

# TRAYLOR

Traylor Bros., Inc.

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## Each Day Brings A New Challenge

**G**reetings from Rockwall, Texas. After a year of hard work, our project has really taken off. For those of you not familiar with our project, we are upgrading a four mile section of Texas State Highway 66 from two lanes to four lanes in a contract with the Texas Department of Transportation (TXDOT). The bulk of our work consists of replacing an existing bridge that crosses the two mile wide Lake Ray Hubbard Reservoir with two new twin bridges. This project is similar to our projects in Fort Lauderdale, Florida, and Grove, Oklahoma, in that after constructing a new bridge adjacent to the existing one, we will demolish the old bridge and build a second one in its footprint. The Rockwall bridges are relatively low level bridges that have a conventional concrete girder design. Bridge bents are constructed every 100 feet and consist of three drilled shaft foundations, which vary between 36 inches and 48 inches in diameter. Columns are constructed on top of drilled shafts to extend them to the elevation of the bent cap. A cap is poured on top of the columns to complete the substructure. A standard 100 foot span consists of either five or six Type IV concrete girders with a poured in place 8 inch slab for the bridge deck. The completed westbound bridge will be 10,280 lineal feet and the eastbound bridge will be 4,360 lineal feet. In addition to this bridge construction, we will soon begin work on a sizable amount of roadway work that will tie into either



## *New Challenge in Rockwall, continued from Page 1*

end of the bridges. A year into the project, we have completed over half of the drilled shafts on the westbound bridge (192 each), one third of the caps (42 each), and over 2,000 lineal feet of deck.

What on the surface may seem like a very standard and straightforward project has presented us with many unique and tough challenges. Working on a landlocked reservoir that acts as a primary water source for the City of Dallas has constrained our work in several ways. First, since all of our material and equipment must be trucked in over land, lake access is of supreme importance. The lake elevation can vary up to 10 feet each year. In fact, last summer we encountered drought-like conditions, which lowered the lake elevation nearly 6 feet. As the lake elevation dropped, the water receded from the bank, as well as our yard, several hundred feet. In order to keep continuous access to the lake we have had to build, at considerable cost, a 150-foot long sheet pile bulkhead fifty feet into the lake. We have also dredged a channel to the bulkhead, in order that our barges can reach the bulkhead when the lake is down. This is to keep the project going in times of low and high water.

Working over a key drinking water source for Dallas has also caused us to



*Aerial view of suburban Rockwall, Texas, at Lake Ray Hubbard.*

heighten our already stringent environmental protection standards to lower the chances of lake contamination. All of our key employees have been educated in how to respond in the event of a fuel or oil spill. Spill containment material is available on every barge so that we can respond immediately in the case of a fuel or oil spill. Where pos-

sible, our engines and storage tanks all have secondary containment to lower the chances of spills. And we have professional contractors available for immediate response if a larger problem arises.

Another challenge we will have to deal with is constructing the second, or eastbound, bridge with very limited



*After the drill shafts are drilled, poured with concrete, and caps are formed and poured, the deck construction begins.*



*Shown is the Manitowac 3900 Drill Rig, Slurry Barge and Form Barges.*

## New Challenge in Rockwall, continued from Page 2



*Surf is up. High winds and heavy waves make a long day.*



*The "Bridgeman" prepares to take crane barge to work site.*

barge and crane access. The north side of the bridge provides little access because of the close proximity of the westbound bridge. Power lines running parallel to the bridge on its south side make it unsafe to place cranes in that area as well. Since barge mounted cranes will not be able to safely operate on either side of the bridge, an unconventional method of construction may be implemented. Presently we are exploring the idea of working off of a temporary crane trestle, similar to those used on other TBI projects, to build the entire eastbound bridge with the exception of the drilled shaft foundations. We are currently working with TXDOT

to solve this problem.

Besides the issues discussed above, other major challenges include an aggressive production schedule. Drilling slurry shafts in varying ground conditions presents new problems every day that must be overcome. Working in our postage stamp sized yard in the middle of a residential area has kept us on our "tippy toes" most of the time.

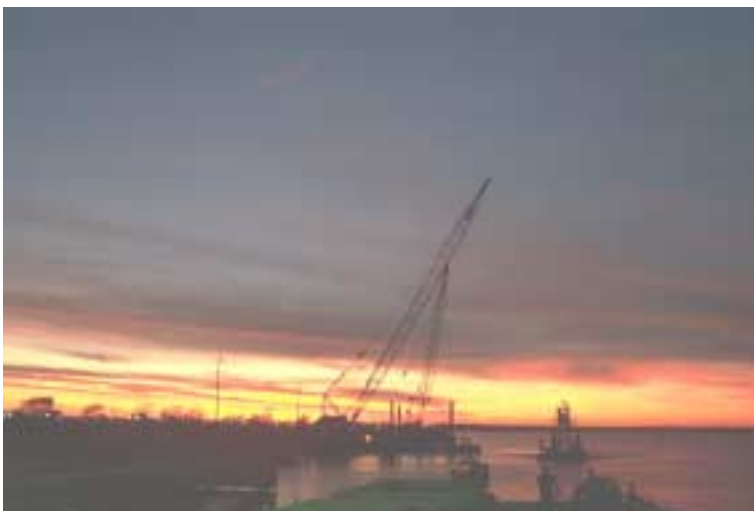
Many of our successes are connected to our excellent relations with the Texas Department of Transportation (TXDOT). TXDOT has treated Traylor Bros. fairly and responsibly while continuing to protect the taxpayer's dollars. We commend the hard work of all the TXDOT employees on this project, including the Area Engineer (Paul Williams), Project Engineer (Tracy Friggle), Project Manager (Lyle Seals), and all of the Staff Inspectors on this project. Thank you for your help and



*Drill shafts for westbound bridge, 147 completed, 117 remaining.*

your great attitude. It has not gone unnoticed!

Overcoming adversity and coming up with a *better way* are traits that set the Traylor organization apart from others. If we continue to approach all of our new challenges with this same positive, can-do attitude our future success is limitless.



*Sunset for Drill Shaft Crew starting night shift.*

# Coronado Bridge Heads Down the Home Stretch



The critical schedule item on this project has always been the cap retrofit concrete. It took us over a year to make our first cap pour due to delays in the approval of the cap falsework design. Our team has worked hard to accelerate this work for an on-time completion. We have now poured seven caps and are progressing at a rate of two per month. Coronado will peak in August of this year in both revenue and employees. This coming fall we will begin winding down.



This project consists of 11,500 cy of retrofit concrete much of which must be placed in five-hour lane closures on the deck of the bridge. The Coronado Bridge work calls for 1.4 million pounds of steel erection spread throughout the 1.3 mile superstructure low overhead pile driving requiring a 75 ft pile to be spliced and driven five times, and 26 miles of drill and bond work; all of which must be contained from both a water and dust standpoint. In addition, we will install 38 permanent travelers on the bridge, as well as remove and replace the fender system in the ship channel. Most of this work is only accessible by boat or catwalk.



The Coronado Bridge Project is very high profile due to the central nature of the structure on the San Diego Skyline. The jobsite, visited by both CAL OSHA and the Federal OSHA, has passed all inspections.



Our planned completion is January 2002. This will require us to complete roughly \$25 million of work over the next nine months. This will ensure that our workforce will be kept busy through November.



This project has also produced many Change Orders. We are currently negotiating a change on the drill and bond. A Change Order is anticipated to compensate for the cap falsework engineering. This is quite typical of retrofit work due to the fact that working on an existing structure has many unknowns and variables.

Partnering is a benefit to this project and has allowed Traylor Bros. to maintain a good working relationship with Caltrans. This working relationship is also the key to an on-time completion of this challenging project.

## "In the Wet Construction" at Braddock Dam

Construction of the Braddock Dam has endured another Pittsburgh winter. As the warmer weather comes our way, we will be meeting major milestones while breaking ground for new areas of the project.

Two portions of the gated dam are being constructed at our precast yard. Segment One, which is the larger of the two segments, is 333' long, 106' wide and 40' high. Precast panels have been assembled to fabricate the dam segments in a large basin excavated alongside the Ohio River. The basin will then be flooded in June and Segment One will be floated out into the river. The two dam segments will float 18 miles up the Ohio River into the Monongahela River where they will continue another 11 miles upstream to Braddock. The journey upstream for Segment One is scheduled for late June 2001.

We have a new portable batch plant producing the innovative concrete mix designs created by the Pittsburgh District's Corp of Engineers. These highly unconventional, eleven ingredient, concrete mix designs have been a challenge.

The drilled shaft operation reached 25% completion at the end of March. We are scheduled to finish with all the drilled shafts by the first of September. The shafts for the first segment could be completed by mid July. Segment One will have two months of preparatory work at the dam site before it's ready to be submerged. The segment will be transported to the site in June, however it won't actually be positioned for set-down until August.



*"In the wet construction" at Braddock Dam.*



*Segment One construction.*

## Route 288 James River Bridge

In mid-December 2000, Traylor Bros., Inc. was asked by United Contractors, Inc. of Chester, S.C. to provide to them a price to construct two bridges over the James River west of Richmond, Virginia. United has a sub-contract from APAC-Virginia, Inc. to complete all structure work on the Design-Build Route 288 extension. In early February, our price and schedule were accepted and Notice to Proceed was issued in mid-March.

The project consists of constructing two bridges each 42'-9" wide and 3,662' in length over the James River and CSX Railroad on the north side of the River. The project is part of the proposed Route 288 west of the city of Richmond. The river at this location is only 550' in width during normal season but is occasionally prone to flood and can get as wide as 2,800' when it floods the low-lying farmland to the south.

The project is to be constructed in an aggressive 12 to 14 month period. It is critical to begin the approach work in the spring in order to avoid the late summer floods. No work is permitted on the river during the months of April, May and June of any year due to the spawning season of local fish.

The foundations consist of H-piles to be driven to the rock for the approach piers on the north and south side of the river and are scheduled to begin in early May. The 10 each river piers are to be founded on a total of 20 each 6'-6" diameter drilled shafts with 6'-0" diameter rock sockets and will commence in early July of this year.

The bridge superstructure consists of 26 spans of 126' long bulb-tee concrete girders over the south farmland and the majority of the river, and 3 spans of structural steel girders on the north end of the project over the rail-

road tracks. The deck is to be cast-in-place using stay-in-place metal deck pans for the interior bays. The estimating teams' concept of using steel intermediate diaphragms is one of the reasons the deck schedule is aggressive and also minimizes the cost of the project to United Contractors.

One of the most challenging aspects of the project will be constructing the piers adjacent to the CSX Railroad along with erecting the steel plate girders over the tracks and up the steep 60' slope just north of the tracks.

It has been 12 years since Traylor Bros. has worked in the State of Virginia. We are hoping for an excellent performance and for future work in Virginia.

The project is a design-build project for the State of Virginia and the prime contractor is APAC-Virginia, Inc. CH2M Hill is our team's designer.

## Hyperion Outfall Reballasting

In September of 2000, we procured a \$2,490,000 wastewater outfall repair project from the City of Los Angeles. This project had a very short construction period and involved working in the open ocean, close to shore in Los Angeles. The repair work consisted mainly of placing rock, with the assistance of divers, in areas affected by excessive erosion. There were essentially three parts to this small but fast paced project.

The most difficult portion of work involved working close to a 250' long section of outfall pipe. The outfall pipe was concrete encased (20' by 20' section) and pile supported. The work was close to shore in very shallow water and required jetting 2" rock under the concrete casing for a horizontal distance of 20' with divers. After ascertaining that the washout under the pipe was packed solid with the 2" rock, the sides of the concrete encased outfall pipe were fur-

ther protected with 6" rock.

The next piece of work involved placing 12" rock on the exposed sides of a 12' diameter concrete outfall pipe lying on the ocean bottom, while protecting the crown of the pipe from damage during placement. Again the work was diver assisted, but in deeper water (up to 80') and covered a length of 2,200'. The key parameter in this operation is to minimize the overage in rock, i.e. the difference between pay quantity and purchased quantity. Overages can run as high as 50% depending on placement method.

The third piece of work involved the repair of pipe joints with underwater epoxy in water depths up to 190'.

Notice to Proceed was granted on October 11, 2000. The derrick barge "William F" arrived on the job on October 22 and placed approximately 16,000 tons of rock. During the work, we had to



*Derrick Barge "William F" placing rock on Hyperion Outfall.*

pull anchors and duck into a nearby harbor several times.

This small project is an example of innovative engineering, and improvising with available in-house equipment and staff to execute a fast-paced project. The project received a commendation from the owner – the City of Los Angeles.

## Pier 400 Wharf

On September 13, 2000, we were low bidder at \$53,785,000 on the Pier 400 Wharf Project for the Port of Los Angeles. This job got the monkey off the back of the Pacific Division as being Traylor's retrofit division. The Notice to Proceed was issued on November 1, 2000 for the project to be completed 22 months thereafter. Over the next 3 years, we see a very vibrant market for dock building in California and we intend to be a significant player in this market.

We are essentially building a brand new 4,000' long dock, 125' wide to be operated by 100' gage container unloading cranes. The backlands get reinforced with stone columns, and get equipped with water, storm water, mechanical and electrical systems and paving.

The main work involves the driving of over 2,200 each, 24" octagonal pre-stressed concrete piles up to 124' long, using a Delmag D-80 hammer. The land piles are driven with an 888 crawler and the water piles with the derrick

barge "William F." The wharf deck is a cast in place reinforced concrete flat slab nominally 2'0" thick, and beefed up to 3'0" in the areas of crane rails and fenders. We anticipate approximately 40 large concrete pours of over 1,000 cubic yards each with the load being supported on friction collars attached to the driven piles.

As of the end of March 2001 our subcontractor had completed all of the stone column work, we had com-

pleted the indicator pile testing – marine and land, and are driving the land piles with the 888 crawler crane and a new D-80 hammer.



*Handling and driving 30 ton concrete piles from shore.*

## Detroit River Outfall No. 2

The Detroit River Outfall No. 2 Project is in its second of three years of construction. The 30 foot by 300 foot deep main entrance shaft has been excavated and concreted using the top down method to its final depth. The 25 foot diameter by 80 foot long horseshoe starter tunnel has been excavated using a top heading and bench approach.

Final preparation is being made for the arrival and assembly of the 23'-6" Tunnel Boring Machine (TBM). The TBM, manufactured by CTS, is unique in that it is a fully shielded machine being used for hard rock mining. This special design was specified to allow a bolted, gasketed segmental liner to be installed in the tail shield concurrent

with mining.

The segmental liner will reduce the quantity of hydrogen sulfide latent ground water that can enter the tunnel.

TBM mining is anticipated to take approximately 12 months depending on the grouting required to deal with the ground water encountered.



*This fully-shielded TBM was designed to allow a bolted, gasketed segmental liner to be installed in the tail shield.*

# Sailboat Bridge, Grove, Oklahoma

On April 2, 2001, the twin 928m (3044') precast bridges that span the Grand Lake in Grove, Oklahoma were opened to traffic. This completed virtually three years of hard work through difficult times as well as impeding weather conditions. The two 178 precast segment structures built on 86-drilled shafts and 16 existing piers encountered many difficulties such as high water, extreme weather, and difficult labor conditions. After a two-year struggle with the first bridge, the old structure was disassembled and a second bridge erected in just over a year.

After the beginning of construction in January 1998, the 200 typical precast segments were completed on December 23, 1999. The remainder of the segments, which included the 50 deviations, 22 piers, and 6 expansions, were finished shortly after. The first challenge we faced was the deep-water drilled shafts. Not only were these shafts located in deep water, but they also required relatively deep rock sockets through high strength fractured limestone. To add to the challenge, lake levels were up above normal conditions for nearly 3 months. The drilled

shafts for the northbound structure were completed on April 2, 1999.

The substructure on the northbound structure was soon to follow the drilled shafts with a completion date of August 24, 1999 with the superstructure right on its tail. After a slow start, the erection of the 25 span structure increased in production and was completed on November 19, 1999. After all segments were set, the barrier rails and expansion joints needed to be completed before the new structure was opened to traffic.

On February 7, 2000, traffic was switched from the old Sailboat Bridge to the new Sailboat northbound bridge. The day the traffic was switched the demolition of the old structure began.

The southbound structure differed from the northbound structure in that it was to reuse 16 existing structures for the new foundation. Though this saved on the deep-water drilled shafts, it manifested another problem of building a foundation below average water levels.

The solution to the problem was the use of a precast concrete tub that sealed around the existing foundation and was used not only for the footing form but aided in the demolition of the existing piers below water level.

In addition to using the existing substructure, the drilled shafts for the southbound bridge were supposed to be drilled in the same location as the old bents. Since the complete removal of the existing bridge substructure was not feasible, a change in the drilled shaft layout helped place the shafts so they would not be in conflict with the old footings. This added six additional shafts and modified the shape of the footings.

One other obstacle that impaired the progress of the southbound bridge was the rock encountered while drilling the shafts at the north end of the bridge. While drilling the rock sockets, we found badly fractured limestone that made it difficult to drill and pour these shafts.

When all was said and done, the second structure took just over a year to complete which included one month of record snowfall and cold temperatures. The construction of the two bridges was an adventure and a learning experience for all.



*The sunlight casts a mirrored reflection of the Sailboat Bridge on Grand Lake.*



*Placing a deck segment.*

## William H. Harsha Bridge, Maysville, Kentucky

Opened to traffic in January of 2001, the construction of this new cable stay bridge is complete while only a handful of employees remain to complete the finishing touches. Community residents find their new modern bridge to be a pleasant contrast to the existing cable suspension bridge opened in 1931. As designers of the bridge, American Consulting Engineers and Michael Baker Corp. are even more proud than the new owner, the Kentucky Transportation Cabinet, of their receipt of the 2001 Grand Conceptor Award from the national competition sponsored by the American Consulting Engineers Council.

The project consisted of a 300-foot, three span prestressed bulb-T girder approach bridge, a 2108-foot long steel superstructure with post-tensioned pre-cast deck panels and an embankment fill area on the Ohio end of the bridge. As seen in the picture, two identical twin goal-post style concrete towers support the cable-stay superstructure. These towers rest on a 12-foot thick footing supported by sixteen six-foot diameter drilled shafts approximately 65 feet long. Each shaft extends 10 feet into a rock socket. The entire project consists of two end bents founded on H-piling and seven piers; the two intermediate piers supporting only the conventional span approach bridge are also founded on H-piling while the remainder are founded on drilled shafts.

Major subcontractors and materials for the project include approximately 30,000 cubic yards of concrete of which 65% was supplied by Traylor's onsite batch plant while Maysville Ready-Mix, a local supplier, furnished the remainder of the concrete. Vincennes Steel furnished the 3,100 tons of structural steel while Buckland & Taylor compiled our erection procedure and provided geometry control analysis. Javier Steel furnished and installed the 2000 tons of reinforcing steel manufactured by Ameristeel. VStructural supplied the

strand post-tensioning for the towers as well as the complete stay cable system for the 80 stays. Dywidag Systems furnished the 1400 1-3/8" post-tensioning bars for the deck system. H.G. Mays performed the asphalt tie-ins while Ahern completed the latex modified concrete overlay on the main bridge deck. Thomas Industrial Coatings executed the paint installation and

Haydon Brothers Contracting completed the embankment construction.

Bid in December of 1996 and with mobilization occurring at the end of March of 1997, the construction of this bridge spanned four years and involved a number of both former and current Traylor Bros. employees transferred in from around the country.



*The William H. Harsha Bridge, designed by American Consulting Engineers and Michael Baker Corp., received the 2001 Grand Conceptor Award from the national competition sponsored by the American Consulting Engineers Council.*

# Project Update

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## HEAVY CIVIL DIVISION

Maysville Bridge Maysville, KY 97-01	Completion of cable-stayed bridge to connect Mason Co., KY, to Brown Co., OH, over Ohio River; 2,420' length with two 12'w lanes on 48'w deck; incl. erection of 6,240,464 lbs of structural steel and 80 ea. stay cables.
17th Street Causeway Ft. Lauderdale, FL 97-04	Located over the Intracoastal Waterway on SR A1A (SE 17th Street), the project consists of twin precast segmental bridges 581m long by 16.3m wide with double-leaf bascule spans on carina piers. This signature bridge, with a height of 17m, is the tallest bascule bridge in Florida. The westbound bridge was opened to two-way traffic on February 22, 2000. Segment erection for the eastbound bridge is complete and the last bascule leaf will be erected in April 2001. Work is proceeding on the frontage roads and parking lots beneath the bridge, and construction of the control house has begun. Final job completion is expected in October 2001.
Sailboat Bridge Grove, OK 97-05	Completion of Twin 926 meter (3,044') long precast concrete bridges over Grand Lake in Grove, OK. Typical span lengths are 37.1 meters (122') in water depths up to 21 meters (70'). The bridge has a 15.8 meters (52') vertical clearance. Total deck area is 23,416 square meters (250,052 sf). 74 of 80 drilled shafts poured; half of each abutment is poured; 48 of 48 footers set; 18,200 cy of 19,250 cy; 1,790 of 1,897 metric tons of reinforcement.
William Natcher Bridge Maceo, KY 97-06	Cable-stayed bridge over the Ohio River connecting Maceo, KY, and Rockport, IN. Total 4,510 lf bridge includes cable-stayed spans @ 500' x 1,200' x 500' and approach spans consisting of 6 plate girder spans and 9 precast concrete spans. As of May 1, 2001, the Indiana main span has been tied into the approach spans with 21 of 22 girder segments completed. The Kentucky Tower is 95% complete with concrete placed to Elevation 703.50'. Eighteen of 54 plate girders have been erected for Span 5 of the Kentucky Approach. Erection of the Kentucky cable-stayed main span will begin in late May or early June 2001. Project completion is on schedule for July 2002.
Braddock Dam Braddock, PA 99-02	All precast panels for both dam segments have been erected. Base slabs for both segments were recently completed at the Leetsdale site. Current operations include installing internal bracing, forming and placing concrete for the top slab of Segment One, and forming and placing concrete for the internal precast closure pours in Segment Two. Dredging and sheet pile cut-off walls were completed at the Braddock site. Drilled shaft operation followed the dredging and is 25% complete with a completion date of September 1, 2001. The first dam segment is scheduled to be launched in late June and set-down in late August.
Rockwall Bridge Dallas, TX 99-03	Widening a four-mile stretch of State Highway 66, between the cities of Rockwall and Rowlett, from two lanes to four lanes. Includes replacing an existing bridge, which crosses Lake Ray Hubbard, with twin bridges. Westbound bridge, currently under construction, is 10,280 lf, has 103 spans, and is 48 feet wide. Eastbound bridge is 4,360 lf, has 44 spans, and is 40 ft wide. Typical spans are 100 ft long and consist of Type IV concrete girders with an 8" cast-in-place concrete deck. Total deck area for these bridges is 667,840 sf. Bridge is supported on 451 ea drilled shaft foundations (262 ea @ 36" & 189 ea @ 48"). Work completed to date includes 190 ea 36" drilled shafts, 47 ea caps, and 109,920 sf of bridge deck. Other major items of work remaining include demolition of the existing bridge, 71,000 cy of excavation, 13,000 cy of embankment, 4,899 sf of retaining walls, and 100,224 sy of concrete paving. Project completion is presently scheduled for the fall of 2003.
Cape Girardeau Bridge Cape Girardeau, MO 00-01	Cable-stayed bridge over the Mississippi River connecting Cape Girardeau, Missouri, and East Cape Girardeau, Illinois. The 86'-4" wide bridge has a main span of 1,150' and two side spans at 468' each. Bridge substructure work includes two dredged caissons and two 356' tall main pylons. Superstructure work includes 128 stay cables, 8,000,000 lbs of structural steel, and a precast concrete deck. Notice to Proceed was June 1, 2000. Project completion is scheduled for June 1, 2003.
James River Bridge Richmond, VA 01-01	Construction of two bridges each 42'-9" wide by 3,662 lf over the James River and CSX Railroad on the north side of the river.

## UNDERGROUND DIVISION

MA Water Resources Auth. Framingham, MA CP-2 96-02 (Shea/TBI/S.A.Healy)	Concrete lining of the west tunnel (27,000') is complete. Forms are being moved into the east tunnel to prepare for the start of lining (35,000'). The 15'-9" diameter raise bore excavation of Shaft NW was completed followed by installation of shotcrete and rock bolts for ground support. Work on N1 Valve Chamber continues. Contact grouting of the west tunnel is beginning.
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# Project Update (cont.)

## UNDERGROUND DIVISION (Continued)

<p>MA Water Resources Auth. Framingham, MA CP-3A 98-04 (Shea/TBI/S.A.Healy)</p>	<p>Finished cast-in-place lining from Shaft W to the Wye intersection. Installing 12' diameter, 30' long steel liner sections. They are being welded together and backfill concrete is pumped around the outside of the steel liner. Subcontractor O'Connell-Barletta will mobilize and begin work in May for the valve chamber and surface work.</p>
<p>Detroit River Outfall Tnl. Detroit, MI 99-01 (TBI/Jay Dee)</p>	<p>The 30 ft ID x 300 ft deep Main Entrance Shaft has been excavated and concreted using the top down method to its final depth. The 25 ft diameter x 30 ft long horseshoe starter tunnel has been excavated using a top heading and bench approach. Shaft bottom slab and tunnel eye concrete work is underway. TBM mining is anticipated to take approximately 12 months depending on the grouting required to deal with the ground water encountered. The PC segmental liner manufacturing operation is complete. The segments are stored on site in preparation for mining.</p>
<p>El Dorado Irrigation Dist. Pollock Pines, CA 99-05</p>	<p>Notice to Proceed issued November 14, 1999. Mobilization of most of the plant and equipment required for the job at a temporary construction yard. Mobilization in December on Alder Creek site, site work and improvements to access road halted until Owner acquires necessary Federal Energy Regulatory Commission permit to build the tunnel (est. the end of April 2001). Construction of TBM is completed at Kent, WA. Equipment Division has completed locomotives and rolling stock to be used on the project. Due to the Owner having problems obtaining permits, construction has again been delayed by several months.</p>
<p>Thornton Reservoir Chicago, IL 00-03</p>	<p>Portal excavation at the bottom of existing Thornton Quarry, 7,900 lf of unlined 22 ft dia tunnel excavation, 2,700 lf of unlined 8 ft dia tunnel excavation, a drop shaft and chamber, a diversion structure on the Thorn Creek, a valve shaft and chamber and connection to an existing TARP shaft. Drop shaft excavated to top of lower chamber approx. 200 ft below surface; 46 vf of overburden supported by ribs and lagging before beginning drill and blast excavation of rock. Total depth of chamber is 283 vf. Excavation for diversion structure nearly complete. Concrete work to begin soon. Portal excavation extended to allow for existing conditions and is also nearly complete. Work has begun on preparation of the portal site for the TBM. Valve shaft has 12 vf of soft ground above rock which will require some 300 ft of excavation. Progress to date is about 20 ft into rock.</p>
<p>NORS-ECIS Tunnel Simi Valley, CA 00-05</p>	<p>The City of Los Angeles awarded the \$240,350,000 project on January 5, 2001 and gave NTP to the Kenny/Shea/Traylor/ Frontier-Kemper, JV (KSTF) on February 14, 2001. KSTF mobilized to temporary quarters in late February while the Owner-supplied offices were being renovated. The City and the JV moved into the permanent field offices on April 16<sup>th</sup>. Subcontractors are currently completing demolition and installing security and Noise Barrier walls. This will be followed by mandated permeation grouting prior to installing soldier piles for the first two shafts at the Siphon and Grand Avenue. The first shaft excavation is scheduled for June 1, 2001. Four 185" in diameter EPB TBMs have been ordered from Lovat Tunnel Equipment. The first two TBMs will be delivered to the site in late November, 2001 and early January, 2002, respectfully. The project includes 59,500 feet of precast tunnel liners.</p>

## TRAYLOR PACIFIC DIVISION

<p>Coronado Bridge San Diego, CA 99-04</p>	<p>Project is diligently progressing forward. Drill and bond activities are making headway. To date, 1.3 million lbs of rebar have been placed. Project averages three concrete pours per week with column and cap pours being the critical pours. To date, concrete pours include 2,185 cy of concrete at footings, 794 cy of concrete at columns, and 651 cy of concrete at caps. Coronado has also completed pouring the precast skirt panels and soffit slabs for Pier 4. The steel crew, gearing up as they begin to move ahead on the steel activities, has set nine travelers with actual erection of the traveler being a one-day operation. Traylor Pacific is anticipating another 9 months with a completion date in January 2002.</p>
<p>Pier 400 Wharf Los Angeles, CA 00-04</p>	<p>With the weather, activity is heating up on Pier 400. The land piledriving effort is beyond the half-way point and the derrick barge William F will commence the marine driving in early May. In preparation for the concrete deck construction, we are fabricating form panels and cutting off piles. The backland subcontractors for sewer and electrical are on schedule to complete their early portions of work that are in the way of the concrete spread. Our first major deck pour is scheduled for early July. The project is on track to be completed within the time frames specified by the Port of Los Angeles.</p>



## Growing Up With Bill Traylor

In 1963, three months out of graduate school, my dad called me in Seattle (I was working a heading on the East Side Interceptor Sewer Tunnel) and summoned me to Louisville the next Monday. We were about half finished with McAlpine Dam (across the Ohio River). When the project manager and project engineer resigned to start a small family business, Hank Hummel was left in charge of the job with a crew of over 100 men. Pop said, "Hank needs your help." I was 24 and Hank was 35, and we were the only engineers on the project.

Halfway through my stay at Louisville, Pop called and announced that George Morgan, Hank's boss from their Kansas City Bridge days, was leaving Traylor Bros. Working for Traylor, George had bid \$500,000 on the removal of the old Markland Dam, an hour's drive from Louisville. The next bid was \$900,000, so Pop was worried about the outcome. Every Monday, I drove to Markland and worked with a bunch of crane operators and divers to line out the week. Our cost was \$250,000. George had a better bid than he thought.

A month later, Missouri Portland Cement Company asked us to build an Ohio

River terminal at Louisville. They had sub-contracted the pile driving and tank welding to others. Hank and I took that on, too.

Toward the end of the dam, we were removing the cellular cofferdams and the sand disposal was expected to be an expensive problem. One of our biggest coups was selling the many barges of sand to Kiewit for the fills in the Kentucky interchange at the foot of the I-65 Bridge.

Six months before McAlpine was done, Pop bid the substructure of the Cannelton Indiana Bridge which included three deep open dredged caissons on the Ohio River. They left me to finish the dam, and Hank moved to Cannelton where he sank the caissons and beat his budget. One caisson landed 120 feet below the river surface, and penetrated twenty feet into shale. It required months of blasting, spudding, and airlifting.

Years later, Hank told me that he only saw Bill two or three times during the Cannelton job. Hank had earned his trust. Bill was a man of few words and Hank was a little that way, too. They walked quietly and carried big sticks. Hank went on to head our marine construction for years and was

consistently profitable.

A lesson from all this: Load responsibility onto our bright young engineers. They will thrive on these experiences.

These tales seem improbable to my sons who see our present work as overwhelmed with schedules, cost reports, accident reports, safety meetings, submissions, and a host of other support functions. These tasks divert us from the big issues: How can we better build the project set before us? It is important to take time to think, innovate, and plan. I always did my best thinking in the shower. Save that time for the important issues; take long showers!



Tom Traylor

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835 N. Congress Avenue

Phone (812) 477-1542

Fax (812) 474-3223

Editor: Margie A. Bernick

tbiadmin@traylor.com

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