

CASE STUDY

HP Storm Utilized for First Time in Harris County Infrastructure

Harris County, TX

OWNER

Precinct 4, Harris County, TX

ENGINEER

Woolpert, Harris County, TX

CONTRACTOR

Brice Construction, Harris County, TX

INSTALLATION DATE

Summer 2024

PRODUCTS

1,814' (553 m) of 24" (600 mm) HP Storm pipe
804' (245 m) of 30" (750 mm) HP Storm pipe

DESCRIPTION

Due to population growth, it was crucial to widen Harris County's Mueschke Road to accommodate increased traffic and improve safety. Prior to the improvements, the traffic on Mueschke Road, which was two lanes without a median or shoulders, was very dangerous. The project expanded Mueschke Road to four lanes with a median, turn lanes and shoulders. Drainage improvements associated with the widening included replacing open ditches with a curb and gutter closed storm sewer system.

Mueschke Road - Segment 8 was designed under prior Harris County Engineering Department Standard Specifications for the Construction of Roads and Bridges. The project was bid with a special specification noting that HP Storm, a polypropylene pipe, could be used for stormwater conveyance as an equal alternate to reinforced concrete pipe (RCP). This provision allowed the awarded contractor, Brice Construction, to choose which pipe material to utilize on the project.



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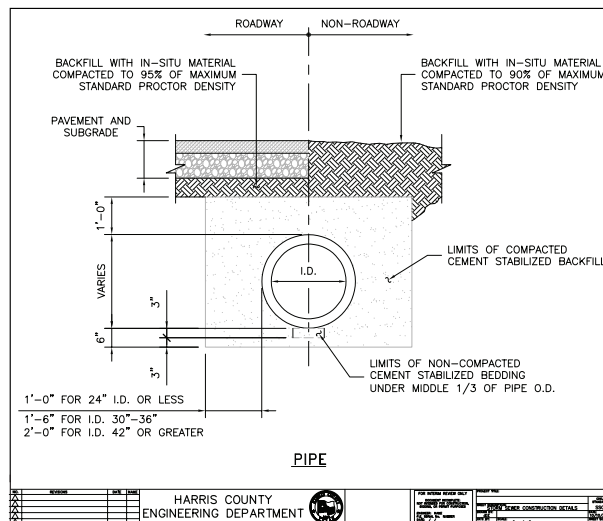
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The provision was needed as polypropylene pipe had not yet been approved by Harris County Engineering Department. Thermoplastic pipe was formally approved in October 2023 per Harris County Standard Specification Item 482, which states that polypropylene is the preferred thermoplastic pipe material for transportation projects.

ADS demonstrated time and material cost savings to Brice Construction by comparing HP Storm with RCP using ADS' pipe value tool (PVT). HP Storm showed approximately \$150,000 in savings. PVT also estimated that HP Storm could be installed 20 days quicker and reduced the number of joints in the closed storm sewer, which reduces long-term maintenance needs for Precinct 4.

Though it was their first time utilizing HP Storm, installation went smoothly for Brice Construction. ADS provided continuous field support throughout construction for both Brice Construction and Harris County inspectors. "Our crews loved working with the HP Storm, it is lightweight and easy to handle and the 20' joints made installation a breeze," said Mark Christenson, Brice Construction's Area Construction Manager.

Precinct 4 was also satisfied with HP Storm and is encouraging the precinct's design consultants to include the polypropylene pipe on upcoming projects. HP Storm offers Precinct 4 longer service life, superior joint performance, and enhanced flow due to its smooth interior wall. As an inert material, polypropylene resists chemicals, abrasions, hot soils and effluent, making it highly durable. Its lightweight design simplifies material delivery from convenient locations across Texas and improves handling during construction. For urban projects with limited staging areas, HP Storm's nesting capability of smaller pipes within larger diameters provides an efficient and space-saving solution. Meeting or exceeding ASTM F2881 and AASHTO M330, as required by Harris County Specification Item 482, ensures HP Storm complies with rigorous standards, making it a reliable choice for cost-effective infrastructure improvements within Harris County.



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