

## U.S. NAVY AIR STATION TURNS TO RESTRAINED JOINT PVC TO ADDRESS CORROSION PROBLEMS

Faced with a failing potable water distribution system, the United States Naval Air Station Point Mugu in Ventura County, California sought an economical, yet proven pipe replacement to stand up to the corrosive soils along the Pacific coast.

**Application:**  
Water & Force Main Sewer

**Project Type:**  
Open Trench

**Owner:**  
U.S. Navy

**Product Used:**  
Certa-Lok® C900/RJ PVC Pipe

**Contractor:**  
Reyes Construction, Inc.

**Engineer:**  
Willdan Engineering

### CHALLENGE

The air station's mainline replacement project called for a quality, corrosion-resistant pipe material that would not require the supplemental corrosion protection typically found in iron pipe applications. Moreover, the project would need to incorporate a complex cathodic protection system given the size of the facility and its history of corrosion problems.



### APPLICATION

The U.S. Navy contracted with Reyes Construction, Inc., of Pomona, California to design and build the new pipe system. Willdan, an Anaheim, California-based engineering/planning firm, served as engineering consultant. Given the Navy's material requirements, Willdan included 8- 16-inch C900/RJ Certa-Lok® Restrained Joint PVC pipe on the 40,000-foot pipeline.

"We've had tremendous success with NAPCO PVC pipe, especially in corrosive soil conditions such as those at Point Mugu," says Steve Leathers, Willdan's Vice President of Infrastructure Engineering.

### SOLUTION

After excavating the trench and removing the corroded steel pipe, Reyes Construction assembled and laid a new pipeline of C900/RJ Certa-Lok and regular C900 PVC pipe. The installation of C900/RJ Certa-Lok in 20-foot lengths simplified the process as the product took up less space than welded steel pipes.

"If you lay all steel pipe, you have to do it all in one shot," says Joe Flores, Project Manager for Reyes Construction. "We were jumping around, putting PVC and ductile iron fittings in. There's no way you could do a continuous run like that."



# MUNICIPAL CASE STUDY

Since ductile iron fittings were used at many of the changes in direction, the project required cathodic protection via an Impressed Current Cathodic Protection system, a network of DC-powered cathodic protection rectifier stations which slow the rate of corrosion and monitor the corrosive levels of fittings.

Recognizing the time-consuming nature of installing individual cathodic test stations, the crew saved time and money by using C900/RJ Sweeps at all angled directional changes. C900/RJ Sweeps, available in 22.5, 45 and 90-degree angle pieces, can be used in place of ductile iron fittings in municipal pipe installations. Since they are made from PVC, they require no cathodic protection.

“With the ductile iron fittings, we’d have to go back to each one, weld electrodes to the fitting, draw lines up, put in anode bags, set up the cathodic protection station and set up a box for the station,” Flores explains. “The PVC sweeps allow you to keep the job moving. For every two of those products, I can save a day on the installation.”

Leathers adds, “There was some reluctance at first to move toward PVC, but the material has proven itself through performance and corrosion resistance. My sense is municipalities and agencies are starting to change their way of thinking about the product.”

