



LOCATION

FARGO, ND



MECHANICAL
CONTRACTOR

AIR MECHANICAL



ENGINEERING
FIRM

OBERMILLER NELSON



REP
FIRM

SVL, INC.



The displacement diffusers are uniquely incorporated into every 3rd pew row as indicated by the white arrows.

St. Anne and Joachim Catholic Church was designed to reflect the beauty and tradition of historic church architecture while incorporating modern comfort and performance. The goal was to create a sanctuary that delivers a quiet, peaceful worship environment with high energy efficiency and optimal occupant comfort. To achieve this, the design team selected a displacement ventilation system to leverage natural airflow principles and maintain strict acoustical standards.

~ The Challenge

Church environments present unique HVAC challenges, with large groups of occupants gathering for short periods of time. The system needed to respond quickly to changing loads while maintaining a silent, unobtrusive presence. Additionally, achieving proper air distribution required placing diffusers close to occupants throughout the space—without disrupting the architectural aesthetics. The only viable method to accomplish this distribution was through an underground duct system.



The BlueDuct underground air duct supplies air to the hidden displacement diffusers as indicated by the white arrows.

~ The Solution

The engineering team developed an innovative displacement ventilation design that integrates seamlessly into the building's architecture. Diffusers were strategically incorporated into rock pilasters, prayer kneelers, and pews, making the system virtually invisible. The low-velocity airflow ensures that occupants experience comfort without feeling air movement, even when seated near outlets.

Return air is drawn from the top of the tall sanctuary space, allowing heat to naturally rise and be efficiently removed. To support long-term performance and reliability, **The BlueDuct®** system was selected for its durability, insulation, and air-tight construction—ensuring it performs effectively for the life of the building.

~ The Result

The final system delivers a quiet, energy-efficient environment that enhances the worship experience while preserving the architectural integrity of the space. By combining innovative design with high-performance materials, the project achieves both modern comfort and timeless aesthetics.