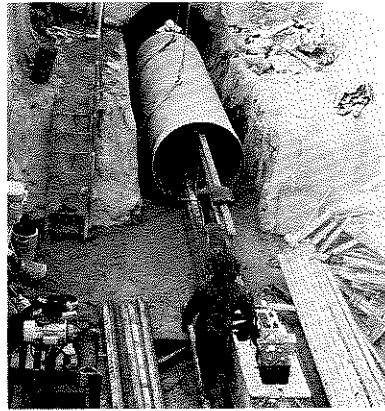


Hobas

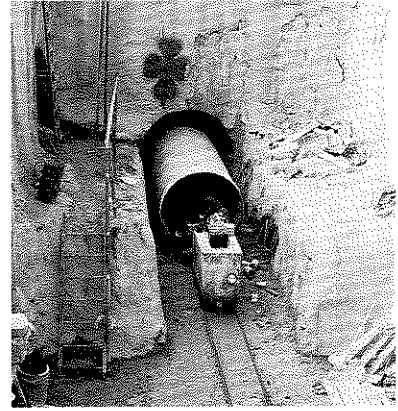
Hobas Pipe U.S.A., Inc.

Hobas Pipes Rescue

Austin Tunnel



Inserting pipe carrier into 54" Hobas pipe.



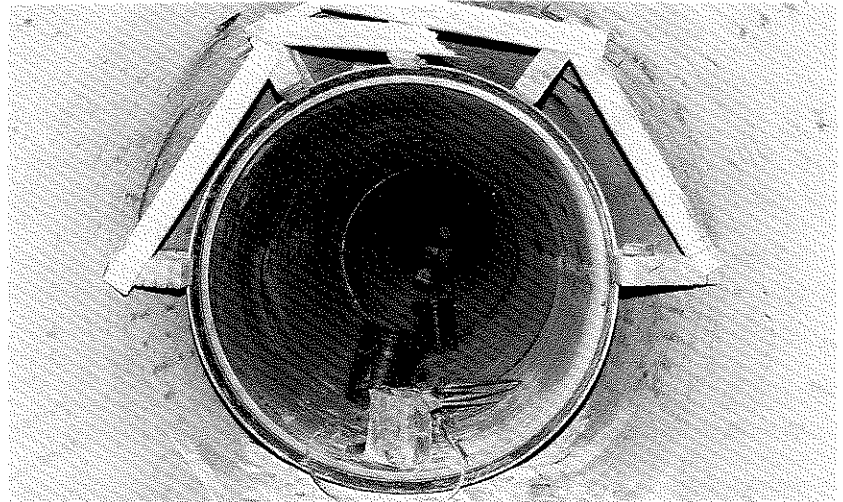
Driving 54" Hobas pipe into tunnel.

May 1993

Hobas pipes helped H.B. Zachry of San Antonio economically solve a potentially expensive problem on the Slaughter Creek Interceptor II project in Austin. When Zachry began boring the rock tunnels for contract "B", they planned to line the hole with T-lock RCP. Due to unfortunate equipment problems, the first bore (3450 ft.) was too small for the concrete pipes. Therefore, Zachry turned to Hobas for help. The required 54" ID could be achieved with a 57" to 59" O.D. (depending on joint selected) with Hobas pipes vs. approximately 70" O.D. for RCP. The one foot O.D. reduction "rescued" the tunnel without changes to the bore, thereby saving Zachry a lot of modification expenses.

More Hobas

These new tunnels on contract "B" will receive flows from the Hobas pipes installed on contract "A" by Oscar Renda (reported in the September 1992 issue). The completed system will provide both relief service and increased capacity. Zachry installed a total of 3700 ft. of 54" Hobas pipes with 250 ft. constructed open cut. All of



54" Hobas pipe blocked in-place inside the rock tunnel.

the pipes are 46 psi pipe stiffness and were supplied in 20 ft. sections with Hobas gasket-sealed FWC couplings for field assembly.

Demanding Conditions

Because of the demanding conditions, the project specs, prepared by designer Murfee Engineers of Austin, allowed only RCP with PVC T-lock liner or Hobas pipes. Due to recent corrosion caused failures, the City has mandated only corrosion resistant or corrosion protected pipe materials for new sanitary sewers. Structurally, cover depths reach 70 ft. on the tunnel portion and up to 22 ft. on the open cut. And, as always, leakage control in the Austin environment is critical.

Problems Solved

Zachry originally chose the RCP alternative because of a better fit with their tunnel machine. After converting the first bore to Hobas, they found the lightweight, longer fiberglass pipes easier and faster to insert and assemble. Once blocked in-place, annular space grouting was accomplished in one lift with resulting pipe deflections of less than 1%. All joints passed the 5 psi air test with no leakage at all! Even when a large boulder fell on an assembled pipe in the trench, Hobas technicians repaired the damage in-place. With all this success, Zachry's superintendent commented that he wished they had planned on using Hobas pipes from the beginning.



Product Profile:

Hobas Pipe USA Diameter Range Expanded

Scope:

Hobas Pipe USA announces the addition of 102", 69" and 84" (2nd mold) pipes to our product line. These sizes, together with the recently acquired 12" capability, expand our diameter range to include 12" to 72" in 6" steps plus 20", 69", 84" and 102". Worldwide, Hobas pipes are manufactured in diameters ranging from 8" to 102". Realistically, only shipping restrictions limit the ultimate maximum size availability.



102" pipe shipment

Specifications:

Materials:

Like all our other pipes, the 12", 69", 84" and 102" diameters are also constructed with corrosion-resistant thermosetting-resin, glass-fiber-reinforcements and silica sand.

Dimensions (new diameters):

| Nom. Dia. | O.D. | Maximum Length | Max. Standard Pressure |
|-----------|---------|----------------|------------------------|
| 12" | 13.45" | 20 ft. | 300 psi |
| 69" | 72.50" | 20 ft. | 150 psi |
| 84" | 87.00" | 20 ft. | 100 psi |
| 84" | 88.60" | 20 ft. | 100 psi |
| 102" | 108.00" | 20 ft. | 100 psi |

Joints:

All Hobas pipes are available with the FWC pressure coupling, the low-profile sliplining bell-spigot and the flush jacking bell-spigot. All these joints are gasket sealed.

Standards:

Existing standards for fiberglass pipes AWWA C950 (water), ASTM D3262 (sewer) and ASTM D3754 (industrial) cover the entire Hobas pipe diameter range.

Applications:

Routine:

Environments
Sanitary Sewer
Raw Water
Industrial
Sea Water
Waste
Slurry

Installations

Direct Bury
Sliplining
Direct Jacking
Tunnel Carrier
Tunnel Casing
Aboveground

New:

Upsizing 6" and 8" sewer collection system lines to approximately 11 1/2" I.D. without open cutting. Direct jack 12" Hobas pipes behind a pipe replacer bore head that removes the existing old pipe as the new pipe is advanced, all while the sewer remains in service. Call for details: 1-800-856-7473 and ask for Tom Swisher or Rick Turkopp.

Benefits/Conclusions:

Lightweight, strong, corrosion-resistant, leak-free Hobas pipes are now available in an expanded diameter range covering 12" to 102".

Contact us today to solve your piping problems.



Hobas Performs In Demanding

L. A. Conditions

Hobas fiberglass pipes are doing the job again for Los Angeles County Sanitation District (L. A. County S. D.) on the J. O. "B" Unit 1 C Trunk Sewer Renovation Phase I Extension project in Paramount, California. This job consists of sliplining 4529 ft. of existing 60" RCP with 20 ft. sections of 54", all polyester resin, Hobas

pipes connected with the low-profile, gasket-sealed, bell-spigot joint. Tie-ins at the two insertion pits will be made using Hobas closure couplings.

Hobas Only Spec

Design of this sewer rehabilitation had to satisfy many needs. Of

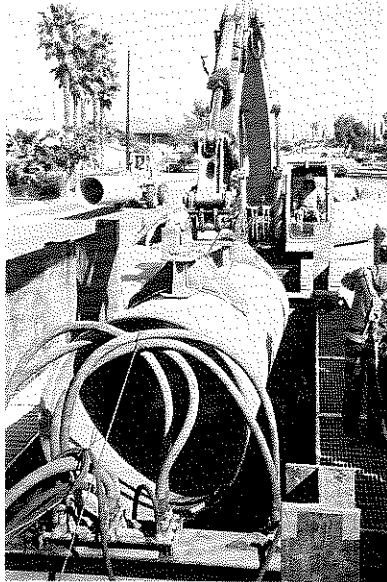
prime importance, the sulfide corrosion had to be arrested and the line structurally reinforced. While accomplishing this, a minimum 54" I. D. had to be maintained with a smooth wall pipe in order to meet flow requirements. The new liner also had to be leak-free and be able to withstand the annular

(Continued on page 3)

L.A. Conditions

Continued from page 2

space grouting pressures. Additionally, to permit easy insertion of the liner, a maximum 58" O.D. limitation was established. Finally, the liner had to be installed with the sewer in full operation. No bypass pumping of sewage flows could be allowed. With consideration of all of these needs, the L. A. County S. D. engineers again specified only SN 36 (minimum 36 psi pipe stiffness) Hobas pipes,

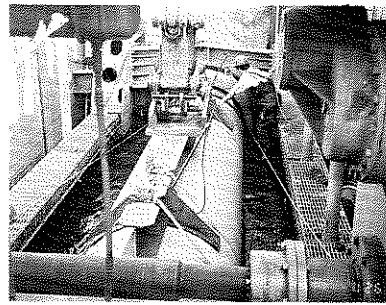


Placing 20 ft. section of 54" Hobas pipe into the flowing sewer.

as the only product that could meet all of these requirements.

Successful Installation

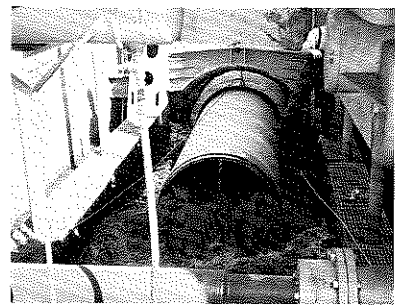
With two of the four liner insertion pushes completed, installation contractor, Colich & Sons of Gardena, CA is very pleased. Both pushes required very low loads and were installed at rates of 160 ft./hour despite flow depths up to 90%. The annular space dye tests conducted prior to grouting, showed no leaks at all in the new liner. Finally, the annular space grouting to complete the installation was accomplished in one lift without pipe distortion or damage. Through all this, the Hobas pipes performed flawlessly.



Joining Hobas liner sections in the flowing sewer.

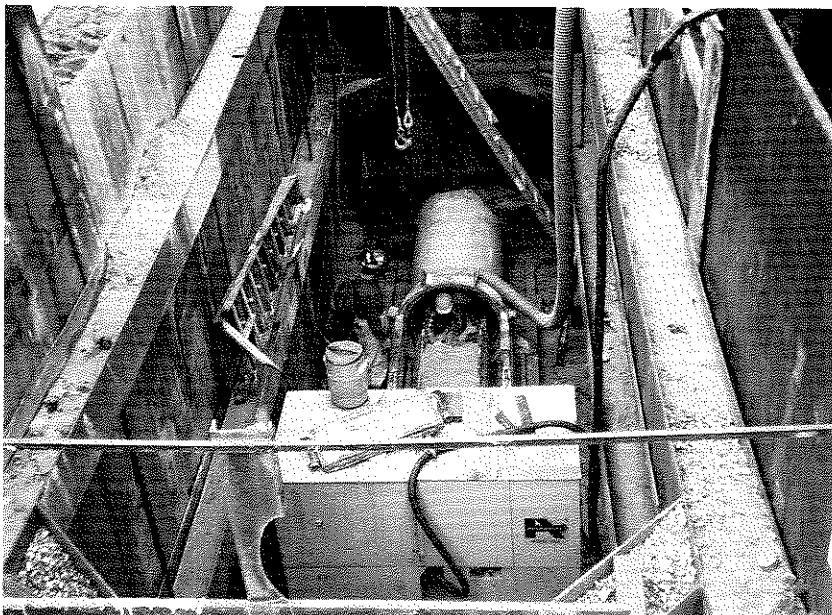
Future Secure

With rehabilitation of three major lines and two emergency projects completed, sliplining of deteriorated RCP sewers with Hobas pipes is becoming routine in the L. A. County S. D. system. The continued success of this work assures the availability of an economical renovation solution to meet their needs. Another L. A. County S. D. job, District 5, units 1 A & 1 B, existing 75" RCP to be lined with 69" Hobas pipes will begin installation in June and several more miles of work is planned to be let soon. With their success on J. O. "B" 1 C, Colich & Sons plans to pursue these future rehab contracts with Hobas pipes.



Pushing Hobas liner pipe into the flowing sewer.

Hobas Versatility Demonstrated



42" pipe jacking

The versatility of Hobas fiberglass pipes has never been better demonstrated on a single project than on the recently completed Tunnel Sewer Main job in Oceanside, CA. These new lines, built to add capacity, are 36" & 42" diameter totaling just over 2000 ft. Installation methods included direct bury, direct jacking, casing liner and grouted within a large utility tunnel. Fittings used included tee manholes with 24" flanged manways, elbows and an eccentric reducer.

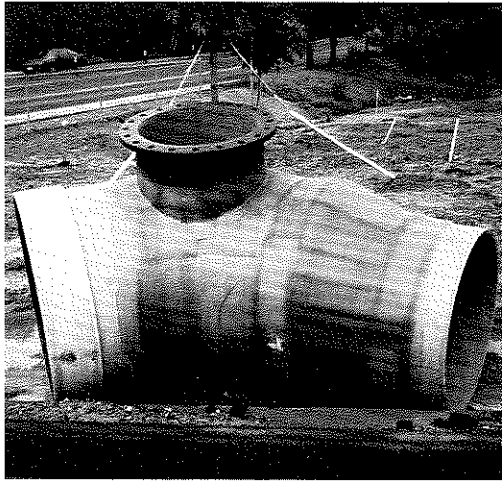
Tight Specification

Specs for the job, prepared by project designer James M. Montgomery of San Diego, addressed several important criteria. A 3%

(Continued on page 4)

Hobas Versatility Demonstrated

(Continued from page 3)



42" x 36" 46° eccentric reducer with 24" flanged manway.



36" direct bury installation

maximum deflection, 15 days after installation was required to assure adequate structural support was achieved to carry the loads generated by cover depths up to 95 ft. A 30 minute, 2.5 psi air test was specified to assure leak-

age control. Corrosion resistance was assured by allowing only Hobas fiberglass or HDPE pipes. In the jacking portion of the project, only the Hobas pipes were permitted to be jacked without a casing.

Lowest Cost

General contractor, Vadnais Corp. of San Diego, chose Hobas pipes because of overall economics and their preference for the fiberglass material. The installation by all methods was successful. Direct bury pipes were bedded in compacted sand. Liner Pipes were strapped and grouted in two lifts. The 42" jacking pipes required only 60 tons to push the first 500 ft., but needed 200 tons to complete the total 620 ft. drive due to steering control difficulties.

All Tests Pass

All deflection and air tests were passed without repairs or remedial work excepting the first six joints on the 620 ft. jacking run installed by Elmore Pipe Jacking of Sylmar, CA. Due to the steering control difficulties at the end of the jack, two joints were damaged and four others seeped. These were all repaired in - place by Elmore using other Hobas couplings, so all tests were met. The City is satisfied with their first Hobas installations and look forward to a long service life.



Hobas Pipe USA, Inc.

1413 Richey Road
Houston, Texas 77073
(713) 821-2200

