Ice Arena Research And Study Phase
SC Zoning/PSU Master Plan

Zoning:
- 50' setback along University Drive

Masterplan
- Sub-district 9
- Max FAR = 0.17
- Max % Impervious = 50%
- Max Building Height = 90'
- Try to preserve existing vegetation (trees)
- All exterior mechanical and electrical equipment must be screened (blocked from view).
- Use finishes that are easy to maintain, light colors.

Assembly Group “A”
- Arenas
- Skating rinks
- Swimming pools

Ventilation
- The minimum openable area to the outdoors shall be 4% of the floor area being ventilated.

Lighting
- The minimum net glazed area shall not be <8% of room floor area

Wheelchair Spaces Required:
- Wheelchair Passage Width
  - Minimum clear width at least 36 inches continuously

Site Arrival Points
- Accessible routes must be provided from public transportation stops, accessible parking to building entrance

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IBC 2009

ADA 2009
Ice Arena Feasibility Study

Key Design Principles:
- Strong Visual Connection
- Cues from Context
- Maintain Tennis Building during Construction
- Mount Nittany Views
- Prominent Brand
- Meet LEED Standards
Structural Considerations

Aesthetic of Material
Constructability
Lateral Stability
Roof Loading
  - Snow
  - Rigging
  - Catwalk
  - Ponding

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Energy Requirements

Energy needs range from:
800,000kWh/year – 2,400,000kWh/year

Lighting accounts for 10% - 15% of energy consumption

Spaces & Considerations

Main Ice Rink
- Restrike times
- Glare (players and spectators)
- Uniformity gradient on playing surface
- Reduce shadows on playing surface

Practice Rink
- Suite/Skybox
- Circulation Spaces
- Back of House
- Offices, MEP

Theatrical/Advertising/TV Broadcasting Lighting

Tools

Rink Lighting
- Metal Halide (most common)
- Radiation component
- Custom Fixtures
  - Generally more energy efficient
  - Hubbell – Para 2
  - Arcticlite (Fluorescent Fixture)
    - Can achieve up to 60% energy reduction versus use of metal halides
    - Better uniformity levels
    - Reduces refrigeration loads

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Questions/Discussion