THE NEW GUTHRIE THEATER CENTER

Location: Minneapolis, Minnesota
Submitted by: AMSYSCO, Inc.
Owner: The Guthrie Theater
Architect(s): Jean Nouvel, Paris France; Architectural Alliance, Minneapolis, Minnesota
Engineer(s): Erickson Roed & Associates
Contractor: McGough Construction Company
P/T Supplier: AMSYSCO, Inc.

OVERVIEW:

The New Guthrie Theater Center is a 250,000-square-foot performing arts complex situated on the banks of the Mississippi River in downtown Minneapolis, Minnesota. The $125-million development includes three theaters: a thrust-stage theater with 1,100 seats, a 700-seat proscenium stage theater and a black-box studio featuring flexible seating. A 178-foot, cantilevered bridge to the Mississippi River is open to visitors during box office hours. Illuminated panels, visible at night, cover the building's exteriors and display large mural photographs of past plays. The theater also has facilities for national productions, large common areas, studios, classrooms, administrative offices, and a 1,000-space parking garage. French architect Jean Nouvel, in local partnership with Architectural Alliance of Minneapolis, designed the project.

Early in the planning phases, the structural engineer and contractor determined that a post-tensioned concrete framing system would provide the most effective solution for the main theater and parking structure. The framing system for the main theater consists of an eight-inch-thick sloping slab supported by a radial/circular network of beams and cantilevered girders on five tiers. This unusual design required a high degree of technical expertise in post-tensioning to accommodate the heavy live loads and large, column-free areas. For the traditional six-level parking structure, the post-tensioning firm designed and supplied an encapsulated post-tensioning system to provide maximum corrosion protection and longevity. According to the post-tensioning supplier, the Guthrie Theater is a unique application of post-tensioning and a good example of its ability to solve complex structural problems. The construction company chose the post-tensioning supplier based on referrals citing the company's technical strength and reliability and was pleased with the outcome.

Jury Comment: *"Exceptional integration of striking architectural design with structural innovation. Unique application of post-tensioning and a good example of its ability to solve complex structural problems."*

Fig. 2 – PTI President Scott Greenhaus congratulating Rattan Khosa (left) and Neel Khosa (right) of AMSYSCO, Inc.

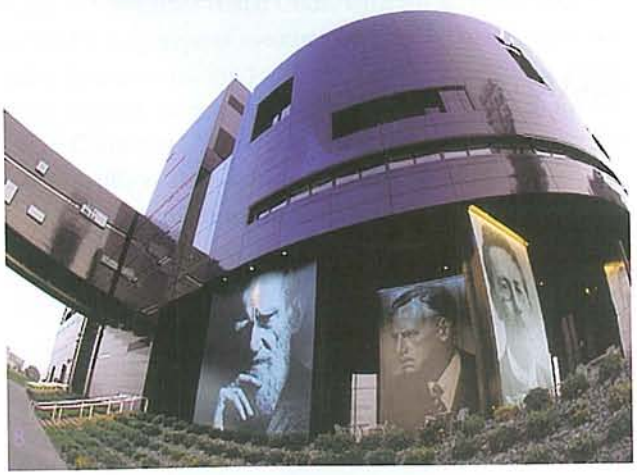

Fig. 1 – The completed New Guthrie Theater Center

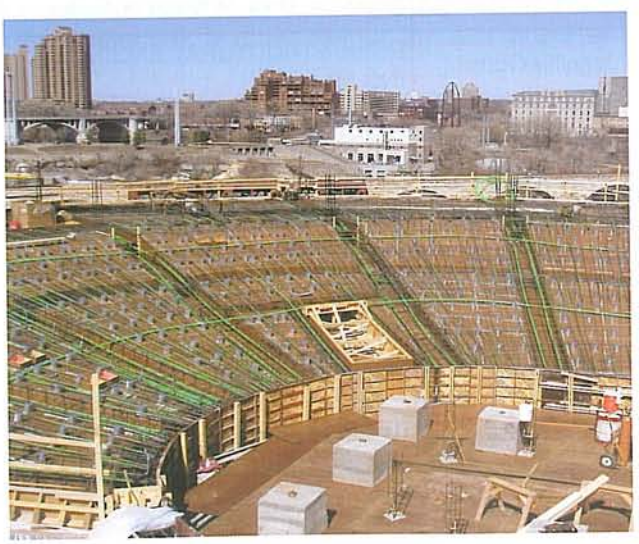

Fig. 3 – The center under construction. Note the complex layout of the radial/circular network of tendons.