Miller Park

Bogie Shaft Ultrasonic Testing and Waterproofing Services | Milwaukee, WI

CLIENT

SE Wisconsin Professional Baseball Park District

BACKGROUND

The most distinguishing feature of Miller Park is its retractable roof. The 12,000-ton, seven-panel roof can be opened or closed in ten minutes, guaranteeing perfect game conditions at all times. The five panels, three along the third base line and two along the first base line, fan out from a pivot location behind home plate. The panels are powered by a 60hp engine, or "bogie," that moves along a semicircular rail about 150 feet above the exterior outfield wall. The Milwaukee Brewers have called Miller Park home since the 2001 season.

Shortly after the park opened, the owner noted an excessive noise during operation of the retractable roof. The noise appeared to emanate from the bogies that move the panels. The owner needed to understand the source of the noise and if any structural damage was being caused during roof operations. Subsequent to this investigation, the owner retained WJE to investigate water infiltration and glass breakage issues.

SOLUTION

WJE provided ultrasonic testing to determine the integrity of drive and idler axles in the bogies that facilitate operation of the retractable roof. The travel path was studied to determine if geometrical interferences were contributing to the excessive noise during operation. WJE ascertained that the axles were sound. It was determined that the noises were inherent within the design of the assembly; therefore, the entire bogie assembly, including wheels and axles, required replacement to correct the condition.

In 2010, the owner asked WJE to investigate water leakage and glass breakage issues in the building's curtain wall system. WJE specialists provided on-site testing, inspections, and exploratory openings to understand the sources of water infiltration. WJE developed repair recommendations and construction documents for the repairs. WJE also provided observation services during construction.