

## CASE STUDY

# HP Storm Service Life Proves Vital for Waterway Culvert

## Rosenberg, TX

### OWNER

Fort Bend County, TX

### INSTALLATION DATE

July 2017

### ENGINEER

Fort Bend County Road & Bridge, Richmond, TX

### PRODUCTS

360' (110 m) of 42" (1,050 mm) HP Storm

### CONTRACTOR

Fort Bend County Road & Bridge, Richmond, TX

## CHALLENGE

The Texas Department of Transportation identified severe corrosion in a corrugated metal pipe (CMP) culvert that carried a waterway beneath a roadway. Because the culvert fell under the jurisdiction of Fort Bend County, the Fort Bend County Road and Bridges Department evaluated potential solutions. While constructing a bridge over the span was initially considered, the department quickly determined the cost would be prohibitive.

## SOLUTION

Because bridge construction proved too costly, Fort Bend County elected to replace the failing CMP with a new culvert system. The county had previously used Advanced Drainage Systems' (ADS) N-12 high-density polyethylene pipe, but had not considered it for this application.

ADS representatives met with the county about HP Storm polypropylene pipe as an upgraded alternative, highlighting its 100-year design service life, corrosion resistance and high pipe stiffness.



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To mimi | the waterway's natural flow on both sides of the roadway, six 42" (1,050 mm) HP Storm laterals were installed diagonally beneath the road. Each lateral extended 60' (18 m), creating a durable and hydraulically efficient culvert system due to the pipe's smooth interior wall.

The project's success led to county approval for thermoplastic pipe. The Fort Bend County Road & Bridge Department currently keeps both HP Storm and N-12 pipe in its yard inventory, making the products readily available for future infrastructure projects.

### PRODUCT DESCRIPTIONS

HP Storm polypropylene pipe provides superior pipe stiffness, longer bells and spigots and a premium joint performance for a longer service life. The smooth interior wall offers additional strength and high flow capacity. HP Storm pipe, available in diameters from 12"-60" (300-1500 mm) meets or exceeds the standards specified in ASTM F2881 and AASHTO M330 and the extended bell and spigot meets ASTM D3212. Polypropylene is resistant to the effects of chemicals, abrasion, hot soils and effluent.



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