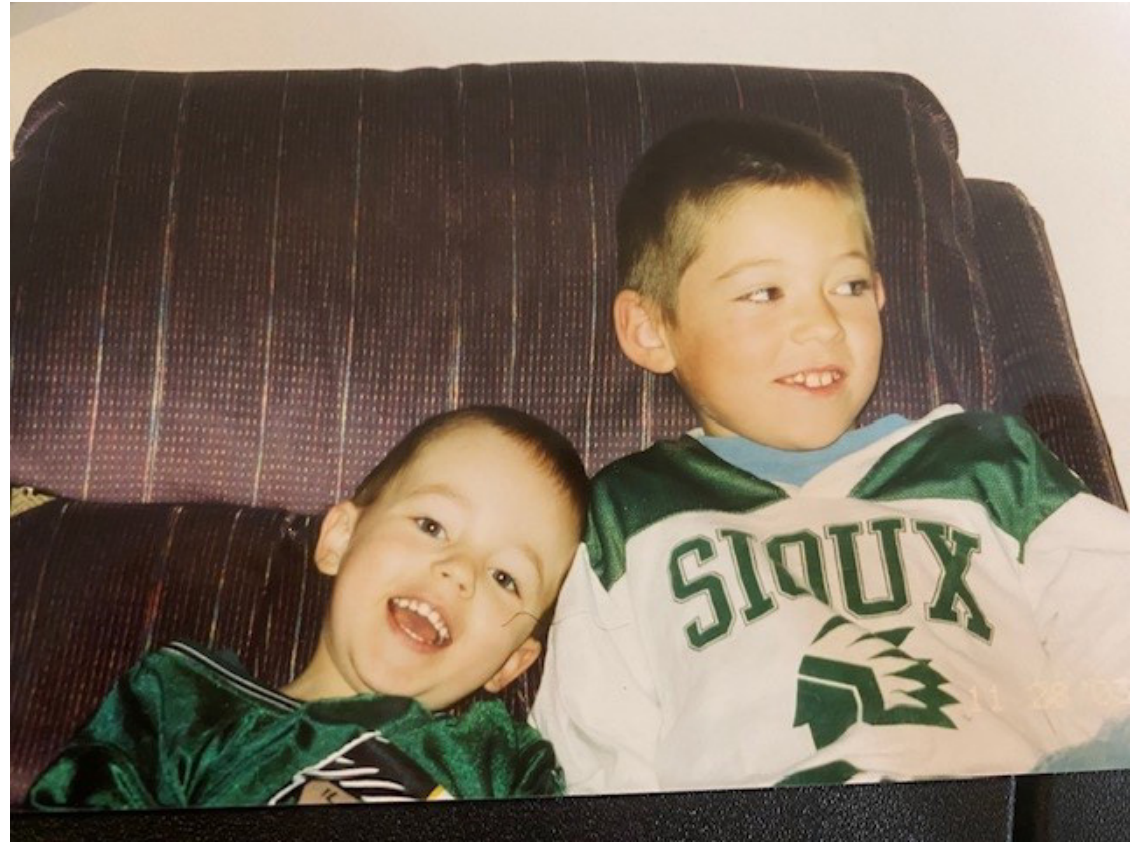
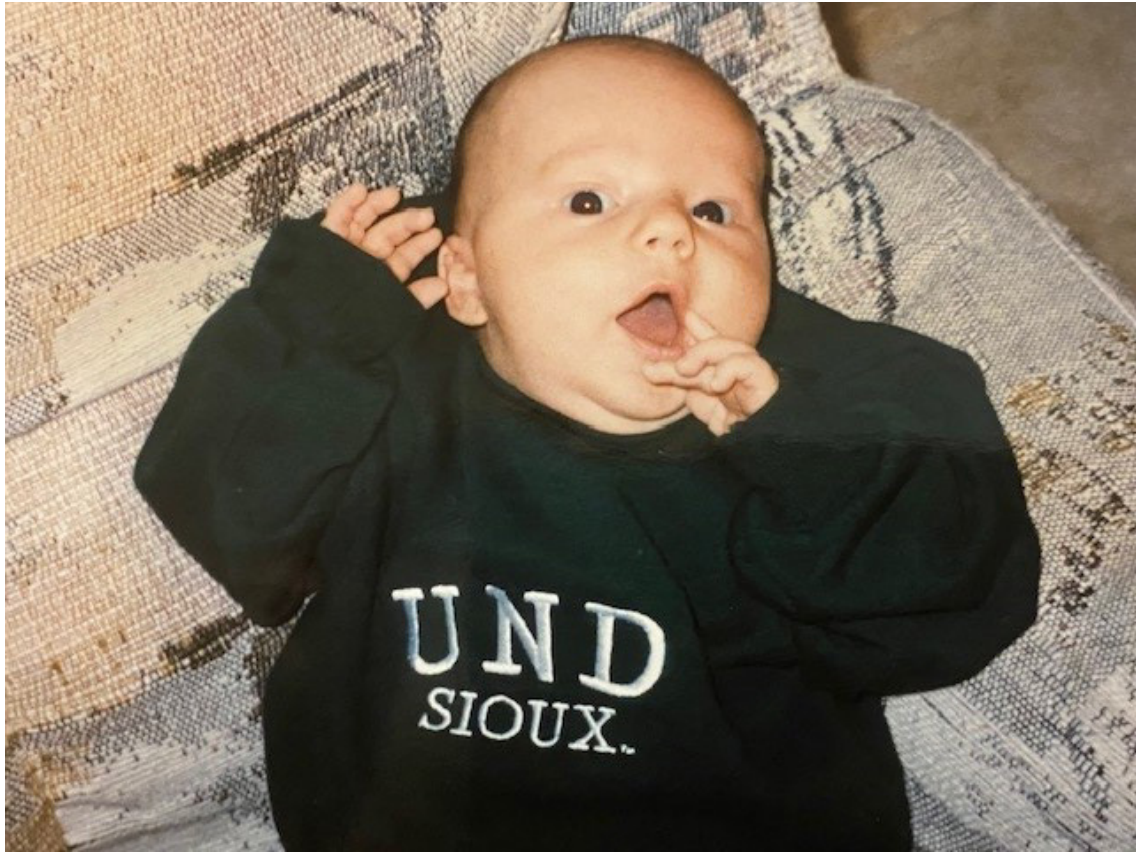


Sports have the ability to bring a whole city together, especially in a time of such division in this world, sports can bridge those differences, even if it is for just a few hours. For many, sports are a source for passion in one's life.

Growing up, playing sports gave me an outlet to escape from the normal world.

Arizona Arena addresses the need of growing the sport of hockey in Arizona while designing a sustainable building that not only helps grow the talents of hockey players, but also can serve the community.





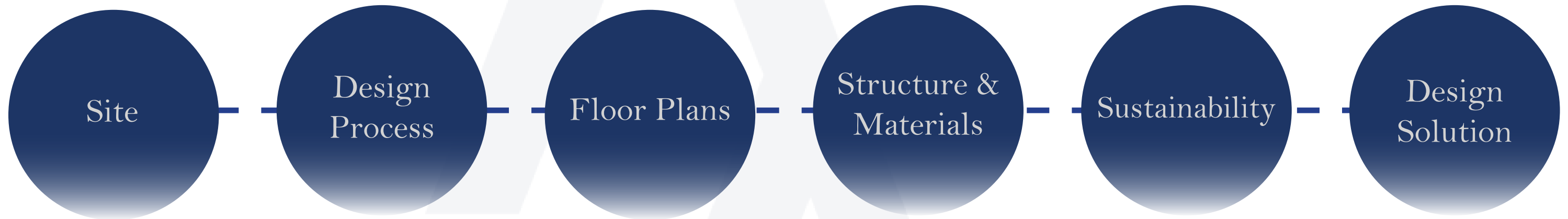




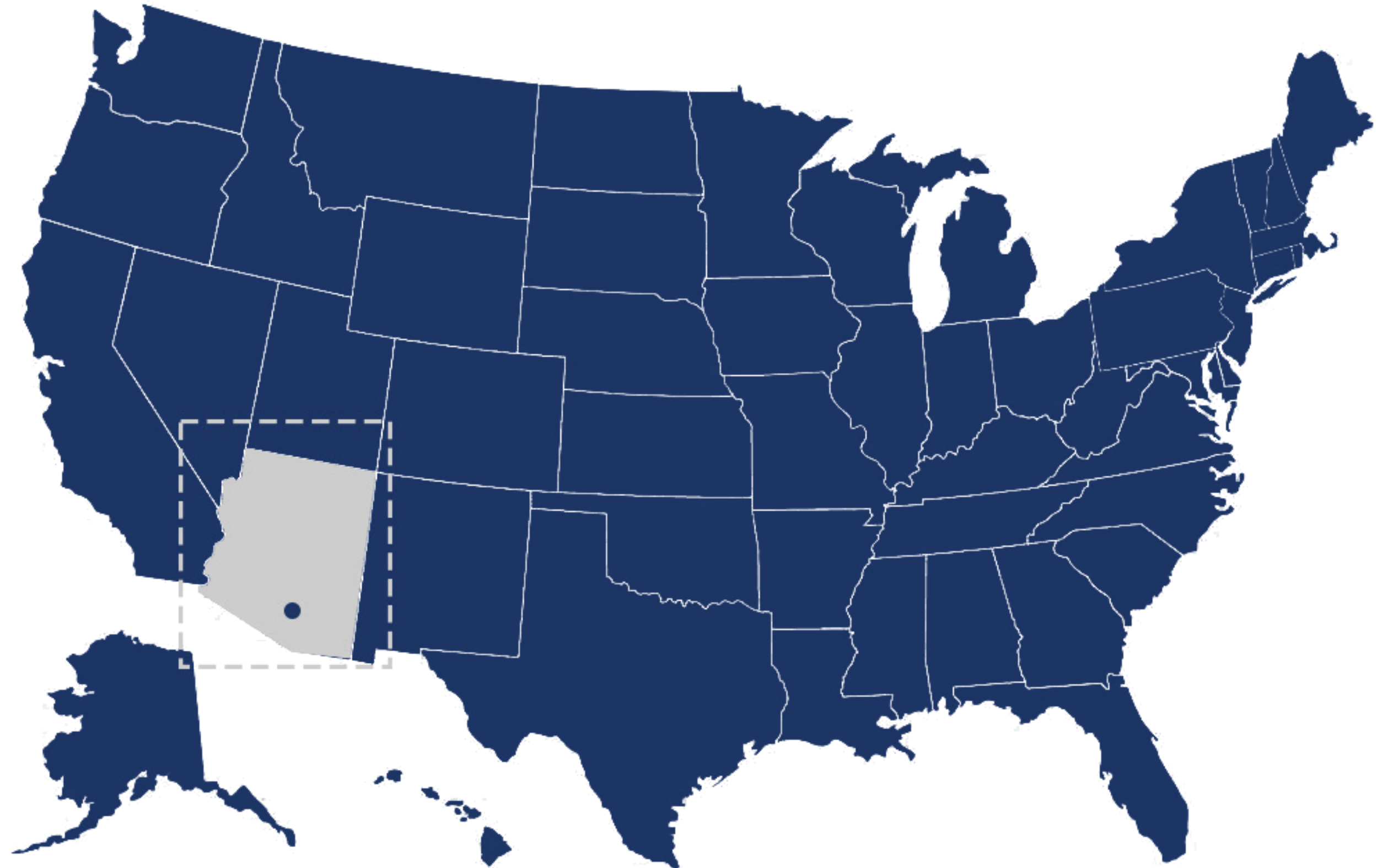


Arizona Arena

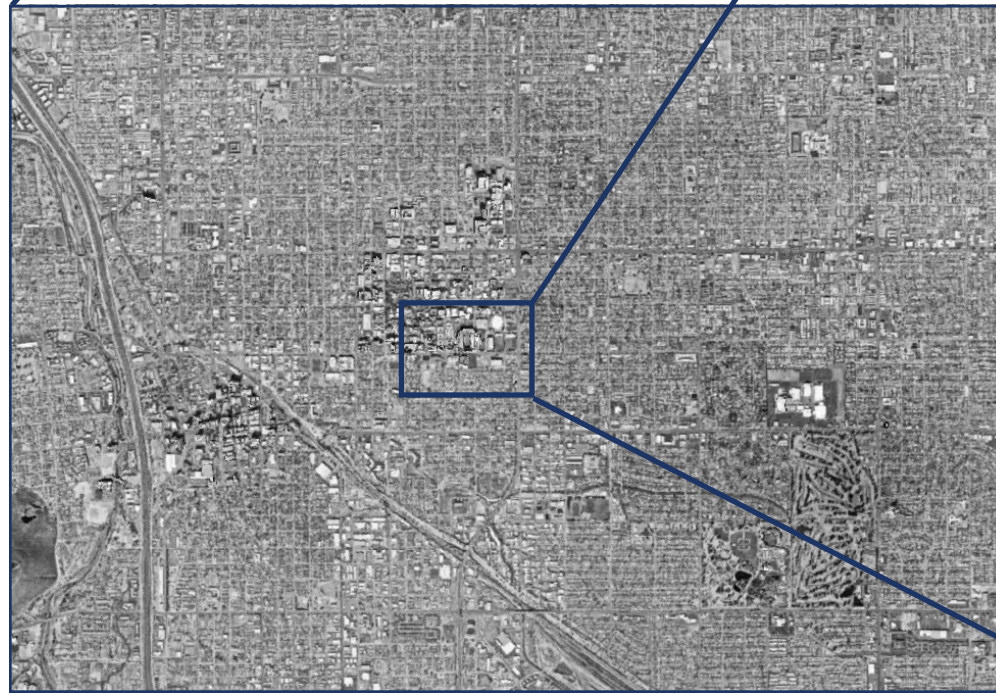
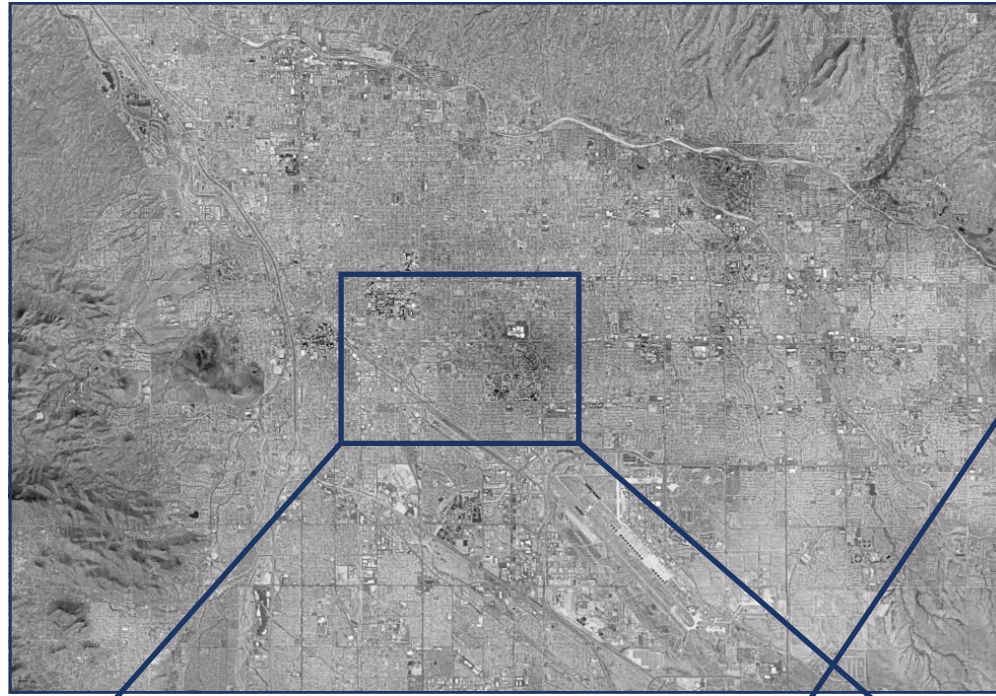
Building Program



Site

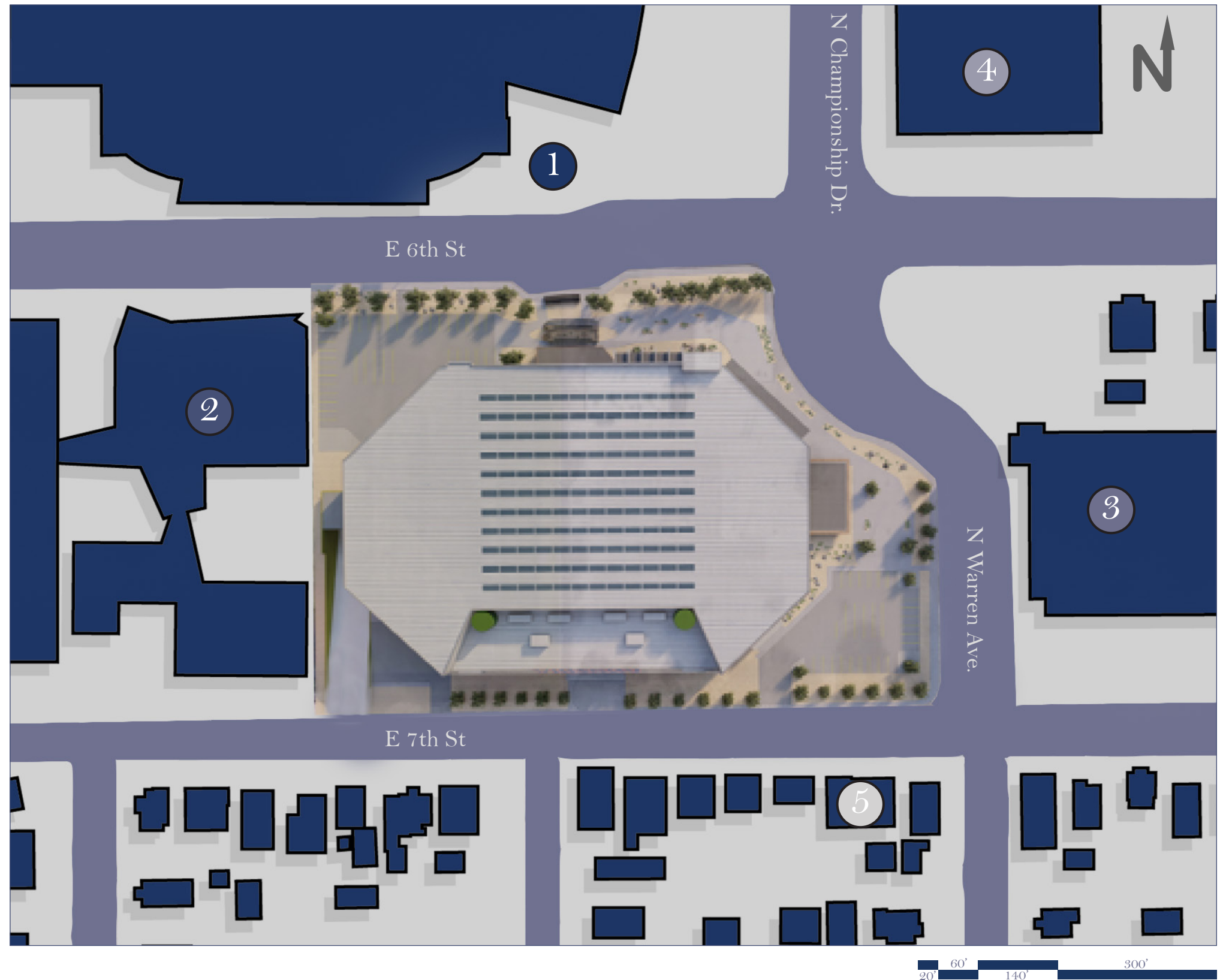


Tuscon, Arizona



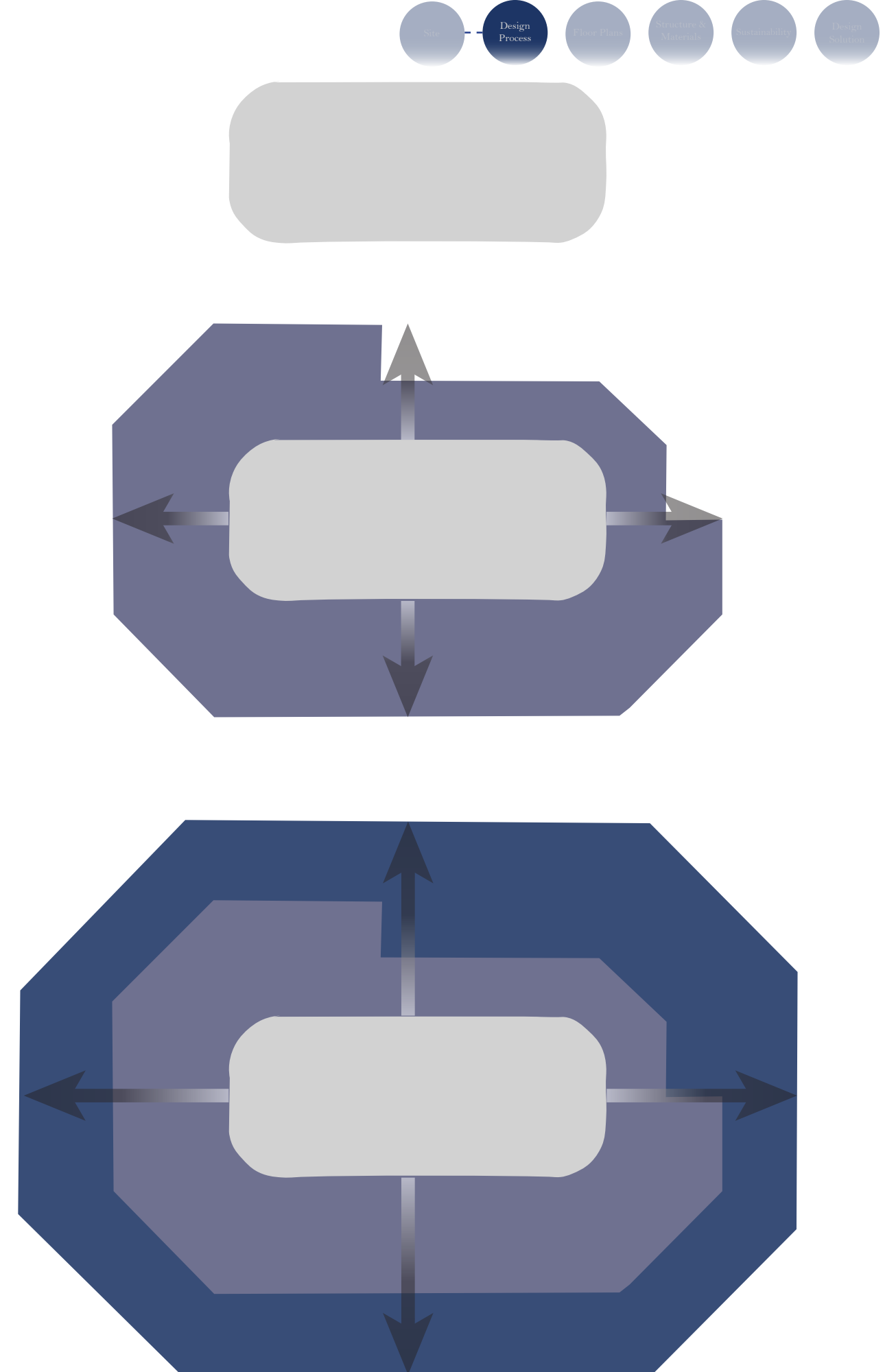
Site Plan

- 1 Arizona Stadium
- 2 Rec. Center
- 3 Parking Ramp
- 4 ICA Indoor Sports Center
- 5 Residential Neighborhoods

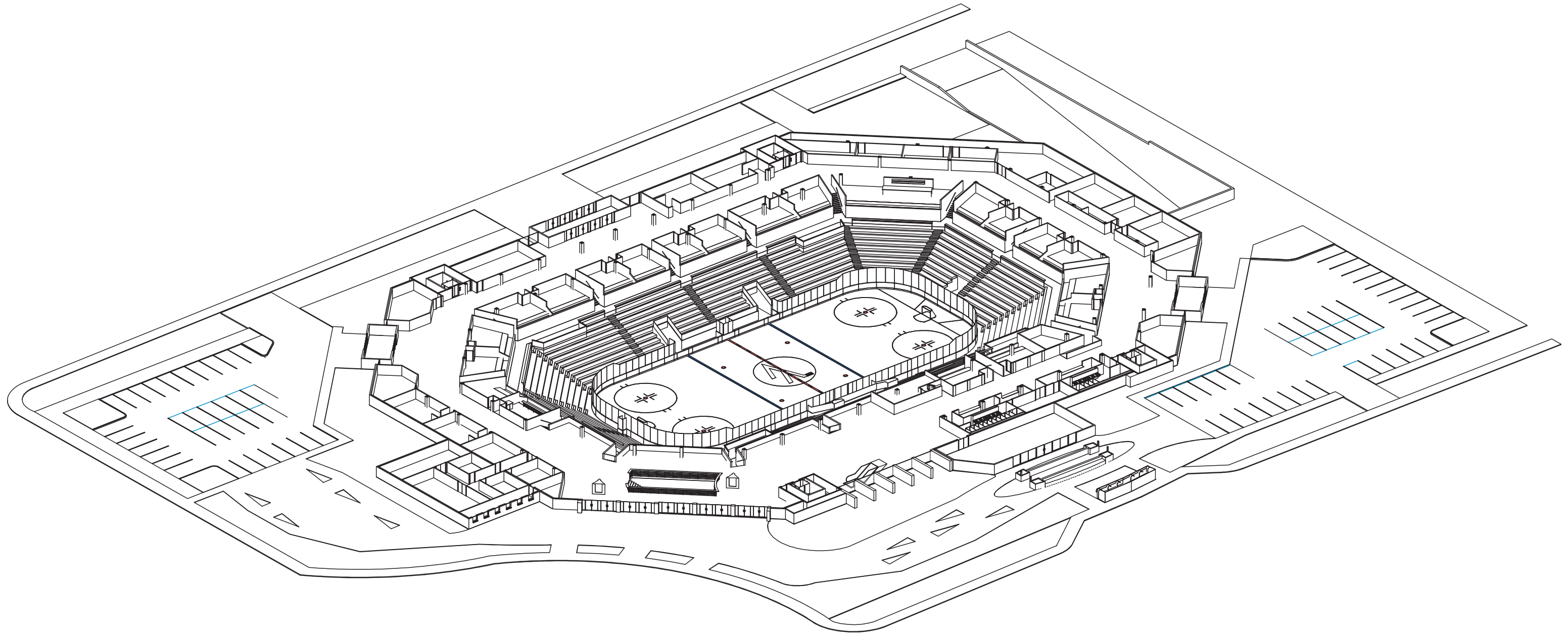


Design Process

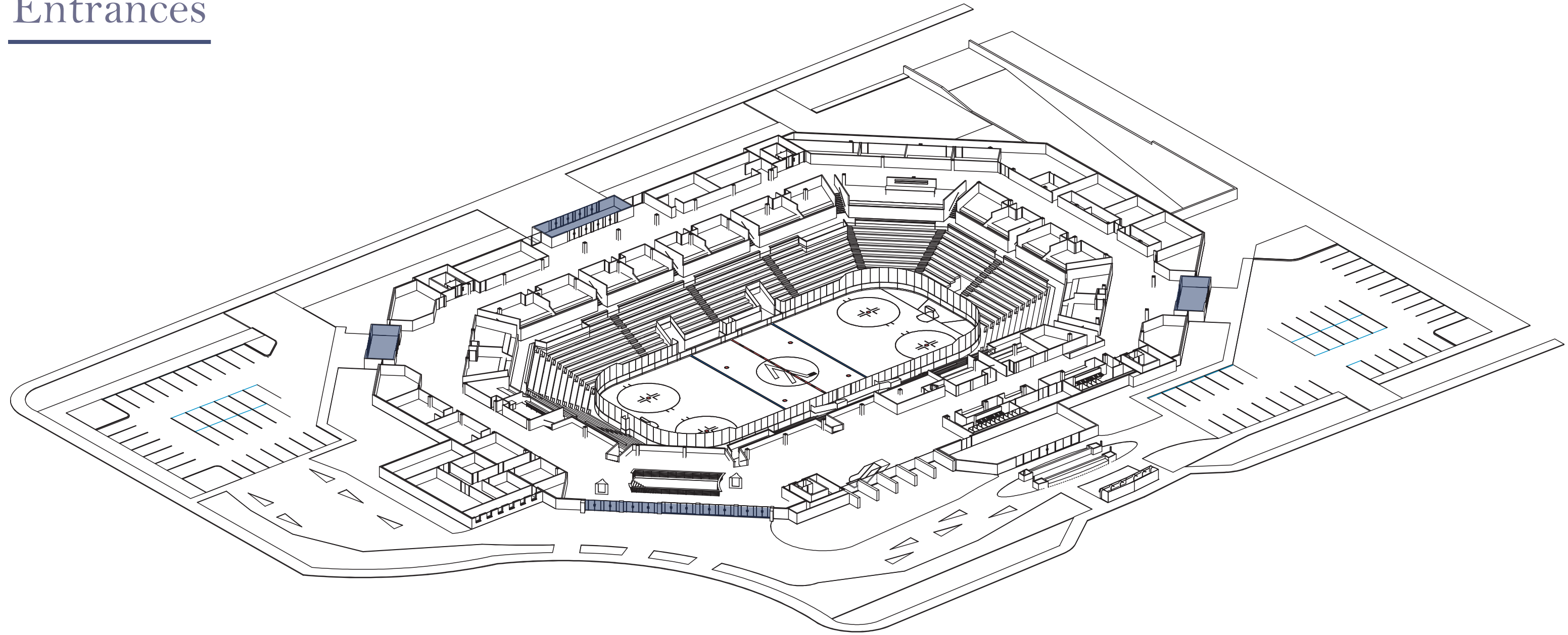
The design process for Arizona Arena was fairly simple. To start, The rink was first placed, the 85' by 200' rink dimensions will never change, so designing around the rink was crucial in the development of the building. After the rink is set, the next layer of the design was creating the views, or seating, for the arena. This step was arguably the most important, as this is where the fans will be sitting for the majority of games. Creating unobstructed views from all angles helped guide this part of the process. Finally, circulation and entrances create the final layer of the design process. Finding ways to move people in, out, and around the rink efficiently was the goal of this phase.



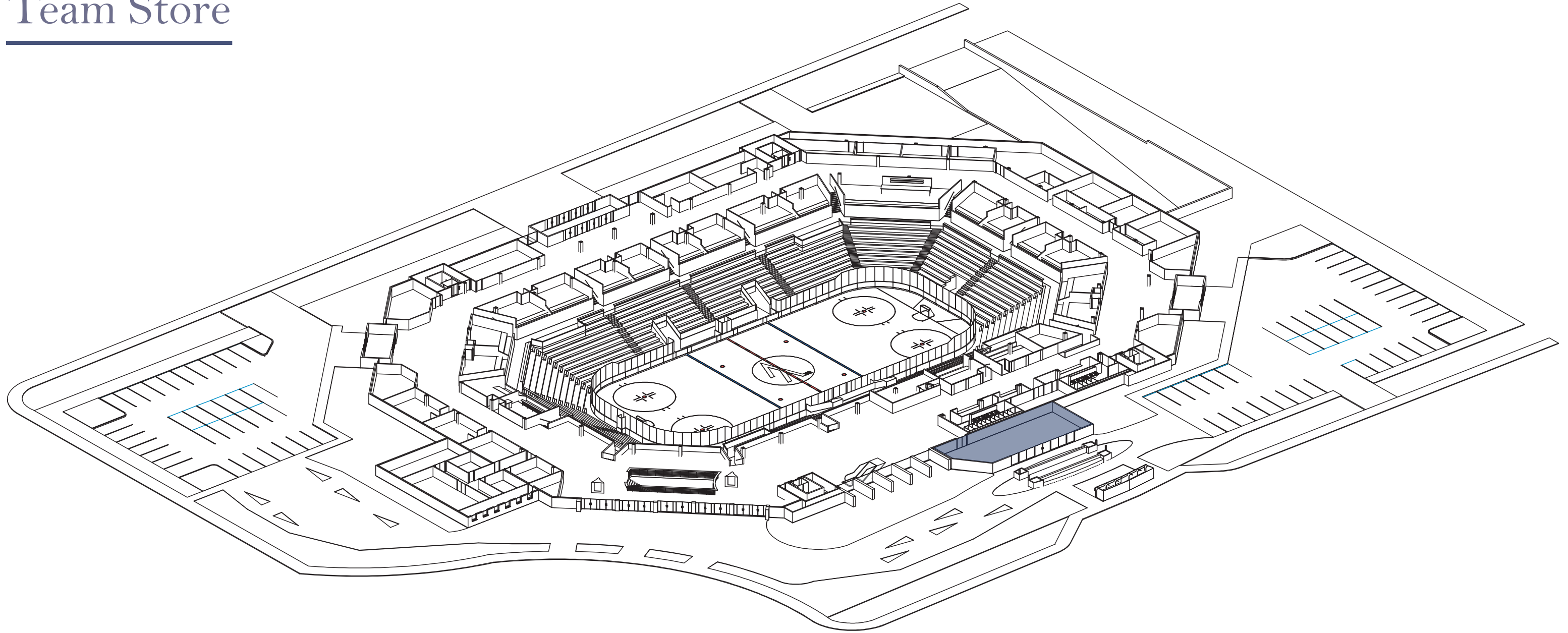
Floor Plan: Concourse



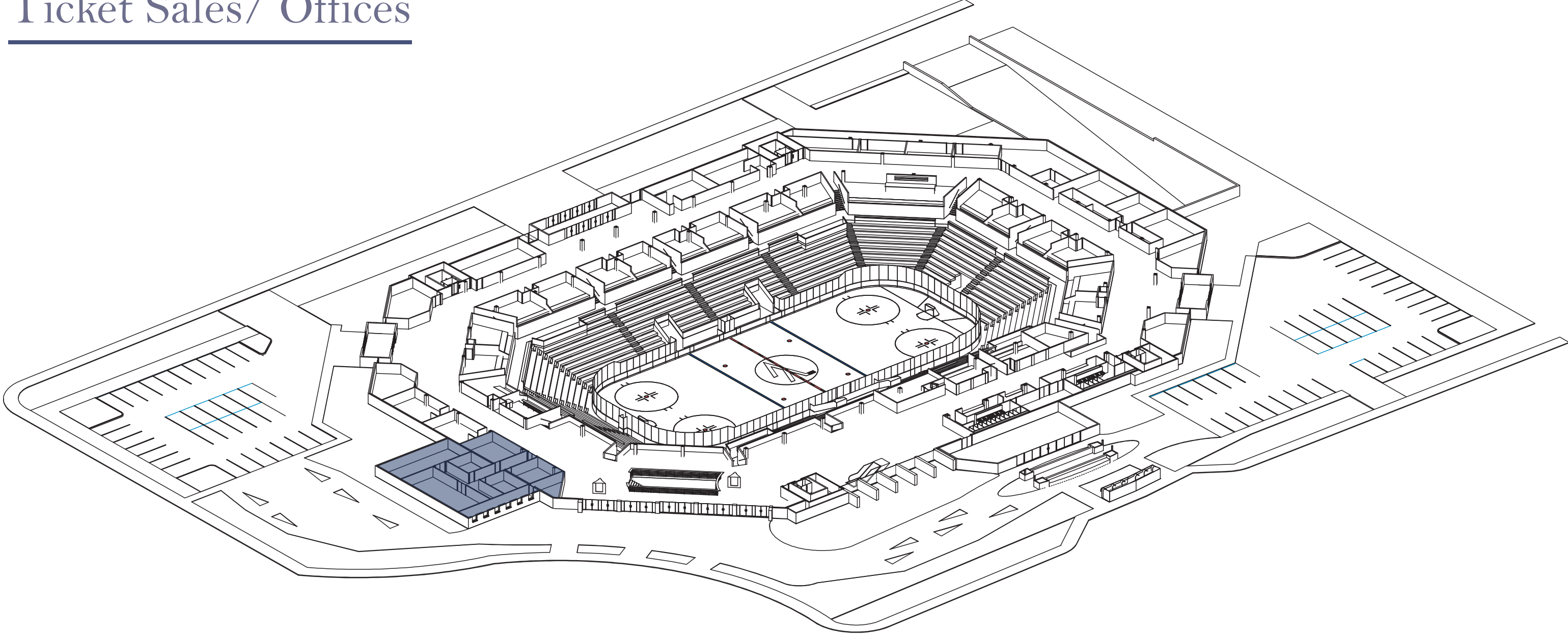
Entrances



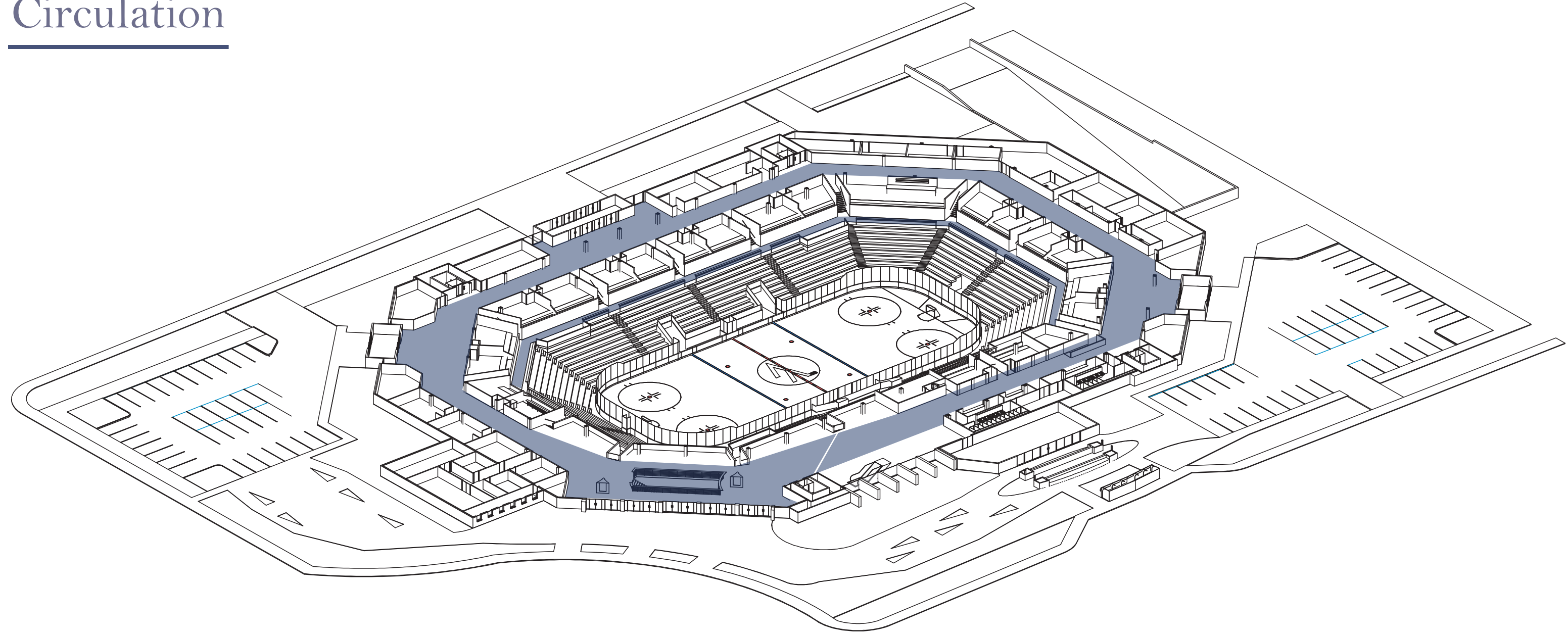
Team Store



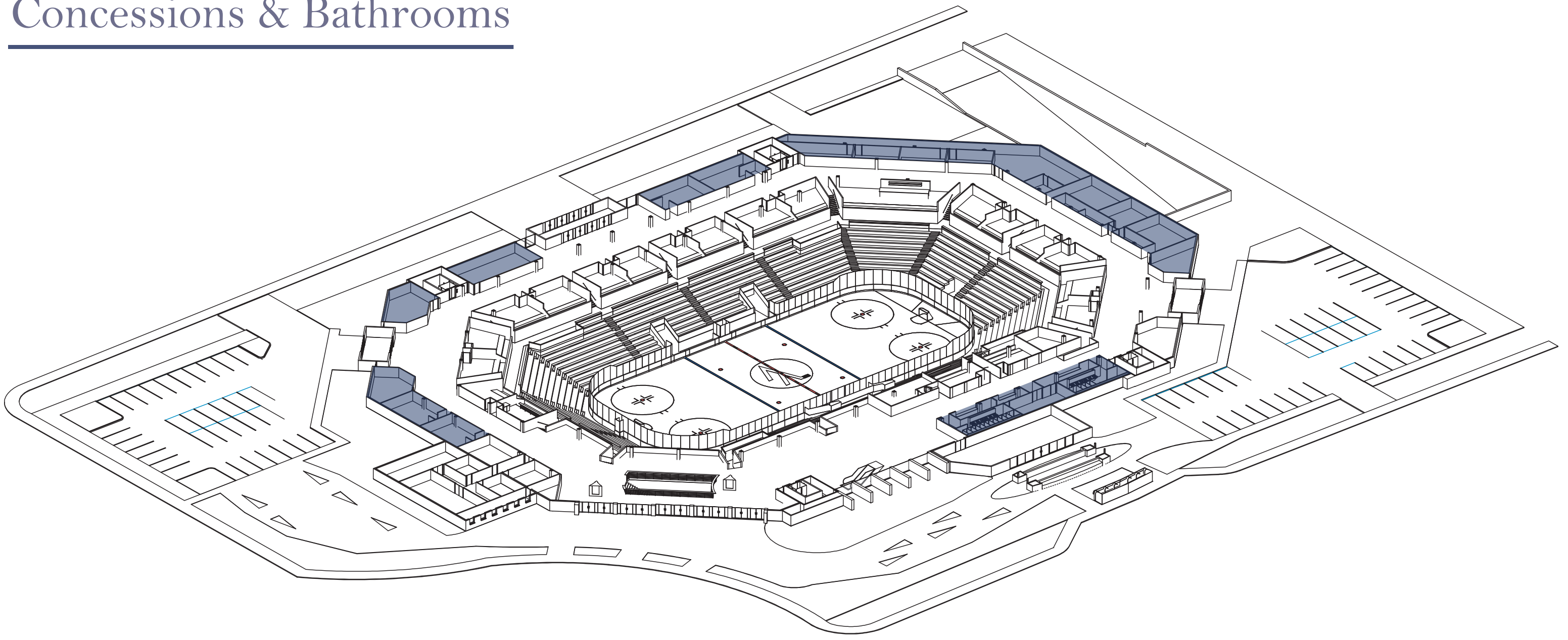
Ticket Sales/ Offices



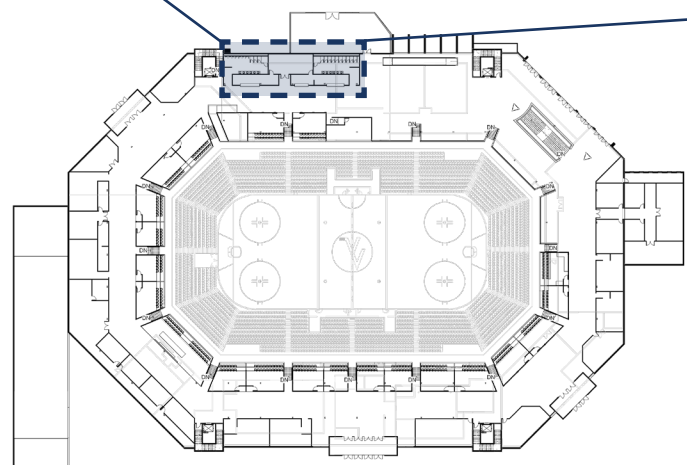
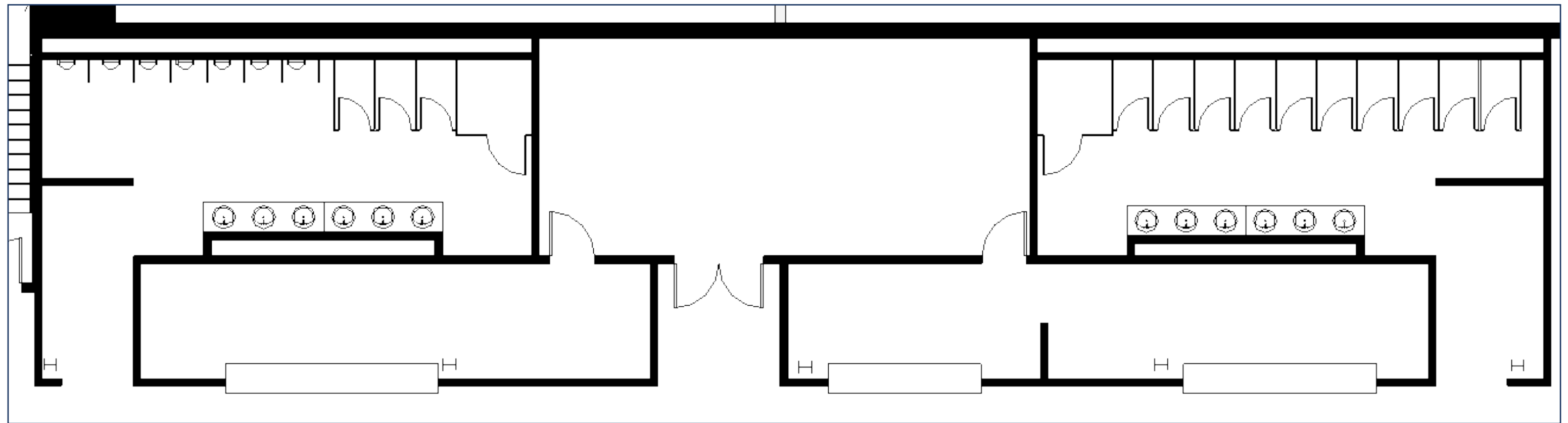
Circulation



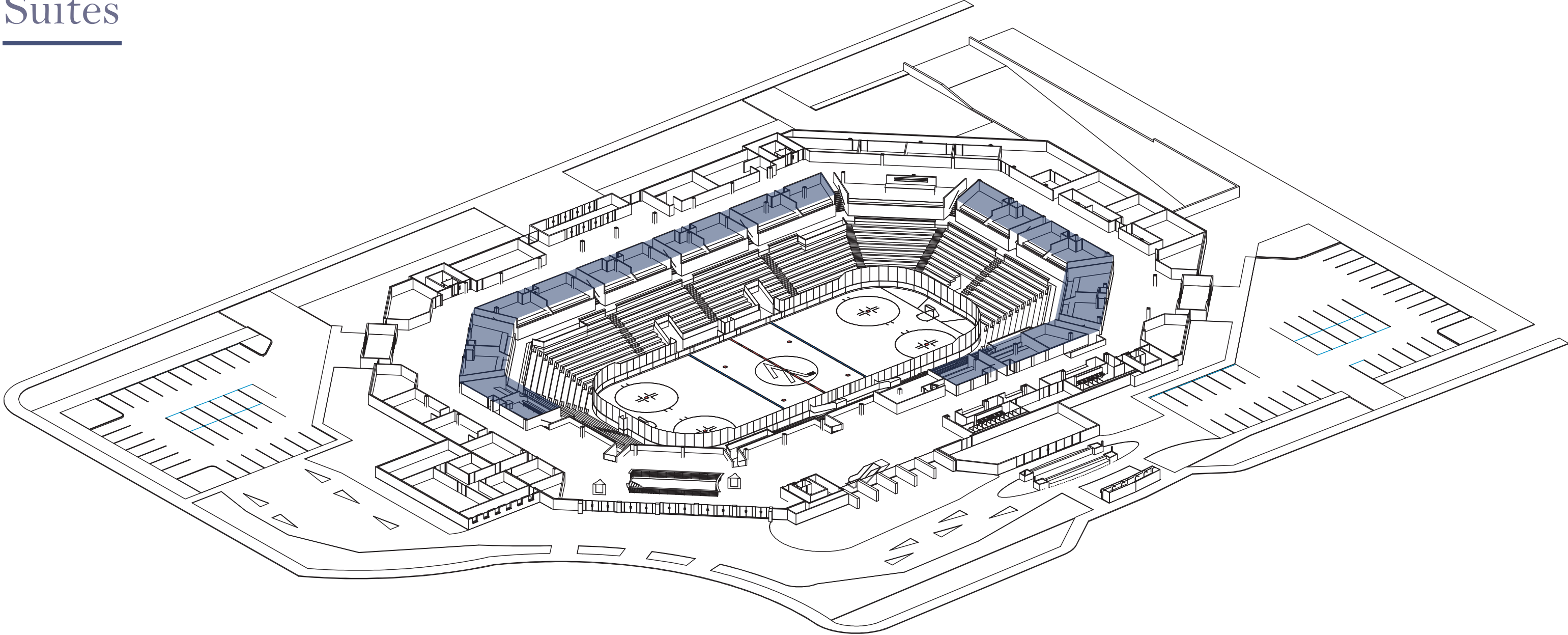
Concessions & Bathrooms



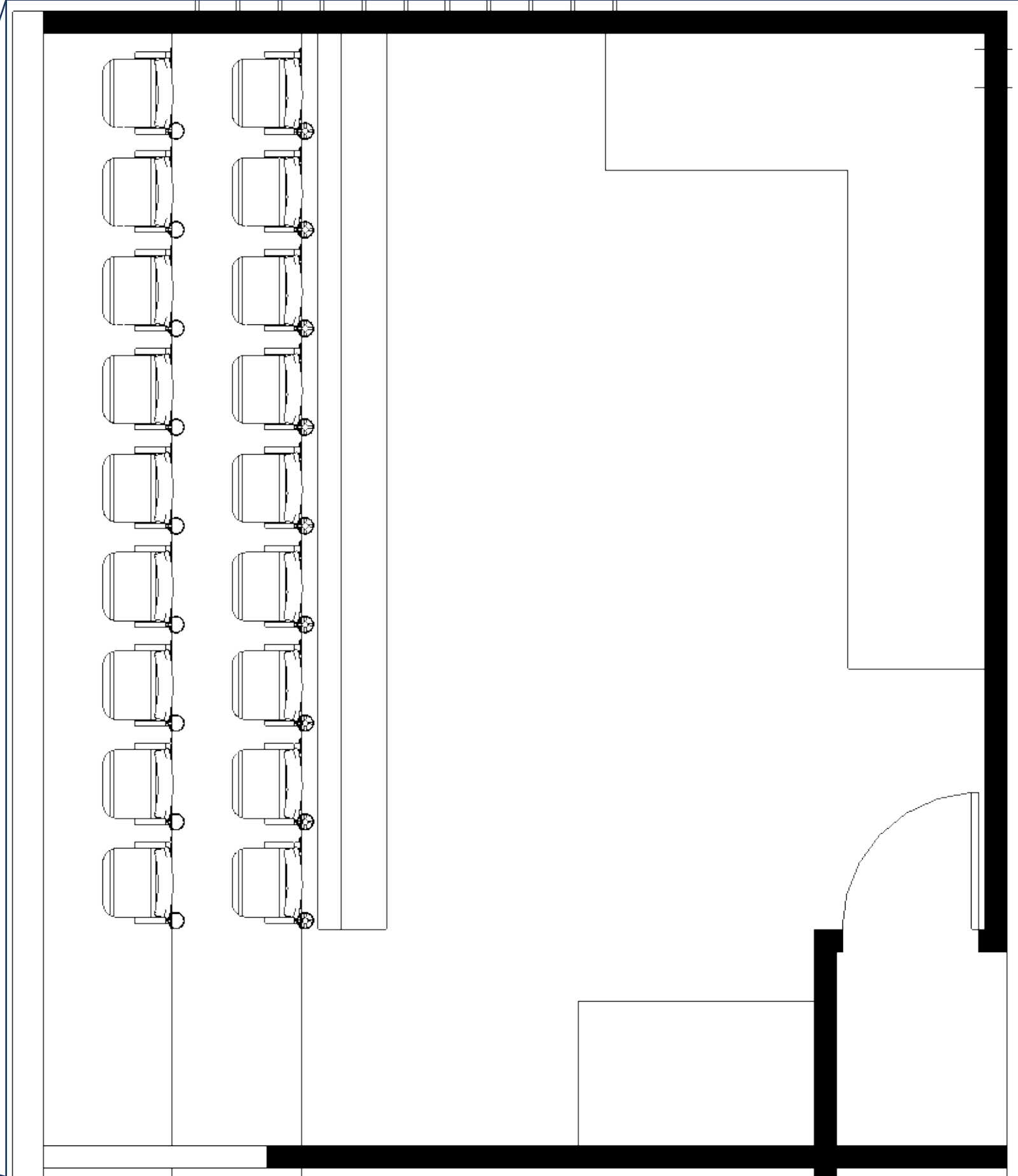
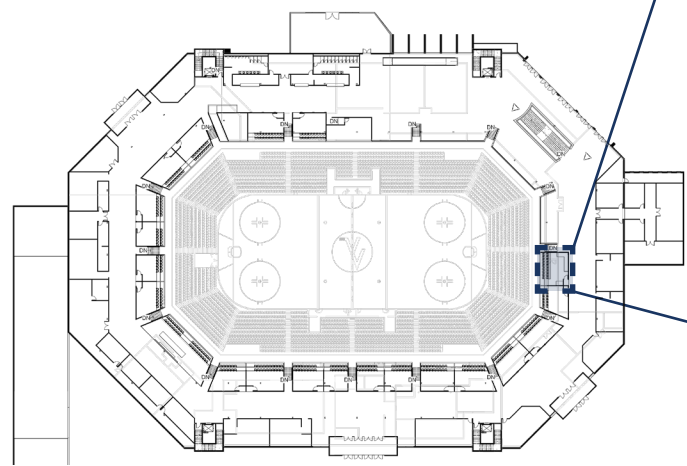
Enlarged Bathroom Plan



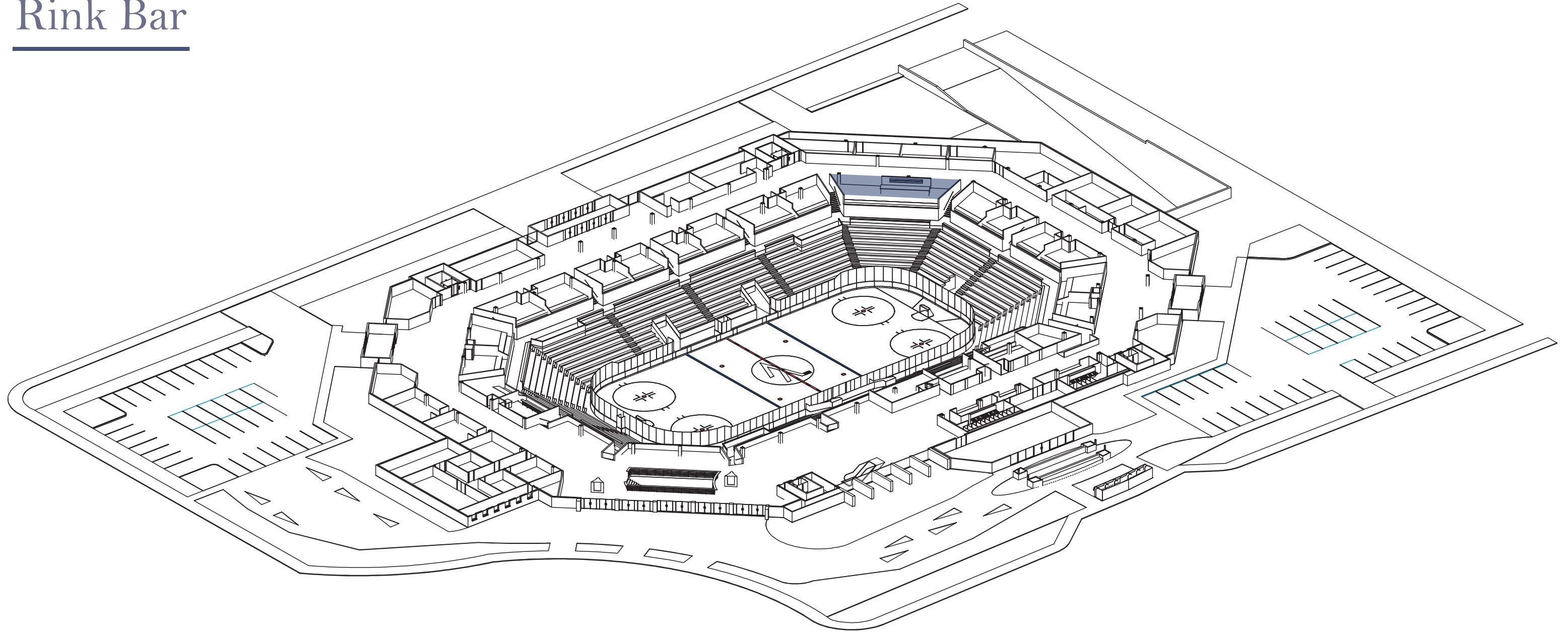
Suites



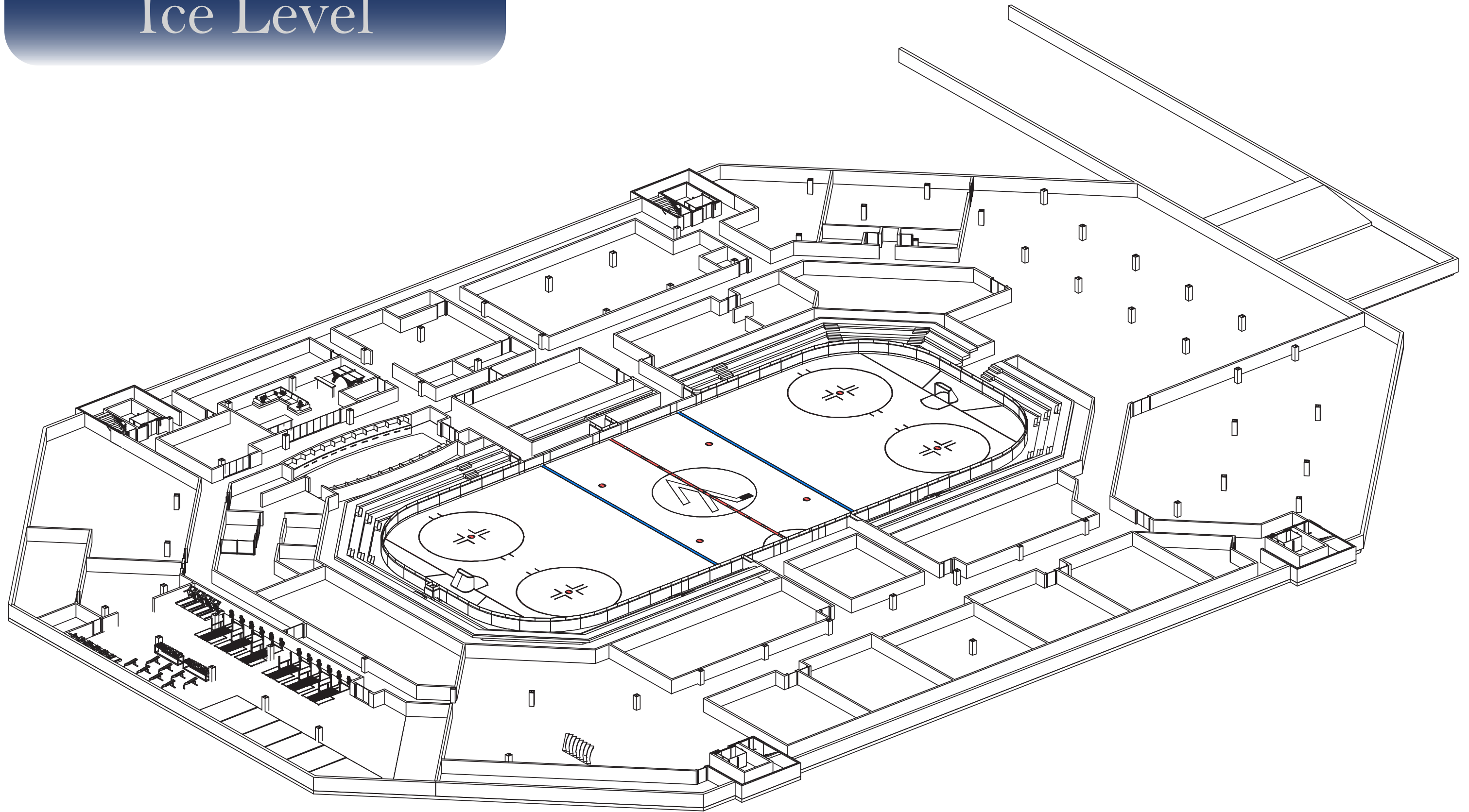
Enlarged Suite Plan



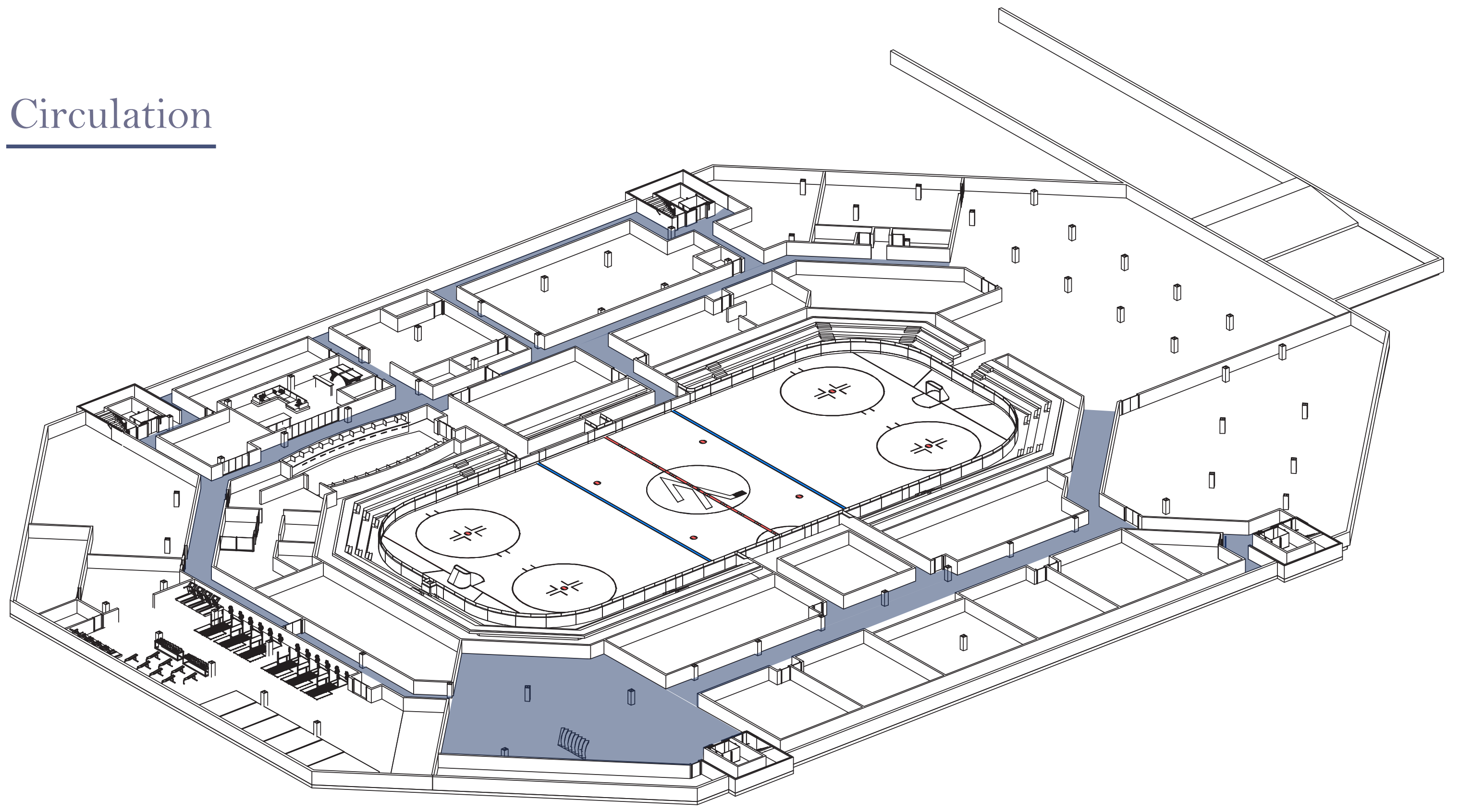
Rink Bar



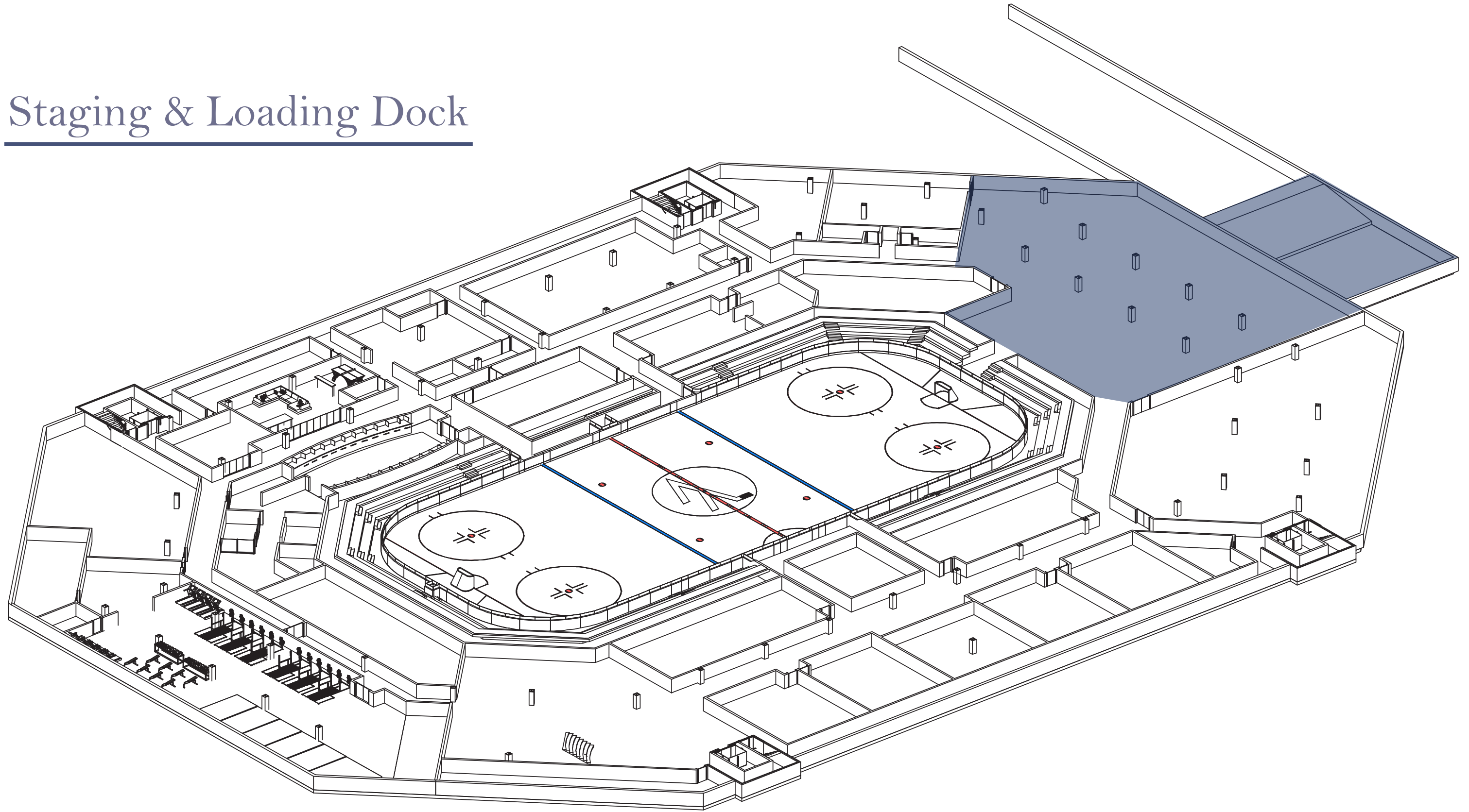
Floor Plan: Ice Level



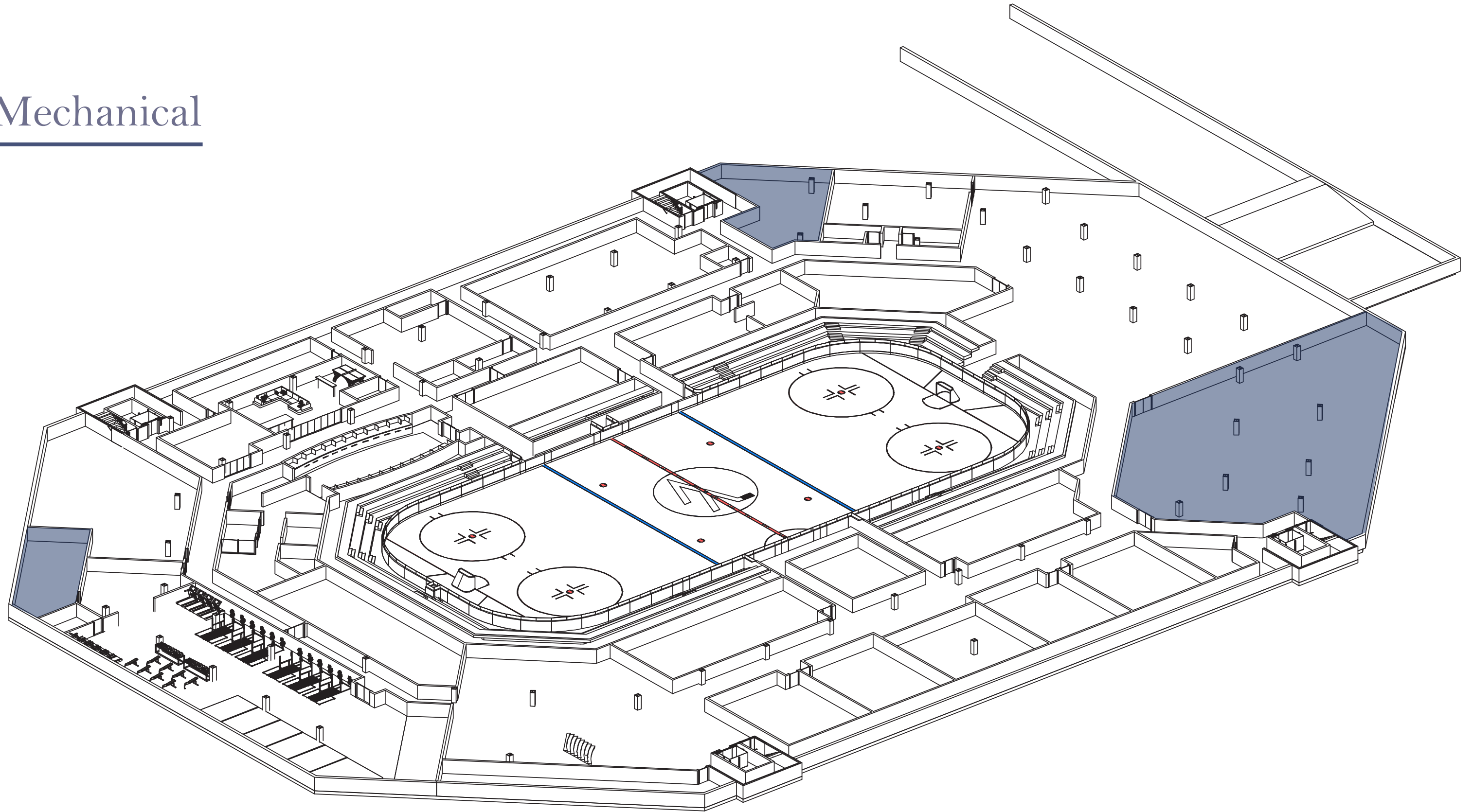
Circulation



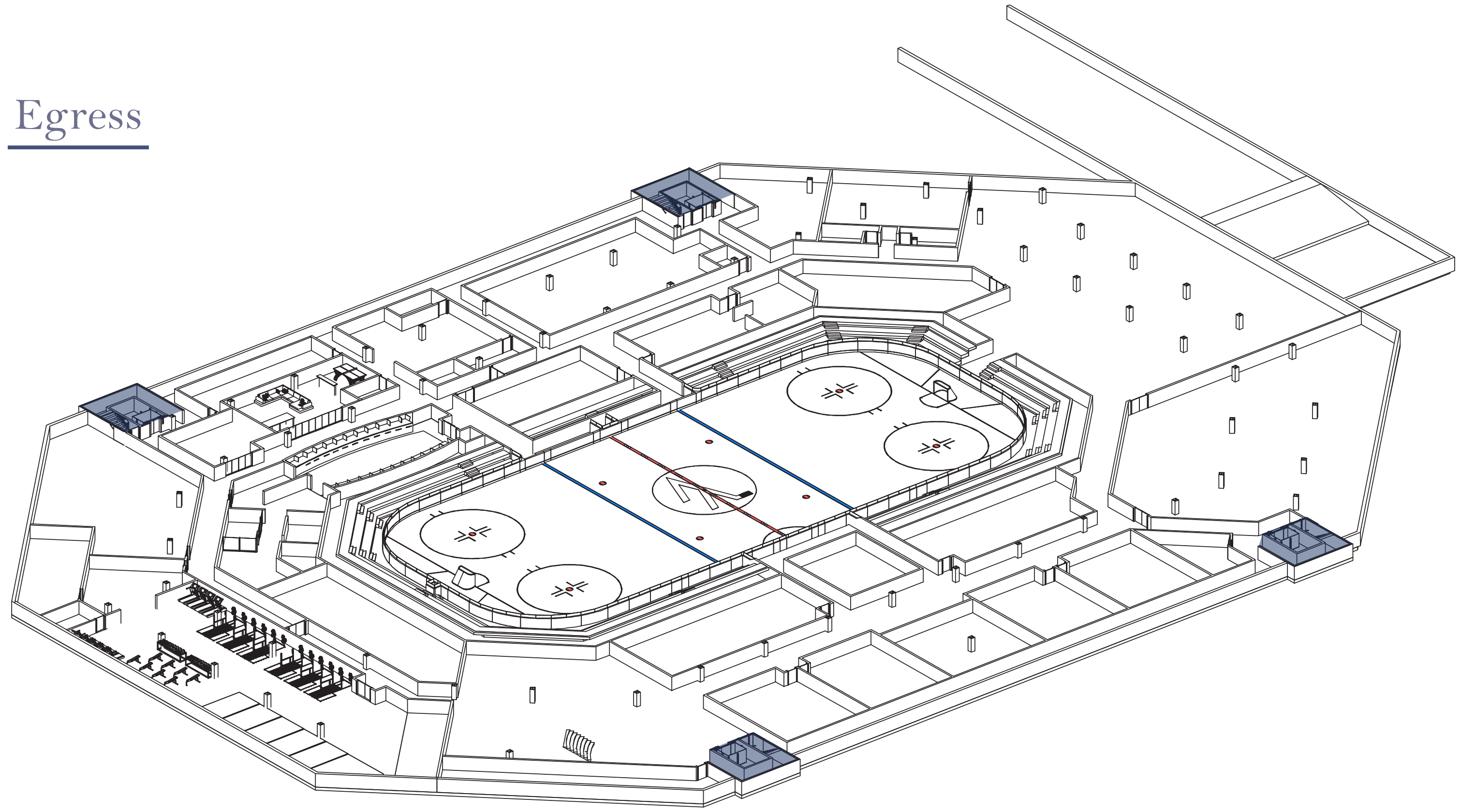
Staging & Loading Dock



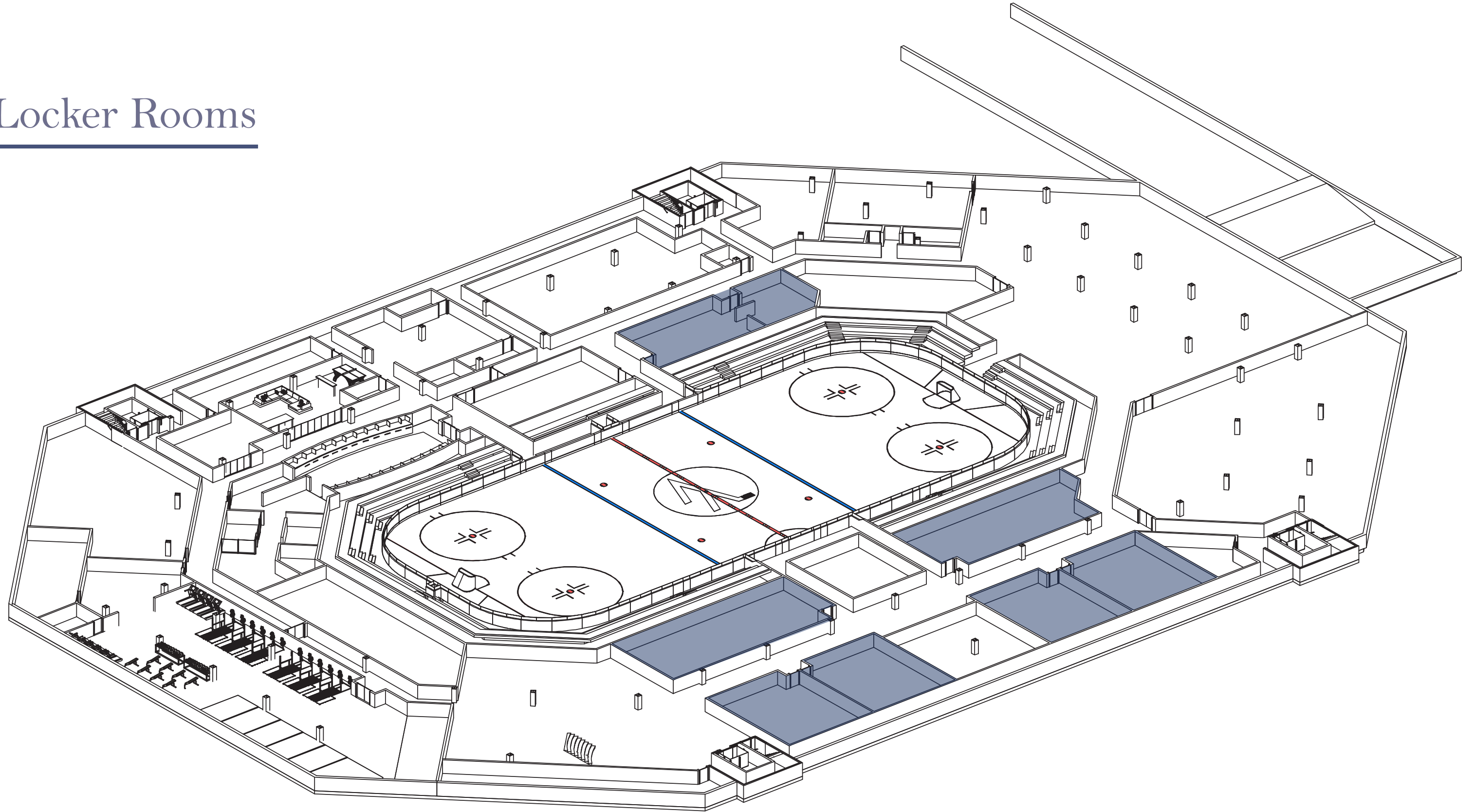
Mechanical



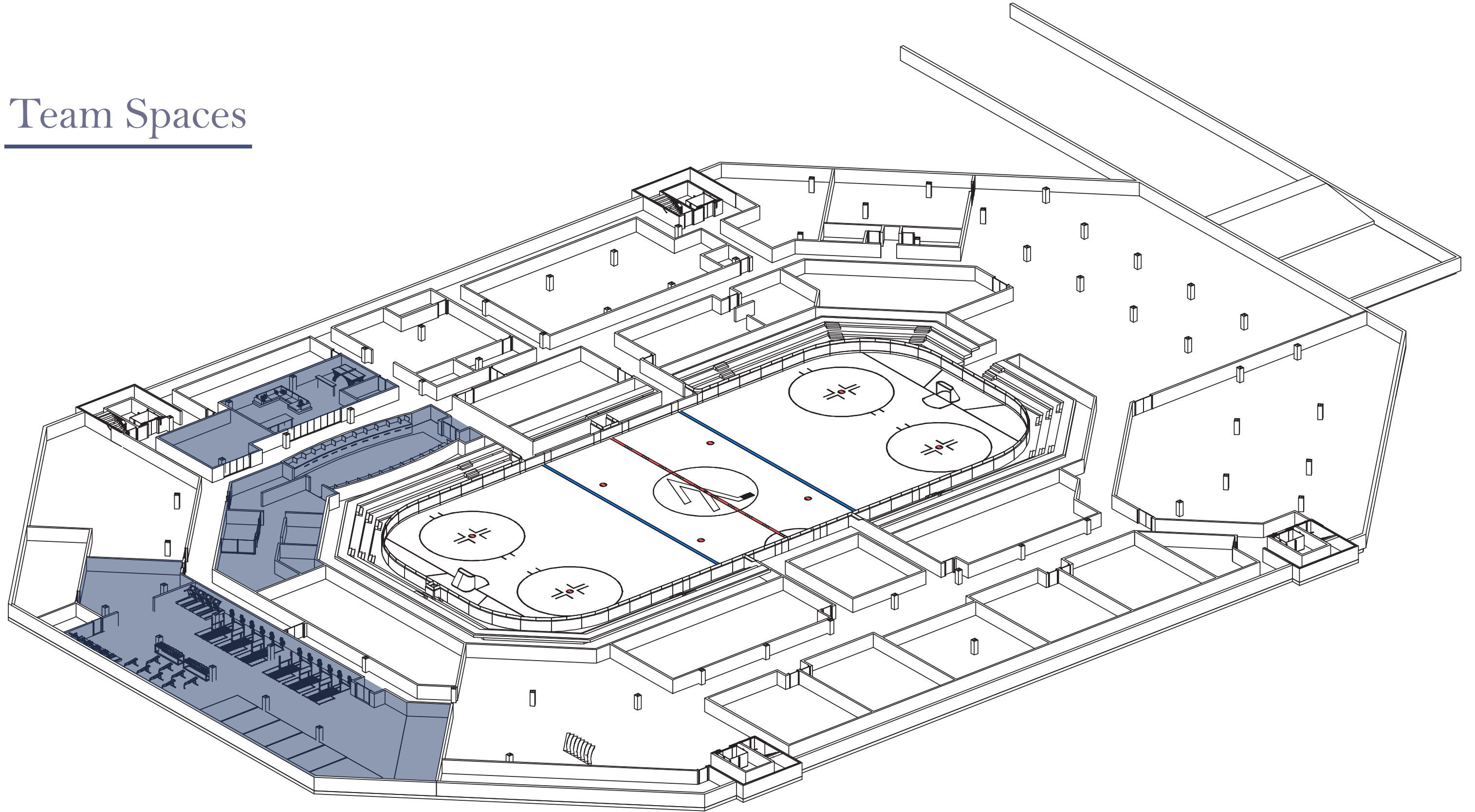
Egress



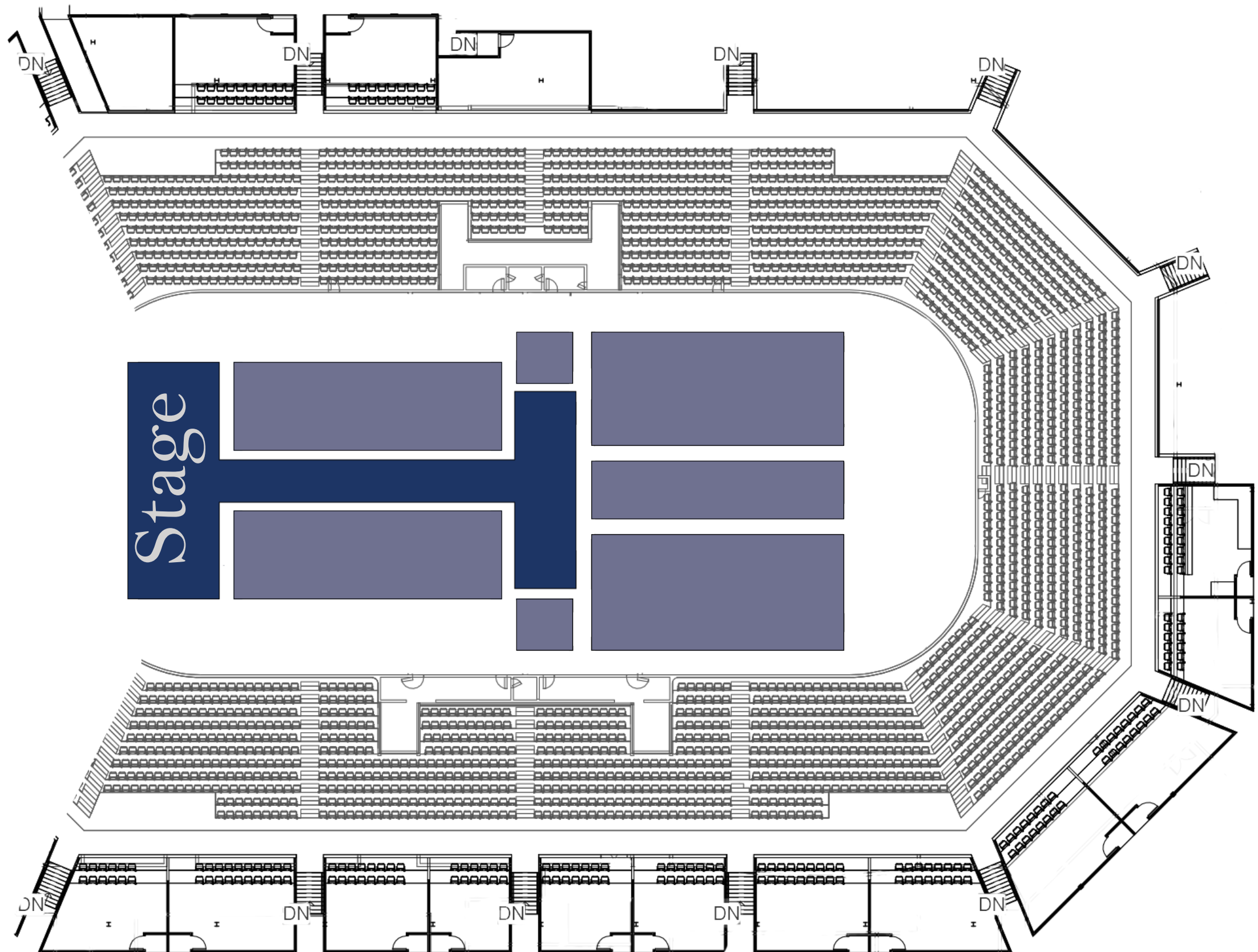
Locker Rooms



Team Spaces

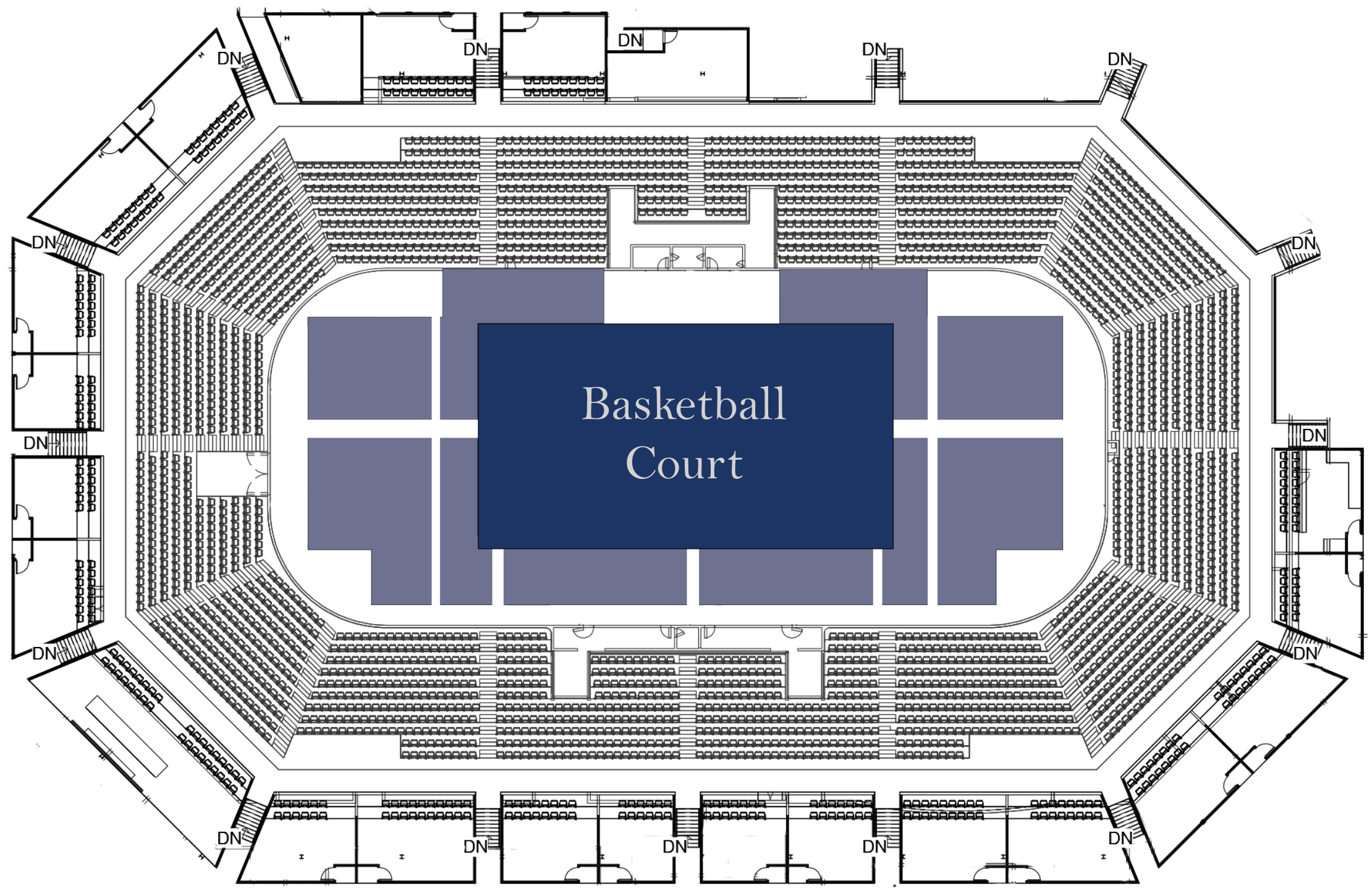


Concert Plan



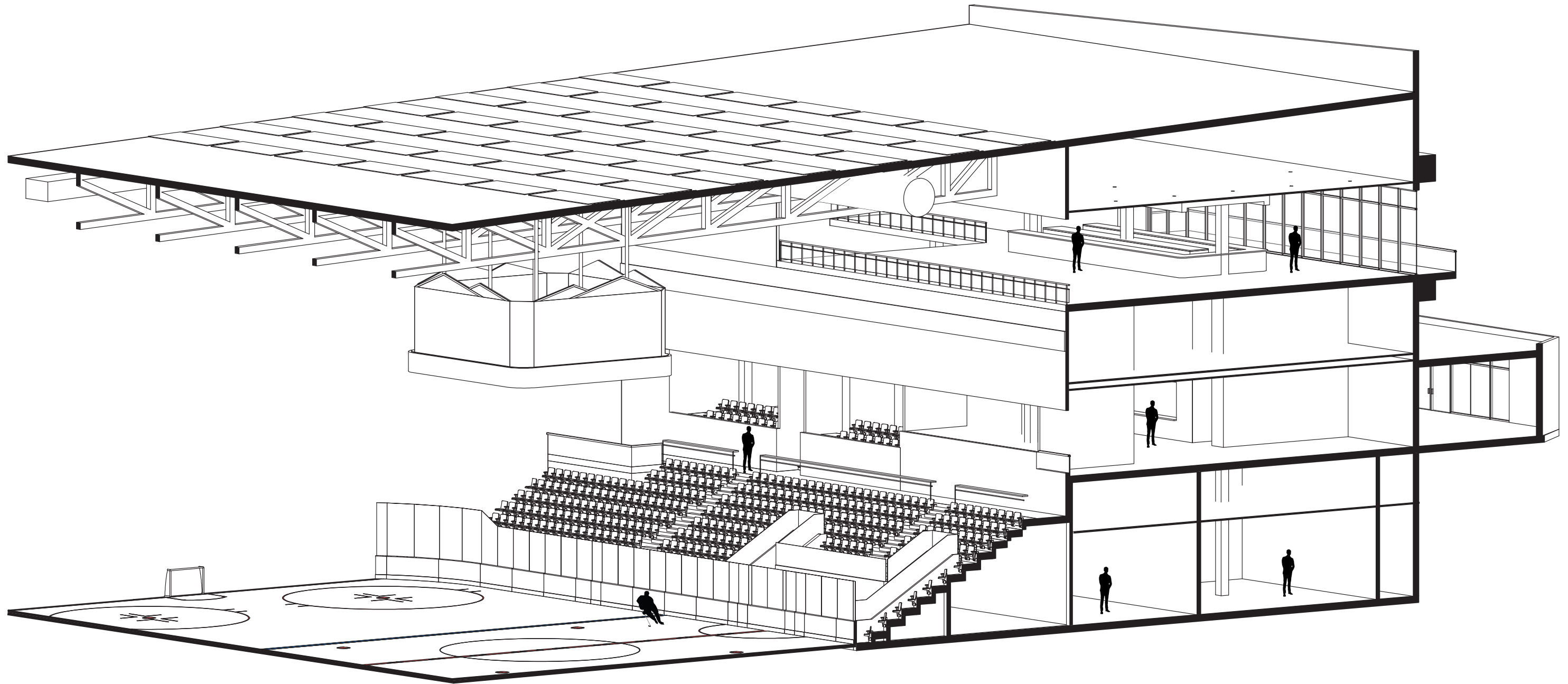
● Additional Seating

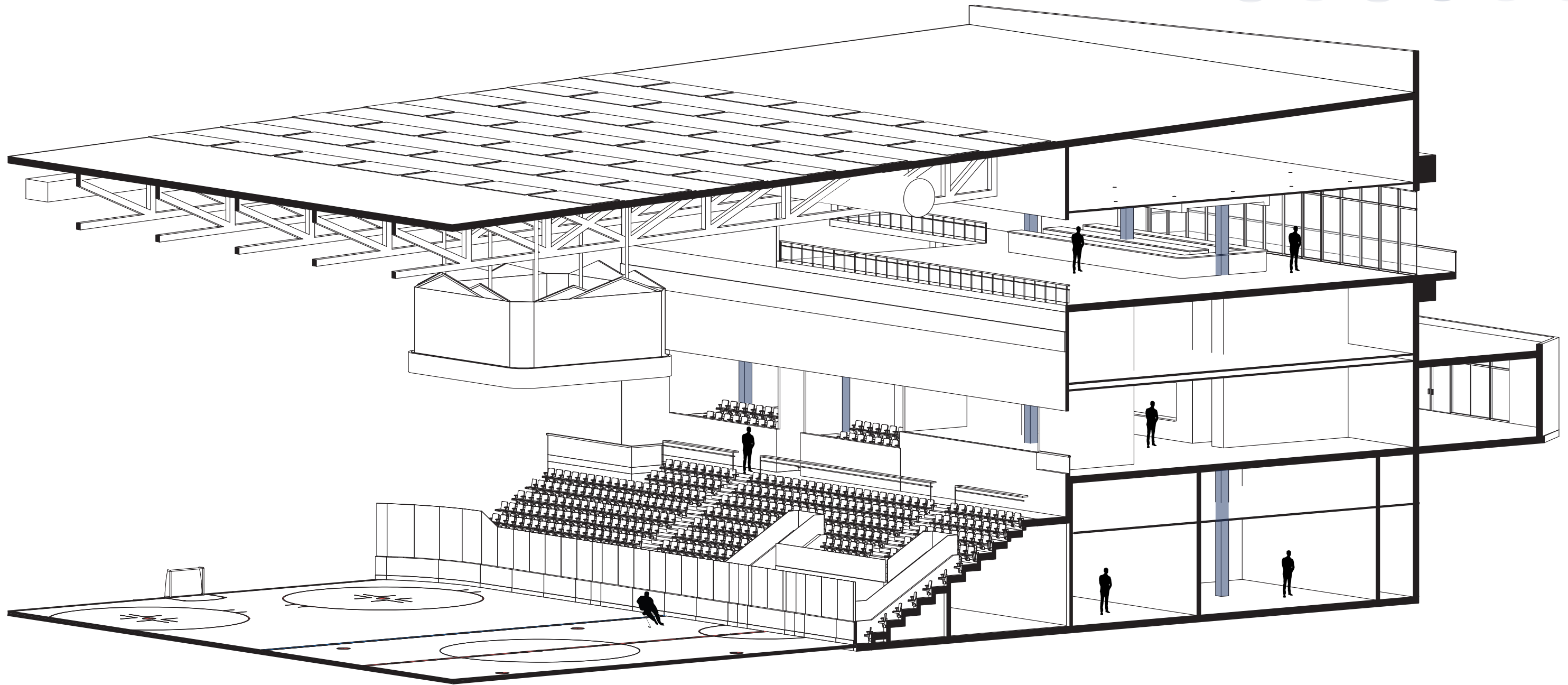
Basketball Plan



● Additional Seating

Structure & Materials

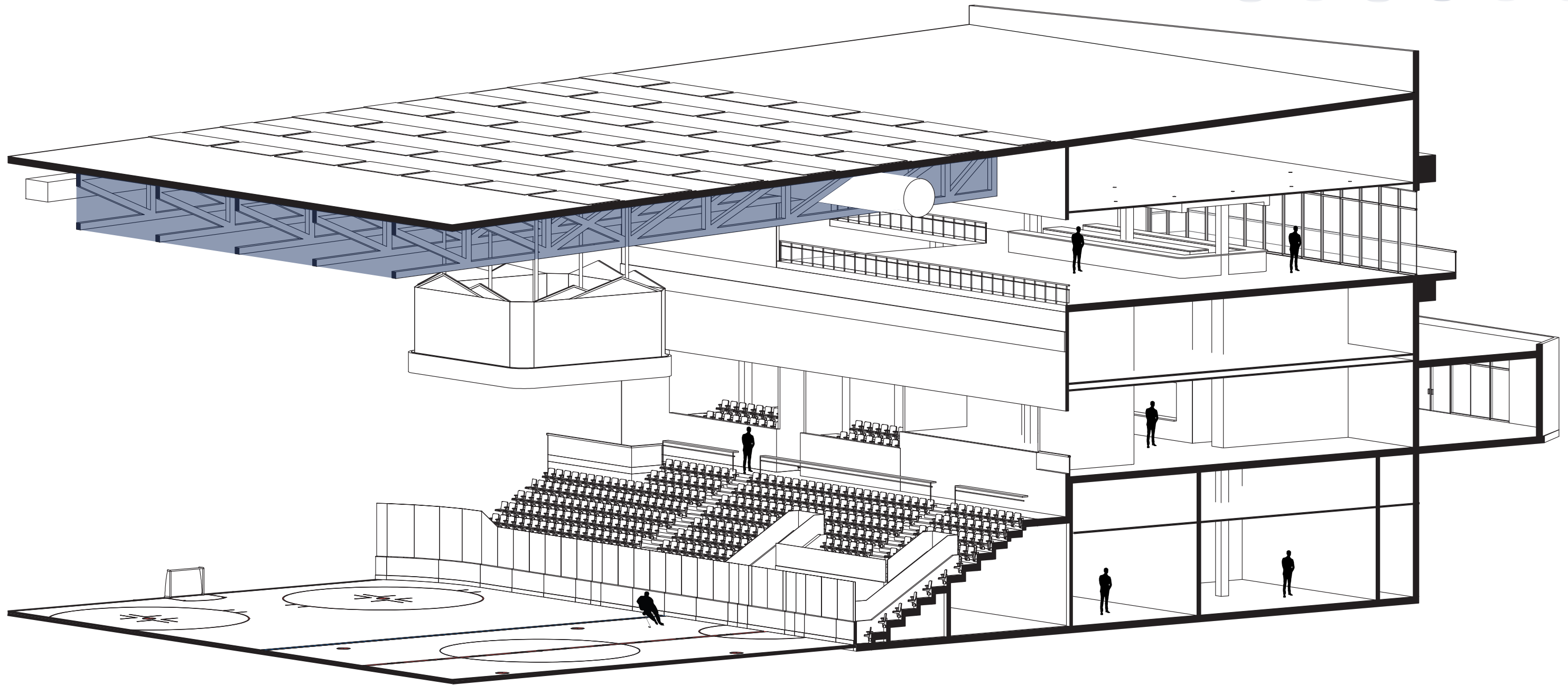




Steel I Beam Columns

Steel I beam columns help support the roof and floors of Arizona Arena. These columns are placed on a 20' by 20' grid, ensuring the arena remains structurally sound

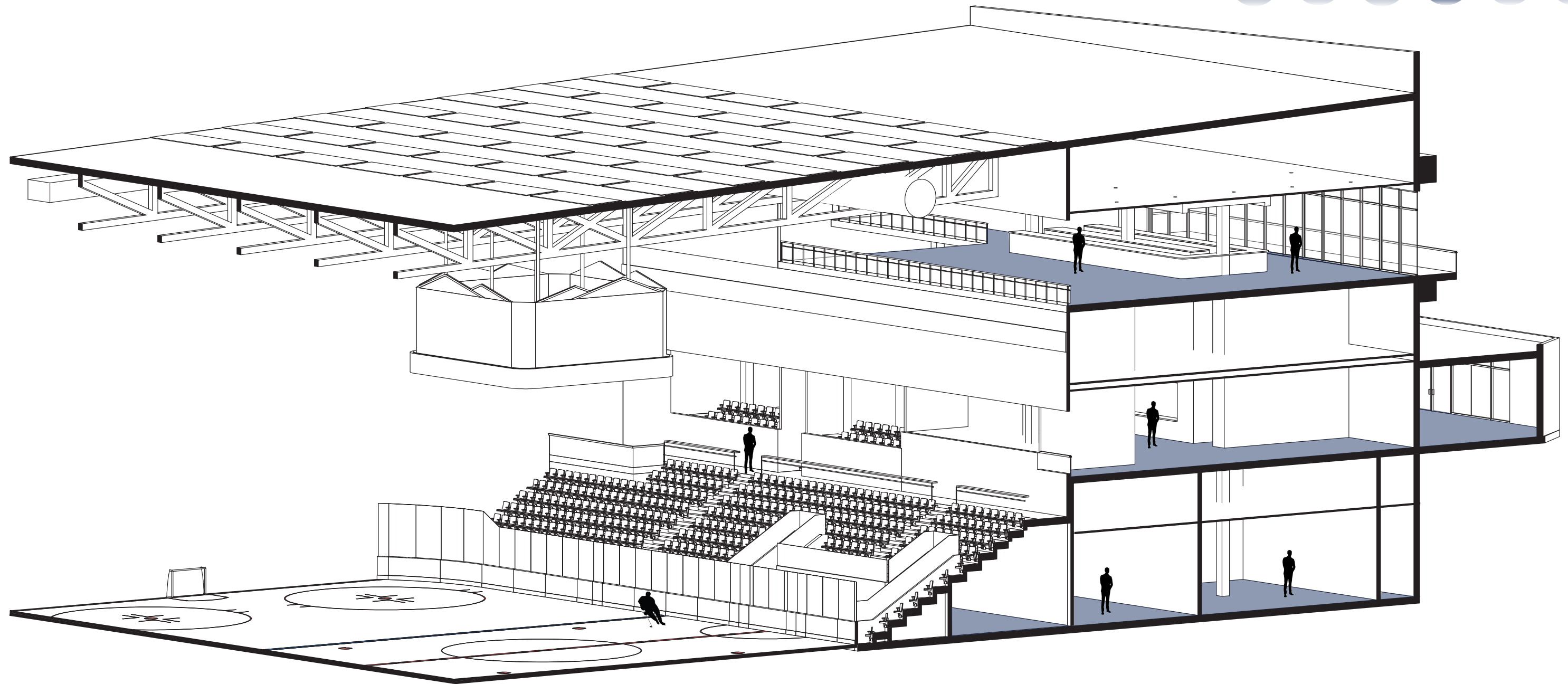




Steel Web Truss System

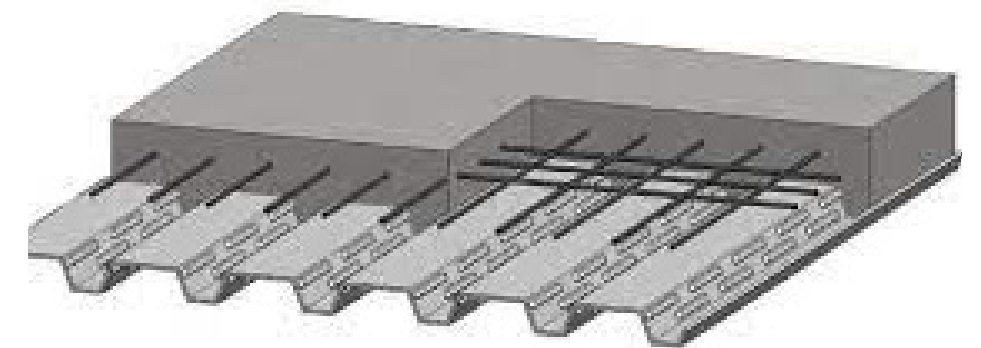
A steel web truss system supports the roof spanning the length and width of the rink and seating of the arena. These web trusses sit 15' apart and are supported with the steel I beam columns.

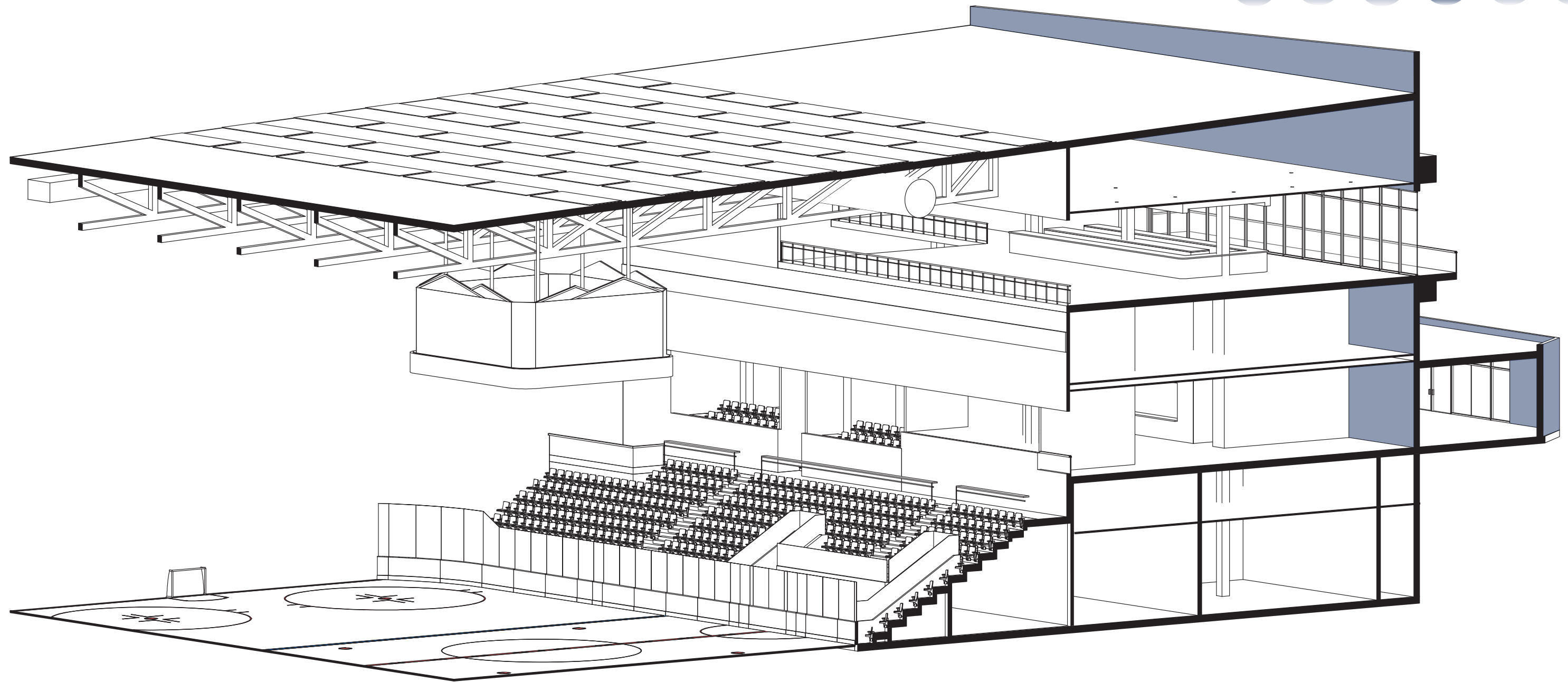




Composite Concrete Floor

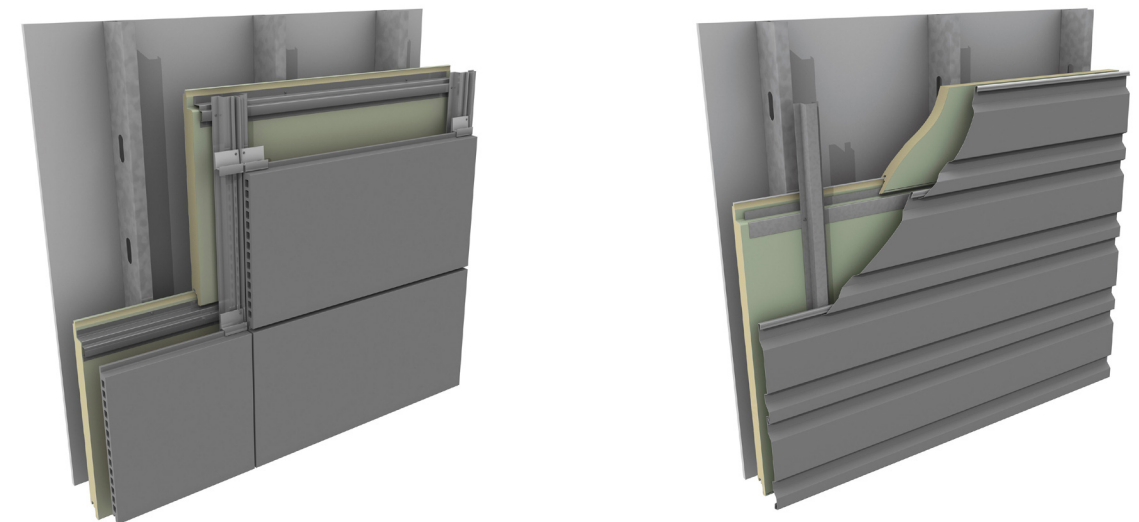
The floors of the arena are made of a composite concrete floor system. Compared to a precast concrete floor, a composite floor deck constructed using a steel profile offers advantages in terms of speed and safety of construction, and adaptability. It is also lighter, which makes for a more efficient use of materials and therefore contributes to more sustainable construction.

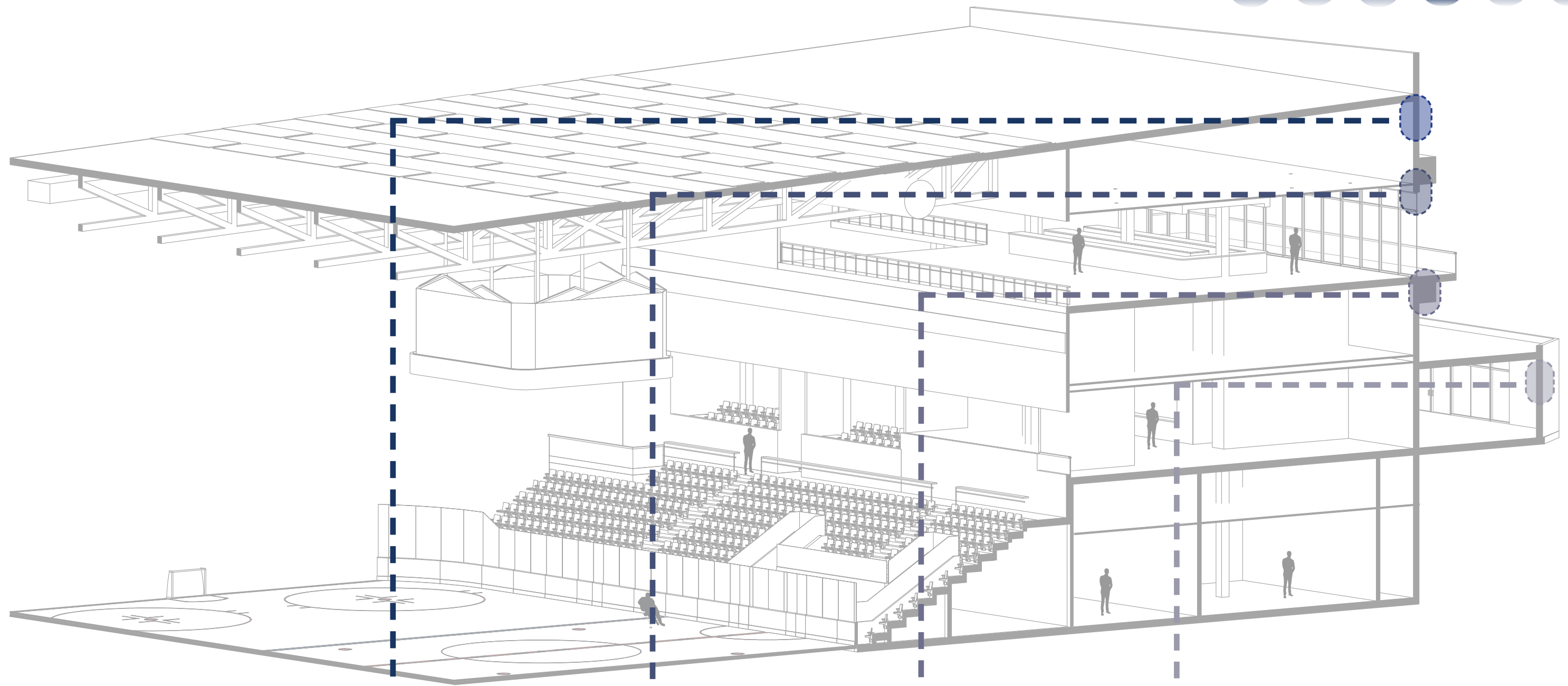




Metal Wrap Insulated Wall Panels

The building's exterior walls are metal wrap insulated wall panels. These walls are very efficient at keeping the ice, and the building cool. Metal wrap walls have two steel skins, permanently bonded to a poured-in-place foam insulating core. Interior walls are simple metal stud system walls, finished with gypsum wall board.

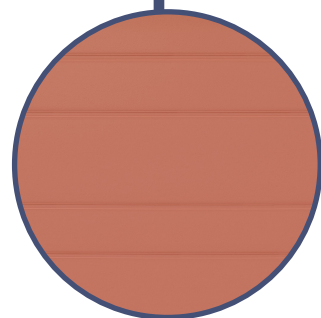




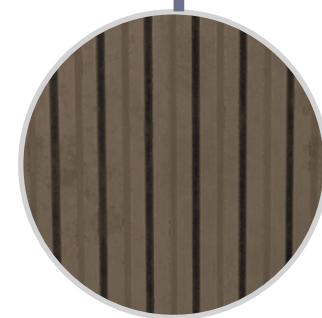
Materials



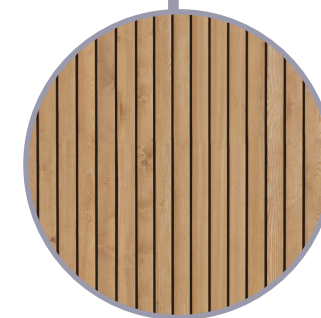
Metal Wrap Panels



CWP Panels

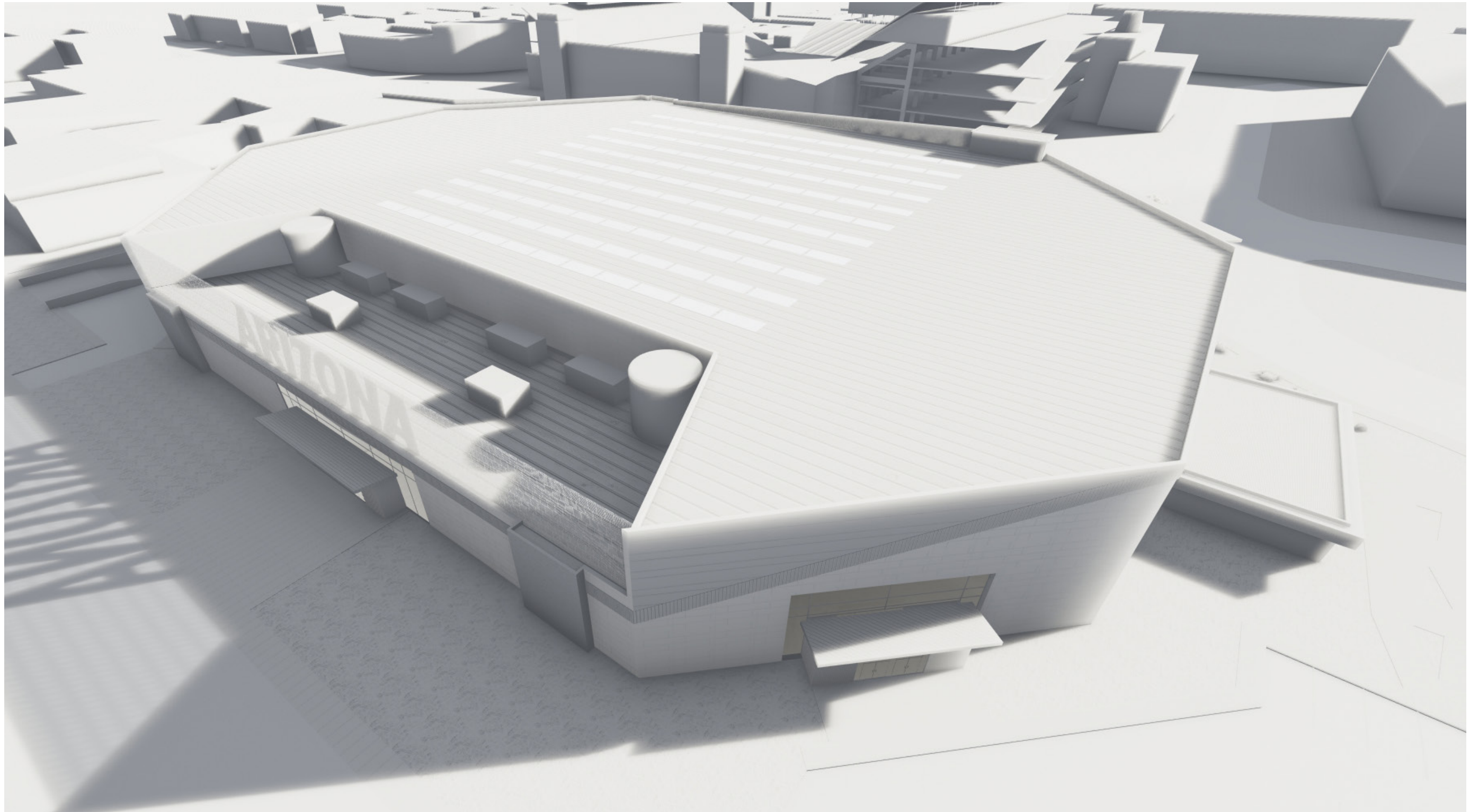


Corrugated Metal



Directional Wood

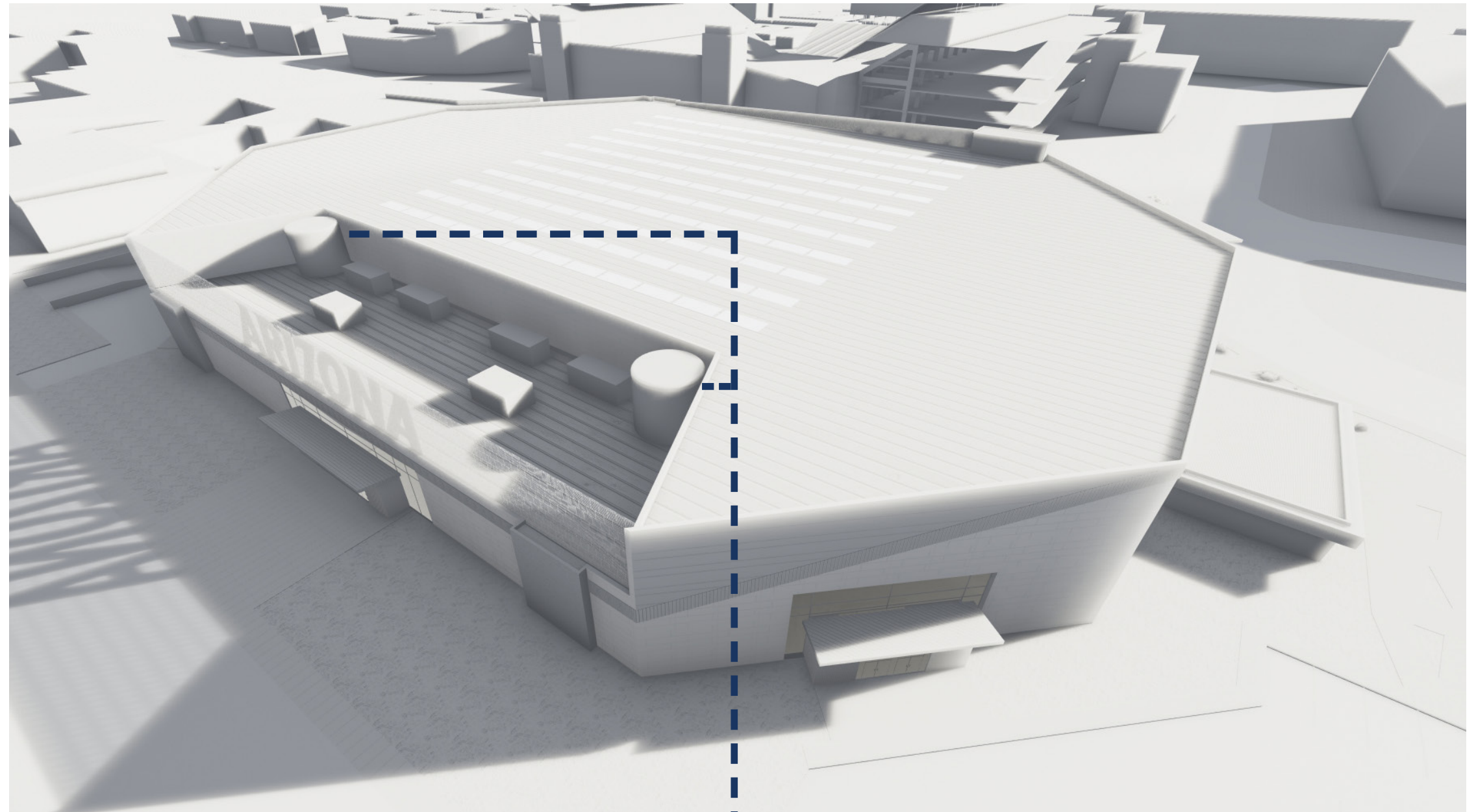
Sustainability



Water Cisterns

2 Water cisterns are located on the roof of the arena. Rainwater is funneled through the roof into these cisterns. The water is then distributed to the buildings low flow toilets and sinks, which preserves and limits the amount of water used throughout the building.

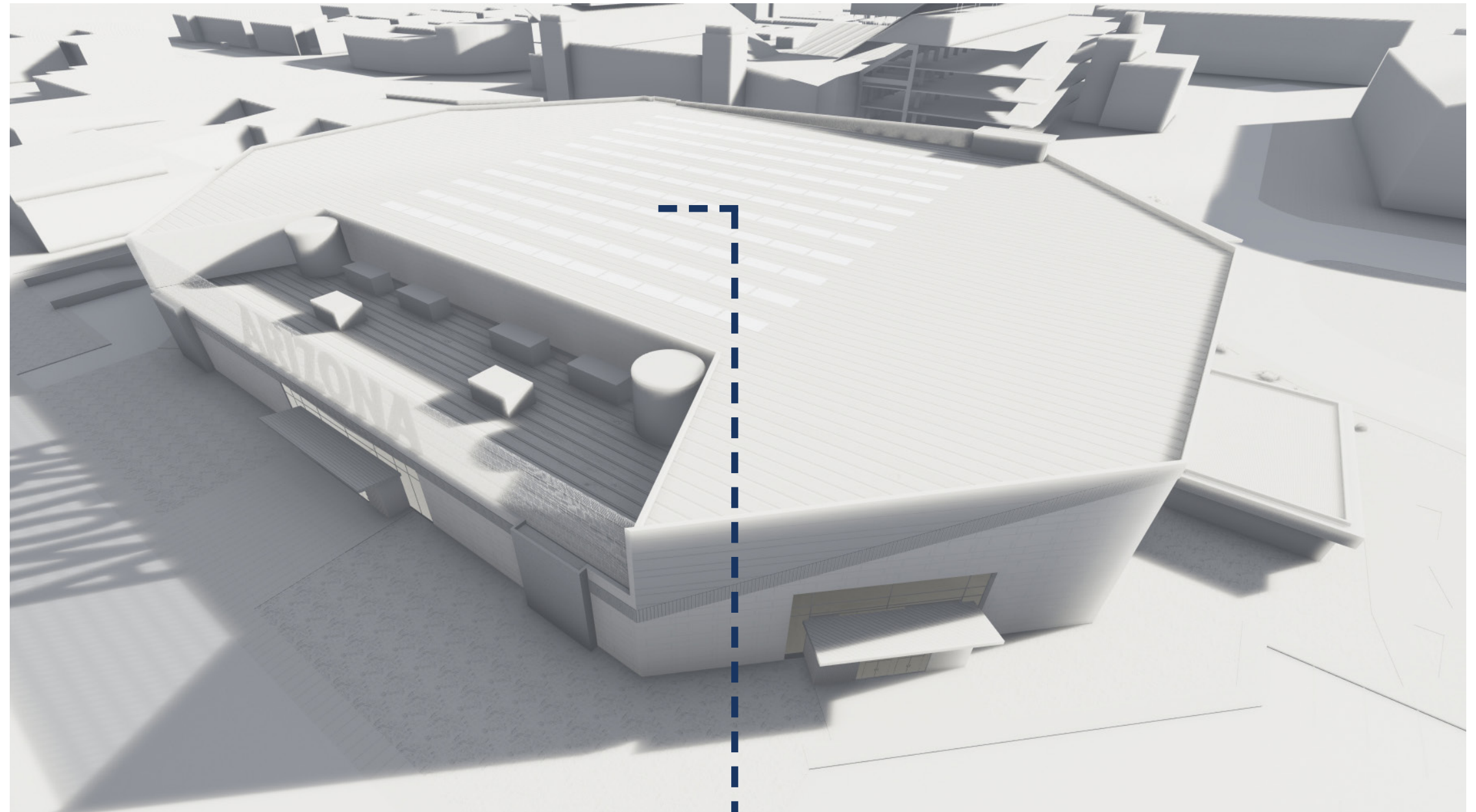
Smaller reserve cisterns are located on the lower level of the arena in the case of an overflow of rainwater.



Solar Energy

132 solar panels sit atop of Arizona Arena collecting the 300 days of sunshine Arizona experiences yearly. These panels provide the arena with green energy year round.

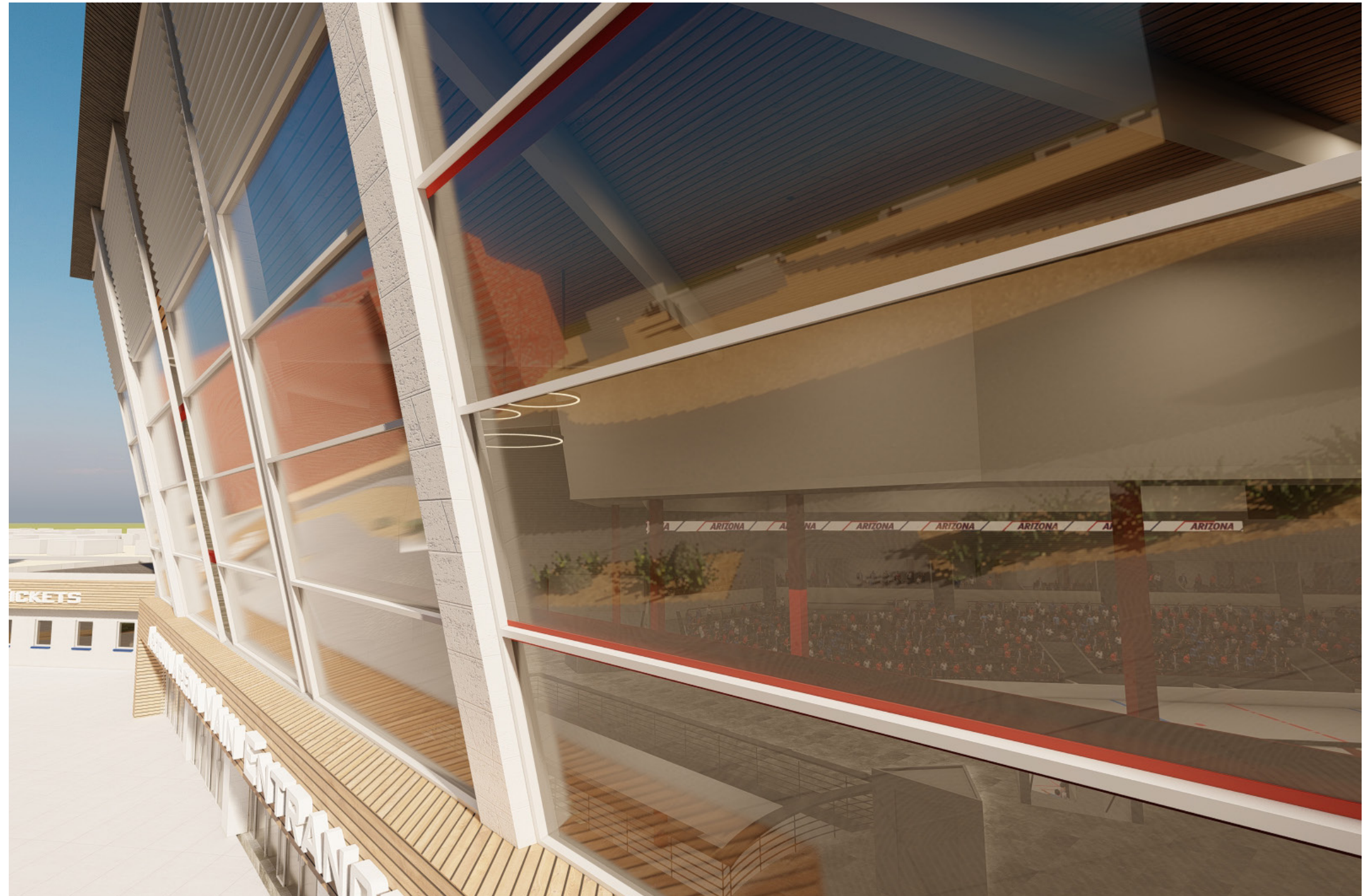
Any left over energy can be sent back to the Tuscon power grid, and be used for other buildings throughout the city.



Sage Glass

Sage Glass is an electrochromatic glass that tints and becomes transparent automatically, creating light and thermal comfort in a space. The energy needed to control these panels is very little, as 120 square feet of Sage glass consumes less energy than a 60 watt light bulb.

When the sun is shining, the glass will self tint, blocking the sun's harsh rays from entering the space and limiting glare.



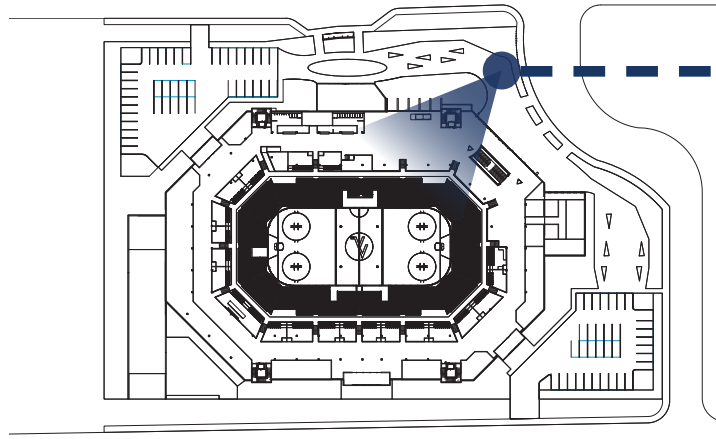
On cloudy days, or when the sun goes down, the tint will disappear, allowing more natural light into the space.

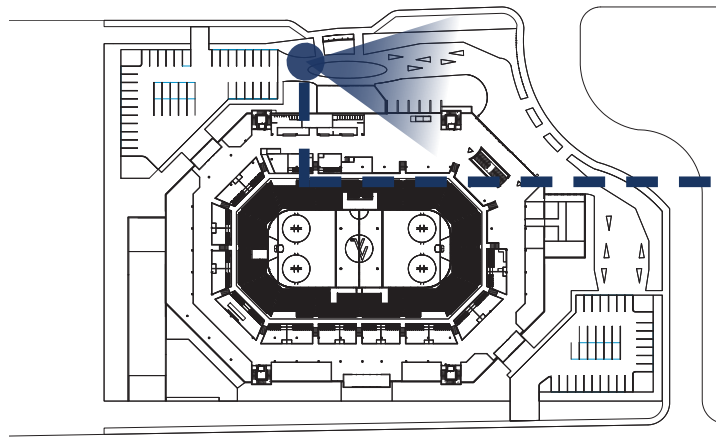


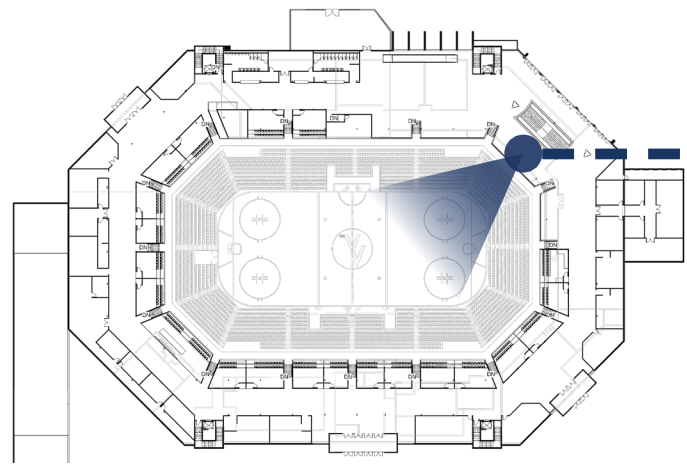
Design Solution

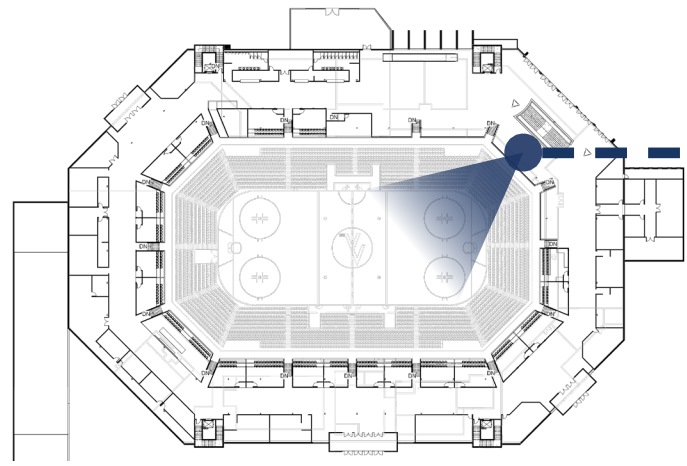


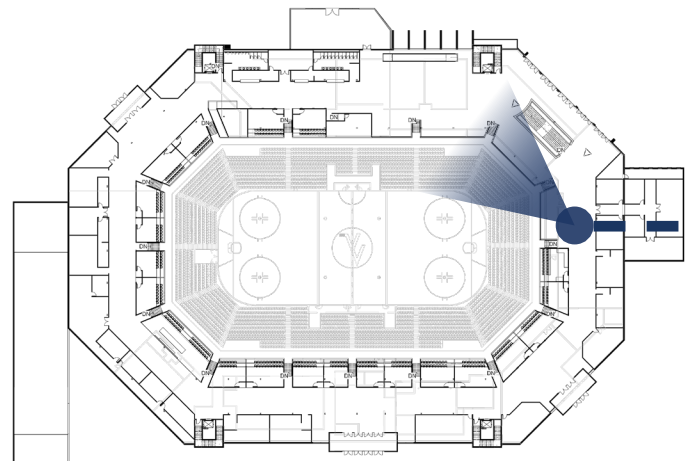
Arizona Arena

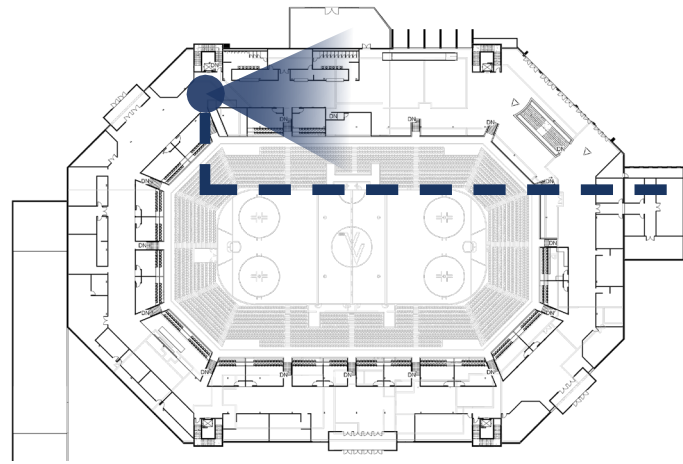


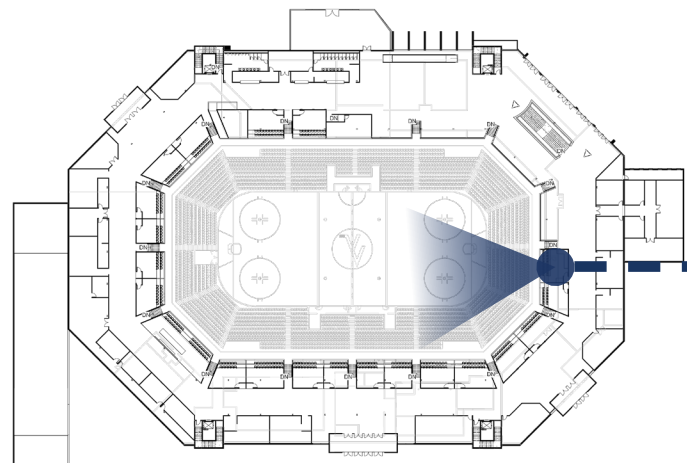


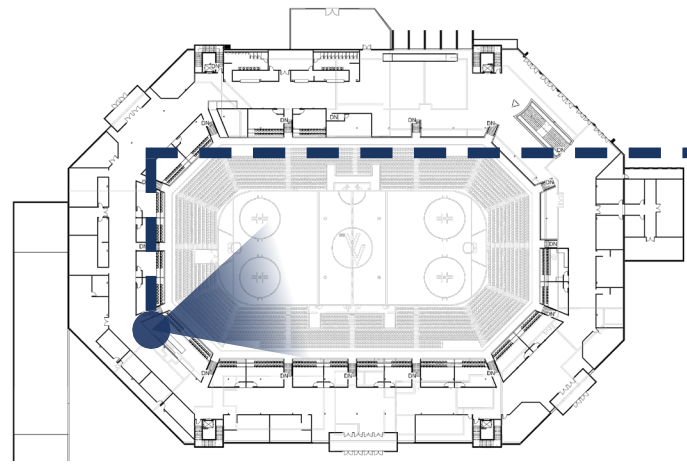


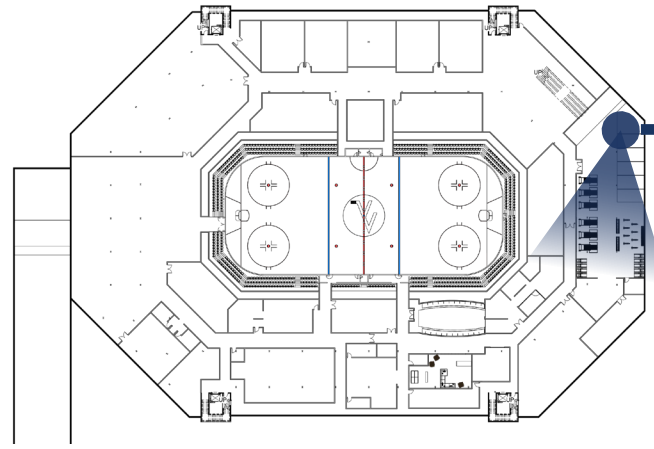


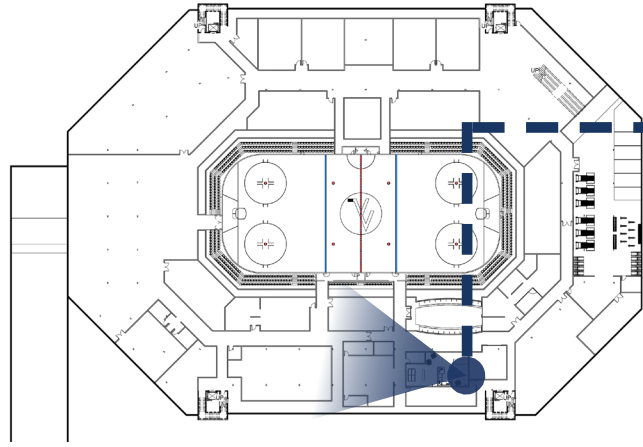


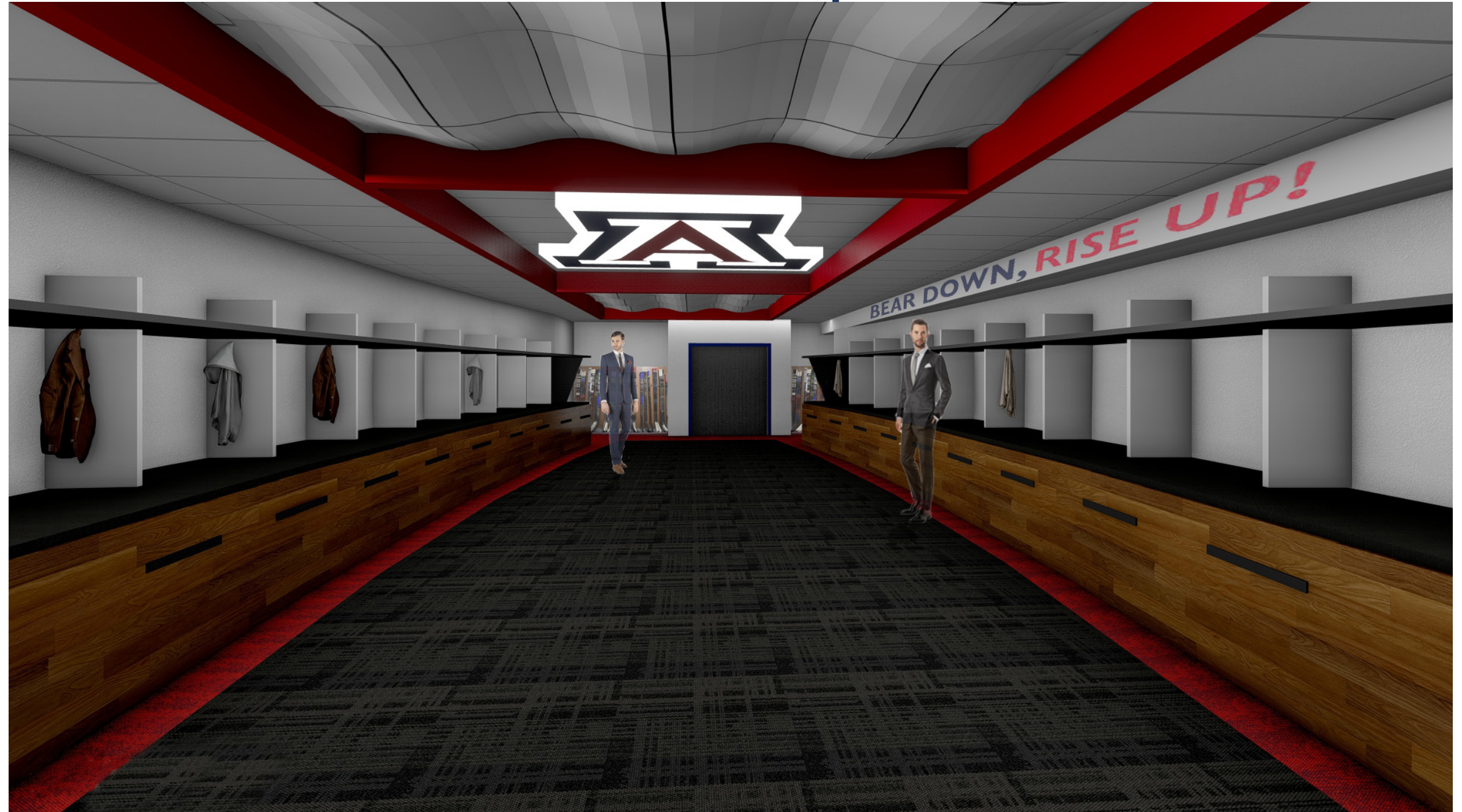
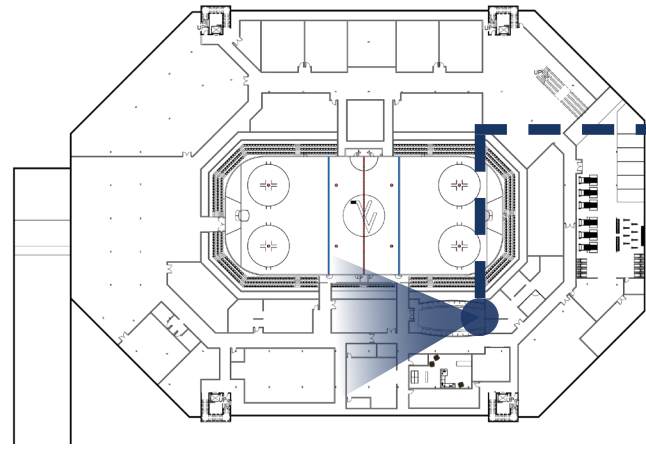


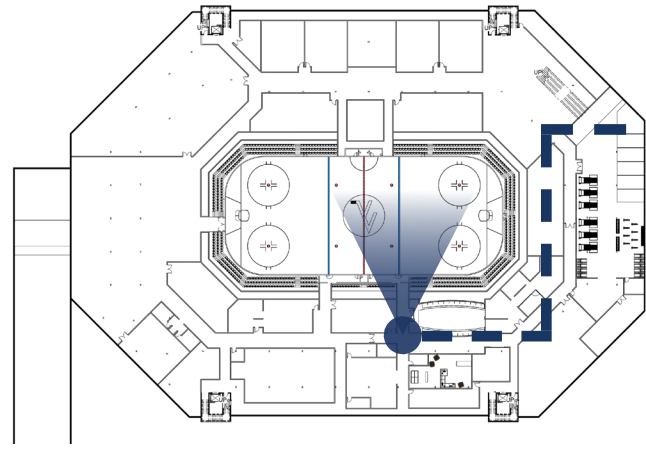












Design Process

The design process for Arizona Arena was fairly simple. To start, the rink was first placed, the 82' by 200' rink dimensions will never change, so designing around the rink was crucial to the development of the building. After the rink is set, the next layer of the design was creating the views, or seating, for the arena. This step was arguably the most important, as this is where the fans will be sitting for the majority of games. Creating unobstructed views from all angles helped guide the part of the process. Finally, circulation and entrances create the final layer of the design process. Finding ways to move people in, out, and around the rink efficiently was the goal of this phase.

Site Plan

- 1 Arizona Stadium
- 2 No. Center
- 3 Parking Ramp
- 4 Residential Neighborhoods
- 5 ICA Indoor Sports Center

3D Section

- 1 Steel Web Truss System
- 2 Metal Wrap Insulated Wall Panels
- 3 Steel I Beam Columns
- 4 Composite Concrete Floors

Materials

- Metal Wrap Panels
- Corrugated Metal
- CWP Panels
- Directional Wood



Arizona Arena

ICE IN THE DESERT

Tucson, Arizona

Arizona Arena Logo



Video QR Code



Statement

Over the last 20 years hockey has seen a 250% increase in players throughout the nation, making it one of the fastest growing sports in the United States. Arizona is one of the leading states for this increase. With the increase in players, a facility is needed to provide youth players a space to practice and play on ice with off-ice training options as well.

Along with youth players, the University of Arizona hockey team is in need of a new facility. The ACHA Division I program has climbed, consistently being a top 20 team in their respective division. This success has given them the reason to make a jump to NCAA Division I hockey, the highest level of hockey before the professional level in America. To make this jump, the team needs a new facility that is built to the NCAA Division I standards for both players and spectators.

Solution

The solution is Arizona Arena. This 1,122,000 square foot facility features an NHL size sheet of ice. Located across the street from Arizona Stadium, as well as the U of A campus, this arena is walkable for all students to attend games. A bus stop is also available for student transport. The rink seats 5,000 people in the General Admission seats, with an additional 200 luxury seats along the perimeter of the sections. 22 suites, including a corner bar, can seat another 170 people, with space for another 100 bar stool seats. A standing room bar overlooking the rink holds 200 people giving spectators top notch views of the action. Designed through sustainability, the rink was made to freeze in the desert heat of Tucson.

Ice level provides players of all levels with high end training equipment. 6 public locker rooms provide youth teams with ample space to prepare for games. A private locker room for the UofA team is also featured, with a team lounge, study space, and cafeteria for nutrition giving the athletes everything they need to succeed on and off the ice. The weight room gives athletes an off-ice training space with over 20' of turf for sprints, a synthetic ice station, and a skating treadmill to perfect strides.

Main Level-Concourse

- 1 Main Entrance
- 2 Escalator to Standing Ice
- 3 Admin Offices/Ticket Sales
- 4 Building Entrances
- 5 Team Store

Lower Level- Ice Level

- 1 Team Spaces
- 2 Loading Deck
- 3 Public Locker Rooms
- 4 Mechanical
- 5 Egress Stairwells



Sustainability

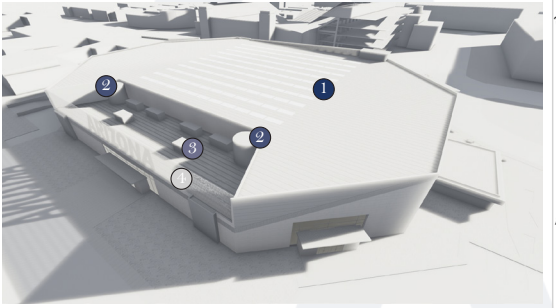
- 1 Solar Panels
- 2 Water Cisterns
- 3 Mechanical Equipment
- 4 Perforated Metal Panel

Driven by sustainable design, Arizona Arena contains multiple sustainable features. A Water cistern to catch rain water funneled in by the roof. This water is distributed to the building's low flow toilets and sinks, preserving as much water as possible.

The roof holds 132 solar panels collecting the 3000+ days of sunshine Arizona experiences yearly. These solar panels support the energy needed to keep the lights on and the mechanical equipment running.

Any left over energy harvested by these solar panels can be sent to the Tucson power grid, and be used for electricity throughout the city.

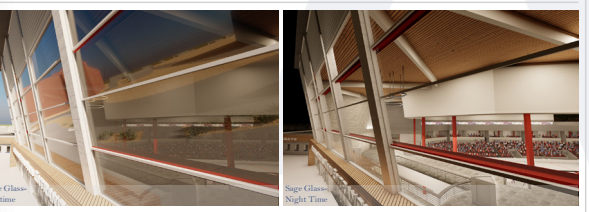
A perforated metal panel will help hide the roof top mechanical equipment from people on the ground.



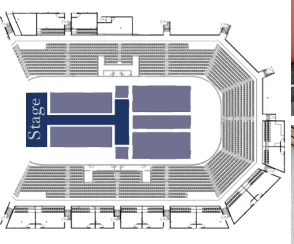
Sage Glass

Sage Glass is an electrochromic glass that tints and clears automatically, creating light and thermal comfort in a space. The energy needed to run these panels of glass take very little. 140 square feet of Sage Glass consumed less energy than a 60 watt light bulb.

When the sun is shining, Sage Glass will self tint and block the sun from entering the building. On overcast days, the tint will lighten up and allow the natural light to enter the building. This cuts the energy usage and cost for the building all year.



Mixed Use Plans



Concert Plan
Basketball Plan

