Strawberry Ridge

Reliability that Last

Case Study

NOMAD WATER
AUTOMATION AND CONTROL

Summary

In the remote, rugged hills of Strawberry Ridge, Colorado, Colorado Pump was tasked with providing a custom water delivery system capable of withstanding the harsh environmental conditions of the area while ensuring continuous, reliable water flow. The system, which can deliver up to 300 GPM, features a Grundfos stainless-steel pump, a 50 hp Hitachi motor, custom piping, and advanced monitoring technology. This solution was designed to deliver high-performance water distribution year-round, meeting both the functional needs of the site and the regulatory requirements of the state.

Challenge

The installation of a water system in Strawberry Ridge posed several complex challenges, including:

Remote Installation: The rugged, off-grid location required meticulous planning for transporting equipment and ensuring that all components could be safely and efficiently installed. The project team had to account for the uneven terrain and ensure that the system would be fully functional despite the lack of infrastructure and resources at the site.

Harsh Environmental Conditions: Strawberry Ridge experiences extreme weather conditions throughout the year, including freezing temperatures during winter and intense heat in the summer months. The system needed to be built with materials that could withstand these fluctuations without compromising performance, while also being able to operate smoothly during both seasons.

Regulatory Compliance: As with all water installations in Colorado, the system had to comply with strict state regulations. This included the need for chlorination capabilities and real-time monitoring systems to ensure water quality and safety, as well as ongoing performance tracking.

Maintenance and Monitoring: Given the remote nature of the site, it was crucial to implement a system that minimized the need for regular site visits. The system needed to feature monitoring technology that would allow for real-time oversight and proactive maintenance to prevent potential issues from escalating into major problems.

Objectives

To meet the unique challenges posed by Strawberry Ridge, Colorado Pump focused on the following objectives:

Deliver Consistent Water Flow: The system was designed to provide a stable output of water, capable of delivering either 250 GPM or 300 GPM, depending on the specific needs of the site. The pump needed to maintain pressure and flow even under changing conditions.

Maximize Durability: Durability was key due to the environmental extremes. The system had to be engineered with high-grade materials and components that could resist wear and tear over time and operate effectively year-round.

Enable Real-Time Monitoring: Given the remote location, it was essential to implement monitoring systems that would allow operators to track the performance of the system in real time, providing valuable data for troubleshooting and maintenance without requiring frequent on-site visits.

Ensure Regulatory Compliance: The system had to meet Colorado's stringent water standards, including chlorination requirements and monitoring capabilities, to ensure that the water delivered was safe and clean.

Key Features

- The Symcom motor control unit ensures system protection and minimizes downtime.
- Real-time air-line monitoring tracks groundwater levels and pump performance remotely.
- Grundfos pumps and Hitachi motors with durable galvanized pipes ensure long-term reliability.
- A chlorination system ensures compliance with Colorado’s water quality standards.
- The system can be easily upgraded from 250 GPM to 300 GPM as demand grows.

Solution

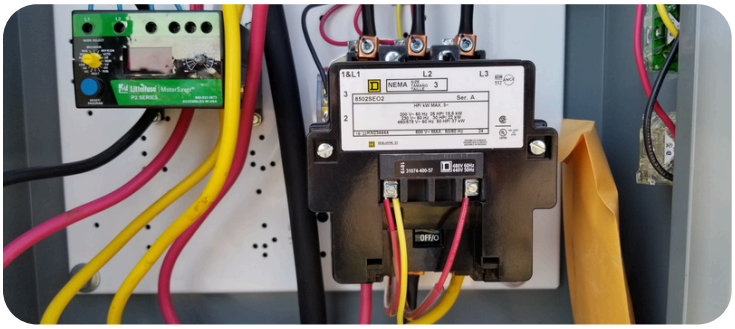
Optimized Performance:
The system consistently delivers stable water output, either at 250 GPM or 300 GPM, with pressure and flow maintained under varying environmental conditions. The integration of real-time monitoring systems ensures that water delivery remains reliable year-round.

Durability:
The use of stainless-steel pumps, galvanized piping, and custom-engineered components has resulted in minimal wear and tear, significantly reducing the need for frequent maintenance and repairs. The system is designed to operate effectively in extreme weather conditions, ensuring that the community always has access to clean, reliable water.

Streamlined Oversight:
Real-time monitoring systems provide the community with ongoing data on water levels, pump performance, and system health. This proactive oversight has enabled the community to avoid potential issues and conduct preventative maintenance, reducing downtime and operational disruptions.

Regulatory Compliance:
The system meets all required state regulations, including chlorination and monitoring standards. This ensures that the water delivered is safe for both residential and agricultural use, and the system remains compliant with Colorado's stringent water quality standards.

Scalable and Future-Proof:
The system's scalable design ensures that it can accommodate future growth. Whether the demand for water increases or new components are needed, the system can be upgraded without major disruption to service.



Conclusion

The Strawberry Ridge Pump project showcases Nomad's ability to deliver highly specialized, scalable water systems in rugged and remote locations. With a commitment to durability, precision, and regulatory compliance, Nomad once again proved its ability to engineer dependable solutions—no matter the terrain.