In October of 2019, Forterra worked with South Dakota DOT on the project to reconstruct US highway 83 in Murdo, South Dakota. The job was to provide the proper grading, structures and surfacing for the highway. The overall impact for U.S. highway 83 was to straighten, widen and flatten the slopes to improve public safety.

The project faced a two-month challenge due to the extreme rainy seasons of spring and summer. Soils in that region contain a high clay content and the smallest amount of precipitation makes it a difficult mud pit. The crane had a four-day window to be on the site; therefore, we faced the challenge to find the proper amount of trucks for use in the installation process.

Forterra provided the precast concrete box culverts and the precast concrete cattle pass, RCP. The project consisted of SGL & DBL 13x11x204’ Long Precast Concrete Box Culvert with max fill height of 26’. A 16” Top and Bottom Slabs. DBL 13x11x4’ sections weighed 65,500 lb. 232’ of SGL 7x7 Precast Concrete Box Culvert for Cattle Passes. The installation contained 100 pieces of box culvert for the 3-13x11. The project was located 130 miles from our Rapid City location. There was a four-day installation process using a 200-ton crane that was located at the same excavation site as the box in order to set the pieces, due to the section weight.

The benefits of using precast box culverts helped to lessen the delay of the project as an alternative for cast-in-place due to the wet spring and summer season. The use of the precast greatly shortened the time for the open window of excavation.