Israel's Frederic R. Mann Auditorium Renovation Project

By Dr. Yasuhisa Toyota

Nagata Acoustics has been named as the acoustical consultant for the renovation of Frederic R. Mann Auditorium in Tel Aviv, Israel. The current Mann Auditorium dates back to the 1950s. Its planning and construction began in 1951, shortly after the 1948 founding of the State of Israel, and it opened in 1957.

Overview of the Auditorium and the Need for Acoustical Renovations

Figure 1: Mann Auditorium (Interior View)

At the time, the hall's design focused on the auditorium as the home base of the Israel Philharmonic Orchestra and prioritized providing space for the orchestra's performances and rehearsals. However, on days when the orchestra is not using the hall, it has come to be used as a multipurpose venue for popular music concerts, symposia, dance performances, and so on.

The auditorium is a large hall that seats 2,715, with a configuration that is basically a fan shape and a rather low average ceiling height of 12 $\sim$ 13 m. (39 $\sim$ 43 ft). For many years, the orchestra has expressed discontent with the auditorium's acoustics and, in the past, a number of plans were formulated to renovate the auditorium's acoustics, but they did not come to fruition. The basic shape of the auditorium and its low ceiling height are the major sources of the auditorium's acoustical problems.

Historic Preservation Groups' Previous Objections to the Project

In 2001, a comprehensive plan was formulated to renovate the entire auditorium. Several times thereafter, renovation plans that included acoustical renovations progressed to more concrete discussions and review only to be thwarted by the objections of historical preservation groups.

In 2003, UNESCO proclaimed the Bauhaus architecture of the area of Tel Aviv known as "White City" a World Heritage Site. Mann Auditorium, with its Bauhaus architecture and location in "White City" was not exempted from the preservation constraints. The acoustical need to increase the auditorium's spatial volume was to be solved by raising the roof height of the overall structure, but this design change of the renovation plans failed to obtain approval.

The Plan to Renovate the Auditorium and Keep the Bauhaus Exterior

For this project, we began our work by studying how to achieve the acoustical renovation objectives through changes to only the interior of the auditorium while keeping the auditorium exterior unchanged. Keeping the exterior unchanged would mean that the roof remains at its current height. Based on our study, we determined that the project can achieve its desired outcomes and the decision was made to move forward with the project.

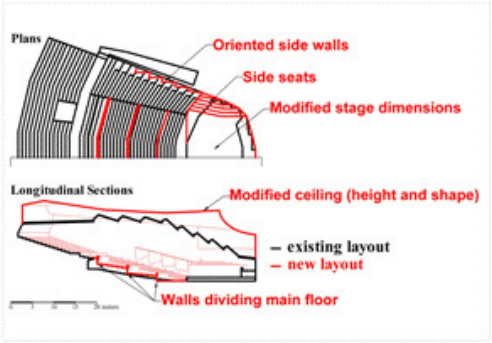

Figure 2: Room Shape (Existing and Proposed Changes)

Some of the renovation design specifics include: raising the interior ceiling height to 15 $\sim$ 16 m. (49 $\sim$ 52 ft) (as shown in the accompanying longitudinal section drawing); creating low partition walls that separates the central front portion of the first floor audience seating from other seating on this level in order to obtain sound reflections from the partitions' surfaces; and changing the angles of the auditorium's sidewalls, also in order to ensure that effective sound reflections reach the audience seating. These and other renovation details will be incorporated into the design development and construction phases that are now moving forward. I look forward to sharing highlights of these project phases in a future article after the completion of the project.