TRANSPORTATION

TO: Titus County Commissioners Court

FROM: Mark W. Heidaker
Jennie N. Taraborelli

DATE: January 13, 2014

RE: US 271 Project

MEMORANDUM

The purpose of this memorandum is to discuss the completion of the US 271 project currently impacted by elevation issues with the bridge spanning existing US 271 and the Union Pacific Railroad (UPRR) line. PTP Transportation (PTP) has been working with the design engineer (LJA Engineering, Inc.), the bridge engineer (Aguirre and Fields, LP), the contractor (Williams Brothers Construction Company, Inc.) and TxDOT to resolve the issues and move the project to completion as expeditiously as possible.

UPRR Bridge

Construction of the realigned US 271 required Titus County to secure a permit from Union Pacific Railroad in order for the new roadway to aerially cross the UPRR right of way. After submitting plans and all required documentation, a permit was executed on November 10, 2009. A condition of the aerial crossing required the bridge structure to meet a clearance of 23'6" above the top of rail. Survey of existing ground was completed prior to 2008. In January and February of 2011, PTP had Kilgore and Associates reshoot critical points along the US 271 project, including the UPRR right of way, and provided this information to the design engineer. This information was gathered to allow the design and bridge engineer to design a bridge which would meet the permit conditions.

At some point after the US 271 project was awarded in October of 2011, UPRR performed maintenance on the section of track through Mt. Pleasant. The trackbed was reworked, ballast was added, and the railroad ties were replaced. Nothing in the railroad permit required UPRR to conduct coordination with Titus County prior to undertaking maintenance which, once completed, might affect the US 271 project. It is not known how much ballast was added during the rework nor did UPRR record the change in elevation of the top of rail by survey as that is not the practice of UPRR. It is clear now, that the elevation of the top of rail changed significantly.

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From the start of construction in January of 2012, PTP asked the contractor to confirm all bridge clearances. On October 26, 2012, PTP received an email from the contractor's surveyor stating "...I have already checked all.....bridges and the clearance good on all of them." After that email was received, the contractor's upper management sent a follow-up email clarifying the surveyor's statement. He stated, ".....We will provide you the elevations of existing facilities and the designer can figure out the clearance. Once the bridges are built then we will figure actual clearance before we order the signs." This information was never received. PTP assumed that the contractor had checked all elevations and the surveyor was correct - there were no clearance issues.

During placement of the steel beams across the existing US 271 and the UPRR track, it became clear that an elevation clearance issue existed. This clearance issue was first noticed at Bent 5. When the field crew began installation of the second section of steel beams at this Bent, the bolt holes did not line up. Although the contractor was able to ultimately line up the bolt holes, PTP requested the contractor stop work until the cause of the issue could be identified. The contractor, however, felt it was necessary to finish hanging the remaining three beams. PTP field inspection staff told the contractor that if they chose to continue work, the contractor would be moving forward at its own risk. Initially, the contractor saw this as an isolated issue and was of the opinion that the Bent 5 elevation issue could be repaired, if necessary, by inserting a steel plate to raise the beam to the correct elevation. To determine whether the Bent 5 elevation issue would need to be repaired in that manner, both PTP and the contractor measured the clearance over the UPRR track. If the bridge achieved the permit required clearance, then the bridge could be leveled by adding concrete to the top of the structure. The survey ground elevations did not match the measurements from either the 2008 survey or the 2011 survey. Further, the bridge did not meet the clearance requirements of the UPRR permit. PTP instructed the contractor to cease work on the bridge and initiated discussions with UPRR. In discussing the change in field conditions, UPRR disclosed it had performed maintenance on that section of rail which changed the elevation of the top of rail. PTP began working with the contractor, the design engineer and bridge engineer to define a repair procedure for the bridge that both UPRR and TxDOT would accept.

Resolution of Issue

On October 4, 2013, PTP project management met with the contractor, the design engineer and the bridge engineer to advance and finalize the decision on which corrective measure should be utilized to repair the bridge. To this point, several alternatives had been discussed with the contractor favoring one method and the engineers another. The meeting ended with PTP directing the engineers to finalize a repair procedure plans based on raising the bridge. On October 11, PTP met with the contractor once again to discuss the raising/jacking alternative to secure concurrence that this repair procedure could be supported by the contractor. On October

17, PTP submitted repair procedure plans to TxDOT for approval. On October 24, PTP received TxDOT approval. The contractor was notified and pricing was requested.

On November 25, PTP received an estimate of pricing from the contractor of approximately $1.8 million. After review of all documentation submitted, PTP requested a meeting with the contractor to discuss pricing, the method of construction and the schedule. The meeting was held on December 3. Among issues discussed was how the contractor would participate in the cost of the repair. The contractor agreed to not include any mark-up or profit and not seek any additional overhead as result of delay. This would result in a lowering of the cost of the repair.

On December 6 and 9, PTP met with the design engineer and the bridge engineer to discuss the contractor's estimate and examined ways to redesign key elements to reduce costs and shorten the schedule. PTP also discussed the potential of Titus County filing an error and omissions claim against the engineers' insurance to recover some of the cost of this repair due to the fact that while UPRR caused a change in field conditions by raising the elevation of its trackbed, the elevation issue at Bent 5 was due to a design error. Then engineers commenced redesign and certification of a key element which reduced the schedule dramatically.

Moving Forward

PTP believes the most cost effective and expeditious course of action moving forward is to authorize the contractor to complete all repair work on a Force Account. A Force Account allows for the payment of extra directed work based on the actual cost of labor, equipment, and materials furnished with markups for project overhead and profit. Change orders, which are typically issued when a change is required on a project, are used when written orders can be issued to the Contractor detailing specific changes to the specified work, item quantities or any other modification to the Contract. A Force Account is often used for work where the scope cannot be completely defined or, in this case, where the scope can be defined but the level of effort required is difficult to define and may be less (or more) than anticipated once field work begins. If this work is progressed under a negotiated Change Order, the contractor would be paid the full amount of the Change Order and no savings would accrue to the benefit of the County. If the work is progressed under a Force Account and the contractor finds that the work does not take as much time or material as estimated by the Change Order, then the County will realize the benefit of that saving.

A Force Account does not require Commissioners Court to approve a Change Order nor does it require formal TxDOT approval. In discussing this issue with TxDOT, it has been requested that the District approve all labor rates, equipment rates and unit price of all materials prior to any work being started by the contractor. PTP has requested a meeting with District personnel. Potentially, this meeting could be held, via conference call, as early as Tuesday or Wednesday of this week. Once TxDOT has approved the rates to be used for the Force Account work, PTP will

meet with the contractor to discuss how the Force Account will be managed. A daily tracking of all activity is required and the contractor will be required to reconcile its records with PTP at the end of each day. PTP will use the standard TxDOT form to track the Force Account work.

Schedule

PTP estimates that if the contractor is given a Notice to Proceed on the bridge repair by February 1, all corrective measures can be completed by May 1. At that point, the contractor would return to the completion of the project. PTP estimates that the entire project could be completed by the end of August. This schedule is more aggressive than the one defined by the contractor but PTP believes it is achievable.