



# Don Barnett Arena

Rushmore Plaza Civic Center

## Life Safety and ADA Assessment Report

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### SECTION I – EXECUTIVE SUMMARY

#### BACKGROUND INFORMATION

The Don Barnett Arena was constructed as a part of the Rushmore Plaza Civic Center in 1976. In 1984 and 1995 additions to the east side of the Center added exhibition and meeting space, kitchen facilities, staging and storage areas with back-of-house modifications to the north end of the arena. The arena hosts a wide variety of events including:

- Black Hills Rodeo
- Concerts
- Spectator sports
- Indoor dirt events
- Flat floor events such as:
  - Trade shows
  - Consumer shows
  - Food and beverage events

The intent of this study is to update the information for the Life Safety and Americans with Disabilities Act (ADA) from the “RPCC Arena Improvement and Potential Scope Items Report” prepared by FourFront Design, LAN/Leo A. Daly, Skyline Engineering and Albertson Engineering on March 25th, 2005.

Although the facility has served Rapid City and the Black Hills region well, it does not meet current Life Safety and ADA standards for arenas. This includes spectator accommodations, event accommodations, and operations needs. Renovation and upgrades are necessary to continue to serve users and patrons and remain competitive with other facilities for events.

As one component of the Center, the arena is tied to the Rushmore Plaza Civic Center. At its south end, the arena is connected to a central concourse which provides access to the theatre at the opposite end, and exhibition, meeting rooms and offices on the sides. The east side of the arena is bounded by a concourse serving the east side addition. The north and northeast corner of the arena contain the primary back-of-house facilities although storage areas and operations offices are located in several areas dispersed around the ground floor. The west side faces the parking and drop-off areas and is the primary arena entrance.

The existing components of the facility to be evaluated are as follows:

- Elevators
- Public Amenities
  - Toilets
  - Concessions
  - Merchandise
- Seating Bowl
  - Fixed Seating
  - Telescoping Seating
  - Moveable Seating
- Event Floor
- Back of House Area
  - Staging/Storage
  - Dressing Rooms
  - Show Office
  - Building Services
- Administrative & Ticketing
  - Administrative
  - Ticketing
  - Security



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### SCOPE OF ASSESSMENT UPDATE

#### Life Safety

The Life Safety review of the Don Barnett Arena evaluated building codes based on the requirements found in the 1973 edition of the Uniform Building Code (UBC), the 2009 International Building Code (IBC), with some references made to ICC 300, Standard for Bleachers, Telescoping Seating, and Grandstands.

The 1973 edition of the Uniform Building Code was used in this review as this building code would have been utilized in the design and construction of this building. The reasoning for the review under this code is that Chapter 334 of the 2009 International Building Code, of which the City of Rapid City is currently using as their building standards, states in Section 3401.2 that devices and safeguards which are required under this code shall be maintained in conformance with the code under which it was installed.

It needs to be noted that Chapter 34 of the IBC also states that the requirements of this chapter shall not provide for the removal or abrogation of fire protection and safety systems in existing buildings.

Components of the assessment are as follows:

- Occupant Loading
- Exiting
- Seating
- Exit Signs
- Fire Alarm

#### Americans with Disabilities Act (ADA)

The ADA Review of the Don Barnett Arena evaluated the compliance with the Americans with Disabilities Act. Title II of the Americans with Disabilities Act (ADA) provides that “no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity or be subjected to discrimination by any public entity.” (35.130 (a))

In the recent regulations, the 2010 ADA Accessibility Guidelines were adopted by the U.S. Department of Justice as the Standards for Accessible Design. These standards became fully enforceable March 15, 2012. With this in mind, FourFront Design, Inc. specified that Meeting the Challenge (MTC) use the new 2010 standards as the benchmark for facility accessibility surveys and any recommendations.

Existing construction that was completed in compliance with the prior ADA standards is not required to be compliant with the 2010 ADA Standards for Accessible design and has safe harbor. All new construction, remodeling and additions are required to meet the 2010 ADA Standards. The 2010 Standards have been harmonized with ICC/ANSI A117.1-2003 which is the basis for IBC 2003. Therefore, deficiencies in ADA compliance are most likely also deficiencies in building code compliance.

This assessment includes data collected for the following elements:

- Parking
- Curbs
- Curb Ramps
- Entrances
- Passenger Loading Zones
- Crosswalks
- Paths of Travel
- Ramps
- Handrails
- Alarm Systems
- Elevators
- Signage
- Restrooms
- Drinking Fountains
- Common Use Areas
- Reception Counters
- Doors
- Door Hardware



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### SCOPE NOT ADDRESSED IN UPDATE

The following items were not updated from the previous 2005 Facility Assessment & Potential Scope Items report. An additional study would need to be undertaken to evaluate these systems and update them in conjunction with the results found in this assessment.

#### **General/Civil site issues**

- Parking and site access
- Site utilities
- Exterior marshaling/docks
- Drainage

#### **Structural systems**

- Primary structure footings/foundation
- Slabs on grade and elevated structure
- Structural frame
- Roof structure

#### **Mechanical, Electrical and Plumbing systems**

- HVAC
- Electrical
- Lighting
- Plumbing
- Lighting protection
- Telecom and data

#### **Sustainability**

- Building Envelope efficiencies

#### **Event related systems**

- Sound systems
- Sound control locations
- Concourse speakers
- House intercom
- Catwalk
- Rigging grid
- Arena lighting
- Lighting shutters
- Show power
- Broadcast accommodations
- Spotlight platform



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### ASSESSMENT OVERVIEW SUMMARY

#### Life Safety

After evaluating the Don Barnett Arena for Life Safety compliance with the 2009 International Building Code (IBC), the following was determined:

- Occupant Load
  - The exiting requirements for the arena area are compliant with the required four exits and that the arrangement of the exit doors meets the spacing requirement.
  - The arena exit widths are compliant and exceed the required 2,229.36 inches exit widths with 2,240 inches.
  - The arena floor exit widths are compliant and exceed the required 270.72 inches exit widths with 1,472 inches.
- Exiting
  - All exit doors are compliant with the requirements of swing direction, panic hardware, level landings, and exit widths with the exception of the employee break room.
  - The employee break room on the east side of the mezzanine level is not compliant with swing direction, number of doors, exit lights and emergency lights.
- Grandstand Exiting
  - The requirements for number of seats and spacing are compliant.
  - The rise of aisle steps is not compliant with the requirement for ¼ inch tolerance between risers.
  - The requirement for a center handrail at the aisle steps is not in compliance.
  - The requirement for a wall handrail is not in compliance.
  - The stair widths are compliant.
  - The requirement for 1-hour fire partitions in corridors as well as opening protections is compliant.
- Exit Signs
  - The lighted exit signs and exit illumination is compliant as well as the two sources of power required.
- Fire Alarm
  - The current fire alarm system is outdated and would need to be upgraded per the current building code (IBC)
- Toilet Counts
  - On the ground floor, the number of male and female toilets is 19 each. The new code would only require male 14 toilets but would require an increased total of 27 female toilets (8 additional).
  - On the mezzanine level, the number of male and female toilets is 16 each. The new code would require 38 male toilets (22 additional) and 73 female toilets (57 additional).

#### Americans with Disabilities Act (ADA)

After evaluating the Don Barnett Arena for Americans with Disabilities Act compliance, the assessment found that the existing facility is not in compliance due to the fact that ADA was not in existence and therefore, not a requirement. In order to meet the new requirements for a new or altered facility based on the Department of Justice, 2010 ADA Standards for Accessible Design, the following was determined as well as the coinciding priorities set forth by the above mentioned standards:

- Parking - 10% of total findings or 40 findings need to be remedied. This has been classified as a Priority 1.
- Walkways – 11% of total findings or 46 findings need to be remedied. This has been classified as a Priority 2.
- Hallways – 4% of total findings or 18 findings need to be remedied. This has been classified as a Priority 2.
- Restrooms – 49% of total findings or 197 findings need to be remedied. This has been classified as a Priority 3.
- Dressing Rooms – 5% of total findings or 20 findings need to be remedied. This has been classified as a Priority 3.



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- Miscellaneous – 21% of total findings or 82 findings need to be remedied. This has been classified as a Priority 4.
- Seating –
  - Most of the configurations offer more than the required number of wheelchair spaces with the exception of the Boxing/Martial Arts and the Rodeo configuration.
  - The amount of dispersion is not acceptable in all configurations.
  - Companion seating with the current painted stripes on the floor does not allow for companion seating if all wheelchair spaces are occupied.

### MITIGATION PROCESS OVERVIEW

Upon completion of the Life Safety and ADA assessments, FourFront Design held a mitigation workshop with Civic Center staff and the representative from the Mayor’s office. In this workshop, we presented mitigation concepts that would address those deficiencies found in the above mentioned assessments. Our team then reviewed the priorities and provided a solution for a mitigation plan that is outlined in Section III.

### MITIGATION STRATEGY SUMMARY

The non-compliant components have been prioritized in order for addition or renovation work to bring them into compliance. These components are:

- |                                      |                       |
|--------------------------------------|-----------------------|
| • General components                 | Mitigation Priority 1 |
| • Concourse Area components          | Mitigation Priority 2 |
| • Concession Area components         | Mitigation Priority 2 |
| • Restroom Area components           | Mitigation Priority 3 |
| • Arena and Arena Seating components | Mitigation Priority 4 |

In establishing the mitigation strategies we have used the priorities set forth from the Department of Justice. A public accommodation is urged to take measures to comply with the barrier removal requirements with the following order of priorities:

- (1) First, a public accommodation should take measures to provide access to a place of public accommodation from public sidewalks, parking, or public transportation. These measures include, for example, installing an entrance ramp, widening entrances, and providing accessible parking spaces.
- (2) Second, a public accommodation should take measures to provide access to those areas of a place of public accommodation. These measures include, for example, rearranging tables, providing raised character signage with Braille, widening doors, providing visual alarms, and installing ramps.
- (3) Third, a public accommodation should take measures to provide access to restroom facilities. These measures include, for example, removal of obstructing furniture or vending machines, widening of doors, installation of ramps, providing accessible signage, widening of toilet stalls, and installation of grab bars.
- (4) Fourth, a public accommodation should take any other measures necessary to provide access to the goods, services, facilities, privileges, advantages, or accommodations of a place of public accommodation.



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### RECOMMENDATIONS FOR MITIGATIONS

In order to accomplish the mitigation as set forth by the priorities, a phasing solution would provide the least disruption for Arena functions and building operations. These phases are as follows:

- Exterior/Site Components
  - Phase One A: Parking
  - Phase One B: Driveway
- Building Components
  - Phase Two
    - Enlargement of the West Concourse
      - Increased number of restrooms
      - Mechanical systems
      - Circulation including elevators
      - Accessibility for dressing rooms
    - Enlargement of the East Concourse
      - Increased number of restrooms
      - Mechanical systems
    - Press Box accessibility
  - Phase Three
    - Seating
      - Accessible Handicapped seating
        - Telescoping/portable seating at the ground floor level and telescoping seating at the north and south mezzanine levels will need to be replaced with ADA seating and associated companion seating.
        - Provide seating around the entire mezzanine area by reconfiguring and enlarging the first level of the stadium seating to accommodate dispersed accessible seating with associated companion seating
        - Provide seating in the upper stadium levels; multiple locations of accessible seating for wheelchairs and companions is provided by the inclusion of wheelchair lifts accessed from the concourse areas and by new elevators at the north and south ends of the arena.
        - A chart for the Arena Seating Options is located at the end of Section III. This shows the resulting seat counts which indicate the new handicapped and companion seating, the loss of the standard seating, and net counts for the arena.
      - Elevator
      - Accessible Back of House area improvements and increased numbers of dressing rooms
      - Enlarged and accessible staff restroom and break area
      - Concession areas

This mitigation strategy outlined above was further developed to provide an Estimate of Probable Cost. It should be noted that there are many possible options that could be investigated but were not considered with this report. The Opinion of Probable Construction Cost for the recommended mitigation strategy in this report is approximately \$36, - \$38 million dollars and is located at the end of Section III.

Further study and cost updates need to be addressed for those scope items not addressed in this update. Cost data updates not included in this update include civil/site utilities/parking, structural systems and snow load upgrades to the roof structure, mechanical, electrical and plumbing systems, sustainability of building envelope efficiencies, event related systems (sound and control systems, concourse speakers/house intercom, catwalks, rigging grid, arena lighting and lighting shutters, show power, broadcast accommodations, and spotlight platform).