

St. Mary Catholic School, Dell Rapids, SD

Submitted by: Dells Materials Company

In the Dell Rapids community, St. Mary Catholic School is a recognizable landmark nearly everyone in the community has a connection to. Company owners, Rob and Kari Karst are members of the parish, in addition to multiple BX and Dells Materials employees. Coincidentally, AliceAnn Krantz, our Dells Materials Plant Manager, grew up one block away from the school and where the new construction has taken place. This project has meant a great deal to our community and to our entire team.

The original historic school building, built in 1910, consisted of four levels. As years have gone by, the school was reduced to using only the basement and main level after the two upper floors were deemed unsafe for elementary students and staff. In May of 2021, with a heavy heart, the parish moved forward with plans to tear the old building down and build new for the future. The building was demolished and cleared away in the summer of 2021 while plans were underway to design and construct a new elementary school and fully remodel the adjoining high school. This project allowed for the existing, salvaged classroom spaces, to be brought up to ADA code and for a new facility designed with learning in mind, to be constructed, bringing all 270 students under one roof. The St. Mary campus occupies a block and a half space within the center of Dell Rapids and includes St. Mary Catholic Church and parish offices.

Final plans for the project went to bid on September 6, 2022, with substantial completion set on August 30, 2023. An unforeseen need to redesign helical piers and foundations delayed starting the project substantially, and the first concrete footings were not placed until December 28, 2022. The delayed start made for difficult scheduling, with footings and walls being poured in January and February of 2023, one of the heaviest snowfall years in decades. The battle to move snow, keep trucks running to the job site, and the plant functioning at optimum capacity made for less than-ideal conditions.

The floor toppings were placed on top of both core floor and metal decking. The mix design utilized structural fiber and high range water reducer for workability and strength. Placement of floors was done in March and April of 2023 and the final exterior concrete was poured just days before school began for the year, on August 30, 2023.

After the line pump struggled to pump on the first floor pour with the high dose of structural fiber, adjustments were made for more workable mixes to continue placements. Footings were 4,000 psi and walls were 5,000 psi, totaling 772 cy. Floor mixes were 3,000 psi and 3,500 psi totaling 510 cy. Exterior concrete was a standard M6, totaling 125 cy.

Although the quantities for the project were not excessive, the building footprint made things challenging. The new elementary building sits adjacent to the existing high school building to the north and the church and parish offices to the east. As part of the redesign, a section of the existing high school classrooms had to be removed and reconstructed to adjoin the two

structures. All of this was done while staff, teachers and students used the remaining spaces of the facilities to hold classes and other school activities throughout the summer months and into the new school year.

The extreme winter and above average snowstorms and record accumulations contributed to the extent of our challenges. The entire Construction TEAM worked tirelessly together to complete this challenging build on time. Located at the top of a hill in the heart of Dell Rapids, is the new & remodeled St. Mary Catholic School, where it will continue to “Strive for a united community of academic excellence and stewardship by embracing the gospel and carrying the light of Christ” for generations to come.