

MAKING BUILDINGS BETTER



BAHA'I HOUSE OF WORSHIP

Owner: Baha'i Faith

Design/Build Contractor: Midwest Mechanical

Customer Challenges:

The Baha'i Temple welcomes thousands of visitors annually, many of whom travel during the summer. The temple is regarded as one of the most popular attractions in the Chicago area. Due to its age, the beautiful building was designed without many modern comfort conveniences such as air conditioning. During the humid Chicago summer months Baha'i could at times drift up to an uncomfortable 85 degrees! The temple was also adding a visitor's center and needed to condition it as well. However, the restoration and renovation projects could not jeopardize the peacefulness and beauty of the temple and surrounding gardens.

Another challenge of upgrading the temple's mechanical systems was the building wasn't built with adequate power capacity to handle large chillers. To get the added electrical structure to the temple, which was surrounded by a residential area and Lake Michigan, was going to be a difficult and very expensive project.

Trane Solutions to the Challenges of the Project:

Trane and Midwest Mechanical designed a system to provide the necessary comfort cooling for Baha'i without disturbing the tranquil appeal of the temple and manicured gardens. Trane used an indoor ducted air cooled chiller with a full ice storage system. The Trane machine works at night to fill a large ice bank of tanks in the basement of the temple. During the day, the ice bank provides the cooling for the temple and the machines do not have to run. Therefore, no compressors have to run during the day, which could interrupt the meditative environment of the temple. Also, Trane used indoor air-cooled condensers so that no mechanical equipment compromised the picturesque gardens of the House of Worship. The system is nearly invisible to the building's visitors! Using an ice storage system minimized the electrical upgrade required by the local utility. Since the building is made mostly of marble, it would be very difficult to install traditional hard-wired sensors. Therefore, Trane was able to provide flexible and reliable wireless sensors to resolve this issue.

General Description of the Building:

The Baha'i Temple in Wilmette, IL is one of seven temples for the Baha'i Faith in the world. The temple was completed in 1953 after more than 30 years of construction. Like all Baha'i Houses of Worship, the temple in Wilmette has nine sides and a dome and is surrounded by exquisite gardens and fountains. The House of Worship auditorium features lace-like ornamentation and a dome rising 135 feet above the main floor. The building is listed in the National Register of Historic Places.

Trane Equipment/Controls: Trane Helical Rotary Chiller, VAV boxes, CalMac Ice storage tanks, M-series Indoor Climate Changers, Trane Tracer Summit Building Automation System.

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