



Main Street Square

This entertainment and market venue in the heart of downtown Rapid City is a collaborative effort between a private organization and the City of Rapid City. The overall architecture captures the essence of the confluence of the Badlands and Black Hills with lighting to accentuate the site features. Project spaces include an outdoor stage, ice rink, interactive fountains, and integrated public restrooms.

Project Data

Owners

City of Rapid City
Business Improvement District

Location

Rapid City, SD

Project Type

Recreational

Mechanical Systems and Features

Hydronic In-Floor Heat
Condensing Boiler
Variable Speed Pumping
Demand Control Systems
Zamboni Ice Melting Pit
Vandal Resistant Plumbing Fixtures

Electrical Systems and Features

Street, Area, and Accent Lighting
Wireless and Wired Control of
Audio/Visual & Lighting
Lightning Protection
Vendor Power Connections
Stage Projection System

Construction Cost

\$6,500,000

Completion Date

September 2011



Mechanical Engineering

A new mechanical room, Zamboni pit, and toilet facilities were integrated into an existing adjacent parking structure. Restroom facilities were equipped with infrared vandal-resistant fixtures and occupancy sensors control ventilation fans and the hydronic in-floor heating system.

A high efficiency boiler system with variable speed pumping serves heating systems, domestic hot water generation, year round fountain feature, and ice melt manifold grid. The Zamboni storage area includes an automated ventilation system and ice melt pit. Distributed gas piping was designed and coordinated for the heating system, vendor outlets, and warming area fire pits.

Electrical Engineering

Electrical design included electric utilities; area and street lighting; custom accent lighting for the granite spires; vendor power and data outlets; as well as wired and wireless audio, sound, and lighting controls. The design included lawn area service columns that integrated vendor power outlets, area lighting, LED accent lighting, sound, and video for the site. Systems design interfaced to interactive fountains, ice rink, ice chiller system, and outdoor audio/video venues.

Lighting design included low level lighting with LED and area lighting integrated into lawn-area structural columns. The lighting is controlled by wireless technology or a manual backup control panel. Stage/theatrical lighting and control is integrated into the outdoor stage.

Power systems include two 800 amp services with 200 amp stations integrated into site features for vendor power. The design also integrates LEX show-power stations for stage sound and lighting power.

Site systems include stage and site audio; stage lighting and projection; wired and wireless control of audio, video, and lighting; kiosk message board system; communications vendor outlets; and CCTV around the square.