

RJA Works with Numerous Architects to Plan Massive City-Within-a-City Project

Challenge. The MGM CityCenter project spans 76 acres on the Las Vegas Strip and has a projected total building cost of more than \$7 billion. Designed to be a fully contained city within 18 million square feet of building space, CityCenter will offer a full range of services and accommodations. CityCenter will encompass six high-rise residential towers for luxury condominiums and more than 4,000 hotel rooms; a high-end retail mall; restaurants; entertainment venues, including a theatre and a casino; several subterranean and above-grade parking garages; and a convention center.

An elevated, fixed guideway transit system will extend from the existing Bellagio Casino Hotel through CityCenter to the existing Monte Carlo Resort and Casino. The facility will also include a central plant to provide heating and cooling capacity for the CityCenter complex. The plant also will contain two cogeneration turbines fed from a high pressure natural gas line to provide supplemental power for critical systems.

This ambitious project has an equally ambitious opening goal: all facets of the project are planned to open simultaneously in the fourth quarter of 2009. According to the developer, CityCenter is the largest privately funded construction project in North America.

Solution. Rolf Jensen & Associates' (RJA) primary responsibility on the project was development of a comprehensive site-wide fire protection and life safety solution for CityCenter. This solution was documented primarily within the facility fire protection report, which included 12 different chapters covering specific requirements for each of the unique CityCenter facilities. RJA needed to design exiting for each building individually, and then evaluate exiting for the whole site, so that egress is completely coordinated within the complex. For a 76 acre site with limited access to the public way and grade level elevation changes across the site, this egress coordination was critical to the success of the project.

Coordination was the central theme of this project. For design purposes, the project was broken into three sections called Blocks. RJA, the fire consultant for all Blocks, had to manage separate relationships with three architects of record – one for each of the Blocks – as well as seven design architects of note and numerous other consultants. Further complicating this coordination effort is the fact that all the buildings are interconnected, which meant that RJA dealt with design architects for each of the facilities and needed to coordinate all of the designs. Making this work entailed a lot of back and forth between members of multiple design teams to understand the necessary fire protection concepts for integration into the overall project.

Result. RJA provided fire protection consulting services during the various design and construction periods. Its services included multiple submittal packages for the jurisdiction to review, each coordinated to match permit requirements. These submittals included fire protection report chapters and master egress design for each individual CityCenter facility, as well as an overall fire protection report chapter and master egress design for the complex as a whole. RJA also provided code consulting, a separate fire protection report and master egress analysis for the three automated people mover stations.

As the project nears completion, RJA will provide onsite coordination and commissioning services for fire protection systems, including smoke control systems, automatic sprinkler systems, and the fire alarm system.



- Code Consulting
- Fire Protection Design



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