PROJECT SHEET

City of Fargo Wastewater Collection & Treatment

2025

ABOUT THIS PROJECT:

Market Segment:
General Construction, Marine Structures

Owner / Developer:
City of Fargo

Products Used:
Xypex Bio-San

Location:
Fargo, North Dakota, USA

Ready-Mix:
Rinker Plant, Hawley MN

The City of Fargo's sewer extension project involved the installation of 1 wet well, 6 units of 6-foot diameter manholes, and over 14 components of sewer lines and lift stations. Bio-San was specified for the project to protect the concrete from MIC (Microbial-Induced Corrosion), harmful chemicals, and water penetration. Approximately **80 cubic yards of Bio-San** was used, with the precast structures produced at **Rinker's Plant in Hawley**.

Bio-San is designed to provide exceptional protection for concrete and rebars in environments prone to degradation. One of its primary functions is to combat **Microbial-Induced Corrosion (MIC)**, a major concern in concrete sanitary sewer systems. MIC occurs when Thiobacillus bacteria thrive in the air and react to concrete, leading to accelerated deterioration. Bio-San mitigates this risk by incorporating advanced microbial resistance, effectively creating a barrier that prevents bacterial growth and reduces the potential for corrosion. In addition to microbial protection, Bio-San also uses **crystalline waterproofing technology**, which is crucial for guarding against the damaging effects of **sulphates, chlorides, and water penetration**.

This technology forms insoluble crystals inside the concrete, filling capillary pores and blocking water pathways. As a result, the concrete is less susceptible to sulphate attack (which can weaken and crack concrete) and chloride penetration (which can corrode steel reinforcement), ensuring the long-term durability of the structures even in harsh, corrosive environments.

An added benefit of using Bio-San is its distinctive brown tint. This visual marker made it easy for officials to identify Bio-San-infused concrete on-site, significantly simplifying the field verification process. Project Manager Jason Satterlund (City of Fargo) noted the color difference when Bio-San-treated products were removed from the truck and placed in front of the non-Bio-San-treated structures, as seen in the images. This visible color contrast made it easier for inspectors, to confirm that the correct additives were used. It served as a simple yet effective quality control tool, providing confidence in the materials used throughout the project. Overall, Bio-San contributed significantly to the project's success, providing both durability and ease of verification throughout the installation process.