



## Dakotah! Sport and Fitness

Location: Prior Lake, Minnesota

Architect: HTG Architects

### The Situation:

When Dakota! Sport and Fitness in Prior Lake, MN began plans to build a second ice arena they had several concerns they wanted addressed to make it a first-rate facility for the athlete, spectator and the environment. Emanuelson-Podas teamed up with HTG Architects to deliver on all three fronts.

### The [engineous\*]:

For the athlete, the design included the use of a reverse osmosis (RO) water purification system. This provides pure water to create and maintain the highest quality ice surface. Additionally, a desiccant dehumidification unit was applied to the arena, providing dependable humidity control.

For the spectator, EP abandoned the old practice of using overhead radiant tubular heating, which proved to be a maintenance issue. The new system took the same heat transfer concept and relocated it from 20' above to directly below the arena seating. The difference with in-floor radiant heat is less maintenance and a better local thermal experience for spectators.

For the environment, EP incorporated four major 'green building' technologies. First, thermal solar panel installation will preheat the RO water supplied to the ice resurfacing machine. Next, rather than discarding the heat from the refrigeration equipment to the outdoors, a heat exchanger recovers the waste energy and uses it to heat the in-floor system. Daylight harvesting was also established through skylights above the ice, with a lighting control system capable of dimming light output as natural light increases. Finally, a green roof was installed to reduce energy cost and treat storm water.

In the end, EP's design provided a new environment for the facility, making the experience more enjoyable for the athlete and spectator.

For more information on the Dakota! Sport and Fitness project please contact:

Emanuelson-Podas, Inc  
10401 Bren Road East  
Minnetonka, MN 55343

(952) 930-0050  
[www.epinc.net](http://www.epinc.net)



**emanuelson-podas**  
consulting engineers

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