



Pipeline



Great Pipe in Grand Prairie

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➔ HOBAS Pipe of Houston, Texas, supplied over 10,000 linear feet of large diameter pipe for recent sanitary sewer projects in Grand Prairie, Texas. The new pipeline, which varies in size up to 110 inches in diameter, will ultimately allow for an older 60-inch diameter line to be taken out of service. The original West Fork Interceptor was constructed and placed in service in the early 1960's and is one of the major interceptors that transports wastewater flows to the 162 million-gallon-per-day Central Regional Wastewater System (CRWS) Treatment Plant. The new interceptor is expected to meet system requirements through the year 2020.

Exceeds Design Life

Trinity River Authority (TRA), which owns

and operates the system, specified two options. The first was Centrifugally Cast Fiberglass Reinforced Polymer Mortar (CCFRPM) pipe, selected for its longevity. Here is an excerpt from Intra, the TRA newsletter: "Because of the corrosion resistant aspects of the centrifugally cast fiberglass pipe material, the pipe should be able to serve the region well beyond the minimum 50-year design life requirements of the Texas Commission on Environmental Quality."

The Intra article covered several other factors TRA considered when specifying a pipe material: "The West Fork (WF) Relief Interceptor will be located in unstable soil conditions in a relatively narrow space between existing pipelines and a levee that surrounds the CRWS plant. In addition the gravity-fed pipe must be placed at depths varying from 20 to 42 feet underground."

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HIGH STRENGTH AND DURABLE, HOBAS CCFRPM IS ALSO LIGHT-WEIGHT COMPARED TO MANY ALTERNATIVE PRODUCTS

To safely handle the loading condition from the static soil column and the dynamic live loading, HOBAS provided a pipe with a minimum pipe stiffness of 46 psi. Pipe stiffness was increased to 72 psi in areas where soil conditions required and cover depths were greater than 20 feet. The other specified pipe material was a 360-degree PVC lined concrete pipe.

Installation savings

Archer Western Construction of Arlington, Texas, installed the first phase, WF-1, which includes 108-inch pipe. The second phase, WF-G-2, was installed by Oscar Renda Contracting (ORC) of Roanoke, Texas and has recently been placed in service.

Contractors used several installation methods throughout the various phases of the project. Although the majority of the pipe has been installed by direct bury, CCFRPM pipes were also utilized inside a two-pass system and in above ground applications.

WF-G-2 is one of several projects Oscar Renda Contracting (ORC) is installing

using HOBAS pipe. ORC has been using HOBAS for many years due to the products advantages. “We love the product and the staff. The pipe provides tremendous advantages over concrete pipes due to the lighter weight and fewer joints. This allows us to increase our daily production. It is rare to see the installation rates with other materials that we have been able to achieve with HOBAS. We have seen installation rates of up to 800 feet per day with the 90-inch diameter and 600 feet a day with the 104-inch diameter. I can attribute this to the ease of installation,” said Rudy V. Renda, regional manager, ORC.

Superior test rates

Given the diameter of the installation, the length of the projects, and the installation rates, it was not uncommon to lay a week’s worth of pipe before testing was accomplished. This could be performed with confidence due to the reliability of the joining system.

“It is very rare that we have complications during the testing phase. However, when we have had problems, they can be

quickly and easily repaired without having to excavate the pipe,” said Renda. “The fiberglass material is very repairable and HOBAS field service technicians are available to perform the work or train installation crews on site.”

Proven Longevity

HOBAS has been manufacturing pipes at the Houston, Texas, location since 1987. Since then, over 3.5 million feet of pipe have been installed throughout the United States for applications including sanitary and storm sewers, potable water and industrial applications. Use of CCFRPM has been rapidly growing as new customers learn of the superior performance and existing customers return to enjoy the cost saving benefits and consistent product quality.

The next Phase of WF will soon begin, HOBAS has again been chosen by the installation contractor, BRH Garver of Houston, Texas. The project includes over a mile of 90-inch diameter HOBAS pipe to be installed by direct bury.



THE ENGINEERED PIPE WALL CROSS SECTION IS AN ADVANTAGE IN TUNNELS. IN MANY INSTANCES THE PRIMARY TUNNEL DIAMETER MAY BE DECREASED.

PRODUCT PROFILE

The HOBAS FWC Coupling

Description:

➤ A thick, full faced elastomeric membrane with lip and compression sealing elements with a filament wound structural over wrap.

Performance

The FWC coupling joint is used to assemble HOBAS pipes for direct bury, above ground, and some sliplining and jacking installations. It can be safely utilized for service up to 250 psi. Standard qualification tests per ASTM D4161 require the joint to withstand test pressures equal to twice the rated pressure class and a partial vacuum both while in an angularly deflected alignment and under a severe shear load to assure and absolutely water tight joint.

The normal EPDM rubber membrane is corrosion resistant to sanitary sewage and a wide range of other chemicals. Nitrile FWC couplings are also available where field conditions necessitate. In either compound, the gasket lips seal tightly on the centrifugally cast smooth exterior surface of the pipes anywhere along its length. The coupling's structural over wrap is designed to match the pipe pressure class with a minimum of 50 psi (minimum 200 psi burst performance).

The FWC Coupling is a time proven coupling joint. Nearly 3 million feet of HOBAS pipes have been installed with this coupling system, dating back to the mid 1980's.



THE MOLDED ID OF THE FWC COUPLING SEALS TO THE MOLD SMOOTH EXTERIOR OF THE HOBAS PIPE FOR A PERFECT SEAL. DIMENSIONS ARE ROUTINELY VERIFIED.

Benefits


Zero infiltration or exfiltration

- No overloaded treatment plants or added treatment cost due to infiltrating ground water.
- Full delivery of all fluids pumped.
- No wasted time and expense trying to find and seal leaking joints to pass acceptance tests.
- No damage to other nearby infrastructure such as roadways and waterlines when fines are transported through leaking joints causing subsidence.

Low joining cost

- Easy, fast assembly of the push together, rubber ring-sealed coupling.
- Requires no secondary treatment, diapers, bonding agents or other chemicals in the field.
- Field length adjustments are quick and easy.

Conclusion

The HOBAS FWC Coupling joint is your best value in pipe assembly with over 25 years of performance history. 

HOBAS Under Live Runway



WORK WAS JUST OUTSIDE THE OFA SO THE RUNWAY AND TAXIWAY REMAINED IN SERVICE.

When the main water supply line at the McAllen, Texas, airport was rehabilitated using HOBAS pipe, it brought new meaning to the phrase “slipline live.”

McAllen-Miller International Airport (MFE) is the primary business airport of deep South Texas and Northeast Mexico. To accommodate the future needs of the greater Rio Grande Valley, a master plan for future projects was developed. It is a federally mandated report that identifies building proposals, procedural initiatives, potential land acquisitions and other issues forecast for the airport over a 20-year period. Several projects have been underway at the expanding airport such as runway and taxiway improvements and a pipeline rehabilitation project.

A recently completed project included improvements to a water supply channel that traversed areas of Hidalgo County

and parts of the airport. The irrigation water had been transported mainly in open ditches with pipelines at isolated crossings such as the one under runway 13/31. The line had been deteriorating for years. Small-scale repairs had been made; however, as the airport continued to grow, it was time to correct the problem for good.

Custom Solution

Titled the “Rehabilitation of Irrigation Pipeline,” the project was developed after aerial photography identified strips of lush vegetation along the pipe alignment, a clear indication of leakage. “From the beginning, HOBAS partnered with the airport and HNTB Corporation to engineer a custom solution to the repair of this critical infrastructure,” said Hugh Weaver, Jr.,

P.E., associate vice president, director of aviation for HNTB, a national transportation infrastructure firm that designed the project. “As the primary feed for the city’s reservoir, the duration of the project was critical. Seventy Calendar days were allotted for completion.”

Summit Contracting, Ltd. of Weslaco, Texas, low bidder, had been performing paving projects at the airport and decided to broaden their horizons by entering the pipeline rehabilitation arena. Summit had never installed pipes in a sliplining application and had relatively little experience with underground work in general. Ben Salinas, vice president of Summit Contracting, was excited about breaking into underground work. “In the end, it was a very good job for us; we had a lot of assistance from the HOBAS people as far as installation and technical support.”

The original water line consisted of four-foot segments of 72-inch diameter concrete pipe. Over the years, the pipeline was extended to accommodate runway-widening projects. Newer eight-foot sections of concrete pipe were installed on either end of the existing line. Summit, in rehabilitating the waterway, had to deal with these extensions as well as other irregularities of the pipeline. The existing line had several repaired areas where the inside diameter was no longer full sized. To compound the problems, several of the pipe joints had settled and moved over the years, causing offsets, points of intersection (PI) and further leaks.

Summit evaluated the line and devised a plan to install the new pipe. HNTB specified a 63-inch diameter, centrifugally cast, fiberglass reinforced, polymer mortar (CCFRPM) pipe, since it met both the hydraulic considerations and the clearance required by the installer. As luck would have it, the largest PI in the line was at about the midpoint under the active

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runway 13/31. The point could not be navigated with pipe sections and closing the runway was not an option. Consequently, Summit had to carry pipes in from either end. “We fabricated a buggy that we utilized to carry the pipes into the existing line,” stated Salinas. “The CCFRPM pipes were lightweight and easy to handle and join. The first segment placed, at the line midpoint, was a mitered fitting with an angle that corresponded exactly to the angle measured.” Subsequent pipes and mitered fittings were carried in from either end of the line until the entire 1,090 feet of line was rehabilitated. To facilitate the grouting plan, pipes were blocked in place as they were joined. “The actual pipe installation only took a couple of days.”

The vast majority of the construction was accomplished outside of the Object Free Area (OFA). Thus, the runway, service road and taxiway all stayed in operation during the pipe installation. Closure was necessary only to accommodate the gravity-grouting plan the contractor had proposed. Grout was inserted using four surface access points. Since these points traversed the airfield, the grouting crew worked at night. HOBAS installed bushings in the pipes that allowed for constant monitoring of the grout progress.

Air Traffic Unaffected

“We had to close the runway only from 11 pm to 5 am on one evening. We were able to route all commercial air traffic so they had landed before the closing. There was a minimal amount of other traffic and I’m not aware of any problems that were caused by the closure,” stated Matt Lewis, operations and maintenance manager for McAllen-Miller International Airport.

The airport found benefits of the project that hadn’t been originally envisioned. “Prior to the pipe relining we had several pipe leaks. The leaks were severe enough to cause a marsh area adjacent to the runway. Now that the line has been sliplined, there are no leaks,” said Lewis. The marsh area created by the leaking pipeline has now completely dried up.



HOBAS PROVIDED MITERED FITTINGS TO EXACTLY FIT THE ALIGNMENT OF THE EXISTING WATERLINE UNDER RUNWAY 13/31.

The pipeline was also extended from its previous length to move an existing headwall further from the runway, also allowing an access road to be relocated. With the heightened airport security regulations, the access road had been closer to the OFA than the airport officials and the Federal Aviation Administration (FAA) preferred.

Ahead of Schedule

“We really hadn’t done any significant pipe rehab prior to this one. We are very pleased with the results, especially since it is directly under one of our runways” commented Lewis.

“The project was a huge success and the City of McAllen received the repaired line a week ahead of schedule. We are confident that the success of the project keyed upon using the HOBAS product. We were very satisfied with the product and the HOBAS support team,” added Weaver.

The “Live Sliplining” took on a new meaning because air traffic on the surface continued with no major inconveniences while the old pipeline was rehabilitated.

Fred Segundo, assistant director of aviation, McAllen-Miller International Airport,



WORKING ON THE SURFACE AT NIGHT, THE CREWS COMPLETED THE GRAVITY GROUTING WITHOUT AFFECTING AIR TRAFFIC.

summed up the cooperation that helped the project progress smoothly, “This was a team effort and various city and county departments helped. This included the City’s Public Utilities, Public Works and Engineering Departments. Water District’s number 2 and 3 helped with rerouting water to keep city’s south water plant and reservoir operational. The project was truly a team effort.”

The new structurally sound CCFRPM line is leak-free and will provide for many years of safe service. HNTB stated they would be likely to use the product again in McAllen and elsewhere.

HOBAS Chosen for Water Projects

➔ HOBAS CCFRPM pipes and joints have been used for potable water internationally since 1969. The pipe's high strength, leak free couplings and hydraulic efficiency provide long maintenance-free life and decreased pumping cost. Inherent corrosion resistance eliminates the need for cathodic protection. The water pipes have the same proven construction as all HOBAS pipe.

Tested and Approved

HOBAS Pipe Systems are approved for potable water in many of the most highly populated countries on the globe. In the US, the potable water pipes and joint gaskets have been tested by the National Sanitation Foundation (NSF) to meet the NSF/ANSI Standard 61: Drinking Water System Components – Health Effects, the nationally recognized standard for drinking water.

The water pipes also comply with AWWA C950, Fiberglass Pressure Pipe Standard. They can be installed by direct bury, slip lining, jacking or microtunneling, tunnel lining and aboveground.



HOBAS PIPES ARE APPROVED FOR POTABLE WATER SERVICE AND ARE MANUFACTURED IN PRESSURE CLASSES UP TO 250 PSI.



HOBAS MANUFACTURED SEVERAL FITTINGS INCLUDING THIS 60-INCH DIAMETER TEE FOR OVERAA CONSTRUCTION TO USE ON THE SOUTH SAN JOAQUIN WATER TREATMENT PLANT PROJECT.

California Plant Piping

On a potable water job in California, Overaa Construction of Valley Home, Calif., used HOBAS pipe and fittings in a direct bury installation for the South San Joaquin Water Treatment Plant Project

The 20-foot joints were 60 inches in diameter, 50-psi pressure class and 46-psi stiffness class with push-together FWC couplings. They were direct buried on a six-inch stable bed gravel embedment with cover depths from 3.5 feet to about 15 feet. They are easy to bury because of their high stiffness and light weight. HOBAS custom fabricated several special fittings for the plant.

With the long successful history, CCFRPM pipes will continue providing performance benefits.



LIGHTWEIGHT HOBAS PIPES WERE QUICKLY AND SIMPLY INSTALLED. PUSH-TOGETHER COUPLINGS SPEED INSTALLATION.

COMPANY PROFILE

HOBAS - The Pipe and Company You Can Trust

Pipe Performance Leader.

HOBAS Pipe USA is a proven leader in large diameter pipe and has been supplying the market for over 45 years. It's the best pipe for many applications because of advantages provided by its unique centrifugal casting manufacturing process and the use of materials that are inherently corrosion resistant. HOBAS has the technical expertise to assist in many phases of design and construction and is clearly a technology leader.

The first plant in the United States to produce centrifugally cast, fiberglass reinforced, polymer mortar (CCFRPM) pipe began production in the late 1980's, and has been growing rapidly to serve both new and return customers. The pipe's superior performance, cost savings, consistent quality and timely delivery drive that growth.



HOUSTON, TX
1987



JACKSONVILLE, FL
1988

Product and Service Commitment.

Another reason the company has continued to grow is very basic: the product and service have repeatedly exceeded customer needs. The market always needed a competitive pipe with leak-free joints, long life and high flow capacity. HOBAS delivers a pipe that fills the bill. With HOBAS, these desires have been fulfilled as it has certainly "raised the bar" for pipe performance and service.

joints reduce treatment costs and preserves infrastructure. Inherent corrosion resistance provides long life, which prevents or delays future capital expenditures. CCFRPM provides a unique combination of valuable benefits, unavailable in any other product!

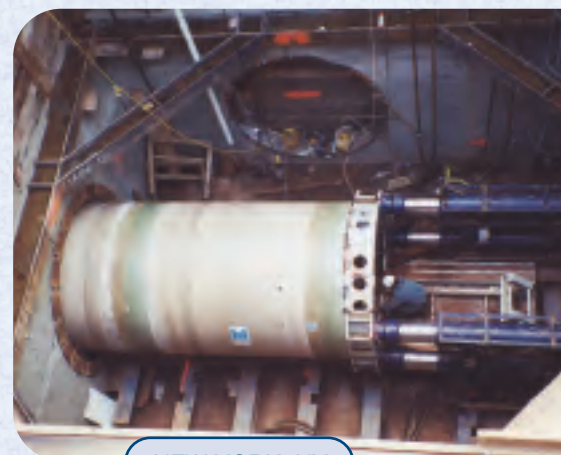


Life Cycle Benefits.

Municipalities continue to adopt the concept of life cycle benefits as they invest in pipeline infrastructure for the future. As a result, CCFRPM will maintain its position as performance leader. The pipe's low coefficient of friction reduces pumping costs or increases capacity. Leak-free



DENVER, CO
1996



NEW YORK, NY
2000

Performance you can trust, experience you can count on



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Chicago, IL

July 30 - Aug 2

APWA

Kansas City, MO

September 10 - 12

WEFTEC 2006

Dallas, TX

Oct 21 - 25

