CUSTOMER CASE STUDY

CONTINENTAL RANCH REGIONAL PUMP STATION FORCE MAIN AUGMENTATION PROJECT

Pima County, AZ

FERGUSON WATERWORKS

PROJECT OVERVIEW

PROJECT / CUSTOMER:
Borderland Construction Company

LOCATION:
Pima County, AZ

PRODUCT / SOLUTIONS:
HDPE pipe
Fabrication
Utility Infrastructure

CHALLENGE

Supply HDPE pipe materials for two 6.4-mile, 24-inch sewer force mains amid COVID-19 supply chain disruptions.

SOLUTION

Ferguson Waterworks worked closely with the design-build contractor to supply pipes, valves, and fittings (PVF) and additional pipeline materials. We provided transparent lead times, locked in HDPE pricing early, and sourced cost-effective solutions.

PRODUCT ADVANTAGES

- Extensive manufacturer-direct relationships
- Proactive procurement and transparent lead times
- Cost-benefit analysis
- Vast utility infrastructure inventory
- Early lock and hold pricing agreements
- Custom fabrication
- Ferguson-direct delivery and onsite support

PROJECT OVERVIEW

Pima County Regional Wastewater Reclamation Department (PCRWRD) partnered with Borderland Construction Company to design-build the Continental Ranch Regional Pump Station (CRRPS) Force Main Augmentation project. The design-build contractor selected Ferguson Waterworks as a key distributor to lock in HDPE pricing early, fabricate specialty pipe, facilitate on-time delivery, and present cost-effective, long-term solutions.

In total, the project consisted of two 6.4-mile 24-inch sewer force mains, spanning between the Continental Ranch Regional Pump Station (CRRPS), PCRWRD's largest lift station, and the Tres Rios Wastewater Reclamation Facility. The project increased conveyance capacity and operational flexibility, and added redundancy to the existing pump station operations.

CHALLENGE

Amid COVID-19 supply chain disruptions, Ferguson Waterworks worked tirelessly to overcome long-lead procurement. With a project of this scale, we understand the importance of accurate and on-time delivery. In addition to COVID-19 complications, the nearby underground utility infrastructure presented complexities. Careful material handling, trenching, and staging were required to avoid structural failures, leaks, or blockages for both systems. Lastly, sewage system projects come with innate health and environmental risks. This necessitated rigorous safety protocols, inspections, and specialized equipment for all involved parties.

SOLUTION

Ferguson Waterworks worked closely with the design-build contractor to supply pipes, valves, and fittings (PVF) and additional pipeline materials. We provided transparent lead times, locked in HDPE pricing early, and sourced cost-effective solutions. In addition to our utility infrastructure offering, the contractor leaned on our expert fabrication services and strategic delivery. As a result, we helped prevent material delays and facilitate cost savings.

Pipeline and environmental reclamation materials:

- **67,7000 LF of 24" diameter HDPE pipeline**
  - 1,750 LF of 42" street casing Jack & Bore
  - 2,510 LF of 24" horizontal directional drill
- **(2) 96" diameter precast polymer junction structures**
- **(2) 84" diameter precast polymer junction structures**
- **(3) 60" diameter precast polymer junction structures**
- **53,000 SF of water harvesting basins**
- **14, 876 SF (2,250 LF) of new bank protection**
- **195 trees planted along Chuck Huckleberry Loop**
- **42 acres of hydroseed**
- **3.6 miles of new asphalt for Chuck Huckleberry Loop**

METHOD

Borderland Construction and key stakeholders utilized alternative materials and methods to optimize the project timeline, reduce future maintenance costs, increase long-term sustainability, and maximize the overall benefit to PCRWRD and the surrounding community. As their leading supply partner, Ferguson Waterworks played a key role in identifying material options, providing quotes, and coordinating deliveries.

What materials did Ferguson Waterworks supply for the wastewater conveyance project?

- **HDPE and PVC pipe**
- **Custom-fabricated valves**
- **Air-vacuum release valves**

HDPE and PVC pipe are corrosion-resistant and long-lasting. Not to mention, these unlined products require minimal maintenance, reducing future expenses. The use of alternative materials and sustainable infrastructure practices, along with other strategic design-build initiatives, saved $5.2M in project costs.

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FERGUSON WATERWORKS IS A LEADING PVF SUPPLIER FOR A REASON

We've earned our reputation through dedicated project support, positioning ourselves as your supply partner. For example, our experts work closely with key project stakeholders to identify potential roadblocks early, discuss material options, and maintain project timelines and budgets. During this critical dual force main sewer pipeline project, we:

- **Helped evaluate the cost-benefit of various pipeline materials (PVC versus HDPE). We considered the corrosive nature of sewage, the flow rates, system length, and other contributing factors.**
- **Proactively secured materials to accommodate long lead times and avoid delays.**
- **Worked with WL Plastics to lock and hold pricing until scheduled shipment.**
- **Closely tracked price fluctuations during a volatile procurement market and made strategically timed purchases to extend the budget.**
- **Fabricated and delivered 24-inch 180° elbows.**

WHAT IS THE BEST PIPE MATERIAL FOR LONG SEWAGE LINES?

After considering PVC, FRP, HDPE, SaniTite HP Dual Wall, GRP, and other pipe materials, the team landed on high-density polyethylene pipe (HDPE) for the majority of the project. Ultimately, HDPE pipe provided the flexibility, durability, corrosion resistance, and cost effectiveness that the 6.4-mile sewer installation project required.

HDPE pipe benefits for sewage lines:

- **HDPE pipe provides easier and safer handling. Its flexible nature also accommodates low slopes, slight turns, and long lengths without needing an abundance of joints.**
- **Durable - HDPE pipe has a long lifespan, lasting up to 100 years.**
- **Corrosion-resistant - Often used for sewage and other corrosive materials, HDPE does not rust and is not prone to chemical buildup.**
- **Horizontal Direction Drilling and Jack & Bore compatible - HDPE pipe is suitable to accommodate various installation demands.**

RESULTS

The new dual-force main sewer system was cost-effective and built for long-term operational efficiencies. Its increased durability reduces the risk of system failures. Not to mention, the addition of a second force main ensures uninterrupted operation, even during maintenance. Built with the future in mind, the system is scalable and equipped to meet the needs of the growing community.

WHY FERGUSON WATERWORKS

Our vast product inventory and custom fabrication solutions, paired with long-standing industry relationships and a strategic delivery fleet, make us well-equipped to support the full lifecycle of water (FLOW). Talk to your local Ferguson Waterworks expert about your next utility infrastructure or stormwater management project. You can depend on us.

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