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JFK Causeway clearance presents many challenges

1st major improvements since '73 progressing

**By CHARLOTTE KUCERA
Environmental Affairs Division**

The first major improvements to the John F. Kennedy (JFK) Causeway in almost 30 years are under way, a project requiring cooperation and innovation for TxDOT to secure needed environmental clearances from regulating agencies.

The causeway connects Corpus Christi on the mainland to the north end of Padre Island, one of five major barrier islands that protect the Texas coastline, and, at 100 miles in length, the world's longest barrier island. The Port Aransas ferry further north on Mustang Island provides the only other access.

At three feet above mean high tide, the causeway is so low that a storm

surge can shut it down. Bret, a category five hurricane, inundated the causeway in August 1999. Claudette, a category one hurricane in July, also threatened to flood the causeway.

Nueces County built the causeway in 1950 with two lanes about four feet above sea level and with two swing bridges. One swing bridge was replaced with a fixed bridge after Hurricane Carla struck in 1961. The second swing bridge was replaced in 1973 when the causeway was widened, the last major overhaul before the current project. Prior to the current work, the causeway had four undivided lanes, each 11 feet wide, with six-foot outside shoulders and a four-foot median with a concrete barrier separating

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Precertification system serves both TxDOT and contractors

**By AMY SOVEREIGN
Design Division**

Imagine you're with a professional, private sector firm with the potential to provide high quality services to a state agency such as TxDOT. You've got the expertise, the manpower, and the tools of the trade all ready for action. Whom do you call with this information? How do you get the word out that you're ready to contract with TxDOT?

What if you're on the opposite end of things? You're a TxDOT employee charged with the mission of managing a project for which your division or district simply does not have the manpower. You need professional services. To whom do you turn? The answer to both of these questions is the Consultant Contract Office of TxDOT's Design Division – the primary link between professional service providers and TxDOT.

TxDOT contracts with private sector firms for professional services such as architectural, professional engineering, and

land surveying work in the development of Texas highways, roads and bridges. Professional firms provide a number of services to TxDOT including environmental services, design and preliminary engineering, traffic operations, commercial laboratory and land surveying services and more. Proposed contracts are advertised on both the TxDOT web site at www.state.tx.us/business/professionalservices.htm and on the Texas Marketplace at www.marketplace.state.tx.us/ in the form of a "notice of intent" (NOI).

Firms interested in being selected for a contract submit a letter of interest in response to the advertised NOI in accordance to its stated guidelines. Professional service contracts are not procured on a bid basis, but rather are selected based on the qualifications of interested firms. Letters of interest are scored and ranked by TxDOT professionals, and the top ranking firms are asked to submit a written proposal,

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Telles-Goins takes environmental reins for the El Paso District

By JIM DOBBINS

Environmental Affairs Division

In the classic country and western song, the late Marty Robbins sang about Rosa's Cantina in El Paso. At TxDOT's El Paso District, staffers sing the praises of the Advance Transportation Planning Section's Mary Telles-Goins, a fount of experience and practicality in the environmental process.

Telles-Goins grew up in Michigan and Germany – a result of her father's itinerant Army career – finally landing in El Paso. She earned a B.A. in Political Science and a M.P.A. in Public Administration, both from the University of Texas at El Paso. Before joining TxDOT in September 1985, Telles-Goins explored careers in real estate property management, the home mortgage industry, and finally with the Rio Grande Council of Government. She has spent all of her nearly 18-year TxDOT career in the Advance Transportation Planning Section of the El Paso District.

"I still remember the first environmental document that I worked on when I started with TxDOT – the Sunland Park interchange with I-10," Telles-Goins said. "The person I replaced had started the documentation process but had left before writing it up. I had notes to go by. In those days we wrote the documents by hand and gave them to a secretary to type on an early word processor. In my early days with TxDOT I worked on environmental documents, public transportation, planning, commission delegation reports and whatever else came up that someone thought was planning related, like enhancement projects."

Telles-Goins' current job duties includes environmental documentation and a variety of related field work in the six-county El Paso District. She took over duties as the district's environmental coordinator on July 1 of this year.

Telles-Goins enjoys the variety of issues that she addresses on a daily basis through transportation environmental work. "I get to work with so many different people on a variety of subjects," Telles-Goins said. "I work with people

who are experts in topics like archeology, history and traffic noise issues."

Telles-Goins has made a positive impression on many co-workers throughout her TxDOT career.

"Over the years I have had the pleasure of Mary's company during many days of tough field work," said John Blackman, a longtime El Paso Area Office employee

accomplishing the day's work. She always had a smile, never complained, and was always an asset."

Field work in the Chihuahuan Desert has produced other memorable days, as well.

"Chris Ward, a onetime archaeologist with ENV, was assigned to work on the Loop 375 project between I-10 and US 62/

180 for what seemed like months," Telles-Goins said.

"She was clearing the second frontage road and the future main lanes. The district staff felt pretty lucky because she allowed us to help her and we all came away with an appreciation of her work! One day, the two of us were working out there pretty far from the existing road and we heard a motorcycle having mechanical problems. It turned out that it was a City of El Paso policeman returning from a funeral detail and the motorcycle he was riding had broken down. The area was pretty remote a decade ago. We didn't have cell phones like we do now and there wasn't much help driving by on the one existing frontage road, so I gave the officer my car keys so he could go get help. Chris and I continued to dig and screen until he returned with help. The motorcycle still would not start, so he and his friend left it there for us to watch, with my personal car parked close by.

Chris and I resumed digging and screening until we heard a radio transmission in the distance. We look up and a sheriff's deputy is walking across the desert toward us with his radio in one hand and the other on his gun! He had called in the license plate number of my car and I heard my husband's name ring out across the desert, which caught my attention. My brother-in-law who works for the sheriff's department heard the transmission and got on the radio to find out what was going on. Once the on-site deputy figured out that we weren't burying a dead city policeman, everything

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El Paso's Mary Telles-Goins

Photo by Mimi Horn

who now serves as the district environmental quality coordinator in the Odessa District. "Mary has tromped through arroyos in sporadic rain along the Rio Grande surveying flood damage. She has climbed many mountains in the Trans-Pecos searching for endangered species. One day she spent on hands and knees in the underbrush looking for a grave when the temperature was 120 degrees! Another day was spent cutting brush for an archeological survey. Whether we were surveying depression era rock work or crawling around in the desert, I have always enjoyed the way Mary went about

Matagorda Lighthouse gets makeover

By PEARLIE BUSHONG
Youkum District PIO

If you could turn time back to Dec. 21, 1852, on Matagorda Island, you would see the lantern on top of the new 55-foot cast iron tower lit for the first time. As the lighthouse keeper climbs the spiraling steps on the inside of the lighthouse tower, he might notice the bricks lining the tower for extra strength or glimpse the setting sun from one of the small windows located in the tower walls.

The keeper knows the lighthouse sits on Matagorda Island at the entrance to Cavallo Pass which connects Matagorda Bay with the Gulf of Mexico between Matagorda Island and the Matagorda Peninsula in southeastern Calhoun County. This pass is vital to the economy of the area as a major point of entry to the interior of Texas. Such things as cotton, cattle, molasses, lumber, potatoes, and corn pass through on ships. In 1852, 10 to 12 thousand bales of cotton leave Port Lavaca and Indianola via the pass.

In the spring of 1853, the lighthouse keeper watches the black outer walls of the lighthouse being painted like a barber's pole with white, red, and black stripes that will make the lighthouse easier to see from a distance in the daytime.

The lighthouse keeper finds his climb to the top taking longer in 1857 with the addition of 24 feet to the height of the lighthouse. In 1859, a new Fresnel lens and revolving equipment are installed and become operational to provide more light for ships seeking the bay.

During the Civil War, the lighthouse keeper finds himself back on the mainland without a job as Confederate soldiers try to destroy the lighthouse to keep it from falling into Union hands. Luckily, the Confederates are unable to completely destroy the tower but they do break several of the cast iron plates. They remove the lens and bury it in the sand.

The job of trying to destroy the lighthouse is continued by Mother Nature until after the war when the U.S. government orders soldiers to disassemble the tower and move the large cast iron pieces further inland to higher ground. New panels of cast iron are made to replace the damaged and broken ones.

By September 1, 1873, the lighthouse is back in service without its stripes but with a new foundation and Fresnel lens. With the new lens atop the conical tower about 91 feet above sea level, the flashing beam of light can be seen 15 miles out to sea every 90 seconds.

The lighthouse keepers keep the beacon flashing until 1956 when commercial electric power replaces the incandescent vapor (kerosene) lamps.

The Coast Guard removes the old 1870's lens and replaces it with a weaker lens in 1977.

In 1995, the lighthouse ceases its long life as a navigational lighthouse along the Texas coast line when the Coast Guard removes its back bay lens from service.

Mother Nature and the sea air continue to take their toll on the tower and the lighthouse keepers' cottages. Soon, the only things left at the site are the black cast iron tower and the little cemetery near it with the graves of former keepers and their family members and, maybe, some soldiers. Many of the grave markers have been destroyed by weather over the years.

The lighthouse is placed in the National Register of Historic Places and is recognized by the Texas Historical Commission.

In February 2003, a ribbon-cutting ceremony starts the restoration project of the lighthouse which is funded through TEA-21 and Calhoun County.

The citizens of Texas will gain a unique historical resource upon the completion of the project this summer. The approximately \$800,000 restoration includes stabilizing the lighthouse foundation; scraping, cleaning and painting the interior of the lighthouse; and repairing or replacing the windows and doors. A replica of the original handrail on the lantern deck will be installed and the existing beacon will be operated with solar panels and batteries.

The keepers' cemetery will be defined with a new vinyl fence around it.

Concrete walkways will be built to connect the lighthouse to the wood marsh walkway and the restrooms.

With Civil War trenches, the remains of Fort Esperanza, World War II bombing targets, and sunken ships, Matagorda Island and Bay hold unique historical artifacts invaluable to learning about life on the island and the surrounding area over the past 150 years.

Transportation to the island is through personal boats and a ferry. The Texas Parks and Wildlife Department's 49-passenger ferry boat burned in February and may not be replaced due to budget constraints. However, the agency has contracted with a private vendor to ferry visitors to the island.



**1978 file photo
showing fresnel lenses
at the time of their
removal from the
lighthouse.**

TxDOT-funded Parks & Wildlife Dept. project to restore Roma wins award

**By Dr. MARIO L. SANCHEZ
Historical Architect
Environmental Affairs Division**

Preservation Texas, Inc., gave its 2003 Curtis Tunnell Award to the Texas Parks and Wildlife Department (TPWD) for the Roma Restoration Project. The project preserved the historic core of Roma and was financed in part by TxDOT enhancement funds.

Inextricably linked to the history of Northern Mexico, Roma was founded in the 1770s as a ranch serving the city of Mier on the south bank of the Rio Grande. Upon its incorporation into the U.S. in 1848, Roma developed as a thriving river port. As a result of this lucrative trade, the merchant class of Roma built an elegant city overlooking the bluffs of the Rio Grande with sophisticated architectural styles influenced by those of Northern Mexico and Spain. Because

of its unique bi-national cultural and architectural heritage, Roma was recognized in 1993 as a National Historic Landmark, the highest designation for historic properties in the U.S.

It was also in 1993 that TPWD began its long involvement in the Roma Restoration Project. The department was spurred to this endeavor because of two executive orders issued by Governor Richards (1991) and Governor Bush (1995) calling on state agencies to assist with the development of Los Caminos Heritage Corridor Project along the Texas/Mexico border.

The project was funded by a \$500,000 grant from the Meadows Foundation and \$679,000 from TxDOT's Enhancement Program. The restoration project

stabilized and rehabilitated eight of the more exceptional properties on and near the plaza. Extending through 1998, the work undertaken was thorough, methodical, challenging, and without precedent in the field of preservation. It began with a detailed report authored by a professional team representing a variety of disciplines to guide preservation philosophy, and to estimate the costs of

in the U.S.

Residents of the region were hired and trained to assist in the restoration of these nearly vanished historic building traditions. Preservation efforts were also complemented by a large exhibit on the history of Roma, located in the lobby of city hall, assembled by the TPWD Interpretation and Exhibits Branch.

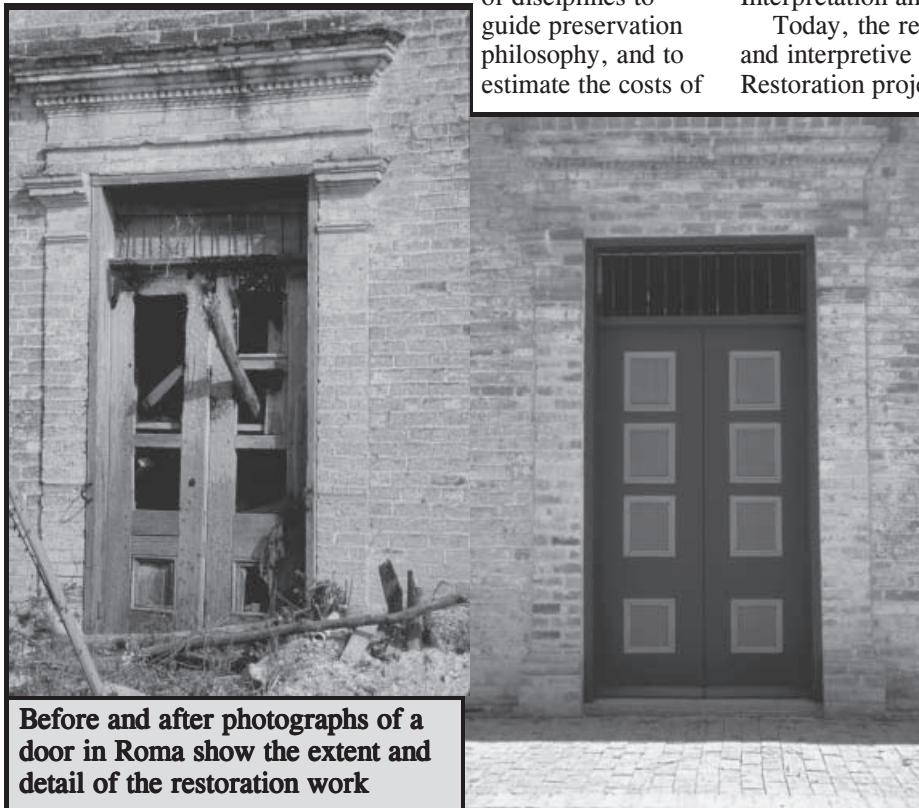
Today, the results of the preservation and interpretive efforts of the Roma Restoration project are nothing short of

dynamic. Visitors, both individual and in guided bus tours, flock to visit the plaza; the Roma Independent School District conducts tours of the historic district for its students; town festivals use the plaza as a venue for events; extended family reunions center around the plaza; and nearby communities, such as Rio Grande City and Mier, across the border, undertake ambitious preservation programs inspired by the work in Roma.

Once a place marked by buildings in disrepair, the Roma Restoration Project

reclaimed the historic core and plaza of Roma as the heart of the city. The project continues to generate community pride, to afford educational opportunities, and to inspire ongoing preservation work - all of which promote and preserve the unique Hispanic heritage of Texas.

(Editor's note: With a doctorate in history from the University of Notre Dame, and a master's in architecture from the University of Texas at Austin, Dr. Sanchez works as an historical architect in ENV/TxDOT, where he deals with the impact of transportation and enhancement projects on cultural resources. While at the Texas Historical Commission, Dr. Sanchez became involved with the Lower Rio Grande Heritage Project and TPWD.)



Before and after photographs of a door in Roma show the extent and detail of the restoration work

construction.

The Roma Restoration Project preserved, for the first time, Hispanic building traditions unique to the bi-national heritage of the Lower Rio Grande. Brick and sandstone banquetas (sidewalks) were repaired; courtyards were cleared of vegetation; fragile brick roofs were reassembled; wrought iron balconies were secured; complex brick shapes were reproduced; and bright colors that had faded long ago were reintroduced to newly refurbished facades. The intense search for compatible construction materials even extended into the Mexican interior, where an active sillar (caliche block) quarry was located to supply a building material that has long ceased to be used

Ceremony for 177 re-internments brings peaceful close to Refugio Project

HENRY GREGORY QUINN
Environmental Affairs Division

A dignified ceremony was held on a cold, gray day the first week of December at a cemetery in Refugio. Personnel from TxDOT's Environmental Affairs Division and Corpus Christi District, representatives from the Mescalero Apache Tribe and local government officials came together for the re-interment of 177 individuals. It is notable that a roadway project ended with a funeral, but as everyone left the gravesite the final task in a potentially controversial construction project came to a peaceful end.

U. S. 77 is the only major trucking route connecting the lower Rio Grande valley to the major port city of Houston, carrying an estimated 16,700 vehicles per day through the small town of Refugio, with peaks of between 25,000 and 30,000 vehicles per day occurring on weekends and holidays. Immediate improvements were needed to handle the heavy traffic flow.

The project, started in September 1998, was to replace the pavement and roadbed, and add curbs and storm sewers. Through previously conducted archeological and historic investigations it

was known that the present day Our Lady of Refuge Catholic Church stands approximately on the site where Mission Nuestra Señora del Refugio ("Our Lady of Refuge"), the last Spanish colonial mission established in Texas, once stood.

Expecting evidence of the old mission to be uncovered, a TxDOT archeologist was present when the construction crew removed the original pavement. Within three hours evidence of human burials were found. Unexpected complications were realized within 24 hours of the initial burial discovery. While TxDOT had anticipated discovery of as many as six graves, it was soon apparent that the cemetery of the Spanish Mission had been encountered.

While this was an impressive discovery from a scientific point of view, it soon became apparent that handling the logistics necessary to satisfy all parties and meet all regulations and laws would be very difficult. Prior to the archeological excavation, a public meeting was held to inform and gain input from local residents, church officials and Native American groups (church records indicate that about 43 percent of the burials were Native Americans).

Working closely with all involved groups, the mission cemetery was excavated with minimal delay to the project. The removal of the cemetery was so well handled that the Refugio Mission project was presented the 2000 Texas Historical Commission Preservation Award.

Most of the Native Americans enrolled at Mission Nuestra Señora del Refugio were Karankawas, a tribe that disappeared from the historical record in the mid-19th century. At the conclusion of the study the remains were returned to Refugio for reburial at a chosen spot in a local cemetery in accordance with the wishes of the Tonkawa and Mescalero tribes, the modern tribes most closely related to the Karankawa. Everything had come a full circle - the members of the Mission Nuestra Señora del Refugio were laid to rest in Mount Calvary Catholic Cemetery.

Although the 177 are now at rest, there is one last thing to do. In the near future, a grave marker will be erected, a historic marker will be placed at the entrance to the cemetery, and an embedded marker will be placed at the corner of Texas 77 and Rocha Street - the site of original cemetery.

Precertification: Needed prior to applying for a TxDOT contract

(Continued from Page 1)

participate in an interview, or do both. Selection for a contract is based on which firm best demonstrates that it is qualified to perform the needed work.

Firms interested in contracting with TxDOT for professional services must first be precertified. The precertification system works to ensure that professional service providers are qualified to do work with TxDOT. A firm that is not precertified can not be granted a contract.

Private sector firms can become precertified with TxDOT by working with the Consultant Contract Office. The best place to begin the precertification application process is at TxDOT's Internet site: www.dot.state.tx.us/business/consultantprecert.htm. This web site includes a wealth of information such as step-by-step instructions for completing the precertification process, the rules governing the process itself, a complete list of working categories in which a firm can become precertified, and other reference material such as a frequently asked questions page and agency contact information.

Precertification is based on the experience of a firm's employees. TxDOT precertifies individuals based on prior work experience. An employee demonstrates his or her work

experience by completing a precertification questionnaire, which is essentially an application. In the questionnaire, an employee describes work done on projects in the past, and precertification is then granted or denied based on the submitted information. Once an employee is precertified in a work category, the firm employing that person is then automatically precertified in that category. A person retains his or her precertification even after switching employers.

TxDOT has 60 days to review a precertification application once it has been submitted. Because NOIs are usually on the Internet for not longer than 21 days, it is important to note that precertification is truly a preliminary step to being selected for a contract. Once an NOI is on the Internet, it is unlikely that a firm will have sufficient time to begin and complete the precertification process before the deadline date for that NOI passes. What works best is for a firm to become precertified and then keep an eye out for work that suits their business. New NOI's are posted on the Internet generally on Thursdays or Fridays, and a link to the list of "Projected Contracts" can also be found at the same Internet address (listed above). The "Projected Contracts" report is updated quarterly.

The resources are there – ready to be used in connecting private sector firms to TxDOT with the common goal of creating transportation systems of the highest quality. The Consultant Contract Office, directed by Camille Thomason, P.E., can be reached at (512) 416-2218.

TxDOT sees 391-mile South Orient rail as future NAFTA link

**By G.D. WILSON
Railway Planner
TPP Multimodal Section**

Timely action by TxDOT has preserved what could become a vital NAFTA rail link. This may come as a surprise to many at TxDOT as few are aware that the department owns a working, if underused, railroad.

The Multimodal Section of the Transportation Planning and Programming Division (TPP) administers a complex public-private partnership to assure continued rail service along the line. TPP won the 2002 American Association of State Highway Transportation Officials (AASHTO) President's Award in the Rail Transportation category for its work.

The railroad TxDOT has endeavored to preserve is the South Orient Line. The rail corridor stretches 391 miles from the Texas-Mexico border at Presidio, through West Texas and into Coleman County. The line connects with Ferromex at the border, with Union Pacific at Alpine, as well as with Burlington Northern Santa Fe and Fort Worth and Western railroads on the northern end of the line. In addition to serving as a viable NAFTA corridor, the rail line has been a vital part of the agricultural and manufacturing industries of West Texas.

TxDOT acquired ownership of the infrastructure and right of way in 2001. An international partnership was formed when a lease and operating agreement was reached between Texas Pacifico Transportation Ltd., a subsidiary of Grupo Mexico, and TxDOT. Operations on the line continue, and work to rehabilitate the

railroad, which deteriorated under the prior owner/operators, is under way.

Why does a Texas railroad include the word "Orient" in its name?

Arthur Stilwell, a 19th century industrialist, envisioned a railroad to connect Kansas City to the Far East through Topolobampo, a Mexican port 300 miles closer to the Far East than ports along the United States coast.

The U. S. portion of the Kansas City, Mexico, and Orient Railroad (KCMO) was completed in 1930. The last Mexican link was completed in 1961. The Atchinson, Topeka, and Santa Fe (ATSF) purchased the KCMO in 1928 and operated the line until 1988, when ATSF split the line into the North Orient and South Orient sections.

In 1989 ATSF filed an application to abandon the 391 miles of rail in West Texas known as the South Orient Line. In 1990, the South Orient Rural Rail Transportation District (SORRTD), a state subdivision empowered to preserve rail lines, was formed by 11 county governments to prevent that abandonment and the subsequent loss of rail service. TxDOT's involvement in the South Orient Line began late in 1991. To preserve a vital

rail corridor, the Texas Transportation Commission provided a \$3 million secured grant to SORRTD towards the \$5.5 million purchase price from ATSF. The South Orient Line includes one of only five rail border crossings between Texas and Mexico, at Presidio and Ojinaga. In return for the \$3 million grant, TxDOT received the line's right of way and a security interest in the installed rails and ties. The rail district then entered into a lease and operating agreement with private investors who paid the remaining purchase price balance of \$2.5 million, bringing about the formation of the South Orient Railroad Company (SORC).

However, by 1998 SORC filed an abandonment application with the federal Surface Transportation Board (STB). TxDOT, other state agencies, the rail district, various shippers and other concerned parties opposed the application. In October of that year, STB issued a decision allowing SORC to discontinue service on the line, but did not allow the request to

abandon. After several appeals, SORC decided to enter into negotiations with the state and the rail district to sell the line for \$9.5 million.

In 1999, the Texas Legislature appropriated \$6 million towards the purchase price. TxDOT, on behalf of the state, then needed to find the additional \$3.5 million to complete the purchase. After almost two years of negotiations TxDOT entered into a \$3.5 million lease and operating agreement with Texas Pacifico Transportation, a subsidiary of Grupo Mexico, effective March

2, 2001. At the same time TxDOT acquired all rights, titles, and interests in the rail line, thereby ensuring that ownership of the rail infrastructure and right of way would be preserved by the state.

TxDOT's Environmental

there was concern that to restore rail service in the area would further damage the 1870-era adobe ranch house.

Dr. Nancy Kenmotsu, then supervisor of ENV's Archeological Studies Branch, determined that an archeological and historical investigation of the railroad corridor was merited in order to assess previously

Mexico at Presidio has been underused and, therefore, holds great potential to handle an expansion of NAFTA trade. Discussions have been under way with business interests on both sides of the border to run significant amounts of freight from Chihuahua, Mexico, up to Fort Worth. Another subsidiary of Grupo Mexico, Ferromex, operates the rail on the Mexican side of the border. As Ferromex and Texas Pacifico are sister companies, this close

relationship can potentially foster efficient operations for international interchange of freight traffic.

The Union Pacific Railroad has expressed interest in diverting trains from El Paso through Presidio to its main line at Alpine.

Texas Pacifico has committed to rehabilitate the line by next January and to improve service. Initial rehabilitation of the eastern portion of the line was completed in February and contractors are currently working toward the west. A general rehabilitation of the entire infrastructure is under consideration which has been estimated to cost \$44 million.

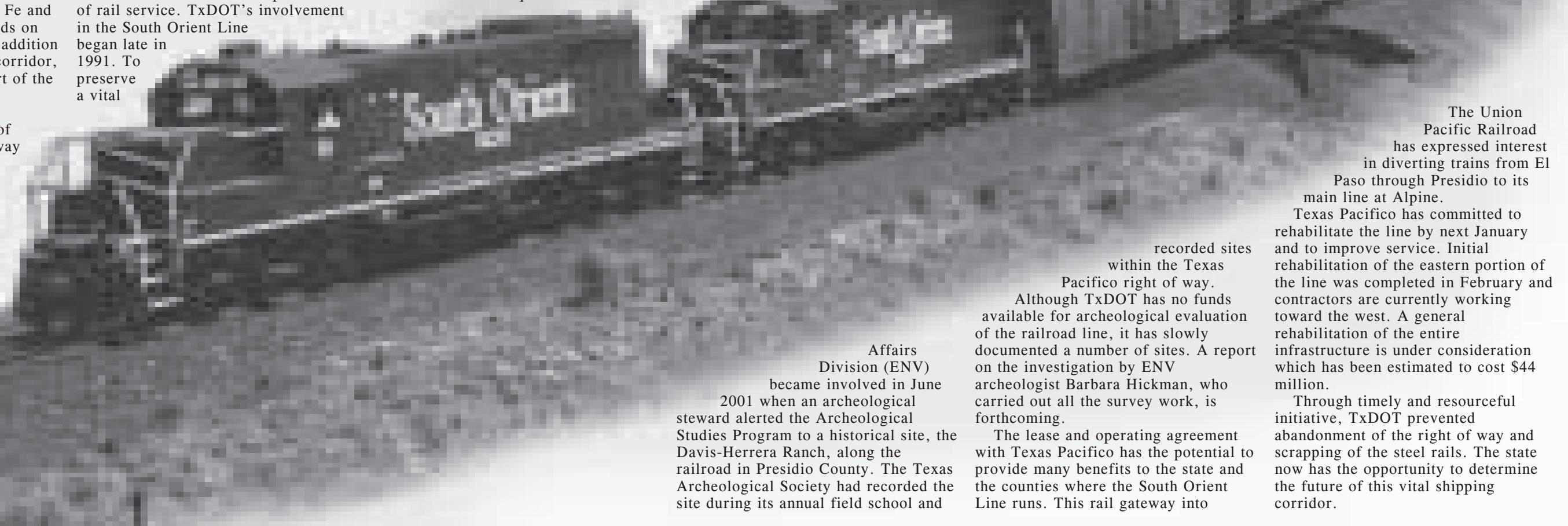
Through timely and resourceful initiative, TxDOT prevented abandonment of the right of way and scrapping of the steel rails. The state now has the opportunity to determine the future of this vital shipping corridor.

recorded sites within the Texas Pacifico right of way.

Although TxDOT has no funds available for archeological evaluation of the railroad line, it has slowly documented a number of sites. A report on the investigation by ENV archeologist Barbara Hickman, who carried out all the survey work, is forthcoming.

The lease and operating agreement with Texas Pacifico has the potential to provide many benefits to the state and the counties where the South Orient Line runs. This rail gateway into

Affairs Division (ENV) became involved in June 2001 when an archeological steward alerted the Archeological Studies Program to a historical site, the Davis-Herrera Ranch, along the railroad in Presidio County. The Texas Archeological Society had recorded the site during its annual field school and



JFK: Renovation to improve Laguna Madre water circulation

(Continued from Page 1)

opposing traffic. It had no inside shoulder and no barrier between roadway and water.

TxDOT began exploring options to replace the causeway in the early '90s and completed a feasibility study in 1996. The study identified reasons to improve the causeway, including its use as a hurricane evacuation route, improved motorist safety, improved safety for recreational users such as fishermen and windsurfers, and improved water circulation in the bay.

The middle of the existing causeway is built upon fill that limits water circulation in the upper Laguna Madre primarily to the channel beneath the Intracoastal Waterway Bridge and creates areas of little flow where seaweed builds up and degrades in the summer.

In addition to the feasibility study, TxDOT conducted a value engineering study and met with resource agencies and the public. Local scientists were consulted about the possible benefit to water

circulation in upper Laguna
Madre if more
of



the causeway were to be bridged.

Because of this process, the final design includes adding a 2,850-foot-elevated bridge on the west end to open a new channel for water circulation there. The new bridge will include a turnaround and recreational access below the structure. Other final design elements include raising the middle of the causeway from between three to nine feet to a uniform nine feet above sea level on fill material, adding a 12-foot outside shoulder to accommodate stalled vehicles, public access to recreation areas along the mid-section, preservation of bait stands and fishing piers on the south side of the causeway, and a new bridge over Humble Channel.

To ensure continuous traffic flow, one

lane will be maintained in each direction at all times and the westbound lanes will be completed first to ensure safe evacuation of Padre Island residents should an emergency arise during construction.

The project was let to Zachry Construction of San Antonio in December 2001 for \$37.7 million. Construction began in early 2002. Project completion is scheduled for 2004.

The project required multiple permits with special conditions added. Areas immediately adjacent to the JFK Causeway are environmentally sensitive and must be protected during construction. A colony of Black skimmers nests on the southeast side of the causeway and seagrass beds can be found all along the causeway.

Permits required included:

- A U.S. Army Corps of Engineers (USACE) Individual Permit for impacts to Section 10 and Section 404 waters.
- A U.S. Coast Guard Permit for the replacement of the bridge structure at Humble Channel.
- A Section 401 Water Quality Certification from the Texas Commission on Environmental Quality (TCEQ) that included details of erosion, sedimentation and post construction controls.

"It was a real learning

experience for our Advance Project Development group – our first USACE individual permit and Coast Guard permit as well as the brief period when TCEQ required Section 401 best management practices for post-construction controls on a bridge," said Corpus Christi District environmental coordinator Mary Perez. "We thought that we were finished once we had environmental clearance and all permits in place. Little did we know that this project would redefine our jobs forever! From this point on, seeing a project such as this through construction will become a part of our regular job duties."

Some of the special conditions applied by USACE included educating the contractor about seagrasses prior to construction and coordinating haul roads,

staging areas, borrow and disposal sites. Additionally, the work is to be completed with existing fill and the drop height for rock riprap was limited to one foot above the water surface to avoid turbidity.

Protection for the Black skimmer colony is also included in the permitted plans. This includes fencing the nesting area, coordinating with the U.S. Fish and Wildlife Service (USFWS) prior to the nesting season and requiring the contractor to provide notice when working near the fenced area.

Permanent concrete retaining walls will be installed to prevent erosion of the fill material needed to raise the causeway to nine feet above sea level. The walls help to reduce the amount of bay bottom covered by fill material, thus minimizing impacts to seagrass beds. Although the retaining walls cast shadows during part of the day — making the area immediately adjacent to the wall unsuitable for seagrass growth — the net effect is to reduce from 20 acres to only 12 acres the area of jurisdictional wetlands and bay bottom impacted.

In addition to increasing water circulation around the causeway, the new bridge on the west end will restore 9.6 acres of bay bottom to seagrass habitat. Existing fill material removed from this area will be used to raise other portions of the causeway. Initially a water filled barrier was used to control turbidity during excavation of this fill material, but this was

breached on several occasions due to the rough bottom and tidal action. The local USACE office was contacted in order to coordinate replacing the barrier with a silt curtain. A chain weights the bottom of the curtain and stakes prevent lateral movement. This barrier has worked well even in 45 mph winds.

The excavated area under the new bridge will be restored to an elevation suitable for seagrass growth. This excavation site is to be monitored for three years (2005-07) after construction with the results reported to the National Marine Fisheries Service, USFWS, USACE and the Texas Parks and Wildlife Department.

Portions of existing causeway had to be rebuilt following major hurricanes. The renovated causeway should allow plenty of evacuation time when hurricanes threaten and improve day-to-day safety for the many residents and visitors to the Corpus Christi area.

Fort Worth uses bales of old tires to stabilize eroded roadside slope

By HENRY GREGORY QUINN
Environmental Affairs Division

The Fort Worth District claimed another first in Texas when it used baled recycled tires for road construction as an alternative to traditional repairs for an eroded roadside slope.

Since completion of the project, geotechnical findings show the safety factor has almost doubled based on slope stability calculations. Baled tires layered in a stepped tier increase the resistance to shear forces making the slope less likely to slide.

The Texas Legislature mandated that TxDOT recycle used tires whenever possible. Responding to this challenge, the Fort Worth District researched the use of baled tires by the New York Department of Transportation. Based on this research, it was decided that baled tires could be used to repair and stabilize badly eroded roadside slopes.

By late summer 2001 a site was selected on I-30, three miles east of downtown Fort Worth. The selected slope consisted of soil high in clay, the type of soil where most mudslides occur. The soil quality was so poor that the slope was never stable long enough for vegetation to grow and limit erosion.

Richard Williammee, construction and maintenance recycling coordinator for the Fort Worth District, said, "The slope had been a problem for almost 10 years. This was the second time that it had failed. The first time it failed the wet soil was removed, dried, and then placed back into the slope."

As project leader Williammee realized that baled tires would be a simpler solution than the alternative originally proposed for the second round of repairs.

"The second repair was going to use I-beams interspersed with metal beam fence sections to create a wall that would be sunk below the potential failure plane," he said.

Using a stair-step of bales and packed earth in three layers, the slope was rebuilt. Each bale contained 100 car and light truck tires with a total of 320 bales used in the re-construction. Although some of the bales came from an out-of-state tire baling company, all tires used originated in Texas.

The project started in March 2002 and finished by that August. The last phase was spreading grass seed to stabilize the surface of the slope. The grass grew quickly because compost was used from TxDOT's highly successful compost program.

The fix has so far halted the slope erosion on I-30 and has created another opportunity for TxDOT to recycle tires. The department also uses crumb rubber from old tires to seal coat roads.

Texas generates some 24 million waste tires a year out of the estimated national total of more than 242 million. Discarded



A layer of bundled recycled tires is stacked along I-30 prior to adding a layer of soil to repair an eroded slope.

Fort Worth District Photo

tires are not only an eyesore, but also can provide an ideal breeding ground for mosquitoes and pose a fire hazard. Tire fires are difficult to extinguish and emit 32 hazardous gases.

While exposed tires present a threat, Williammee says buried tires pose little threat.

"Tires decompose faster if they are left out in the elements. When they are buried they can last a long time...at least for the life of the structure. If they are baled, they definitely last longer than a single buried tire," he said.

A five year study conducted by Maine Department of Transportation has shown that buried tire shreds "placed above the water table has a negligible impact on water quality." The study concluded that tires and tire shreds can be used as lightweight embankment fill and backfill for the edge drains on a wide range of highway projects.

"We hope to use tire bales in some future (slope) failure areas and for stream and channel erosion protection. Many ideas are there and we are looking at the engineering functionality of this process. We want to make it worthwhile," Williammee said.

Surplus tires are considered a dangerous waste product, but they may be turned into a valuable resource because of TxDOT's recycling efforts.

Praise for TxDOT

The letter below was received by Gov. Rick Perry's office and forwarded throughout TxDOT.



Telles-Goins: didn't kill the deputy

(Continued from Page 2)

was fine!"

Among the projects that brought Telles-Goins the most satisfaction was the transplanting of Sandy prickly pear cactus to the district grounds (see "El Paso District staff make room for thorny, but colorful individuals," Summer/Fall 2002 ENVISION at www.dot.state.tx.us/ENV/pdf/envisionpdf/24sumfall02.pdf)

"I worked with Mary on various environmental issues while I was at the Alpine Area Office," said Rick Tobolka, now a project manager in the San Antonio District's Contract Consultant Management Office. "My lasting impression of Mary is her keen interest in field work. Field work is the backbone of a practical and educated recommendation pertaining to the environmental impact of proposed TxDOT construction projects. What to me was an amazing feat was when she helped to clear brush on FM 170 near Redford. The work was completed with hand saws and shears. The summer day was hot and humid as it was down by the river. We were attempting to verify local reports of a grave in the right of way."

Don't peek unless you have tried the puzzle on Page 11!

"uh - bait - mint" = abatement

Answer to Rebus Ruckus on Page 11:

Every job has its downside, and Telles-Goins' is no exception.

"I don't like the staff turnover that goes with the work. You get used to working with a person and then they leave. You then have to start over again with someone else," Telles-Goins said.

"Mary is a very organized person in everything she does, that is especially helpful since she works on many things besides environmental issues and public involvement," said Judy Ramsey, former El Paso District environmental coordinator and current advance transportation planning administrator for the district. "She also is the environmental coordination, writes district reports for commission delegations and serves as assistant advance transportation planning administrator."

Telles-Goins and her husband, Richard, have been married for what she describes as "20 short years." An item of interest is that they were married on Friday the 13th! Richard owns five liquor stores. They reside in eastern El Paso with their 12-year old daughter, Samantha, who enters 7th grade in the fall and is interested in cheerleading. A dog, Bailey, and several fish round out the Telles-Goins' household. Telles-Goins states that her free time interests are those of her husband and daughter these days, constituting school-related activities and PTA functions.



Jamandre's Jumbly Word Jambalaya

by Orlando Villa Jamandre Jr.

Unscramble the four jumbled words (one letter to each circle or square) to form four ordinary words and arrange the circled letters to form the puzzle answer.



What counting all of the LPSTs can turn into...

SHOGT
□○□□□
KANT
○○□□
ARZAHD
○□○○□□
VEROME
□□○□□□

Print your answers in the circles below.

“○○○—○○○○”

Answers on back page.

ENV welcomes Manuel Flores; two geeks gone

GIS/GPS computer map expert **Sean Ayala** left ENV in June for a job with Quantm Limited, an Australian firm that developed a GIS-based tool for selecting project routes that is being used for the I-69 program, which Ayala will be working on. Ayala was with ENV for two years.

Software programmer **Courtney Dumas**, under contract to ENV year by year since October 1997, left at the end of April. Dumas wrote the code that is TxDOT's Environmental Tracking System (ETS).

Manuel Flores joined the **Project Management Section (PM)** June 2 as a project manager. Flores is a native of El Paso, but went to school at the University of Oregon where he earned a bachelor's degree in landscape architecture. Out of college he went to work for the Washington State DOT as a planner, gaining experience in the environmental compliance field. After that he was a transportation planner with the El Paso Metropolitan Planning Organization and then returned to the Northwest where he was a transportation planner in the Bicycle and Pedestrian Program for the City of Bellevue, Washington. Flores says Austin is the happy medium between the Northwest and El Paso. He enjoys volleyball, tennis and kayaking.

PM's Project Manager **Jenise Walton** gave birth July 2 to 5-pound, 12-ounce Joseph Howard.

Rebus Ruckus

By HENRY GREGORY QUINN

Decipher the environmental term!

“UH!”



+ T

_____ : a remedial action, especially in dealing with hazardous materials.

A “rebus” is a representation of words in the form of pictures or symbols, often presented as a puzzle. Good luck! Answer on bottom of Page 10.



**Environmental Affairs Division
125 East 11th Street
Austin, Texas 78701-2483**

Address correction requested



Jumbly Word Jambalaya Answers

**What counting all of the LPSTs can turn into ...
“HAZ-MATH”**

GHOST – TANK – HAZARD – REMOVE

The Pollution Prevention and Abatement Branch is responsible for developing and managing the Leaking Petroleum Storage Tank (LPST) and the Class V Injection Well cleanup programs for TxDOT. These assessment and remediation programs are designed to confirm the presence of and delineate contamination resulting from potential releases and to develop and implement cleanup plans designed to achieve closure to regulatory standards.

Drive Clean campaign gets snappier web page

The “Drive Clean Across Texas” public education campaign – sponsored in part by TxDOT – now has a crisp new web page at www.drivecleanacross.texas.org. The site also is now linked directly from TxDOT’s opening web page at www.dot.state.tx.us. TxDOT sponsors the campaign along with the Texas Commission on Environmental Quality and the federal Environmental Protection Administration. The campaign seeks to raise public awareness and change driving habits towards the goal of improving air quality.

Also listen for new radio spots this summer.

ENVision is a publication of the Environmental Affairs Division, Texas Department of Transportation, 125 East 11th Street, Austin, Texas, 78701-2483.

We welcome ideas for stories and standing features. Submit those to the above address, attention Richard Goldsmith, phone 512.416.2743; via GroupWise to “rgoldsmi” within TxDOT; “rgoldsmi@dot.state.tx.us” for e-mail from outside TxDOT.

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RECYCLED PAPER
SOY-BASED INK



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