MEMORANDUM

Date: February 2, 2016

To: The Honorable Chair and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator

Re: **4RTSUN: Sunset Road, Silverbell Road to Interstate 10 Frontage Road; Project Summary**

The February 16, 2016 Board of Supervisors agenda will include an item recommending the award of the construction contract for Sunset Road, from Silverbell Road to Interstate 10 (I-10) Frontage Road, to Borderland Construction Company, Inc. in the amount of $8,287,462.94. The engineer's estimate for this project was $11.864 million. Thus, the apparent low bid represents a savings of almost $3.6 million. Such additional available funds are from both regional and local sources and must be applied to other similar arterial roadways that add capacity to the roadway network.

Due to the regional significance of this project, I am providing the following background information.

Background

Sunset Road provided a crucial connection from Silverbell Road to I-10 until the flood event in October 1983 destroyed the bridge and took the connection out of service. The roadway has remained unconnected until the Regional Transportation Authority (RTA) plan developed in 2005 included the replacement connection from Silverbell Road to I-10, as well as an extension from I-10 to River Road.

Project Development

The Sunset Road project is the result of a regional joint collaboration with team contributions by the City of Tucson, RTA, Arizona Department of Transportation (ADOT) and various departments within Pima County, as well as the City of Tucson and RTA providing project specific funding.

The Sunset Road project was originally identified to occur during Implementation Period 3 (from 2016 to 2021); however, the other project development activities occurring in this part of the region, most notably the widening of I-10, and the associated planned reconstructions of the interchanges at Ruthrauff Road, plus Ina Road, necessitated the acceleration of the Sunset Road project.

The Ina Road interchange project along I-10 will produce significant traffic congestion impacts, particularly when the entire interchange is under construction and impedes the smooth flow of traffic. Implementation of the Sunset Road project will allow for traffic that is detoured along Silverbell Road to be rerouted back to I-10. Thus, the scheduling of the Ina Road interchange project must be closely coordinated with the opening of the Sunset Road connection. Pima County will communicate with ADOT about delaying, if necessary, the construction schedule for I-10 to properly address traffic flow considerations. The Board will be advised of expected traffic conditions in this general area as such information becomes available. However, the timely advancing of the Sunset Road project is important to support the region's effort to address transportation needs in the northwest area of the region.

Design activities were fully initiated in December 2013 with an established goal of completing all project development activities within two years so that construction could begin by spring 2016. This construction start date was chosen to minimize the overlap with the planned Ina Road reconstruction project that was anticipated to start in 2016 and subsequently close the interchange later in the fall. A key component of the project included the development of the Environmental Assessment and Mitigation Report, which included an initial cost estimate and preliminary schedule and was approved by the Board in December 2014.

Throughout the project design phase, the County and project team utilized a number of cost and schedule saving practices that had been used on other projects and which provided similar results on this project. For example:

Drilled Shaft Design. The team employed a methodology that was jointly developed by the Pima County Department of Transportation (PCDOT) and the Regional Flood Control District to use site-specific design parameters to reduce the length of drilled shafts. The analysis cost approximately $50,000 to perform and resulted in a drilled shaft design that is approximately 30 percent shorter than it would be had the typical practice been followed. This, in turn, reduced the overall cost of the drilled shafts by a calculated amount of approximately $1,000,000.

Detailed channel hydraulic analysis. The team utilized an updated hydraulic channel model and incorporated minor channel grading into the project to maintain the bridge length comparable to the length originally estimated in the preliminary planning studies. The updated analysis and subsequent development of the Conditional Letter of Map Revision cost approximately $200,000 to perform and resulted in a bridge length of 720 feet, compared to the 960 feet identified in the initial modeling scenarios. This, in turn, reduced the cost of the bridge by a calculated amount of approximately $2,000,000. More

importantly, this reduction avoided reconstruction of a portion of Silverbell Road, which would have triggered a significant cultural resource recovery issue and added approximately $1.75 million to the cost of the project.

Examples of Impact Avoidance

In order to meet the timeframe established and maintain costs at the minimal level, the team needed to avoid any federal nexus, which could have occurred if there had been significant impacts to any of the following:

Federal Highway Administration through additional work activities at the I-10 interchange. This was avoided by limiting the amount of work at the interchange to signing and striping, which avoided the need for any Change of Access Revisions (thus triggering a National Environmental Policy Act action).

US Army Corps of Engineers (Corps) through substantial impact to the Santa Cruz. A nationwide permit was obtained (rather than an individual permit) and a temporary crossing of the effluent stream was permitted. This was achieved by utilizing close (with a significant level of effort) coordination and interaction with the Corps through multiple meetings, telephone calls and follow-up to numerous requests for information.

Western Area Power Administration (WAPA). Design modifications, including lowering the bridge elevation six inches, were mad to avoid impacts to WAPA towers and overhead facilities, resulting in a cost avoidance of $750,000 associated with raising the lines. Instead, only $170,000 was paid to WAPA for minor outage windows that will be needed during construction.

National Historic Preservation Act; Section 106. Had any cultural resource impacts occurred within the areas mentioned above, it would have federalized the entire cultural resource aspect. Such would have resulted in additional costs and an additional year in processing time.

If these principles and practices had not been implemented, project costs would have increased by approximately $5 million, and the project timeline would also have increased a minimum of an additional year.

Current Status

Upon approval by the Board, construction activities are anticipated to begin sometime in March. The overall construction duration is expected to be approximately 15 months.

In addition to the pending construction, Phase II archaeological investigations within the project area resulted in an unprecedented discovery of a well-preserved prehistoric agricultural field system containing human footprints. PCDOT has been working closely with the Office of Sustainability and Conservation to document this historic find and develop a unique program of specialized documentation and technologies required for analysis. This effort has been featured in several recent field activities and hosted events, as well as coverage by local and state media.

CHH/mjk

c: John Bernal, Deputy County Administrator for Public Works
Priscilla Cornelio, Transportation Director