

Project Brief



Reverse Osmosis Treatment Plant North Sioux City, SD

Water, Water Everywhere, But Not a Drop to Drink.

The rural residents around North Sioux City and Elk Point South Dakota can find as much water as they want, just by sinking a well anywhere in the Missouri River Alluvial Valley. The problem is that the "good water" in this area, which is lower in iron and manganese, is laced with radium. Rural communities like Wynstone and Sandy Meade were faced with the challenge of Radium removal to protect their customers.

Clay Rural Water System partnered with these developments and the surrounding rural customers to bring **Radium Free** water to over 500 homes. These residents dealt with contaminated drinking water for decades, and now have confidence in the water they are drinking.

DGR Engineering worked with Clay Rural Water System to construct a reverse osmosis water treatment plant to take water with raw water combined radium 226 + 228 of 12.4 pCi/L down to below detection limits of <1.0 pCi/L. These customers have been receiving this safe drinking water now for over a decade.

The plant treats the deep well water directly with reverse osmosis without pre-treatment, even though the raw water has high iron and manganese levels. This innovative treatment approach saved significant construction and operational costs for the water system.



**DGR helped Wynstone
replace their well water
that contained radium and
other contaminants and
won an EPA award for
Sustainable Health
Protection.**