

CASE STUDY

IWS Completes Successful Wastewater Design-Build Project for School District

Location: Monte Vista, Colorado

HIGHLIGHTS

Achieved <10 mg/L total nitrogen, demonstrating advanced denitrification for stringent subsurface discharge.

Received CDPHE approval for alternate technology establishing up-flow filter as a viable solution for domestic wastewater works.

Delivered a comprehensive wastewater treatment system for K-12 education.

INNOVATIVE SOLUTION MEETS STRICT STANDARDS

Sargent Schools is based in south-central Colorado (approximately 50 miles north of the New Mexico border) and services K-12 students from rural Rio Grande County. The Neenan Company was contracted to design-build school improvements including the addition of a new building to serve the high school. The Neenan Company selected IWS to join the project team to design, permit, and construct the wastewater treatment system for the school district.

CHALLENGES FACED

- The project site's location lacked proximity to potential surface water disposal locations.
- The wastewater treatment system was required to meet strict Colorado Department of Public Health and Environment (CDPHE) subsurface discharge requirements of less than 10 mg/L total nitrogen.
- CDPHE hadn't previously permitted an Advantex treatment system for subsurface dispersal capable of meeting such low nitrogen requirements.

SOLUTIONS IMPLEMENTED

- IWS introduced the CDPHE regulators to the innovative denitrification up-flow filter technology in conjunction with the Advantex AX-100 pods.
- The IWS denitrification up-flow filter was installed as a pilot program for the CDPHE's new technologies program under the Water Quality Division.





OUTCOME AND IMPACT

- The treatment system successfully met the stringent groundwater discharge requirements of 10 mg/L total nitrogen.
- The up-flow filter, an IWS technology, was approved as an alternate technology for use in domestic wastewater works in Colorado by the CDPHE.
- The project was completed successfully on a design-build basis, showcasing IWS's performance and professionalism.

IWS designed a comprehensive treatment system that included:

- A 15,000-gallon septic tank and 10,000-gallon anoxic tank.
- A 15,000-gallon recirculation tank.
- Six AX-100 Advantex pods.
- Two 8,000-gallon denitrification up-flow filter tanks.
- A 6,000-gallon dosing tank.
- A 40,000 sq. ft. drain field.



The project demonstrates IWS's ability to deliver a high-quality, efficient, and environmentally sound wastewater treatment system for its clients no matter the challenges.

"This is the second project we have worked on with IWS and the first where they have delivered a completed on-site wastewater treatment system on a design-build basis. We are very pleased with their performance and professionalism, and are looking forward to working with them in the future."

Greg Kushner
Project Manager, Neenan Company

