

## FargoDome Multipurpose Sports and Exposition Facility

Roof Leakage Investigation and Reroof/Canopy Design

Fargo, North Dakota



### CLIENT

City of Fargo

### CHALLENGE

Shortly after construction of this large multipurpose stadium, the standing seam sheet metal roof at the perimeter of the building began leaking and several large sections of the roof were blown off. In addition, snow and ice sliding from the sloped portions of the roof created a serious safety hazard around building entrances during winter months.

### STRUCTURE

The FargoDome was completed in 1992 and is located just north of the North Dakota State University (NDSU) campus. The venue is home to the NDSU Bison football team and hosts a variety of concerts, trade shows, and other large-scale exhibitions throughout the year. The roof comprises sloping areas around the perimeter that are clad with standing seam metal panels and a low-slope roof with a membrane roofing system at the interior.

### SOLUTION

WJE first performed a detailed investigation to determine the causes and extent of the observed roofing problems. Since the original standing seam portions of the roof lacked adequate wind uplift resistance, these components were replaced along with a new plywood deck covered with a self-adhered waterproofing underlayment for enhanced protection against moisture penetration. We also designed canopies to be added along entryways around the perimeter of the building to provide protection against falling ice. The canopies were constructed of concrete and faced with brick and an exterior insulation and finish system to complement the architectural design of the original building exterior. In addition to developing all associated contract documents, we also provided construction period services for the owner.