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Date: Thursday, October 15, 2020 at 3:52 PM

To: MRT <mrturingan@ucsd.edu>

Subject: RE: November 5th - CRTN Consortium and CSRC Fall Meetings

Maria,

My response to Dr. Bock's request is as follows:

Los Angeles County Public Works had been using CAL-VRS and recently obtained membership with the CRTN. Staff was comfortable in continuing to use CAL-VRS; however, there was an interruption in service that resulted in revising procedures. Our field surveyors have recently successfully started using CRTN in their GNSS surveys. Further, we have moved to using to Epoch 2017.50 (NAD83) in lieu of Epoch 2007 (NAD83) for our GNSS surveys. Interestingly, we've noticed other agencies continued to use legacy datums, such as Epoch 1991.35 (NAD83) and Epoch 2007 (NAD83), which appear on record of survey maps.

There is discomfort with translating from older epochs to newer ones. We understand that the NGS horizontal time dependent positioning software doesn't take into account crustal motions and plate tectonic movements when making coordinate conversion and transformations between spatial reference frames. We'd like to become familiar with CSRC software that would allow us to make coordinate conversion and transformations between older and newer spatial reference frames on the dynamic datum not only for our cadastral landbase, but also for older GNSS surveys on file.

Please note Los Angeles County has a cadastral landbase with 2.4 million parcels with survey points on 1-mile grid in the Los Angeles basin and a 2-mile grid in the Antelope Valley with spotty GNSS measurements on Epoch 2004 (NAD83) and Epoch 2007 (NAD83). Our Aerial imagery through the Los Angeles Region Imagery Acquisition Consortium is obtained every 3 years using different survey control than the cadastral landbase, so the lot lines are stationary, yet the aerial imagery slowly shifts to the north and west at varying rates and directions throughout the county. Hopefully the kinematic datum project with Caltrans and a new post-doctorate on staff will result in tools being available to make the desired translations on GNSS surveys and the cadastral landbase.

The procedures we're using have changed and resulted in cost savings. We used to have 3 GNSS receivers placed on local primary control at the project site. Two of the receivers would remain in place for over 6 hours while the remaining receivers would take 15-minute measurements a minimum of twice at different times of the day to obtain results. The current procedures includes use of a receiver in conjunction with the CRTN (in lieu of 3 receivers) and 5-minute measurements are taken 3 times at different times of the day. The cost savings

is quantified in using 2 fewer GNSS receivers and spending a third of the time occupying points.

Best,

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